LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

ADMINISTRATIVE RECORD

Volume 28

2018

Bate Stamp Numbers
00879443 - 00881292

Prepared for

Department of the Army
Longhorn Army Ammunition Plant

1976 – 2018

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

VOLUME 28

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: 00879443 – 00881292

ALS Group USA, Corp Date: 22-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS17121135

QC BATCH REPORT

Batch ID: R307901 **Instrument: UV-2450** **Method: E365.3**

MBLK Sample ID: **MBLK-307901** Units: **mg/L** Analysis Date: **22-Dec-2017 11:09**
Client ID: Run ID: **UV-2450_307901** SeqNo: **4366895** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.0125	0.0250								U

LCS Sample ID: **LCS-307901** Units: **mg/L** Analysis Date: **22-Dec-2017 11:09**
Client ID: Run ID: **UV-2450_307901** SeqNo: **4366896** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.254	0.0250	0.25	0	102	80 - 120				

LCSD Sample ID: **LCSD-307901** Units: **mg/L** Analysis Date: **22-Dec-2017 11:09**
Client ID: Run ID: **UV-2450_307901** SeqNo: **4366919** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.251	0.0250	0.25	0	100	80 - 120	0.254	1.19	20	

MS Sample ID: **HS17121135-01MS** Units: **mg/L** Analysis Date: **22-Dec-2017 11:09**
Client ID: **LH18/24-SP650_122017** Run ID: **UV-2450_307901** SeqNo: **4366898** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	4.99	0.250	2.5	2.62	94.8	80 - 120				

MSD Sample ID: **HS17121135-01MSD** Units: **mg/L** Analysis Date: **22-Dec-2017 11:09**
Client ID: **LH18/24-SP650_122017** Run ID: **UV-2450_307901** SeqNo: **4366899** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	4.97	0.250	2.5	2.62	94.0	80 - 120	4.99	0.402	20	

The following samples were analyzed in this batch: HS17121135-01

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

ALS Group USA, Corp Date: 22-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS17121135

QC BATCH REPORT

Batch ID: R308631 **Instrument: TOC_02** **Method: E415.1**

MBLK Sample ID: **WBLKW1-010818** Units: **mg/L** Analysis Date: **08-Jan-2018 18:59**
Client ID: Run ID: **TOC_02_308631** SeqNo: **4385184** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	0.500	1.00								U

LCS Sample ID: **WLCSW1-010818** Units: **mg/L** Analysis Date: **08-Jan-2018 19:13**
Client ID: Run ID: **TOC_02_308631** SeqNo: **4385185** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	11.2	1.00	10	0	112	80 - 120				

LCSD Sample ID: **WLCSDW1-010818** Units: **mg/L** Analysis Date: **08-Jan-2018 19:26**
Client ID: Run ID: **TOC_02_308631** SeqNo: **4385186** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.94	1.00	10	0	109	80 - 120	11.2	2.35	20	

MS Sample ID: **HS17121337-01MS** Units: **mg/L** Analysis Date: **08-Jan-2018 20:49**
Client ID: Run ID: **TOC_02_308631** SeqNo: **4385192** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	21.26	1.00	10	10.98	103	80 - 120				

The following samples were analyzed in this batch: HS17121135-01

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

ALS Group USA, Corp Date: 22-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: **HS17121135**

QUALIFIERS, ACRONYMS, UNITS

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

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

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	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: 22-Jan-18

Sample Receipt Checklist

Client Name: Bhate Environmental
Work Order: HS17121135
Date/Time Received: **21-Dec-2017 09:40**
Received by: **JRM**

Checklist completed by: *Cesar A. Lira* eSignature 21-Dec-2017 Date
Reviewed by: *Sonia West* eSignature 27-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):	2.6C/2.9C UC/C	IR11	
Cooler(s)/Kit(s):	42568		
Date/Time sample(s) sent to storage:	12/21/2017 12:30		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

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

Page 1 of 1

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

Project No. NWO1312.0150.0 16.0001

Job: GROUNDWATER TREATMENT PLANT WEEKLY SAMPLES

Prepared By: Scott Beesinger

P.O. Number

HS17121135
Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Weekly Samples

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	AMMONIA-N	TOTAL ORGANIC CARBON	ORTHO-PHOSPHATE	PERCHLORATE							Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_122017	Water	12/20/17 / 14:00		2	X	X									H2SO4	
LH18/24-SP650_122017	Water	12/20/17 / 14:00		2			X	X							NONE	

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	12/20/17	14:30	JM	12-21-17	0940						

For Lab Use Only

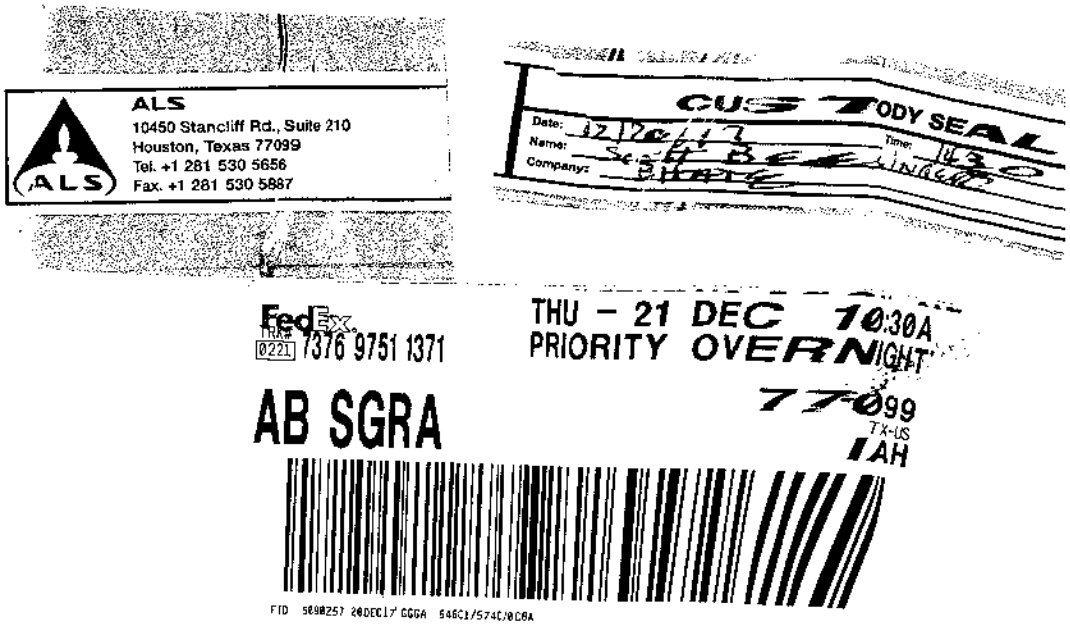
Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
JM	12-21-17	0940		[illegible]	12-21-4	0940	26		Good

Remarks:

int 11
OC +0.3

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

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



CUSTODY SEAL
Date: 12/20/17
Time: 1430
Name: Scott Bee
Company: Shape Linger

FedEx
TRK# 0221 7376 9751 1371

THU - 21 DEC 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

FID 5090257 20DEC17 GGGA 546C1/574C/0C8A

42568

CHAIN OF CUSTODY

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

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

Project No. NWO1312.0150.0 16.0001

Job: GROUNDWATER TREATMENT PLANT WEEKLY SAMPLES

Prepared By: Scott Beesinger

P.O. Number

HS17121135

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

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: AMMONIA-N	TOTAL ORGANIC CARBON	ORTHO-PHOSPHATE	PERCHLORATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_122017	Water	12/20/17 / 14:00		2	X	X			H2SO4	
LH18/24-SP650_122017	Water	12/20/17 / 14:00		2			X	X	NONE	

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	12/20/17	14:30	JM	12/21/17	0940						

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
JM	12/21/17	0940			12/21/17	0940	2.6		Good

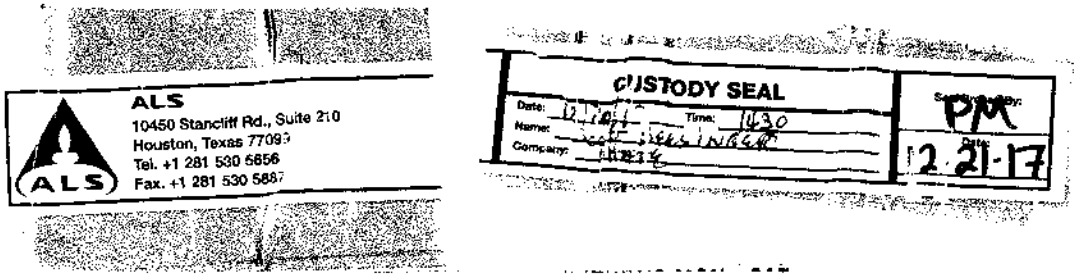
Remarks:

Lot # 1
OC +0.3

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

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

CUSTODY SEAL
Date: 12/20/17 Time: 1430
Name: Scott Sellinger
Company: [illegible]
Sealing Date: PM
Date: 12-21-17



FedEx
TRK# 0221 7376 9751 1371

THU - 21 DEC 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

FID 6098257 20DEC17 GGGA 540C1/674C/8C8A

4[illegible]8

Wet Chemistry Raw Data

Bhate Environmental Associates, Inc.

Project: Longhorn GW Treatment Plant Monthly Effluent

ALS WO# HS17121135

HS17121135

	T	Analys	Sample Name	Sample ID	Origin	Result	Status	Date / Time	Vial
1	U	NPOC	CCV	304.183.701	10-16-2017_W	NPOC:27.09mg/L	Completed	1/8/2018 6:37:45 PM	1
2	U	NPOC	CCB	Untitled	10-16-2017_W	NPOC:0.3449mg/L	Completed	1/8/2018 6:50:53 PM	2
3	U	NPOC	WBLKW1-010818	5310B	10-16-2017_W	NPOC:0.2478mg/L	Completed	1/8/2018 7:04:06 PM	3
4	U	NPOC	WLCSW1-010818	297.020.4301	10-16-2017_W	NPOC:11.20mg/L	Completed	1/8/2018 7:17:19 PM	4
5	U	NPOC	WLCSDW1-010818	Untitled	10-16-2017_W	NPOC:10.94mg/L	Completed	1/8/2018 7:30:32 PM	5
6	U	NPOC	HS17121135-01	1/1 TOC_W	10-16-2017_W	NPOC:23.20mg/L	Completed	1/8/2018 7:43:45 PM	6
7	U	NPOC	HS17121397-01	1/1 TOC_W	10-16-2017_W	NPOC:21.18mg/L	Completed	1/8/2018 7:59:03 PM	7
8	U	NPOC	HS17121156-01	1/2 TOC_W	10-16-2017_W	NPOC:8.779mg/L	Completed	1/8/2018 8:14:16 PM	8
9	U	NPOC	HS17121156-02	1/2 TOC_W	10-16-2017_W	NPOC:4.104mg/L	Completed	1/8/2018 8:27:24 PM	9
10	U	NPOC	HS17121337-01	1/2 TOC_W	10-16-2017_W	NPOC:10.98mg/L	Completed	1/8/2018 8:40:37 PM	10
11	U	NPOC	HS17121337-01MS	1/2 TOC_W	10-16-2017_W	NPOC:21.26mg/L	Completed	1/8/2018 8:53:50 PM	11
12	U	NPOC	HS18010029-01	1/2	10-16-2017_W	NPOC:13.02mg/L	Completed	1/8/2018 9:09:08 PM	12
13	U	NPOC	CCV	Untitled	10-16-2017_W	NPOC:25.89mg/L	Completed	1/8/2018 9:24:24 PM	13
14	U	NPOC	CCB	Untitled	10-16-2017_W	NPOC:0.3234mg/L	Completed	1/8/2018 9:37:32 PM	14
15	U	NPOC	HS18010052-01	1/2	10-16-2017_W	NPOC:13.31mg/L	Completed	1/8/2018 9:52:50 PM	15
16	U	NPOC	HS18010056-01	1/2	10-16-2017_W	NPOC:6.934mg/L	Completed	1/8/2018 10:05:58 PM	16
17	U	NPOC	HS18010056-02	1/2	10-16-2017_W	NPOC:13.77mg/L	Completed	1/8/2018 10:19:11 PM	17
18	U	NPOC	HS18010056-08DF2	1/2 bubbly	10-16-2017_W	NPOC:45.04mg/L	Completed	1/8/2018 10:34:38 PM	18
19	U	NPOC	CCV	Untitled	10-16-2017_W	NPOC:25.99mg/L	Completed	1/8/2018 10:49:51 PM	19
20	U	NPOC	CCB	Untitled	10-16-2017_W	NPOC:0.3472mg/L	Completed	1/8/2018 11:05:04 PM	20

Instr Information

System	TOC csh with asi
Instrument Options	TOC/ASI/IC Unit/
Catalyst	Regular Sensitivity

Cal. Curve

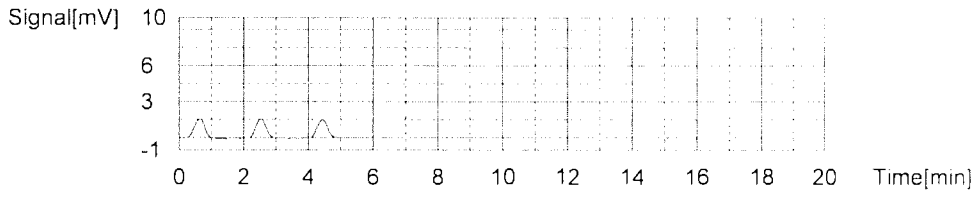
Sample Name:	CAL
Sample ID:	304146903
Cal. Curve:	10-16-2017 W.2017 10 16 17 39 41.cal
Status	Completed

Type	Anal.
Standard	NPOC

Conc: 1.000mg/l

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	3.430	50ul	1	*******		10/16/2017 5:48:58 PM
2	3.301	50ul	1	*******		10/16/2017 5:51:03 PM
3	3.288	50ul	1	*******		10/16/2017 5:53:08 PM

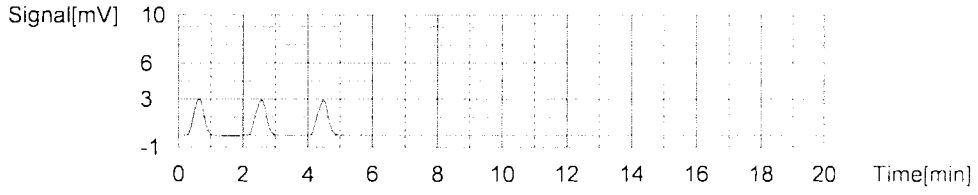
Acid Add.	0.000%
Sp. Time	180.0sec
Mean Area	3.340



Conc: 2.000mg/l

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	6.550	50ul	1	*******		10/16/2017 6:02:20 PM
2	6.642	50ul	1	*******		10/16/2017 6:04:25 PM
3	6.460	50ul	1	*******		10/16/2017 6:06:30 PM

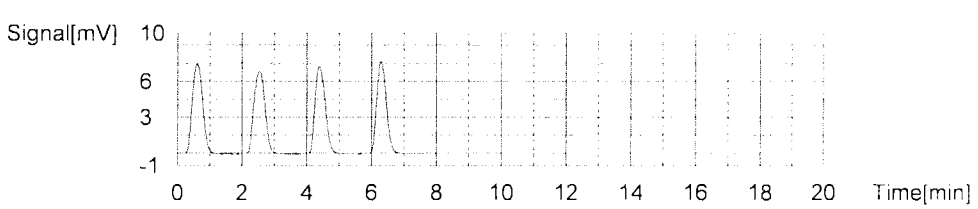
Acid Add	0.000%
Sp. Time	180.0sec
Mean Area	6.551



Conc: 5.000mg/l

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	16.40	50ul	1	*******	E	10/16/2017 6:15:42 PM
2	16.13	50ul	1	*******		10/16/2017 6:17:47 PM
3	15.62	50ul	1	*******		10/16/2017 6:19:52 PM
4	15.82	50ul	1	*******		10/16/2017 6:21:57 PM

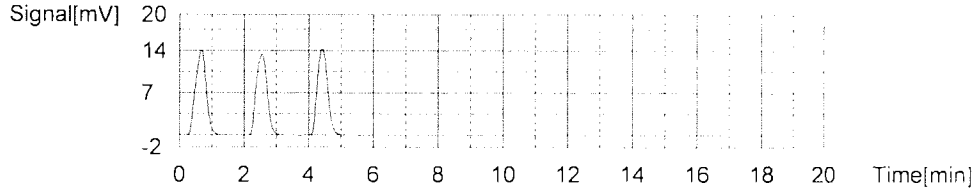
Acid Add.	0.000%
Sp. Time	180.0sec
Mean Area	15.86



Conc: 10.00mg/l

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	31.78	50ul	1	*******		10/16/2017 6:30:55 PM
2	31.39	50ul	1	*******		10/16/2017 6:33:00 PM
3	31.59	50ul	1	*******		10/16/2017 6:35:05 PM

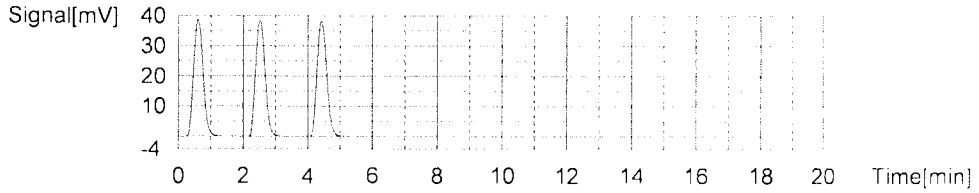
Acid Add. 0.000%
Sp. Time 180.0sec
Mean Area 31.59



Conc: 25.00mg/l

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	78.26	50ul	1	*******		10/16/2017 6:44:18 PM
2	78.67	50ul	1	*******		10/16/2017 6:46:23 PM
3	79.38	50ul	1	*******		10/16/2017 6:48:28 PM

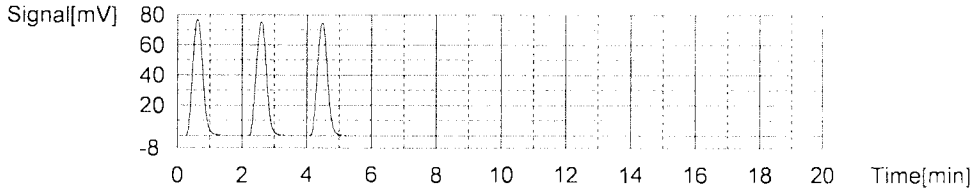
Acid Add. 0.000%
Sp. Time 180.0sec
Mean Area 78.77



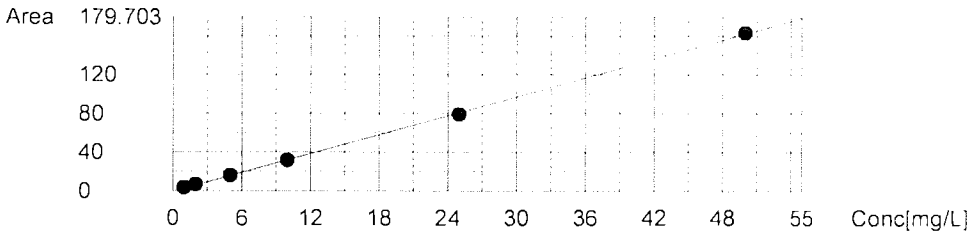
Conc: 50.00mg/l

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	164.9	50ul	1	*******		10/16/2017 6:57:42 PM
2	164.9	50ul	1	*******		10/16/2017 6:59:47 PM
3	160.3	50ul	1	*******		10/16/2017 7:01:52 PM

Acid Add. 0.000%
Sp. Time 180.0sec
Mean Area 163.4



Slope: 3.257
Intercept -0.5787
r^2 0.9997
r 0.9998
Zero Shift No



Sample

Sample Name: ICV
Sample ID: 304147002
Origin: 10-16-2017_W.cal
Status Completed
Chk. Result

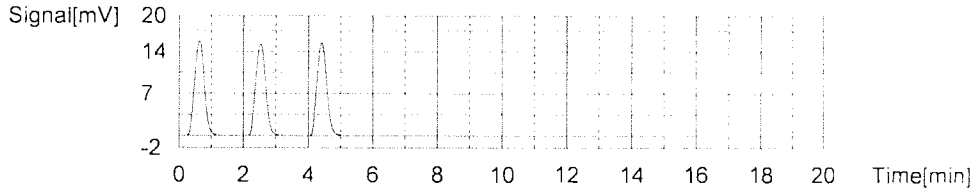
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.16mg/l

1 Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Fx.	Cal. Curve	Date / Time
1	32.84	10.26mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	10/16/2017 7:58:36 PM
2	32.50	10.15mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	10/16/2017 8:00:41 PM
3	32.24	10.07mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	10/16/2017 8:02:46 PM

Mean Area 32.53
Mean Conc. 10.16mg/l



Sample

Sample Name: ICB
Sample ID: Untitled
Origin: 10-16-2017_W.cal
Status: Completed
Chk. Result:

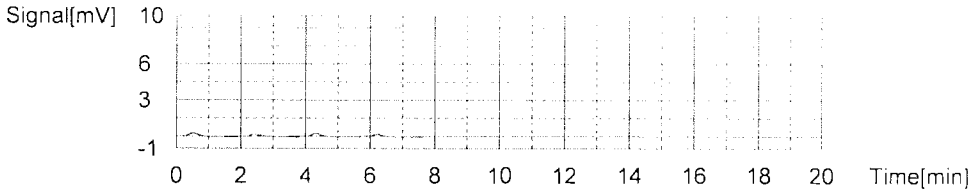
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2618mg/l

1 Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Fx.	Cal. Curve	Date / Time
1	0.4693	0.321mg/l	50ul	1	F	10-16-2017_W.2017_10_16_17_39_41.cal	10/16/2017 8:11:49 PM
2	0.2438	0.2525mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	10/16/2017 8:13:54 PM
3	0.3477	0.2844mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	10/16/2017 8:15:59 PM
4	0.2307	0.2485mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	10/16/2017 8:18:04 PM

Mean Area 0.2741
Mean Conc. 0.2618mg/l



Instr.information

System	TOC csh with asi
Instrument Options	TOC/ASI/IC Unit/
Catalyst	Regular Sensitivity

Sample

Sample Name:	CCV
Sample ID:	304.183.701
Origin:	10-16-2017_W.cal
Status	Completed
Chk. Result	

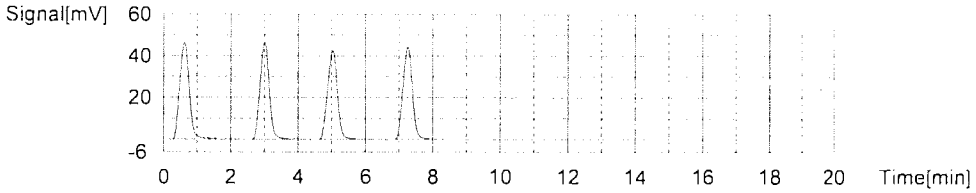
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:27.09mg/l

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	92.15	28.47mg/l	50ul	1	E	10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 6:31:00 PM
2	88.66	27.40mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 6:33:10 PM
3	87.20	26.95mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 6:35:36 PM
4	87.16	26.93mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 6:37:45 PM

Mean Area	87.67
Mean Conc	27.09mg/l



Sample

Sample Name:	CCB
Sample ID:	Untitled
Origin	10-16-2017_W.cal
Status	Completed
Chk. Result	

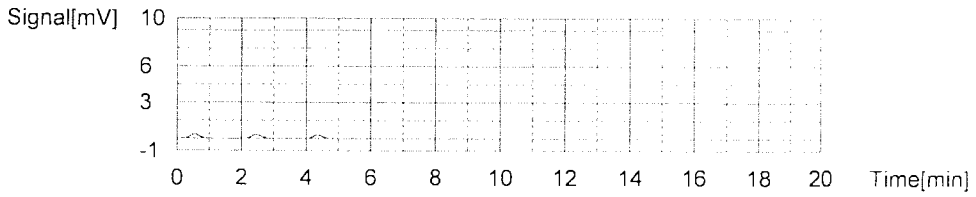
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3449mg/l

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.6078	0.3643mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 6:46:43 PM
2	0.5266	0.3393mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 6:48:48 PM
3	0.5003	0.3313mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 6:50:53 PM

Mean Area 0.5449
Mean Conc. 0.3449mg/L



Sample

Sample Name: WBLKW1-010818
Sample ID: 5310B
Origin: 10-16-2017_W.cal
Status Completed
Chk. Result

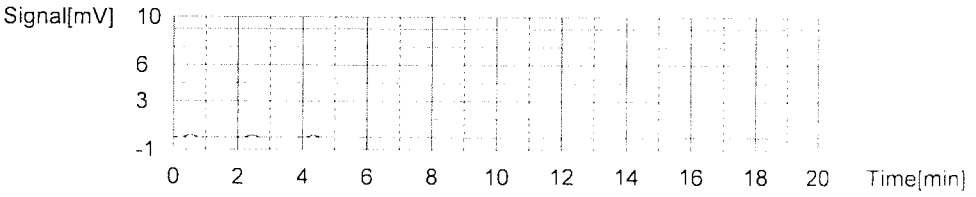
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.248mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.2708	0.2608mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 6:59:56 PM
2	0.2161	0.2440mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 7:02:01 PM
3	0.1981	0.2385mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 7:04:06 PM

Mean Area 0.2283
Mean Conc. 0.248mg/L



Sample

Sample Name: WLCSW1-010818
Sample ID: 297.020.4301
Origin: 10-16-2017_W.cal
Status Completed
Chk. Result

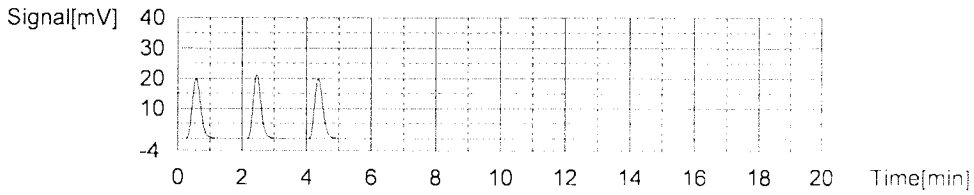
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:11.20mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	36.15	11.28mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 7:13:09 PM
2	35.91	11.20mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 7:15:14 PM
3	35.69	11.13mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 7:17:19 PM

Mean Area 35.92
Mean Conc. 11.20mg/l



Sample

Sample Name WLCSDW1-010818
Sample ID Untitled
Origin 10-16-2017 W.cal
Status Completed
Chk Result

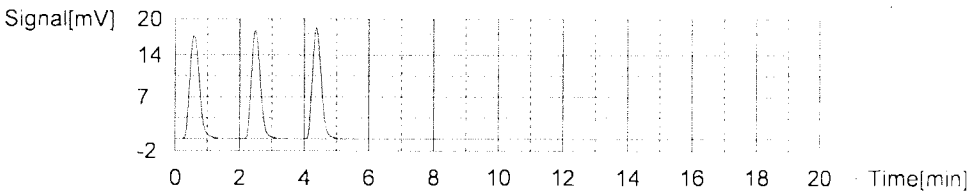
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC.10.94mg/l

1 Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	35.38	11.04mg/l	50ul	1		10-16-2017 W.2017 10 16 17 39 41.cal	1/8/2018 7:26:22 PM
2	35.05	10.94mg/l	50ul	1		10-16-2017 W.2017 10 16 17 39 41.cal	1/8/2018 7:28:27 PM
3	34.79	10.86mg/l	50ul	1		10-16-2017 W.2017 10 16 17 39 41.cal	1/8/2018 7:30:32 PM

Mean Area 35.07
Mean Conc 10.94mg/l



Sample

Sample Name HS17121135-01
Sample ID 1/1 TOC W
Origin 10-16-2017 W.cal
Status Completed
Chk Result

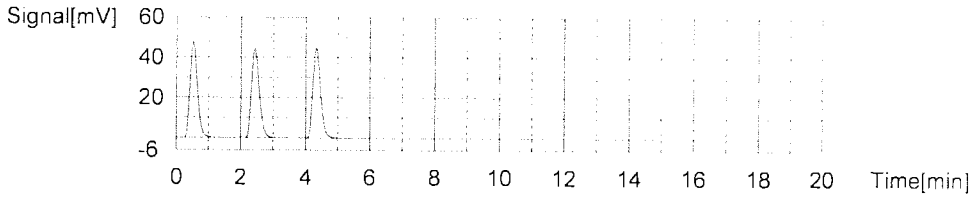
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC.23.20mg/l

1 Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	75.86	23.47mg/l	50ul	1		10-16-2017 W.2017 10 16 17 39 41.cal	1/8/2018 7:39:35 PM
2	74.99	23.20mg/l	50ul	1		10-16-2017 W.2017 10 16 17 39 41.cal	1/8/2018 7:41:40 PM
3	74.18	22.95mg/l	50ul	1		10-16-2017 W.2017 10 16 17 39 41.cal	1/8/2018 7:43:45 PM

Mean Area 75.01
Mean Conc. 23.20mg/l



Sample

Sample Name: HS1712133/-01
Sample ID: 1/2 TOC_W
Origin: 10-16-2017_W.cal
Status Completed
Chk. Result

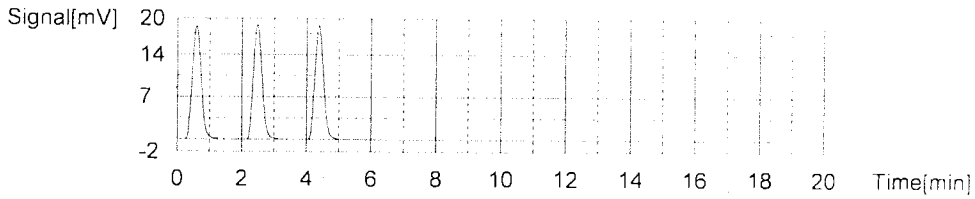
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.98mg/l

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	35.37	11.04mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 8:36:27 PM
2	35.45	11.06mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 8:38:32 PM
3	34.77	10.83mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 8:40:37 PM

Mean Area 35.18
Mean Conc. 10.98mg/l



Sample

Sample Name: HS1712133/-01MS
Sample ID: 1/2 TOC_W
Origin: 10-16-2017_W.cal
Status Completed
Chk. Result

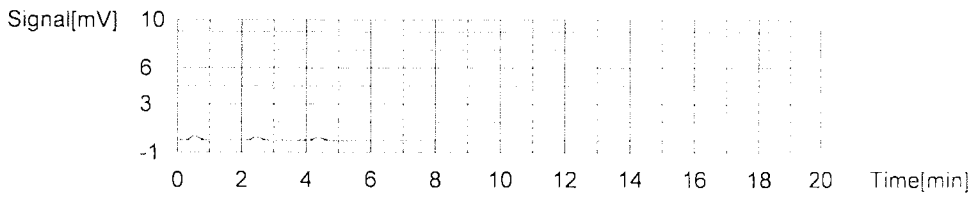
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:21.26mg/l

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	69.88	21.63mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 8:49:40 PM
2	67.78	20.99mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 8:51:45 PM
3	68.37	21.17mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 8:53:50 PM

Mean Area	0.4746
Mean Conc	0.3234mg/l



AMM_ISE_W

HS171211135

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Logbook **30509**

Ion Selective Electrode Logbook

Analyst: SAP		Date: 12/22/17 11:30AM	
Method: SM4500NH3-D or SM4500 F⁻ C or SW9214 F⁻ or 351.3/4500NH3		SOP: WC-027 or WC-004 or WC-007 or WC-033	
Probe Calibration: Prep 12/22/17	Cal Std ID: 304.182 (703-707)	Probe ID: SR1-15910	

Std Level		mV	Conc., mg/L:
STD 1 (mg/L):	0.2	114.5	0.2009
STD 2 (mg/L):	1	72.7	1.060
STD 3 (mg/L):	5	34.0	5.007

Matrix: Water / Soil (1: 10 -- soil -gm : DI Water -ml)		
Std Level	mV	Conc., mg/L:
STD 4 (mg/L): 10	16.7	9.985
STD 5 (mg/L): 50	-23.6	50.15

LSC / MS Spike ID: 297.020-5115	ICV-ID 304182708	Ical Slope: 97.6 % / 57.6 mV Ical Date: 12/22/17

WO # / SX #	Bottle #	Initial g or ml	Final Vol. ml	Dilution Factor	Initial Conc. mg/L	Final Conc. mg/L	Comments
ICV/CCV		50 ml	50 ml		10.30		
CCB		↓	↓		0.03857		
WBLNKWI		↓	↓		0.03991		
WLCSWI		↓	↓		10.10		
HS17121112-02		25 ml		2X	2.319		ISE_350.3
HS17121135-01		50 ml			11.69		↕
HS17121009-01		↓			0.1250		
HS17121009-01 MS		↓			10.59		
HS17121009-01 MSD		↓			10.40		
HS17121020-01		↓			0.5384		
HS17121076-02		↓			7.957		
HS17121078-02		↓			0.3212		
CCV		↓			10.21		
CCB		↓	↓		0.04011		
CCV		50 ml	50 ml		10.19		1:40 PM
CCB		↓	↓		0.04157		
WBLNKWI		25 ml	50 ml		0.03841		AMM_ISE_S
WLCSWI		↓			9.981		weights in
HS17120496-01					0.4685		prep batch.
-06					0.4024		
-11					0.4345		
-16					0.4225		
-21					0.3435		
-22					0.2818		
-31					0.3984		

Batch ID:	Reported By	Reviewed By:
ISE-W 350.3 307857 ISE-W 307859	SAP	12/22/17

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H1712135

Standard Table Report

01/18/2018 03:38:57 PM

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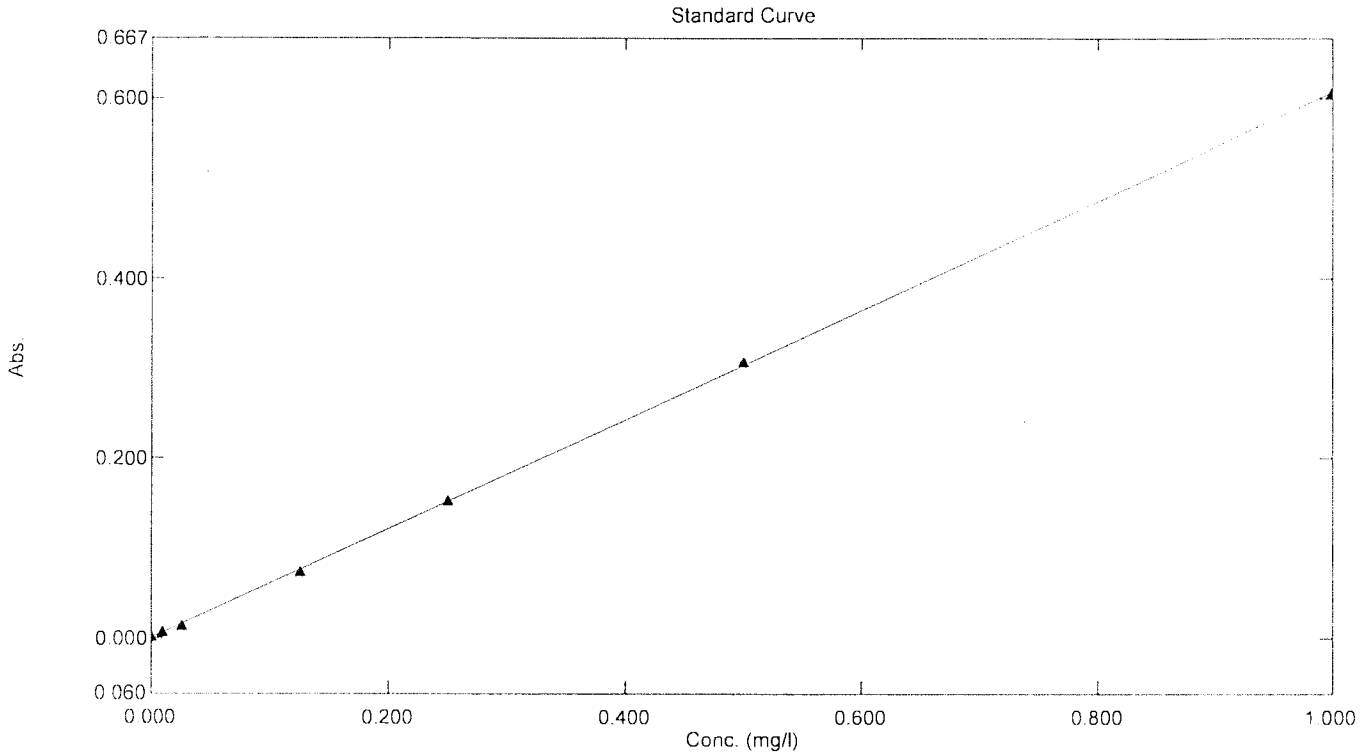

Correlation Coefficient r2 = 0.99990

Standard Table

	Sample ID	Type	Ex	Conc	WL880.0	Wgt.Facto	Comments
1	STD1	Standard		0.000	0.002	1.000	
2	STD2	Standard		0.010	0.006	1.000	
3	STD3	Standard		0.025	0.015	1.000	
4	STD4	Standard		0.125	0.073	1.000	
5	STD5	Standard		0.250	0.153	1.000	
6	STD6	Standard		0.500	0.307	1.000	
7	STD7	Standard		1.000	0.606	1.000	
8							

Sample Table Report

01/18/2018 03:38:55 PM

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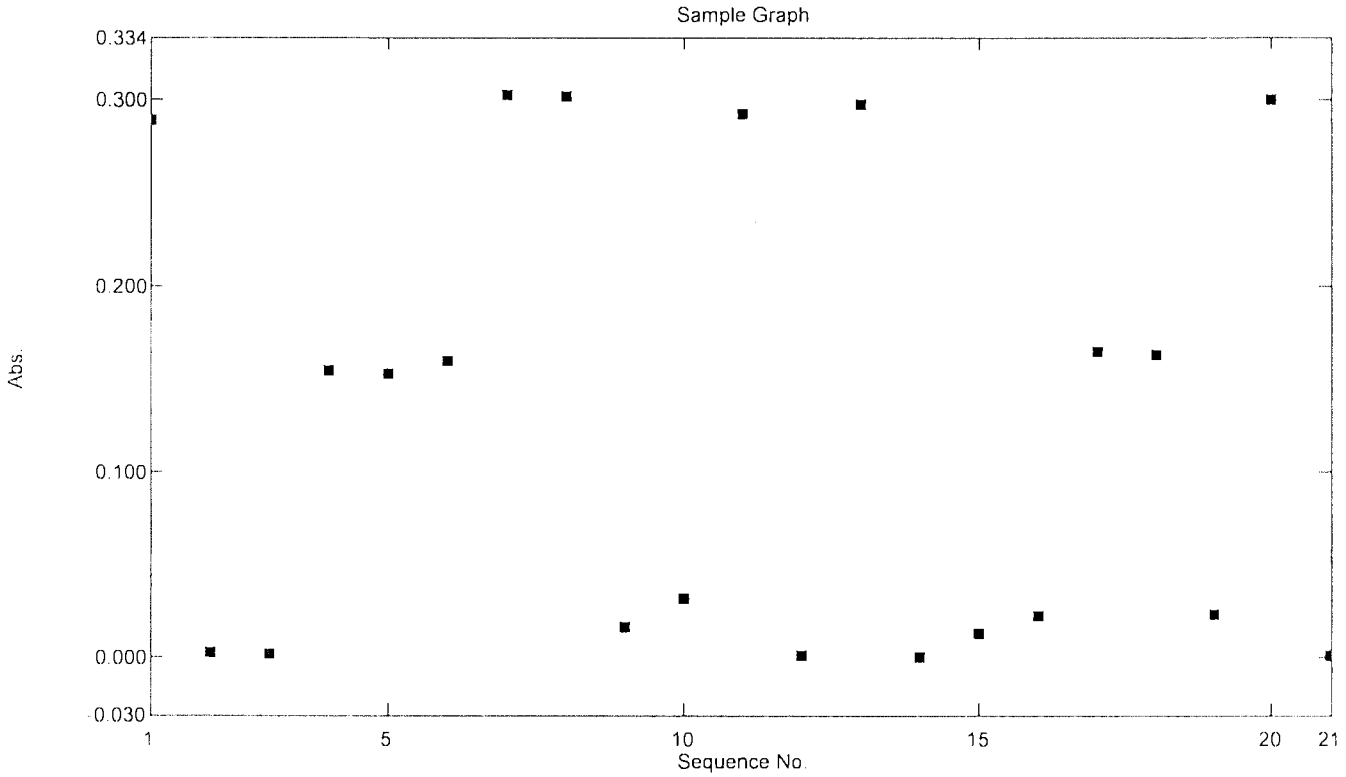

Sample Table

	Sample ID	Type	Ex	Conc	WL880.0	Comments
1	CCV	Unknown		0.477	0.290	
2	CCB	Unknown		0.003	0.002	
3	MBLK	Unknown		0.003	0.002	
4	LCS	Unknown		0.254	0.155	
5	LCSD	Unknown		0.251	0.153	
6	17121135.01	Unknown		0.262	0.160	PF-10X
7	17121135.01MS	Unknown		0.499	0.303	PF-10X
8	17121135.01MSD	Unknown		0.497	0.302	PF-10X
9	17091228.21	Unknown		0.026	0.016	
10	17091229.21	Unknown		0.052	0.032	
11	CCV2	Unknown		0.482	0.293	
12	CCB2	Unknown		0.001	0.001	
13	CCV3	Unknown		0.490	0.298	
14	CCB3	Unknown		-0.001	-0.000	
15	HS17121198.01	Unknown		0.021	0.013	
16	HS17121198.02	Unknown		0.035	0.022	
17	HS17121198.02MS	Unknown		0.270	0.165	
18	HS17121198.02MSD	Unknown		0.269	0.163	
19	HS17121199.01	Unknown		0.037	0.023	

Sample Table Report

01/18/2018 03:38:55 PM

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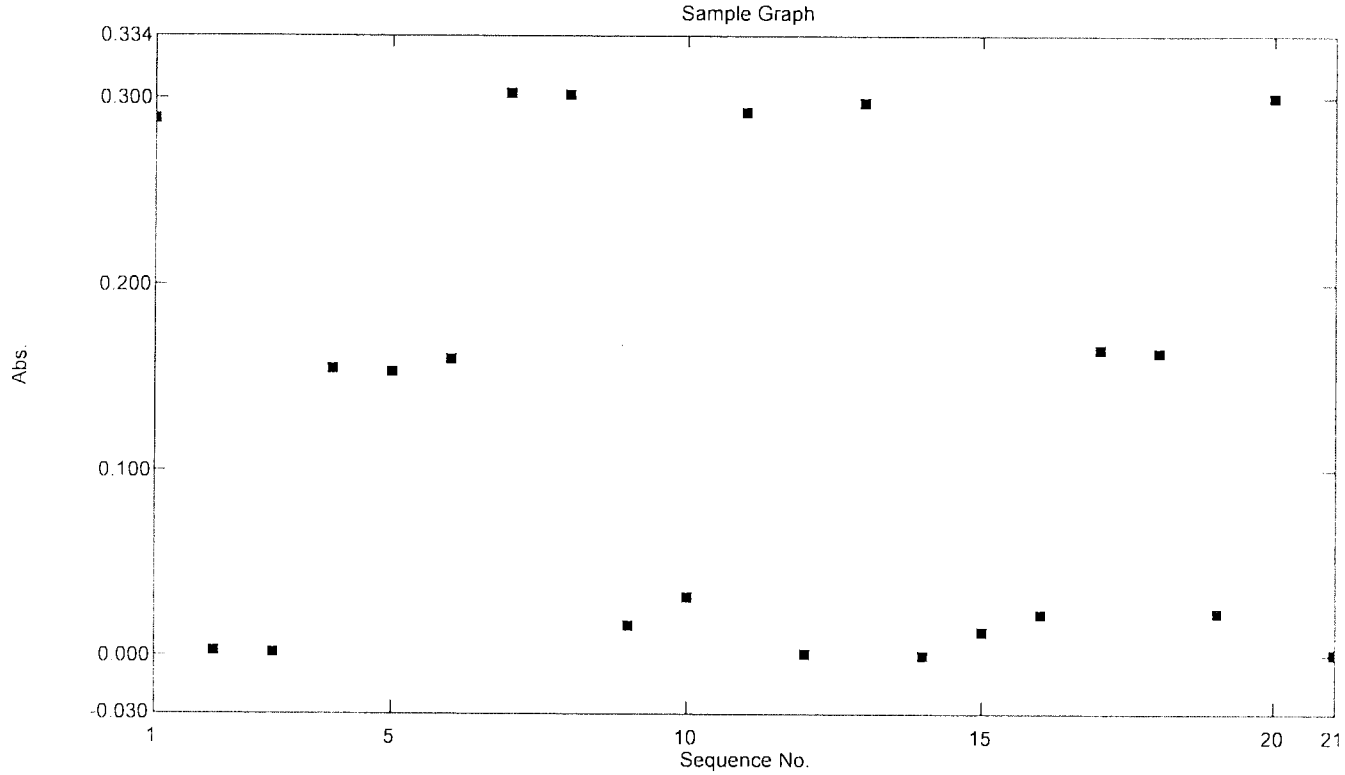


Sample Table

	Sample ID	Type	Ex	Conc	WL880.0	Comments
20	CCV4	Unknown		0.495	0.301	
21	CCB4	Unknown		0.000	0.001	
22						

Sub Contract Data

Bhate Environmental Associates, Inc.

Project: Longhorn GW Treatment Plant Monthly Effluent

ALS WO# HS17121135

Case Narrative

Method: 6850
Analysis: Perchlorate
Analysis SOP: LC-MS-CLO4
ALS WO ID(s): 1735679; 1735681; 1735685; 1735689

Client: ALS Laboratories (Houston, TX)
Matrix: Water
ELMS Batch (HBN): 2023 (205839)

General Set Information: There were eleven 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 1735679001 was analyzed and reported at a 1:1,000 dilution. Samples 1735685001/02/03/08 were analyzed and reported at the following dilutions: 1:10,000/10,000/1,000/1,000. The reporting limits have been adjusted accordingly.

Method QC data: The method blank (LMB 581172) was less than 1/2 the CRDL. The recovery for the LCS (581173) was within acceptable parameters.

MS/MSD Analysis: The matrix spike and matrix spike duplicate (MS/MSD) was performed on sample 1735681001 (Client ID: LH18/24SP140_122017). The Matrix Spike (MS - 581367) failed QC acceptance criteria for percent recovery. The Relative Percent Difference (RPD) also failed QC criteria. The Matrix Spike and Matrix Spike duplicate is reported for the clients' information only. The sample matrix may be inappropriate for the

method selected.

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 28DECP03/11/12/17-19.

Thomas Bosch January 9, 2017
Date

ANALYTICAL REPORT

Report Date: January 10, 2018

Sonia West
ALS Environmental
10450 Stancliff Rd.
Suite 210
Houston, TX 77099

Phone: (281) 530-5656

E-mail: Sonia.West@alsglobal.com

Workorder: **34-1735681**
Project ID: HS17121135 122017
Purchase Order: HS17121135
Project Manager Kevin W. Griffiths

Client Sample ID	Lab ID	Collect Date	Receive Date	Sampling Site
LH18/24-SP650_122017	1735681001	12/20/17	12/22/17	

ANALYTICAL REPORT

Workorder: 34-1735681
Client: ALS Environmental (Houston)
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **LH18/24-SP650_122017**	Sampling Site: NA	Collected: 12/20/2017
Lab ID: 1735681001	Media: 125 mL Nalgene	Received: 12/22/2017
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/2023 (HBN: 205839)	**Percent Solid:** NA
	Analyzed: 12/28/2017 12:51	**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

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 01/08/2018 14:25	/S/ Stephen Brose 01/10/2018 12:00

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: 34-1735681
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: 34-1735681
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: 1735681

Limits:	Client SOW/Contract Specified	**Preparation:**	NA	**Analysis:**	EPA 6850
Basis:	DoD QSM	**Batch:**	NA	**Batch:**	ELMS/2023 (HBN: 205839)
		Prepared By:	NA	**Analyzed By:**	Thomas Bosch

Blank

LMB: 581172
Analyzed: 12/28/2017 11:50
Units: ug/L

Analyte	Result	MDL	RL
Perchlorate	ND	1	2.00

Laboratory Control Sample

LCS: 581173
Analyzed: 12/28/2017 12:09
Dilution: 1
Units: ug/L

Analyte	Result	Target	% Rec	QC Limits	
Perchlorate	5.27	5.00	105	78.8	123.8

Matrix Spike - Matrix Spike Duplicate

Sample:	1735681001	**MS:**	581367					**MSD:**	581368				
Analyzed:	12/28/2017 12:51	**Analyzed:**	12/28/2017 16:47					**Analyzed:**	12/28/2017 17:06				
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	6.42	5	#	128	78.8	123.8	4.97	99.4	#	25.4	0.0	20.0

Surrogate Recoveries

Surrogate	Perchlorate 89		
QC Limits			
Units			
Lab ID	**Result**	**Target**	**% Recovery**
581169-CCV	160000	0.100	* 160000000
581171-ICS	126000	0.100	* 126000000
581172-LMB	142000	0.100	* 142000000
1735679001	173000	0.100	* 173000000
1735681001	170000	0.100	* 170000000
1735685006	177000	0.100	* 177000000
1735685007	180000	0.100	* 180000000
1735685008	176000	0.100	* 176000000
581176-CCV	165000	0.100	* 165000000
1735689001	175000	0.100	* 175000000
1735685004	159000	0.100	* 159000000
1735685005	179000	0.100	* 179000000
581178-CCV	170000	0.100	* 170000000

Quality Control Sample Batch Report

Analysis Information

Workorder: 1735681

Limits:	Client SOW/Contract Specified	**Preparation:**	NA
Basis:	DoD QSM	**Batch:**	NA
		Prepared By:	NA
Analysis:	EPA 6850		
Batch:	ELMS/2023 (HBN: 205839)		
Analyzed By:	Thomas Bosch		

Continuing Calibration Verification

CCV:	581169			**CCV:**	581176			**CCV:**	581178		
Analyzed:	12/28/2017 10:52			**Analyzed:**	12/28/2017 15:44			**Analyzed:**	12/28/2017 18:04		
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	26.0	25.0	104	25.6	25.0	102		26.6	25.0	106

Interference Check Sample

ICSA:	581171		
Analyzed:	12/28/2017 11:30		
Units:	ug/L		
Criteria:	± 30%		
Analyte	**Result**	**Target**	**% Rec.**
Perchlorate	0.891	1.00	89.1

Limit of Detection Verification

LODV:	581170			**LODV:**	581177			**LODV:**	581179		
Analyzed:	12/28/2017 11:11			**Analyzed:**	12/28/2017 16:03			**Analyzed:**	12/28/2017 18:23		
Units:	ug/L			**Units:**	ug/L			**Units:**	ug/L		
Criteria:	± 50%			**Criteria:**	± 50%			**Criteria:**	± 50%		
Analyte	**Result**	**Target**	**% Rec.**	**Result**	**Target**	**% Rec.**		**Result**	**Target**	**% Rec.**
Perchlorate	1.16	0.100	*1160	1.14	0.100	* 1140		1.23	1.00	123

QC Report Authorization (/S/ is an electronic signature that complies with 21 CFR Part 11)

Analyst	Peer Review
/S/ Thomas Bosch	/S/ Stephen Brose
01/08/2018 14:25	01/10/2018 12:00

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

W 1735681

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

Subcontract Chain of Custody

COC ID: 8283

1735681

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:	HS17121135
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS17121135-01**	**LH18/24-SP650_122017**	**Water**	**20 Dec 2017 14:00**
	SUB_Perch-6850			09 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 21, 2017 1800

Received By: _____ Date/Time: 12.22.17 11:37

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: 735681

Date/Time of Receipt: 12-22-17 11:37

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:	Cooler/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	C17-8133	5 °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: Jessica Davies (Signature) Jessica Davies (Printed Name) 12-22-17 (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 ☐

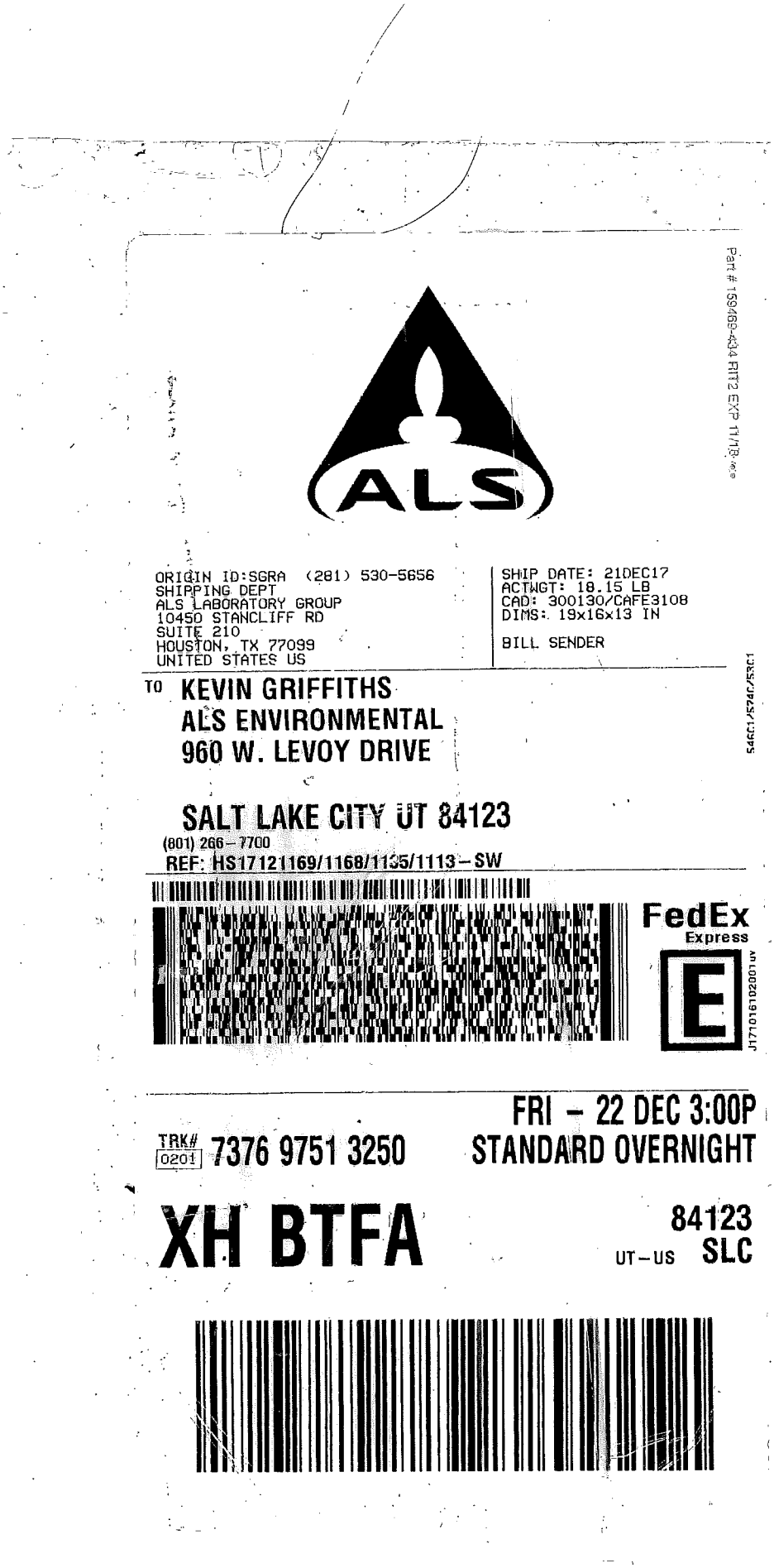
Response Required Within 24 Hours

Project Management

Project Manager Comments:

ALS Project Manager: _____ (Printed Name) Returned to Sample Receipt by: _____ (Signature) Date: _____

CRIR.dot Revised 1/1/15



Part # 15960-494 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: 21DEC17
ACTWGT: 18.15 LB
CAD: 300130/CAFE3108
DIMS: 19x16x13 IN

BILL SENDER

TO KEVIN GRIFFITHS
ALS ENVIRONMENTAL
960 W. LEVOY DRIVE

SALT LAKE CITY UT 84123
(801) 266-7700
REF: HS17121169/1168/1135/1113-SW

546C1/5746/5361

FedEx Express

J7701610200UV

FRI - 22 DEC 3:00P
STANDARD OVERNIGHT

TRK# 0201 7376 9751 3250

XH BTFA

84123
UT-US SLC

00879478

ALS Environmental
CHAIN-OF-CUSTODY

Project / Job / Task: HS17121135	*Split:*	**Workorder ID:** 1735681	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	12/20/2017 14:00	LH18/24-SP650_122017	1735681001		Water	A	1	A
2								
3								
4								
5								
6								
7								
8								
9								
10								

ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Reason for Transfer / Storage Location
Warath, Julie	12/22/2017 11:37	ALS Sample Receiving	Sample Login
Julie Warath 12/22/17 1500		MC	Storage
R-33.1	12-27-17/17:00	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

Batch Worklist

Batch: ELMS/ 2023 **Created:** 12/27/2017 16:48 **Instrument:** **HBN:** 205839

Rule: EPA 6850, DoD QSM Water **Analyst:** T. Bosch **Status:** WP

Workorder: 1735679 [ENV_LVL4]
Workorder: 1735681 [ENV_LVL4]
Workorder: 1735685 [ENV_LVL4]
Workorder: 1735689 [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	581169	CCV for HBN 205839 [ELMS/2023]				CCV	3		E685041C3Q	5311		1/10/2018	
2	581170	LODV for HBN 205839 [ELMS/2023				LODV	3		E6850..D3Q	5311		1/10/2018	
3	581171	ICS for HBN 205839 [ELMS/2023]				ICS	3		E6850..D3Q	5311		1/10/2018	
4	581172	LMB for HBN 205839 [ELMS/2023]				LMB	3		E6850Q413Q	5311		1/10/2018	
5	581173	LCS for HBN 205839 [ELMS/2023]				LCS	3		E6850Q413Q	5311		1/10/2018	
6	1735679001	LH18/24-SP140_122017				SAMPLE	3	1735679001-A	E6850Q41.3	5480	1/17/2018	1/10/2018	
7	1735681001	LH18/24-SP650_122017				SAMPLE	3	1735681001-A	E6850Q41.3	5480	1/17/2018	1/10/2018	
8	581367	LH18/24-SP650...(1735681001MS)				MS	3		E6850Q413Q	5311		1/10/2018	
9	581368	LH18/24-SP65...(1735681001MSD)				MSD	3		E6850Q413Q	5311		1/10/2018	
10	1735685001	MW14_121817				SAMPLE	3	1735685001-A	E6850Q41.3	5480	1/15/2018	1/10/2018	
11	1735685002	MW14_121817_a				SAMPLE	3	1735685002-A	E6850Q41.3	5480	1/15/2018	1/10/2018	
12	1735685003	MW21_121817				SAMPLE	3	1735685003-A	E6850Q41.3	5480	1/15/2018	1/10/2018	
13	1735685004	MW22_121817				SAMPLE	3	1735685004-A	E6850Q41.3	5480	1/15/2018	1/10/2018	
14	1735685005	18CPTMW06_121817				SAMPLE	3	1735685005-A	E6850Q41.3	5480	1/15/2018	1/10/2018	
15	1735685006	18CPTMW06_121817_a				SAMPLE	3	1735685006-A	E6850Q41.3	5480	1/15/2018	1/10/2018	
16	1735685007	18CPTMW16_121817				SAMPLE	3	1735685007-A	E6850Q41.3	5480	1/15/2018	1/10/2018	
17	1735685008	AWD3_121817				SAMPLE	3	1735685008-A	E6850Q41.3	5480	1/15/2018	1/10/2018	
18	581176	CCV for HBN 205839 [ELMS/2023]				CCV	3		E685041C3Q	5311		1/10/2018	
19	581177	LODV for HBN 205839 [ELMS/2023				LODV	3		E6850..D3Q	5311		1/10/2018	
20	1735689001	LH18/24-SP650_122017				SAMPLE	3	1735689001-A	E6850Q41.3	5480	1/17/2018	1/10/2018	
21	581178	CCV for HBN 205839 [ELMS/2023]				CCV	3		E685041C3Q	5311		1/10/2018	
22	581179	LODV for HBN 205839 [ELMS/2023				LODV	3		E6850..D3Q	5311		1/10/2018	



ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Analytical Documentation

ALS Work Order #'s & Sample #( )'s: 1735679 (001); 1735681 (001); 1735685 (00108); 1735689 (001)
ELMS Batch/HBN ID: 2023 (205839)
Prep Date: 12/28/2017 Analysis Date: 12/28/2017 Analyst: T. Bosch
Analyte: **Perchlorate** Matrix: **Water** Method: **6850**
Sequence:\\HPCHEM\1\SEQUENCE\CLO4\2017\DEC\28DEC17P. 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 581173; Target = 5.0µg/L. ASTM type II water was used for LMB 581172.

MS/MSD: MS/MSD was performed on sample 1735681001 (Client ID: LH18/24SP140_122017). 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 1735679001 was analyzed and reported at a 1:1,000 dilution. Samples 1735685001/02/03/08 were analyzed and reported at the following dilutions: 1:10,000/10,000/1,000/1,000. The reporting limits have been adjusted accordingly.
2) All QC, Blank, CCV, and MS/MSD results were within method parameters, except for the following. The Matrix Spike (MS - 581367) failed QC acceptance criteria for percent recovery. The Relative Percent Difference (RPD) also failed QC criteria. The Matrix Spike and Matrix Spike duplicate is reported for the clients' information only. The sample matrix may be inappropriate for the method selected.
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 28DECP03/11/12/17/18.
5) Notebook: \\alsltws013\ORGANIC\BOSCH\LCMS\Perchlorates\Waters\2017\CLO4-205839-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	Created By: T. Bosch	Amount: 100 mL
MFG: AccuStandard	Create Date: 5/10/2017	Expires: 10/4/2018
MFG Lot: 216095148	Lab Lot: CLO4 STOCK	Usable: Yes
Part ID: IC-PER-10X-1		

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 | Created By: T. Bosch | Amount: 10 mL
MFG: ALS/SLC | Create Date: 05/11/2017 | Expires: 05/11/2018
MFG Lot: TNB: 05/11/2017 | Lab Lot: CLO4 QC INT 10.ug/mL | Usable: Yes
Part ID:

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	Created By:	T. Bosch	Amount:	100 mL
MFG:	Ultra Scientific	Create Date:	5/11/2017	Expires:	3/31/2020
MFG Lot:	CP-0860	Lab Lot:	CLO4 QC STOCK	Usable:	Yes
Part ID:	ICC-013				

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**	Created By:	Thomas Bosch	Amount:	10 mL
MFG:	ALS/SLC	Create Date:	10/09/2017 01:10PM	Expires:	10/09/2018
MFG Lot:	TNB: 10/09/17	Verified By:	Thomas Bosch	Usable:	Yes
Pipette ID:	Not Provided	Verify Date:		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 17025 • ISO GUIDE 34 • ISO 9001

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

ALS

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

TRIPLE ISO CERTIFICATION ULTRA ISO 9001 • ISO GUIDE 34 • ISO/IEC 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

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

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ALS

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

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\28DEC17D\28DEC17D.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
	*	581169	CCV@25	Vial 71	1	Control	1	1.01859e6	12.182	25.96141
	*	581170	LODV@1.	Vial 72	1	Control	2	4.43782e4	12.318	1.16307
	*	581171	ICS@1.	Vial 73	1	Control	3	2.36682e4	11.986	8.90663e-1
	*	581172	LMB	Vial 74	1	Control	4	0.00000	0.000	0.00000
	*	581173	LCS@5.	Vial 75	1	Control	5	1.94810e5	12.377	5.27149
	*	1735679001	1K	Vial 76	1	Sample	6	3.15673e5	12.413	8119.23601
	*	1735681001		Vial 77	1	Sample	7	0.00000	0.000	0.00000
	*	1735685001	10K	Vial 78	1	Sample	8	6.12244e5	12.412	1.52642e5
	*	1735685002	10K	Vial 79	1	Sample	9	5.86286e5	12.424	1.45162e5
	*	1735685003	1K	Vial 80	1	Sample	10	8.58552e5	12.416	2.14594e4
	*	1735685004	100	Vial 81	1	Sample	11	2.15054e4	12.400	58.09091
	*	1735685005	100	Vial 82	1	Sample	12	4777.41943	12.440	15.63459
	*	1735685006		Vial 83	1	Sample	13	3.50391e4	11.899	9.39453e-1
	*	1735685007		Vial 84	1	Sample	14	0.00000	0.000	0.00000
	*	1735685008	1K	Vial 85	1	Sample	15	3.50228e5	12.396	8838.83797
	*	581176	CCV@25	Vial 71	1	Control	16	1.03216e6	12.243	25.58790
	*	581177	LODV@1.	Vial 72	1	Control	17	4.46104e4	12.365	1.14067
	*	1735689001		Vial 86	1	Sample	18	2.43839e4	11.970	6.69783e-1
	*	581367	356811S	Vial 87	1	Sample	19	1.86974e5	12.011	6.41601
	*	581368	356811D	Vial 88	1	Sample	20	1.82162e5	12.009	4.96862
	*	1735685004		Vial 89	1	Sample	21	1.65326e6	11.810	39.73792
	*	1735685005		Vial 90	1	Sample	22	6.82111e4	12.029	1.77732
	*	581178	CCV@25	Vial 71	1	Control	23	1.10850e6	12.340	26.55255
	*	581179	LODV@1.	Vial 72	1	Control	24	5.07547e4	12.522	1.22551

#	*	Sample	Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
	*	581169	CCV@25	Vial 71	1	Control	1	3.15397e5	12.200	25.52114
	*	581170	LODV@1.	Vial 72	1	Control	2	1.58993e4	12.318	1.06485
	*	581171	ICS@1.	Vial 73	1	Control	3	7909.42334	11.994	6.95976e-1
	*	581172	LMB	Vial 74	1	Control	4	0.00000	0.000	0.00000
	*	581173	LCS@5.	Vial 75	1	Control	5	6.43923e4	12.394	5.22105
	*	1735679001	1K	Vial 76	1	Sample	6	1.05967e5	12.424	8316.16801
	*	1735681001		Vial 77	1	Sample	7	0.00000	0.000	0.00000
	*	1735685001	10K	Vial 78	1	Sample	8	2.00772e5	12.423	1.55841e5
	*	1735685002	10K	Vial 79	1	Sample	9	1.93899e5	12.438	1.49200e5
	*	1735685003	1K	Vial 80	1	Sample	10	2.70354e5	12.429	2.12978e4
	*	1735685004	100	Vial 81	1	Sample	11	7779.59229	12.397	42.10595
	*	1735685005	100	Vial 82	1	Sample	12	1968.70264	12.453	0.00000
	*	1735685006		Vial 83	1	Sample	13	1.48166e4	11.927	9.98323e-1
	*	1735685007		Vial 84	1	Sample	14	0.00000	0.000	0.00000
	*	1735685008	1K	Vial 85	1	Sample	15	1.15251e5	12.413	8903.21632
	*	581176	CCV@25	Vial 71	1	Control	16	3.24643e5	12.259	25.50704
	*	581177	LODV@1.	Vial 72	1	Control	17	1.30513e4	12.396	8.12346e-1
	*	1735689001		Vial 86	1	Sample	18	8719.61621	12.011	5.12863e-1
	*	581367	356811S	Vial 87	1	Sample	19	6.47928e4	12.018	6.72389
	*	581368	356811D	Vial 88	1	Sample	20	6.39179e4	12.026	5.21417
	*	1735685004		Vial 89	1	Sample	21	5.33653e5	11.825	41.11392
	*	1735685005		Vial 90	1	Sample	22	2.47354e4	12.040	1.77469
	*	581178	CCV@25	Vial 71	1	Control	23	3.53710e5	12.359	26.85149
	*	581179	LODV@1.	Vial 72	1	Control	24	1.76874e4	12.520	1.09818

#	*	Sample	Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
	*	581169	CCV@25	Vial 71	1	Control	1	1.60075e5	12.205	5.00000
	*	581170	LODV@1.	Vial 72	1	Control	2	1.79761e5	12.329	5.00000
	*	581171	ICS@1.	Vial 73	1	Control	3	1.26200e5	12.010	5.00000
	*	581172	LMB	Vial 74	1	Control	4	1.41507e5	12.370	5.00000

Batch Report: C:\HPCHEM\1\DATA\28DEC17D\28DEC17D.B

#*	Sample	Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
*	581173	LCS@5.	Vial 75	1	Control	5	1.67600e5	12.393	5.00000
*	1735679001	1K	Vial 76	1	Sample	6	1.73474e5	12.435	5000.00000
*	1735681001		Vial 77	1	Sample	7	1.69952e5	12.021	5.00000
*	1735685001	10K	Vial 78	1	Sample	8	1.72405e5	12.435	5.00000e4
*	1735685002	10K	Vial 79	1	Sample	9	1.74260e5	12.443	5.00000e4
*	1735685003	1K	Vial 80	1	Sample	10	1.66785e5	12.435	5000.00000
*	1735685004	100	Vial 81	1	Sample	11	1.78776e5	12.412	500.00000
*	1735685005	100	Vial 82	1	Sample	12	1.67796e5	12.419	500.00000
*	1735685006		Vial 83	1	Sample	13	1.76823e5	11.925	5.00000
*	1735685007		Vial 84	1	Sample	14	1.79543e5	12.105	5.00000
*	1735685008	1K	Vial 85	1	Sample	15	1.76102e5	12.410	5000.00000
*	581176	CCV@25	Vial 71	1	Control	16	1.64866e5	12.271	5.00000
*	581177	LODV@1.	Vial 72	1	Control	17	1.84350e5	12.394	5.00000
*	1735689001		Vial 86	1	Sample	18	1.74712e5	12.004	5.00000
*	581367	356811S	Vial 87	1	Sample	19	1.31274e5	12.027	5.00000
*	581368	356811D	Vial 88	1	Sample	20	1.66581e5	12.035	5.00000
*	1735685004		Vial 89	1	Sample	21	1.59385e5	11.831	5.00000
*	1735685005		Vial 90	1	Sample	22	1.78902e5	12.046	5.00000
*	581178	CCV@25	Vial 71	1	Control	23	1.69852e5	12.361	5.00000
*	581179	LODV@1.	Vial 72	1	Control	24	1.94839e5	12.543	5.00000

*** End of Report ***

Sequence: C:\HPCHEM\1\SEQUENCE\CLO4\2017\DEC\28DEC17D.S

Sequence Table:

Method and Injection Info Part:

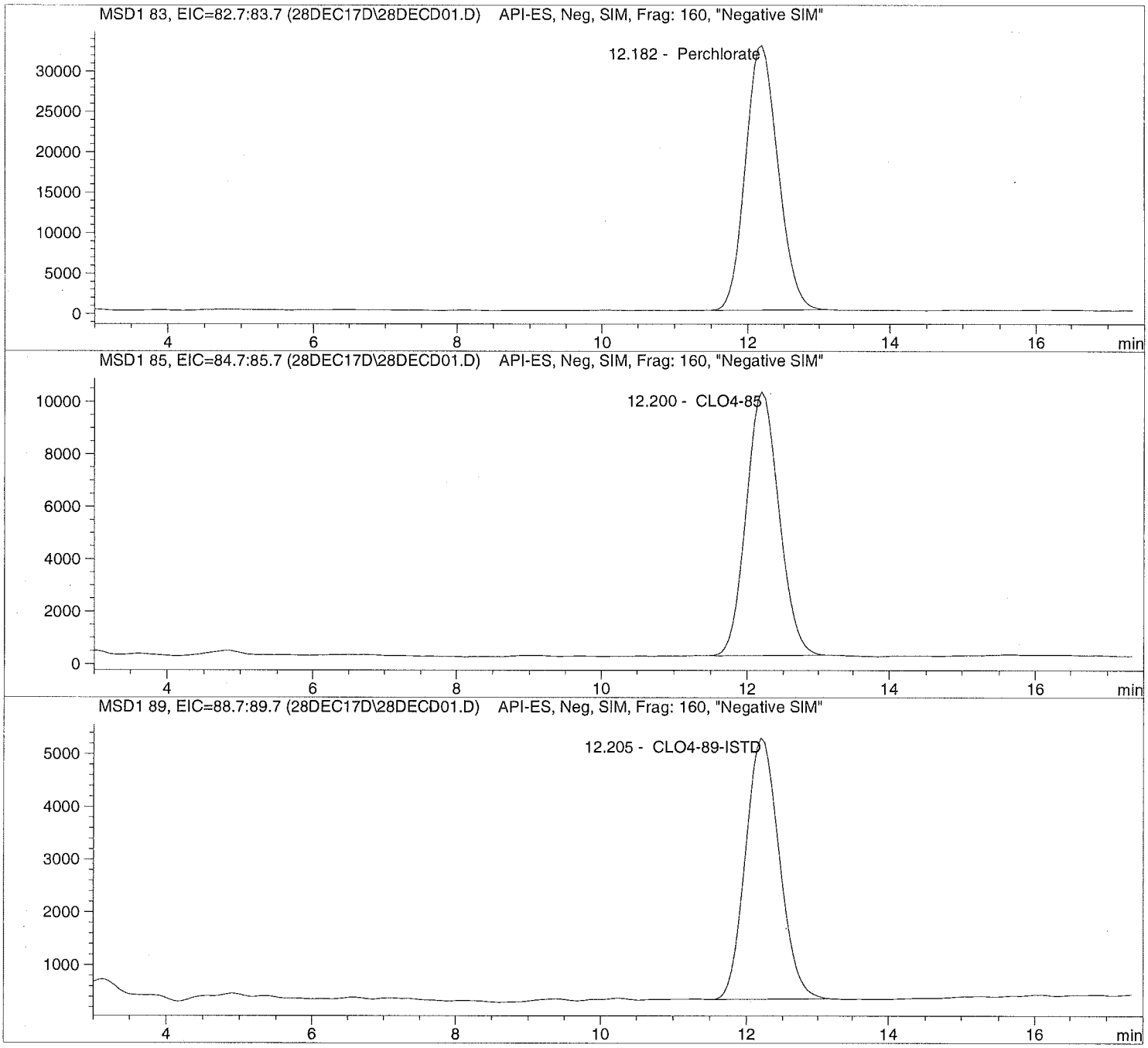
Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	581169 CCV@25	CLO4-DOD	1	Ctrl Samp		
2	Vial 72	581170 LODV@1.	CLO4-DOD	1	Ctrl Samp		
3	Vial 73	581171 ICS@1.	CLO4-DOD	1	Ctrl Samp		
4	Vial 74	581172 LMB	CLO4-DOD	1	Ctrl Samp		
5	Vial 75	581173 LCS@5.	CLO4-DOD	1	Ctrl Samp		
6	Vial 76	1735679001 1K	CLO4-DOD	1	Sample		
7	Vial 77	1735681001	CLO4-DOD	1	Sample		
8	Vial 78	1735685001 10K	CLO4-DOD	1	Sample		
9	Vial 79	1735685002 10K	CLO4-DOD	1	Sample		
10	Vial 80	1735685003 1K	CLO4-DOD	1	Sample		
11	Vial 81	1735685004 100	CLO4-DOD	1	Sample		
12	Vial 82	1735685005 100	CLO4-DOD	1	Sample		
13	Vial 83	1735685006	CLO4-DOD	1	Sample		
14	Vial 84	1735685007	CLO4-DOD	1	Sample		
15	Vial 85	1735685008 1K	CLO4-DOD	1	Sample		
16	Vial 71	581176 CCV@25	CLO4-DOD	1	Ctrl Samp		
17	Vial 72	581177 LODV@1.	CLO4-DOD	1	Ctrl Samp		
18	Vial 86	1735689001	CLO4-DOD	1	Sample		
19	Vial 87	581367 356811S	CLO4-DOD	1	Sample		
20	Vial 88	581368 356811D	CLO4-DOD	1	Sample		
21	Vial 89	1735685004	CLO4-DOD	1	Sample		
22	Vial 90	1735685005	CLO4-DOD	1	Sample		
23	Vial 71	581178 CCV@25	CLO4-DOD	1	Ctrl Samp		
24	Vial 72	581179 LODV@1.	CLO4-DOD	1	Ctrl Samp		

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD01.D Sample Name: 581169 CCV@25

Injection Date:	12/28/2017 10:52:30	Seq Line:	1
Sample Name:	581169 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\28DEC17D\28DECD01.D Sample Name: 581169 CCV@25

Injection Date:	12/28/2017 10:52:30	Seq Line:	1
Sample Name:	581169 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
12.182	BBA	1018588.3	25.9614	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.200	BBA	315397.3	25.5211	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.205	PBA	160074.8	5.0000	CLO4-89-ISTD

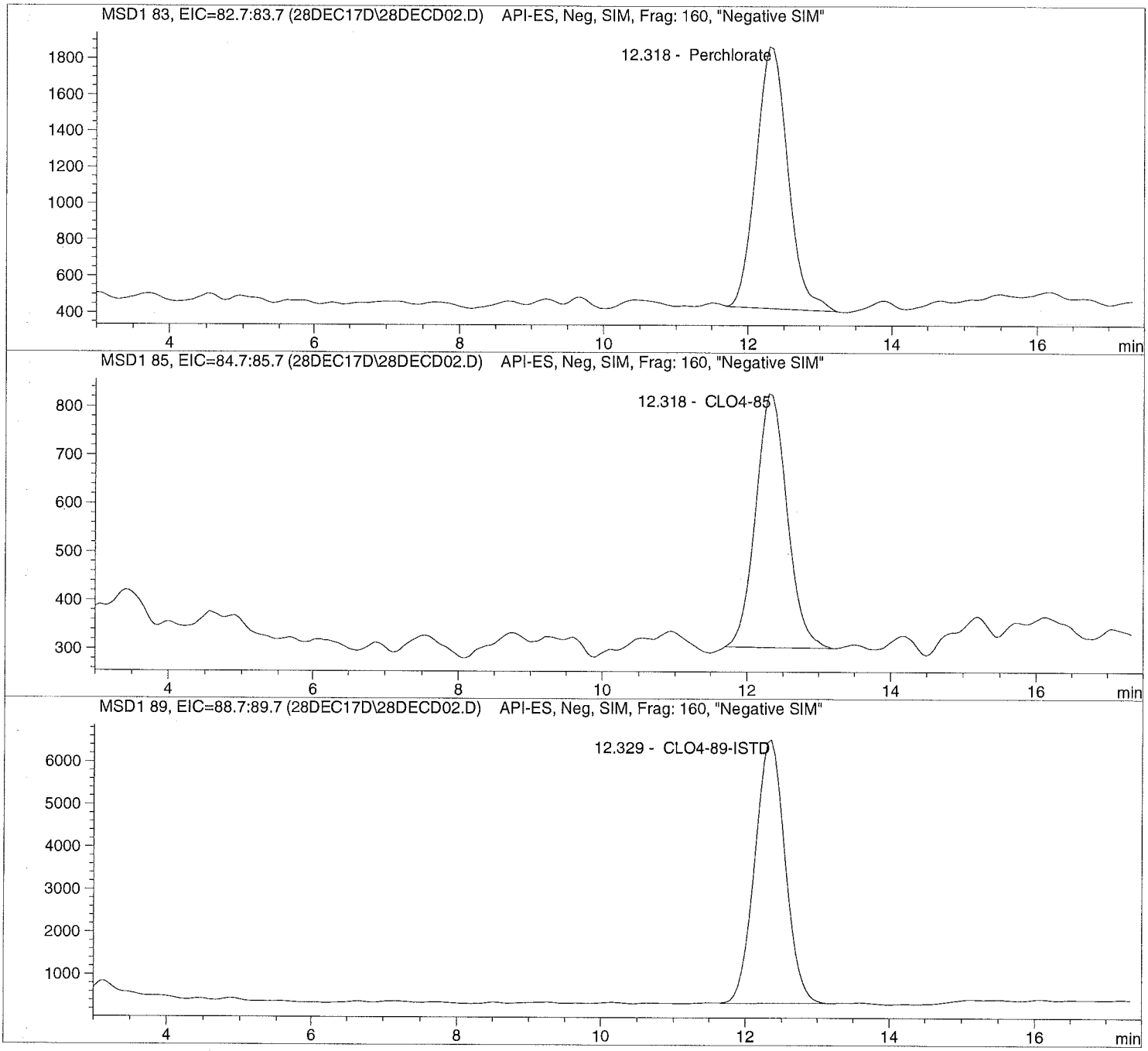
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD02.D Sample Name: 581170 LODV@1.

Injection Date:	12/28/2017 11:11:38	Seq Line:	2
Sample Name:	581170 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\28DEC17D\28DECD02.D Sample Name: 581170 LODV@1.

Injection Date:	12/28/2017 11:11:38	Seq Line:	2
Sample Name:	581170 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
12.318	BBA	44378.2	1.1631	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.318	PBA	15899.3	1.0648	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.329	BBA	179761.5	5.0000	CLO4-89-ISTD

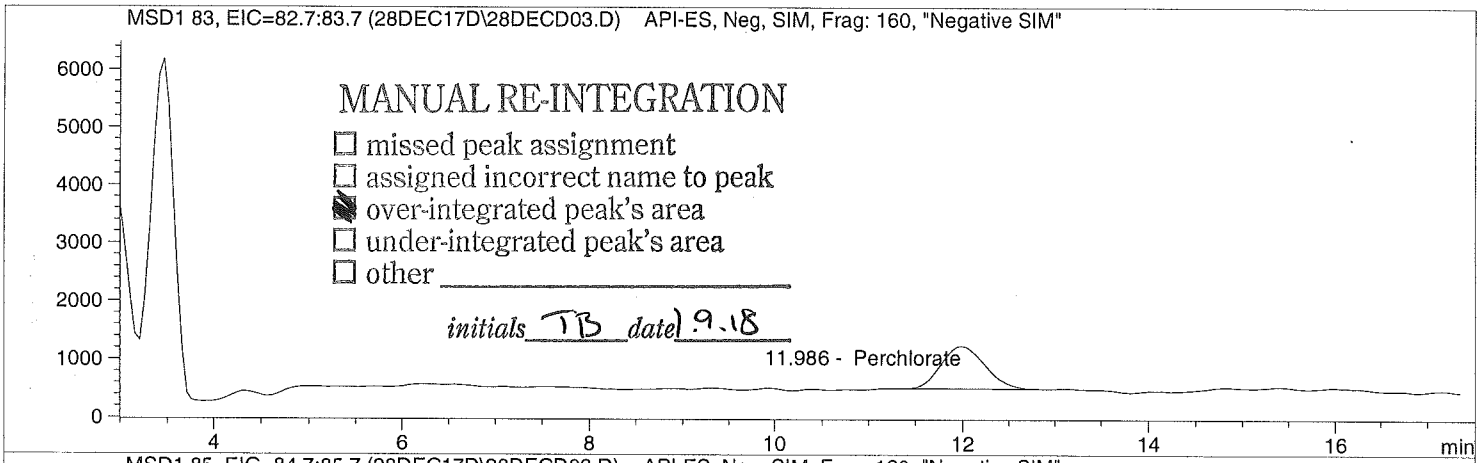
*** End of Report ***

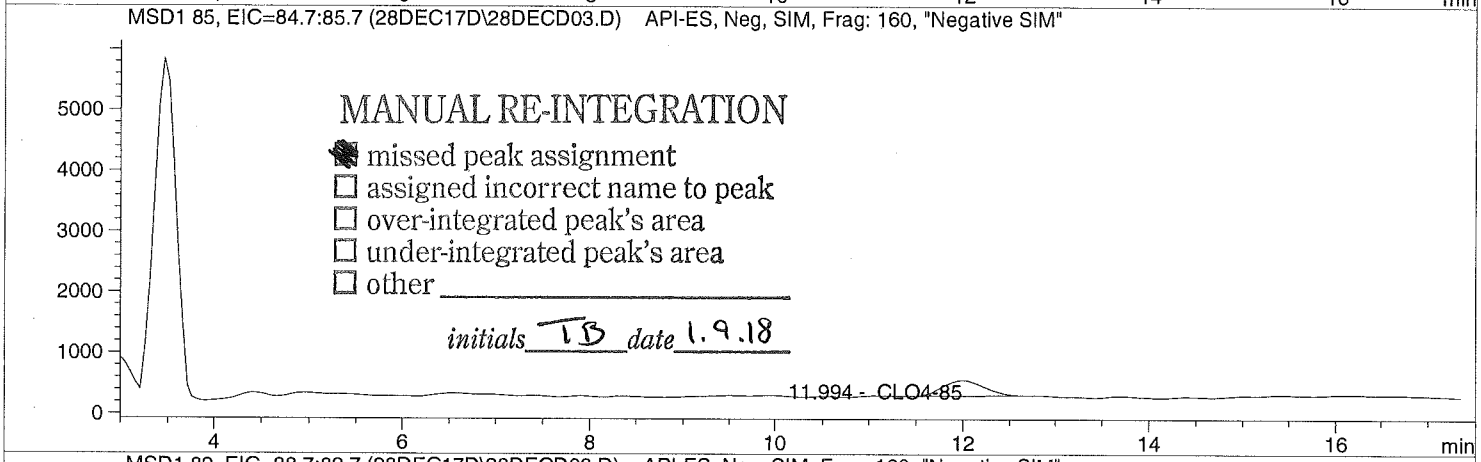
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD03.D Sample Name: 581171 ICS@1.

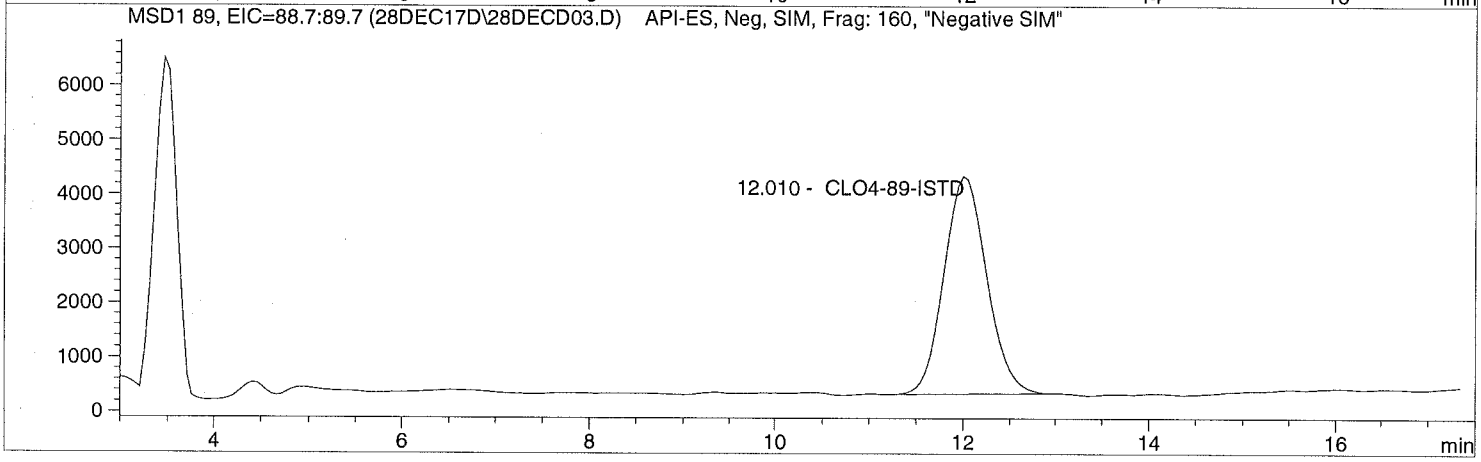
Injection Date:	12/28/2017 11:30:49	Seq Line:	3
Sample Name:	581171 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD03.D Sample Name: 581171 ICS@1.

Injection Date:	12/28/2017 11:30:49	Seq Line:	3
Sample Name:	581171 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
11.986	MM	23668.2	0.8907	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.994	MM	7909.4	0.6960	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.010	PBA	126199.8	5.0000	CLO4-89-ISTD

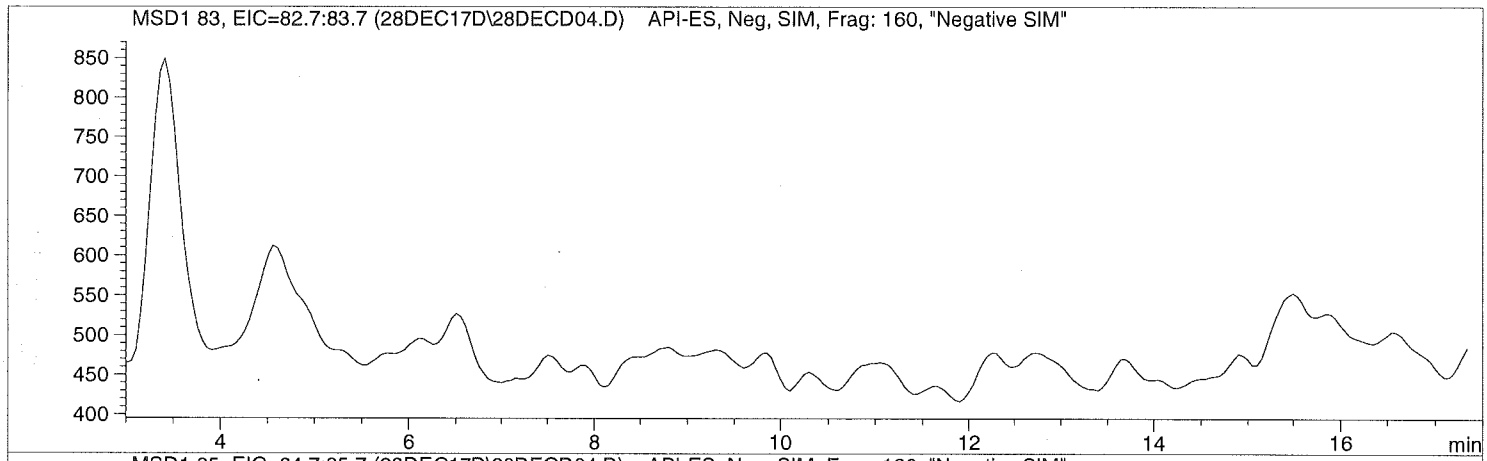
*** End of Report ***

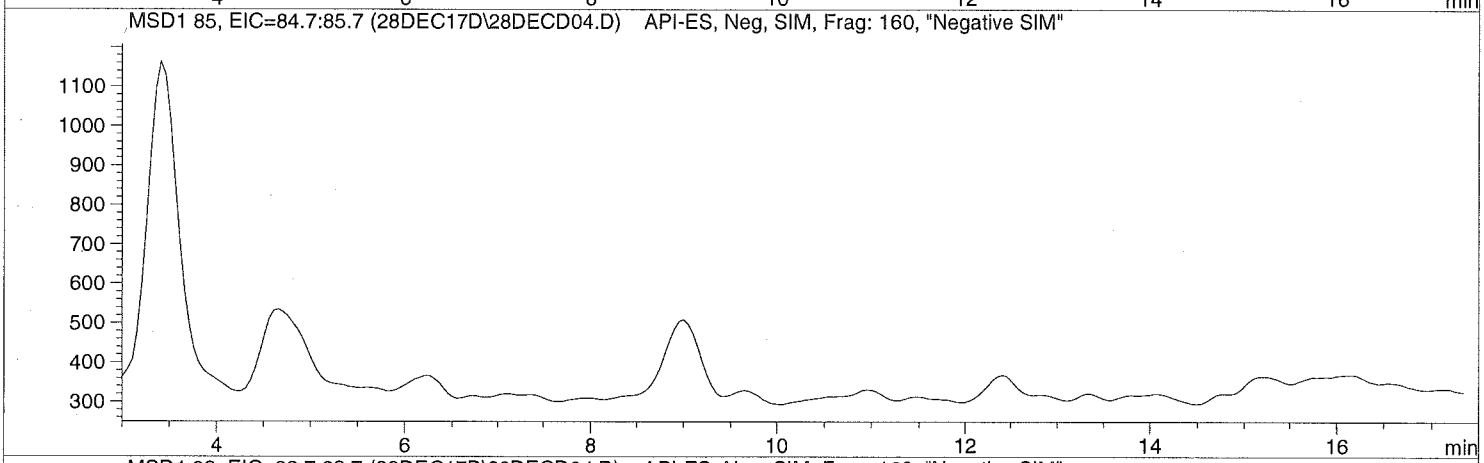
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD04.D Sample Name: 581172 LMB

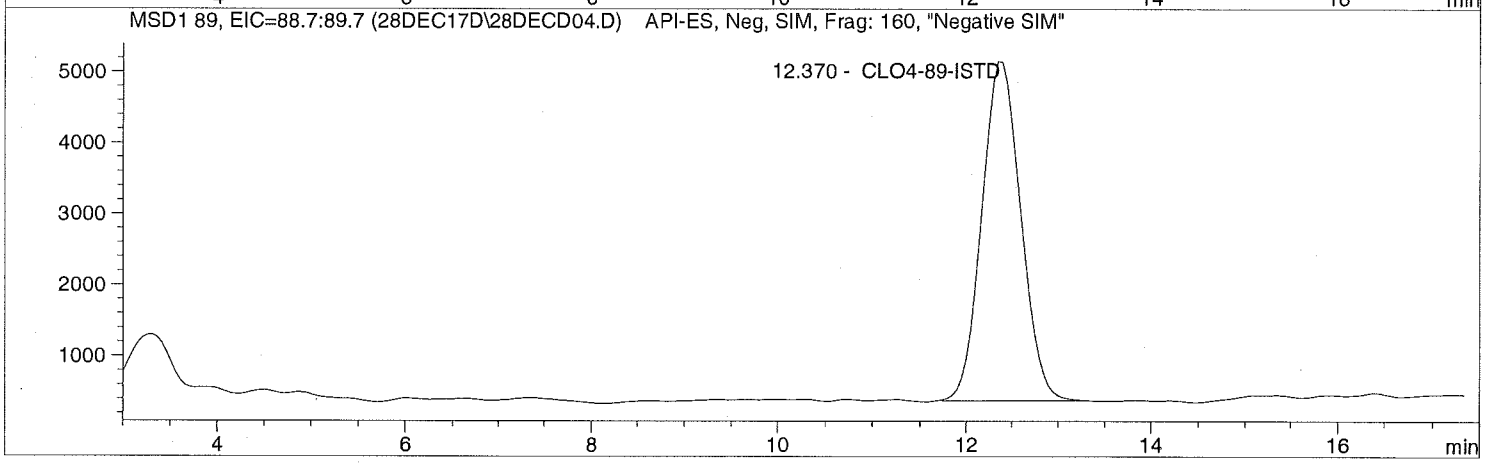
Injection Date:	12/28/2017 11:50:02	Seq Line:	4
Sample Name:	581172 LMB	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD04.D Sample Name: 581172 LMB

Injection Date:	12/28/2017 11:50:02	Seq Line:	4
Sample Name:	581172 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
12.370	BBA	141506.7	5.0000	CLO4-89-ISTD

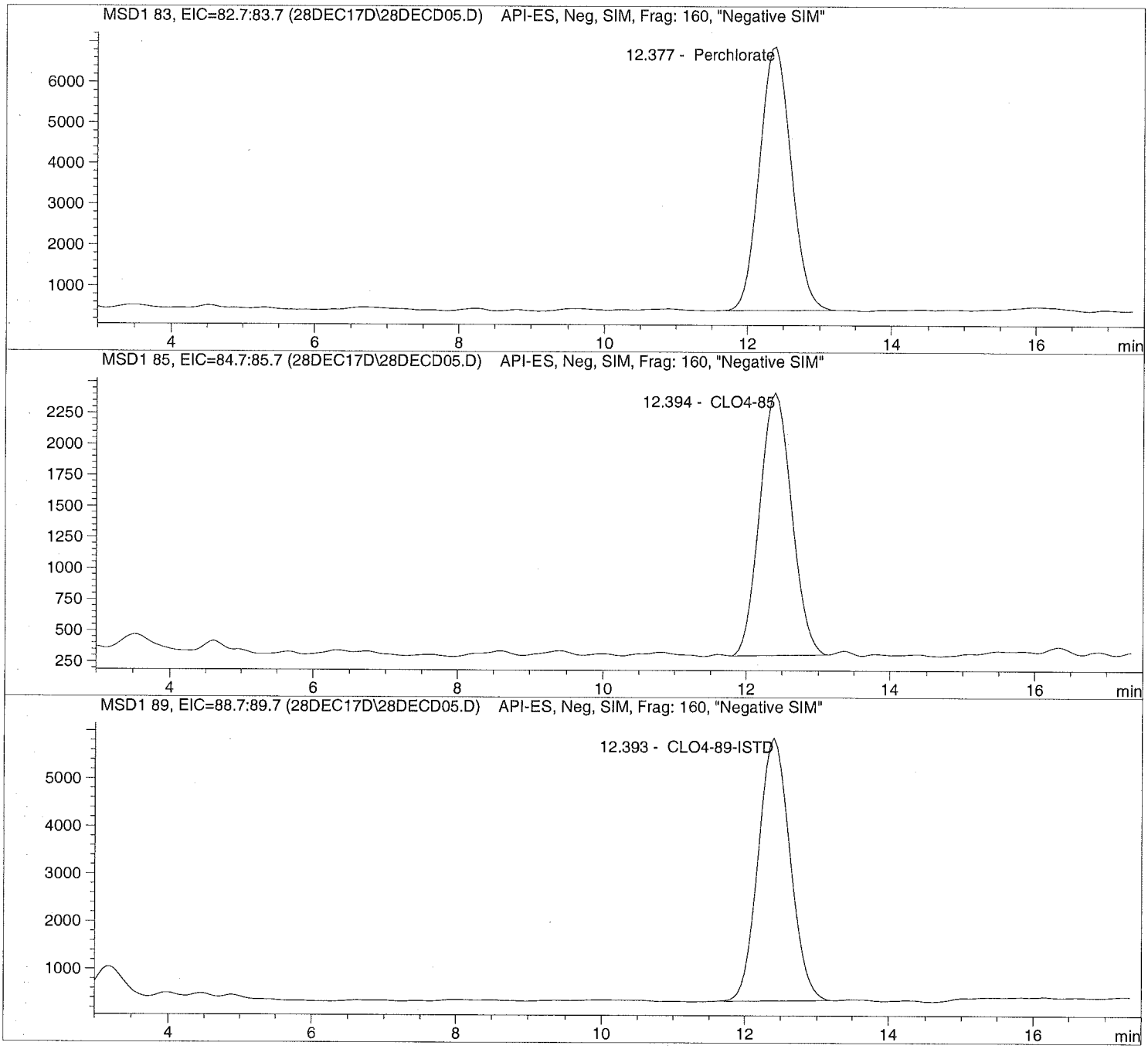
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD05.D Sample Name: 581173 LCS@5.

Injection Date:	12/28/2017 12:09:10	Seq Line:	5
Sample Name:	581173 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\28DEC17D\28DECD05.D Sample Name: 581173 LCS@5.

Injection Date:	12/28/2017 12:09:10	Seq Line:	5
Sample Name:	581173 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
12.377	PBA	194809.6	5.2715	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.394	PBA	64392.3	5.2210	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.393	BBA	167599.8	5.0000	CLO4-89-ISTD

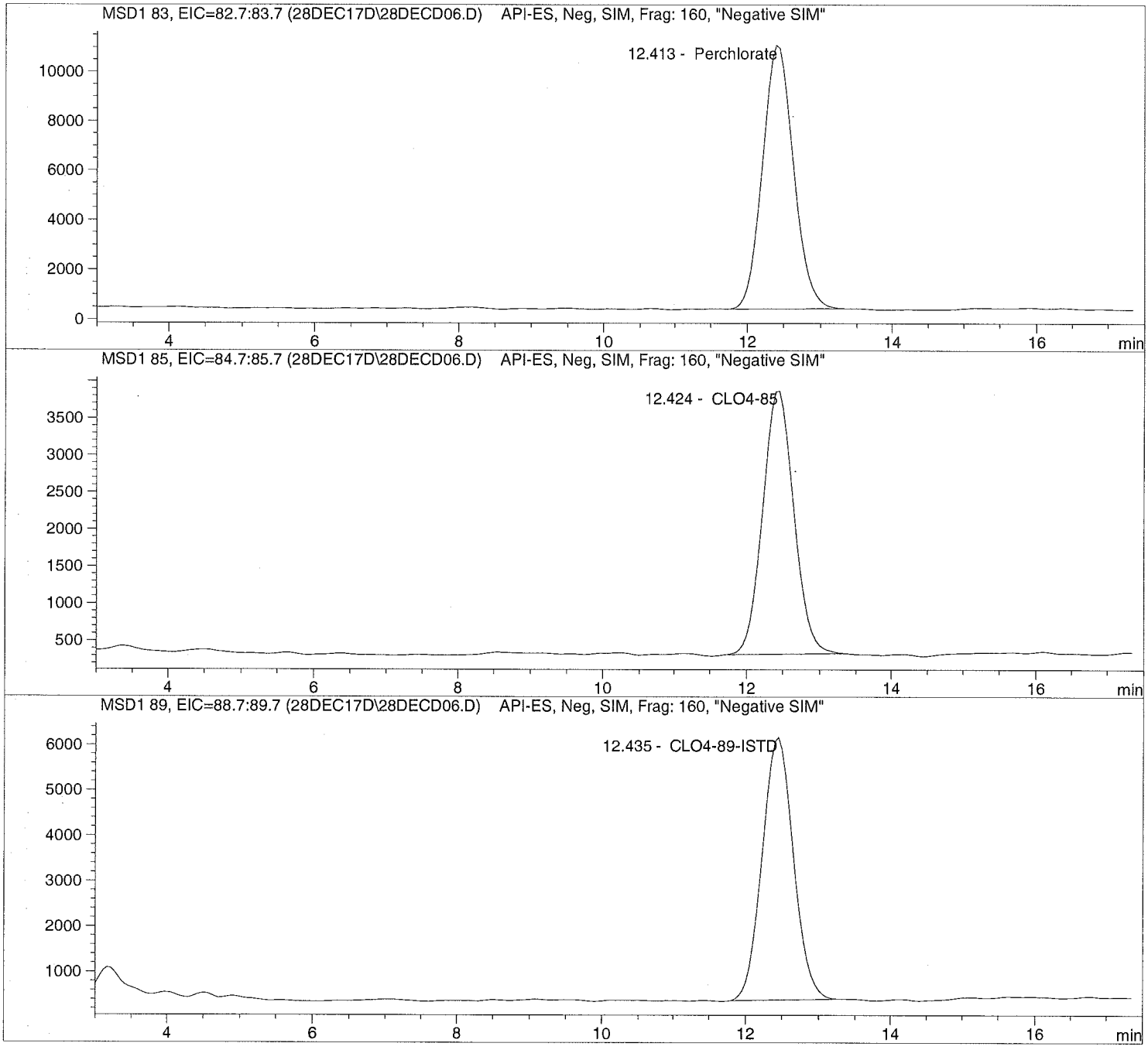
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD06.D Sample Name: 1735679001 1K

Injection Date:	12/28/2017 12:32:48	Seq Line:	6
Sample Name:	1735679001 1K	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\28DEC17D\28DECD06.D Sample Name: 1735679001 1K

Injection Date:	12/28/2017 12:32:48	Seq Line:	6
Sample Name:	1735679001 1K	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:	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
12.413	PBA	315672.6	8119.2360	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.424	BBA	105966.7	8316.1680	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.435	PBA	173474.0	5000.0000	CLO4-89-ISTD

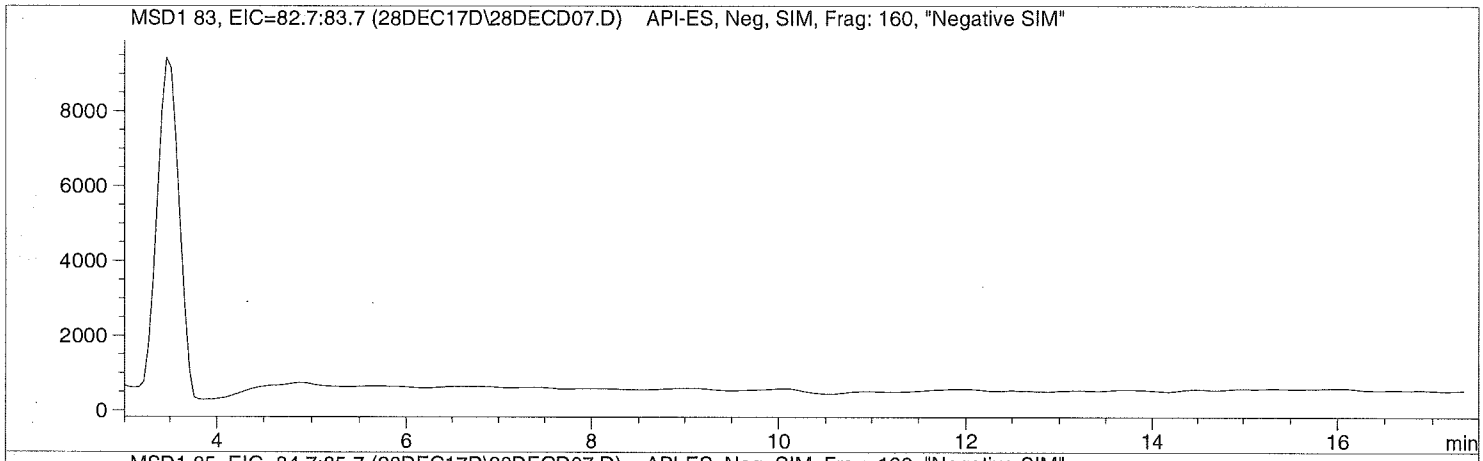
*** End of Report ***

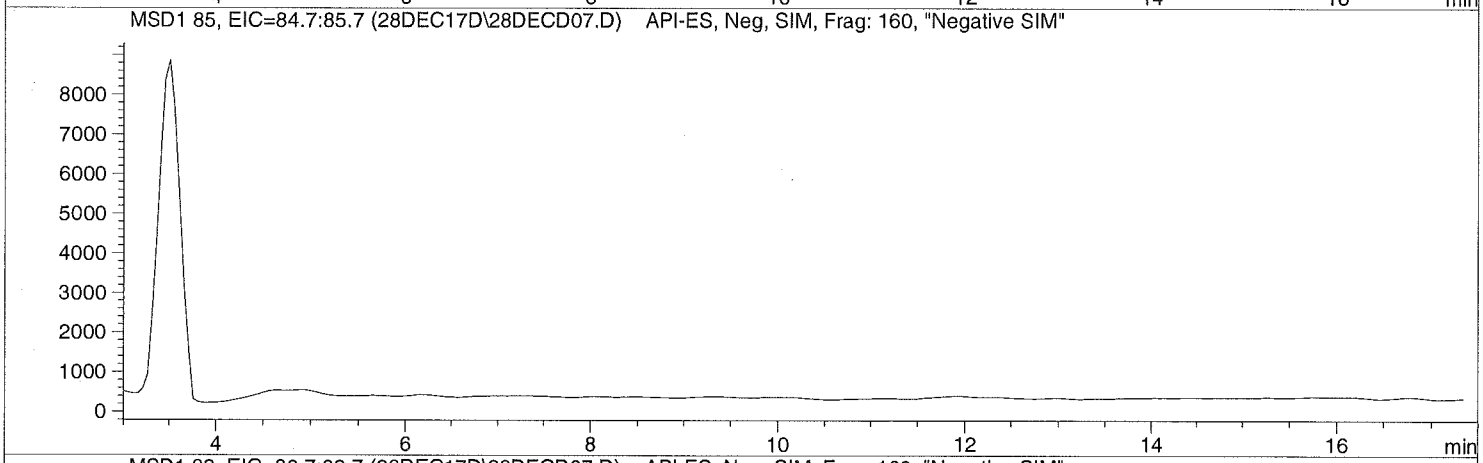
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD07.D Sample Name: 1735681001

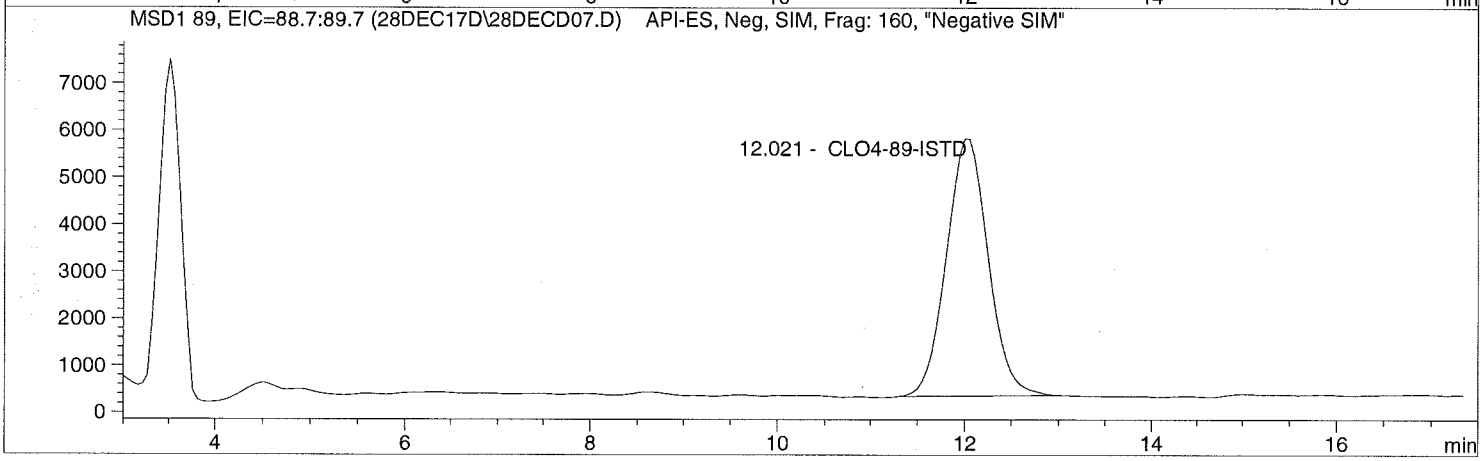
Injection Date:	12/28/2017 12:51:58	Seq Line:	7
Sample Name:	1735681001	Location:	Vial 77
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD07.D Sample Name: 1735681001

Injection Date:	12/28/2017 12:51:58	Seq Line:	7
Sample Name:	1735681001	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
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
12.021	PBA	169952.1	5.0000	CLO4-89-ISTD

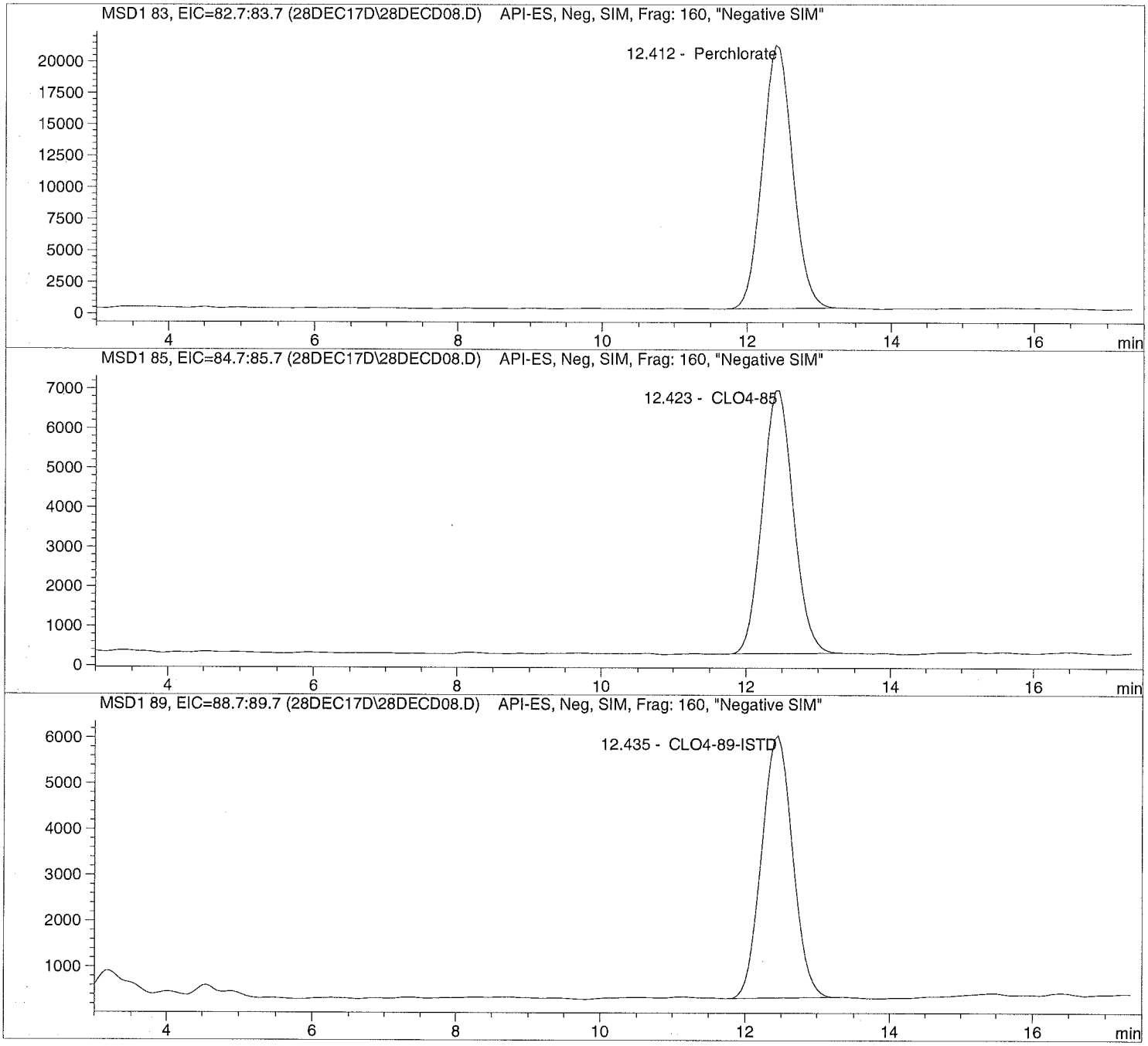
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD08.D Sample Name: 1735685001 10K

Injection Date:	12/28/2017 13:11:08	Seq Line:	8
Sample Name:	1735685001 10K	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\28DEC17D\28DECD08.D Sample Name: 1735685001 10K

Injection Date:	12/28/2017 13:11:08	Seq Line:	8
Sample Name:	1735685001 10K	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:	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
12.412	PBA	612244.4	152642.1371	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.423	BBA	200772.5	155841.2669	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.435	PBA	172404.8	50000.0000	CLO4-89-ISTD

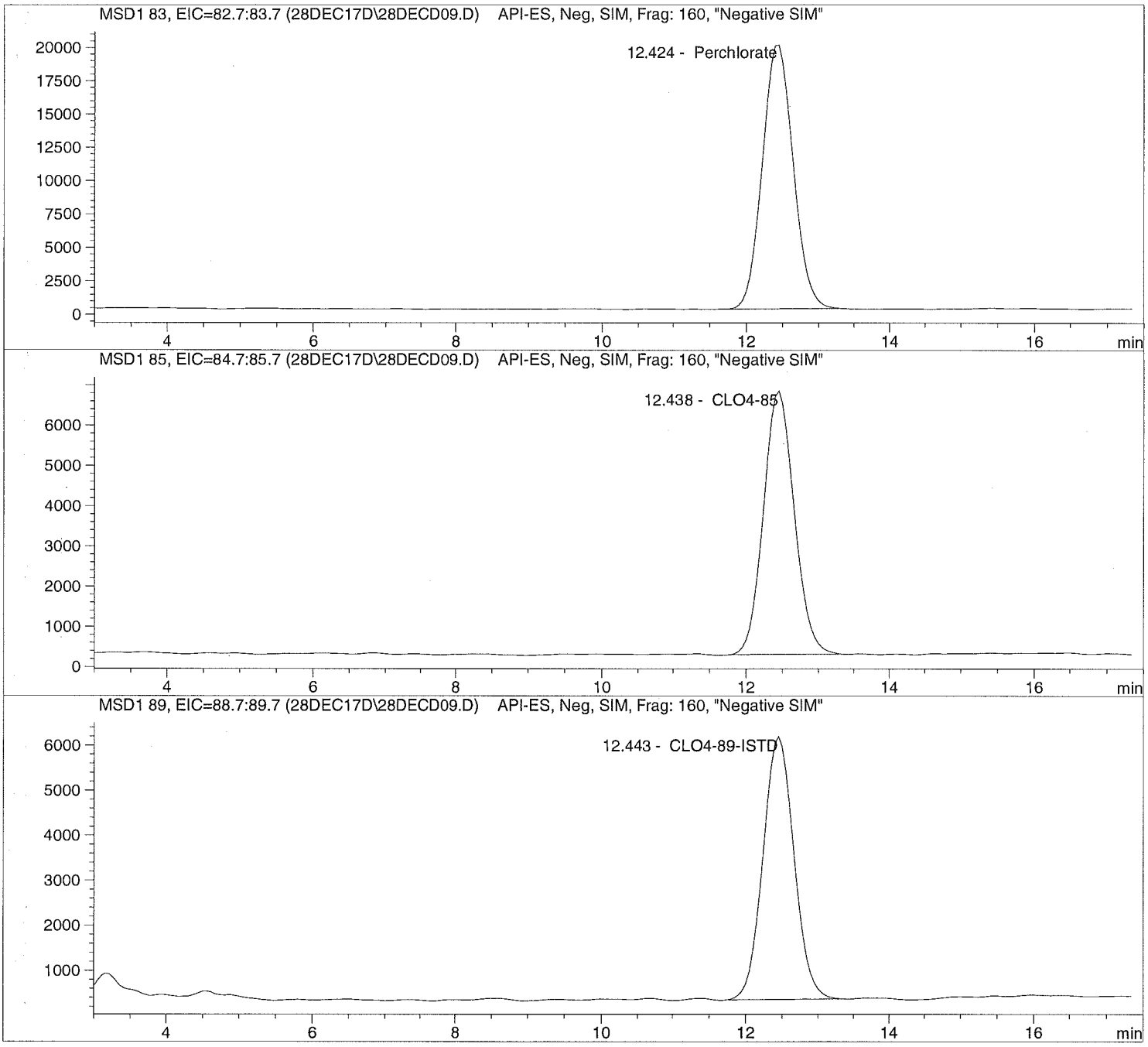
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD09.D Sample Name: 1735685002 10K

Injection Date:	12/28/2017 13:30:16	Seq Line:	9
Sample Name:	1735685002 10K	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\28DEC17D\28DECD09.D Sample Name: 1735685002 10K

Injection Date:	12/28/2017 13:30:16	Seq Line:	9
Sample Name:	1735685002 10K	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:	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
12.424	BBA	586285.9	145162.1164	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.438	PBA	193898.5	149199.8923	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.443	PBA	174260.2	50000.0000	CLO4-89-ISTD

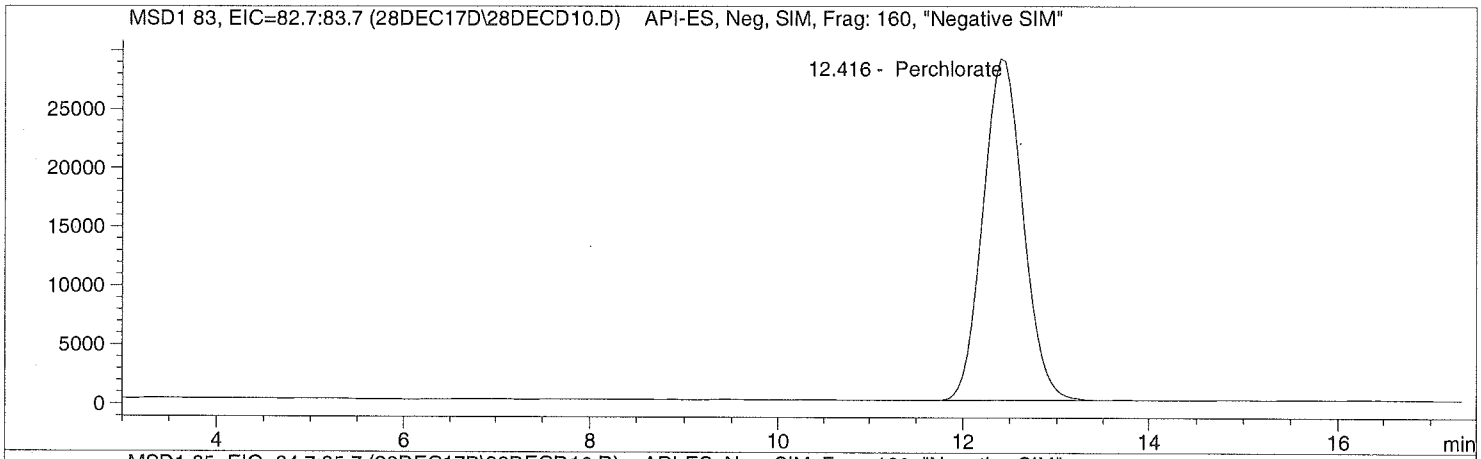
*** End of Report ***

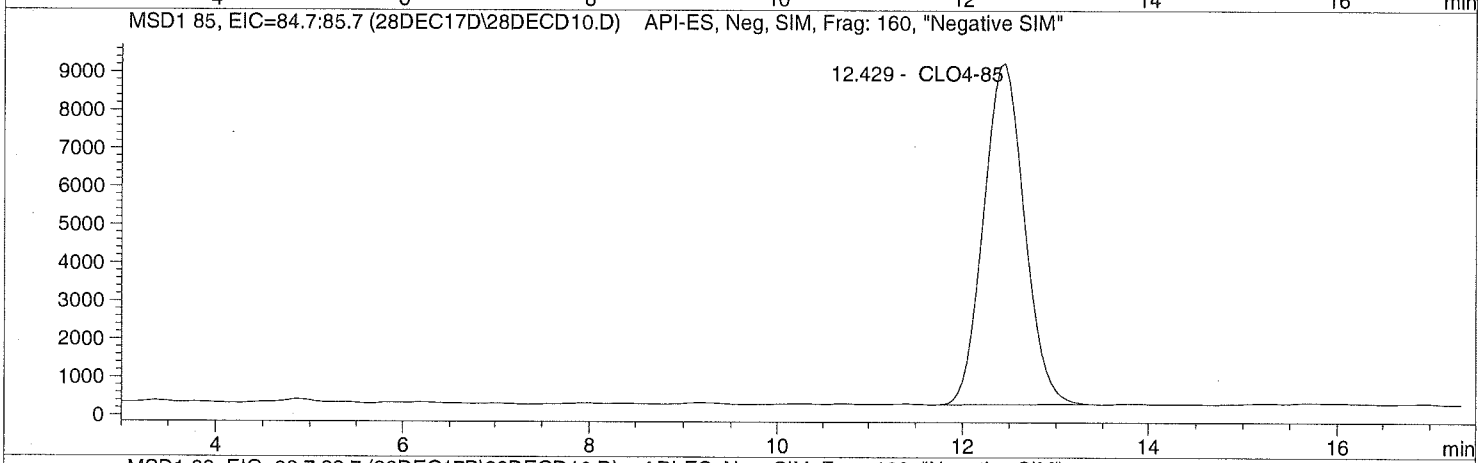
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD10.D Sample Name: 1735685003 1K

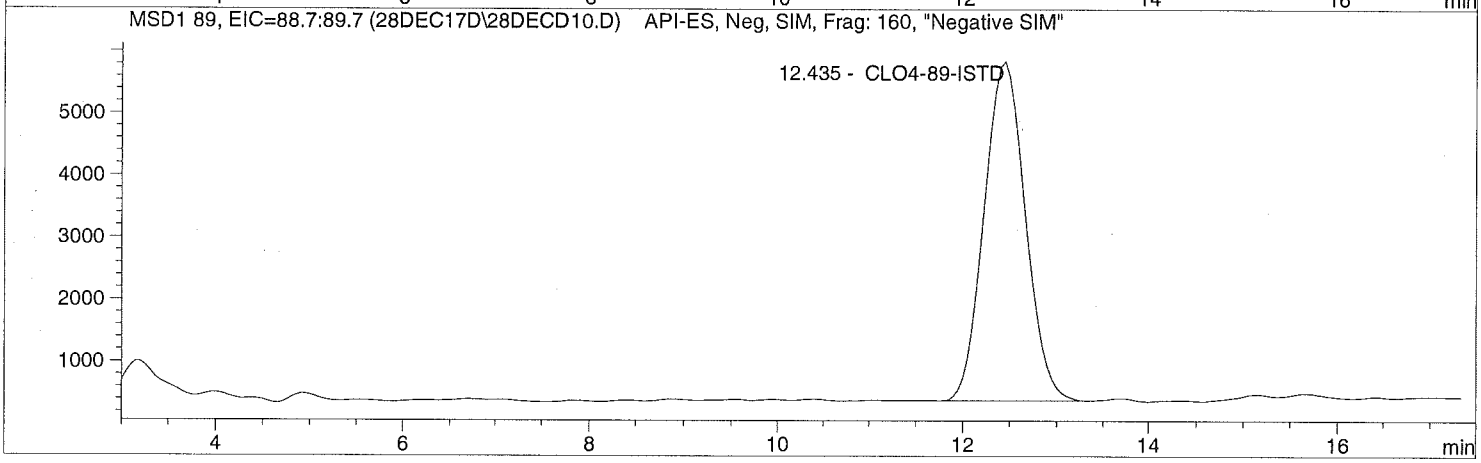
Injection Date:	12/28/2017 13:49:26	Seq Line:	10
Sample Name:	1735685003 1K	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD10.D Sample Name: 1735685003 1K

Injection Date:	12/28/2017 13:49:26	Seq Line:	10
Sample Name:	1735685003 1K	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:	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
12.416	PBA	858551.9	21459.4019	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.429	PBA	270354.0	21297.7935	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.435	PBA	166785.3	5000.0000	CLO4-89-ISTD

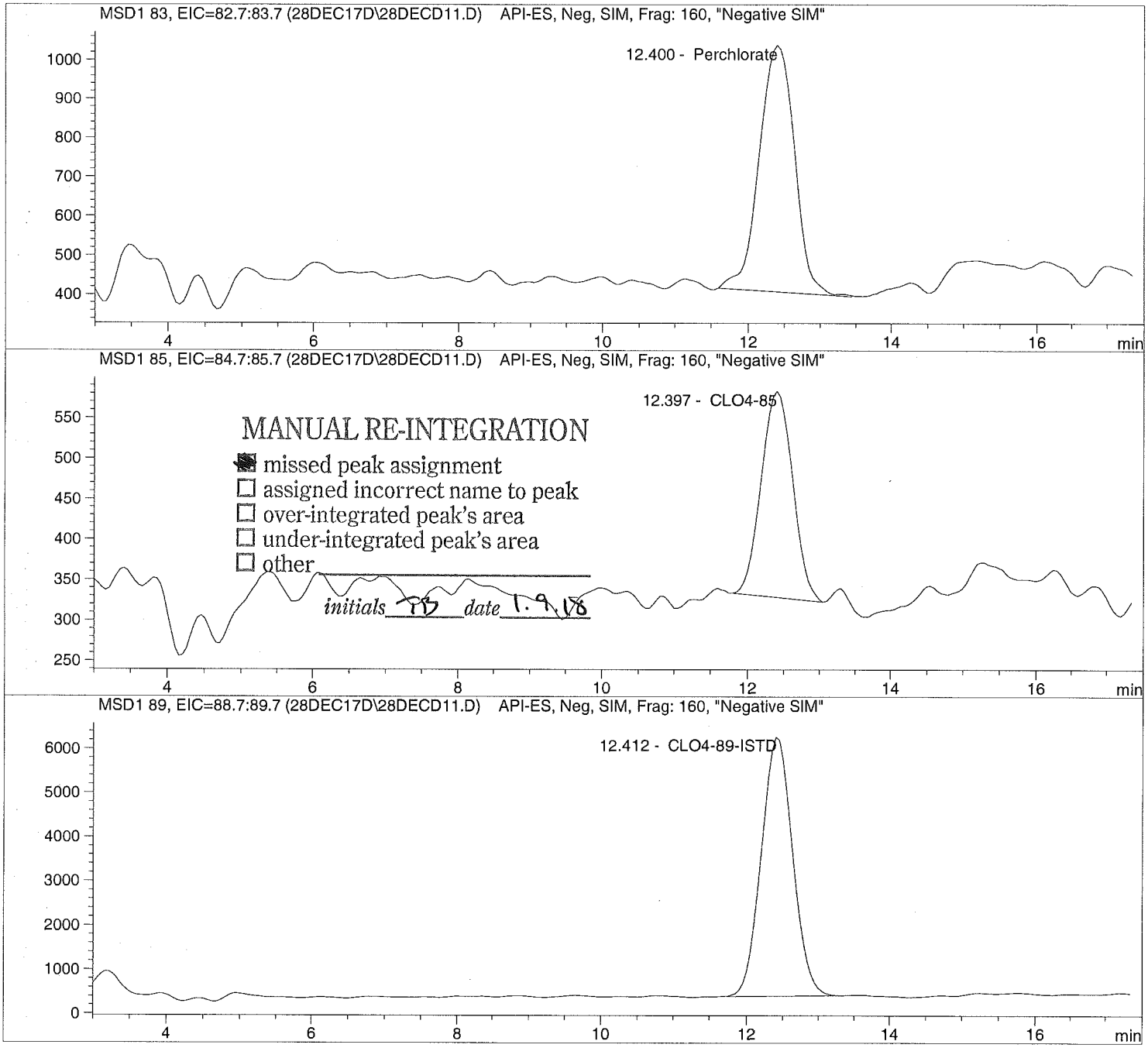
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD11.D Sample Name: 1735685004 100

Injection Date:	12/28/2017 14:08:36	Seq Line:	11
Sample Name:	1735685004 100	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\28DEC17D\28DECD11.D Sample Name: 1735685004 100

Injection Date:	12/28/2017 14:08:36	Seq Line:	11
Sample Name:	1735685004 100	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:	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
12.400	PBA	21505.4	58.0909	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.397	MM	7779.6	42.1059	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.412	BBA	178775.9	500.0000	CLO4-89-ISTD

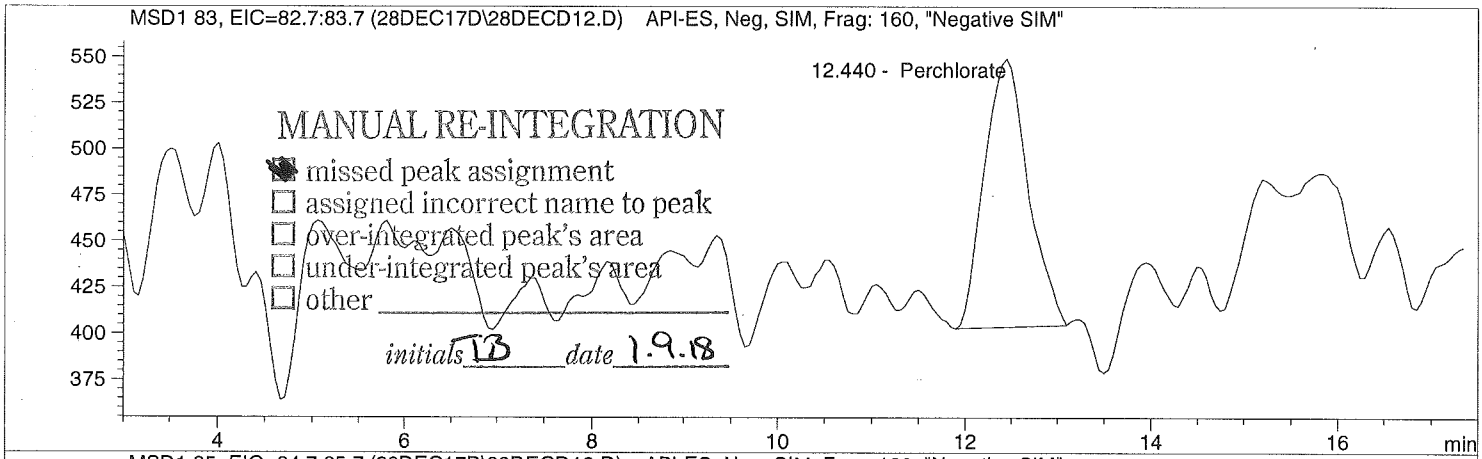
*** End of Report ***

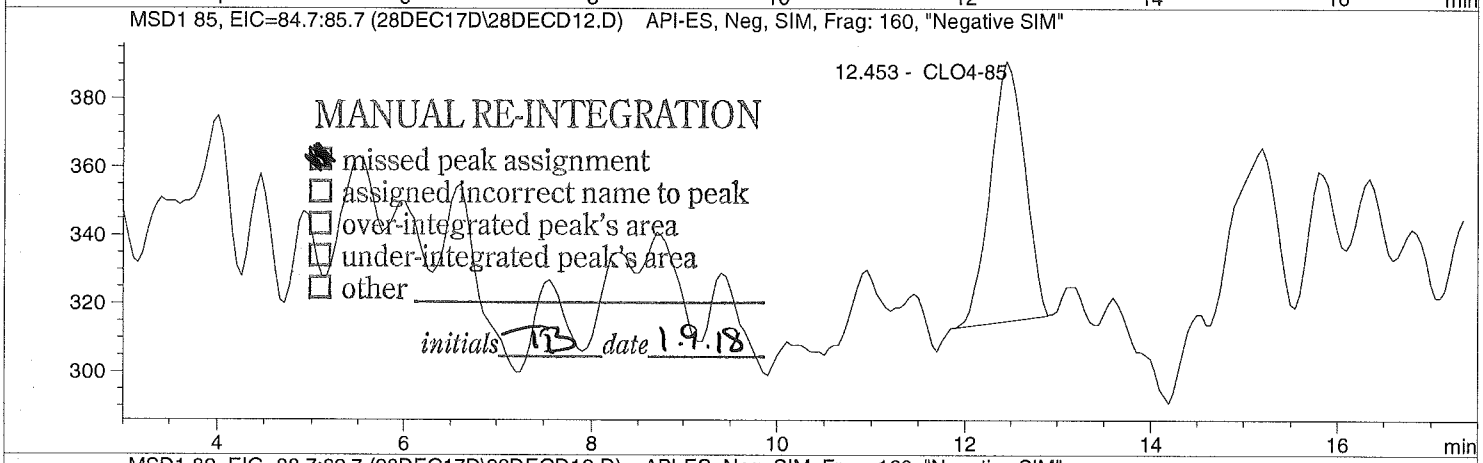
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD12.D Sample Name: 1735685005 100

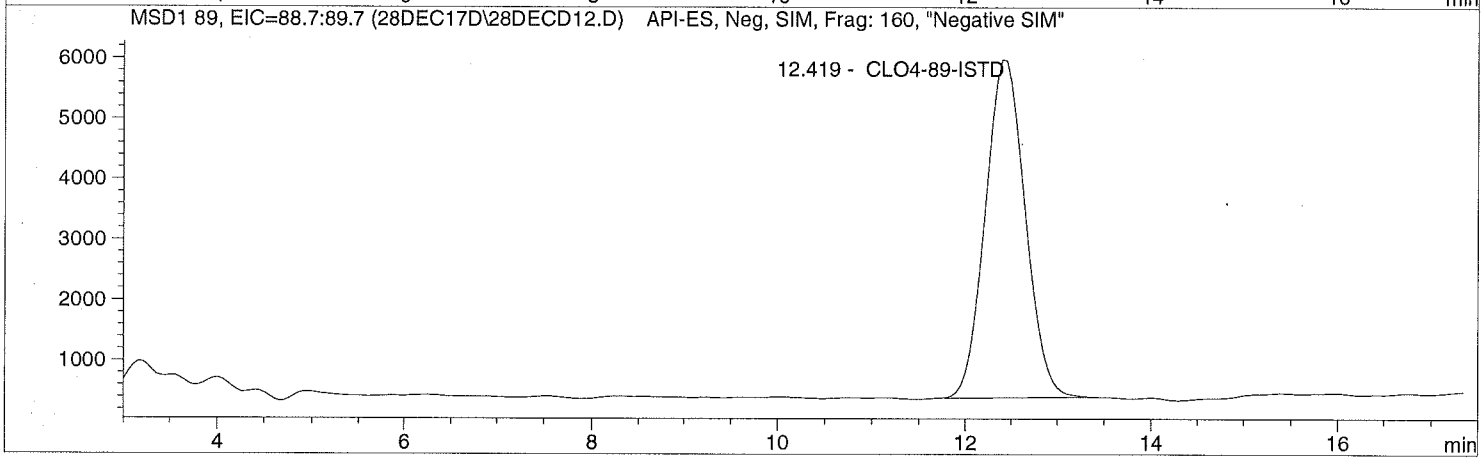
Injection Date:	12/28/2017 14:27:43	Seq Line:	12
Sample Name:	1735685005 100	Location:	Vial 82
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD12.D Sample Name: 1735685005 100

Injection Date:	12/28/2017 14:27:43	Seq Line:	12
Sample Name:	1735685005 100	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:	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
12.440	MM	4777.4	15.6346	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.453	MM	1968.7	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.419	BBA	167796.2	500.0000	CLO4-89-ISTD

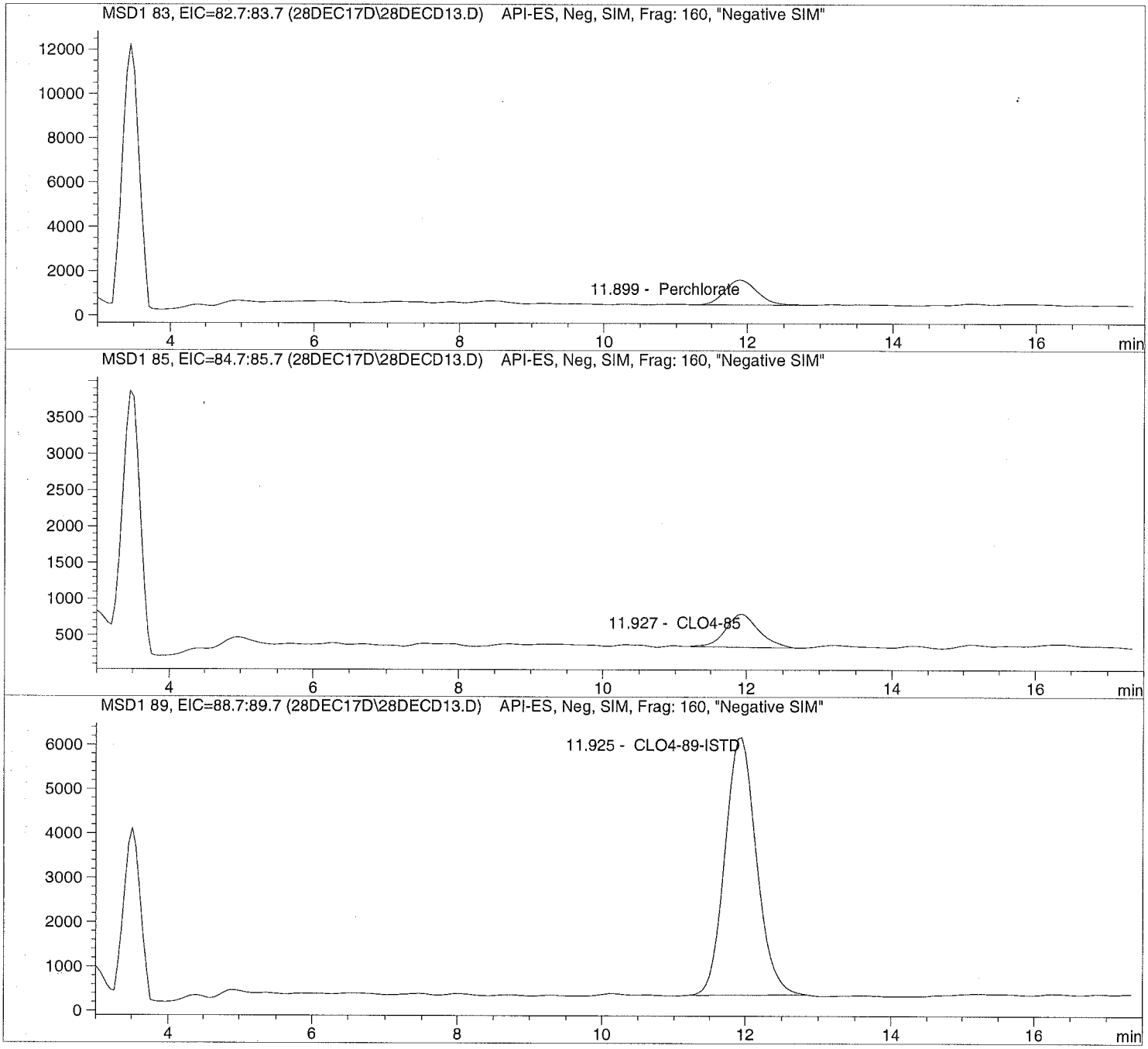
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD13.D Sample Name: 1735685006

Injection Date:	12/28/2017 14:46:51	Seq Line:	13
Sample Name:	1735685006	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\28DEC17D\28DECD13.D Sample Name: 1735685006

Injection Date:	12/28/2017 14:46:51	Seq Line:	13
Sample Name:	1735685006	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
11.899	PBA	35039.1	0.9395	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.927	BBA	14816.6	0.9983	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.925	BBA	176823.1	5.0000	CLO4-89-ISTD

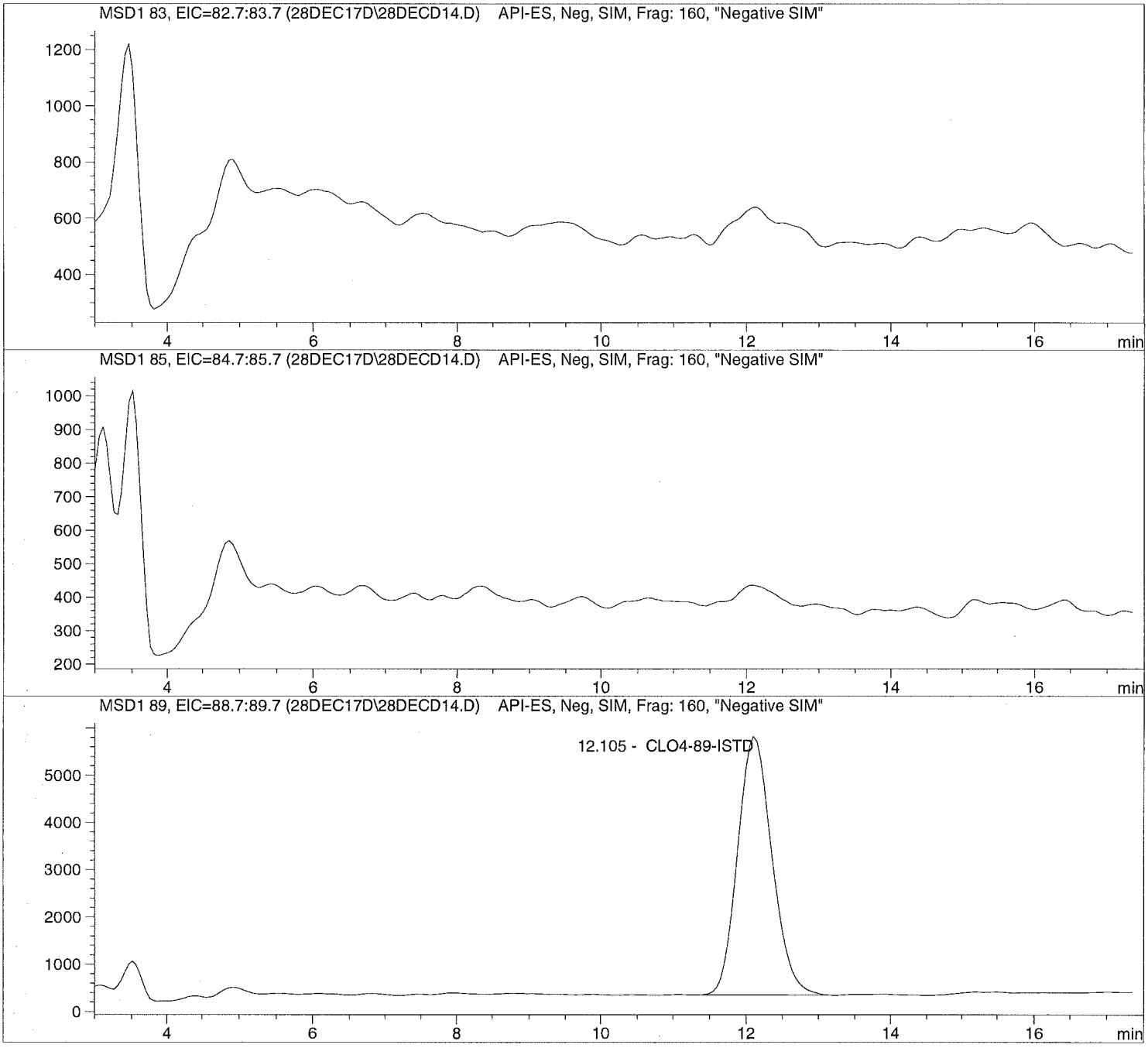
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD14.D Sample Name: 1735685007

Injection Date:	12/28/2017 15:05:59	Seq Line:	14
Sample Name:	1735685007	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\28DEC17D\28DECD14.D Sample Name: 1735685007

Injection Date:	12/28/2017 15:05:59	Seq Line:	14
Sample Name:	1735685007	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
12.105	BBA	179543.0	5.0000	CLO4-89-ISTD

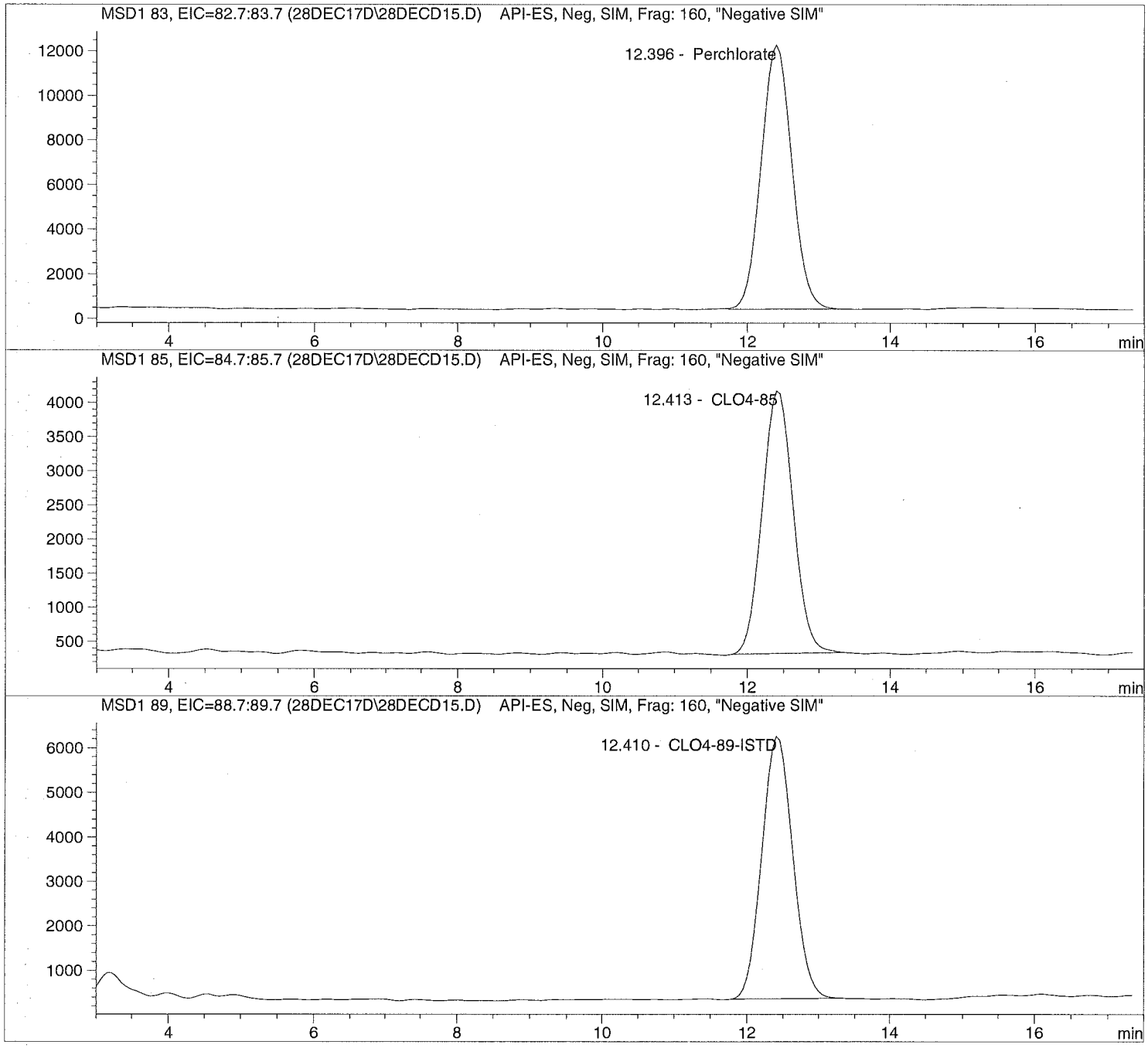
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD15.D Sample Name: 1735685008 1K

Injection Date:	12/28/2017 15:25:07	Seq Line:	15
Sample Name:	1735685008 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\28DEC17D\28DECD15.D Sample Name: 1735685008 1K

Injection Date:	12/28/2017 15:25:07	Seq Line:	15
Sample Name:	1735685008 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
12.396	BBA	350227.7	8838.8380	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.413	PBA	115251.0	8903.2163	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.410	BBA	176102.2	5000.0000	CLO4-89-ISTD

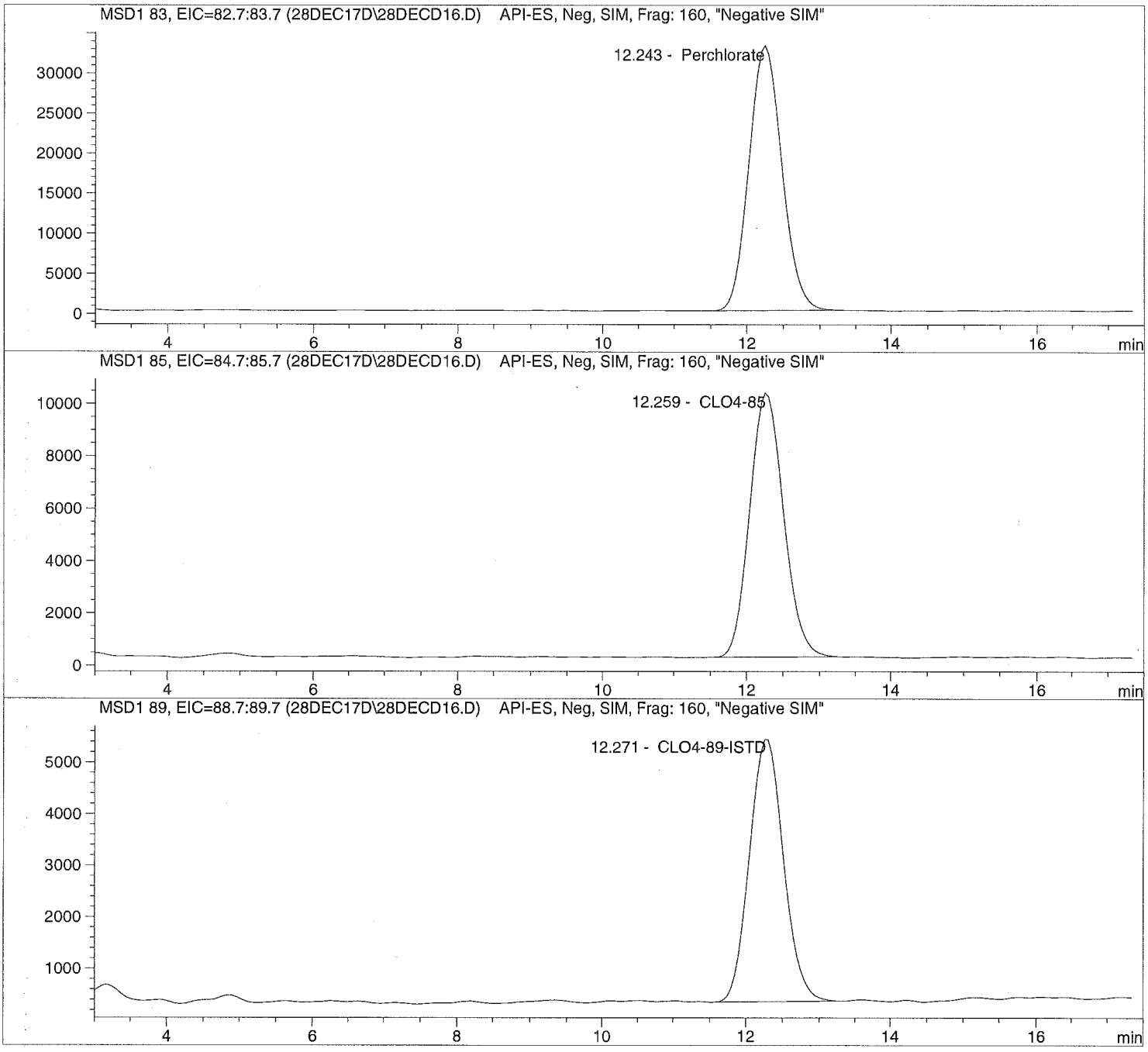
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD16.D Sample Name: 581176 CCV@25

Injection Date:	12/28/2017 15:44:20	Seq Line:	16
Sample Name:	581176 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\28DEC17D\28DECD16.D Sample Name: 581176 CCV@25

Injection Date:	12/28/2017 15:44:20	Seq Line:	16
Sample Name:	581176 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
12.243	PBA	1032158.7	25.5879	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.259	PBA	324643.2	25.5070	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.271	PBA	164866.4	5.0000	CLO4-89-ISTD

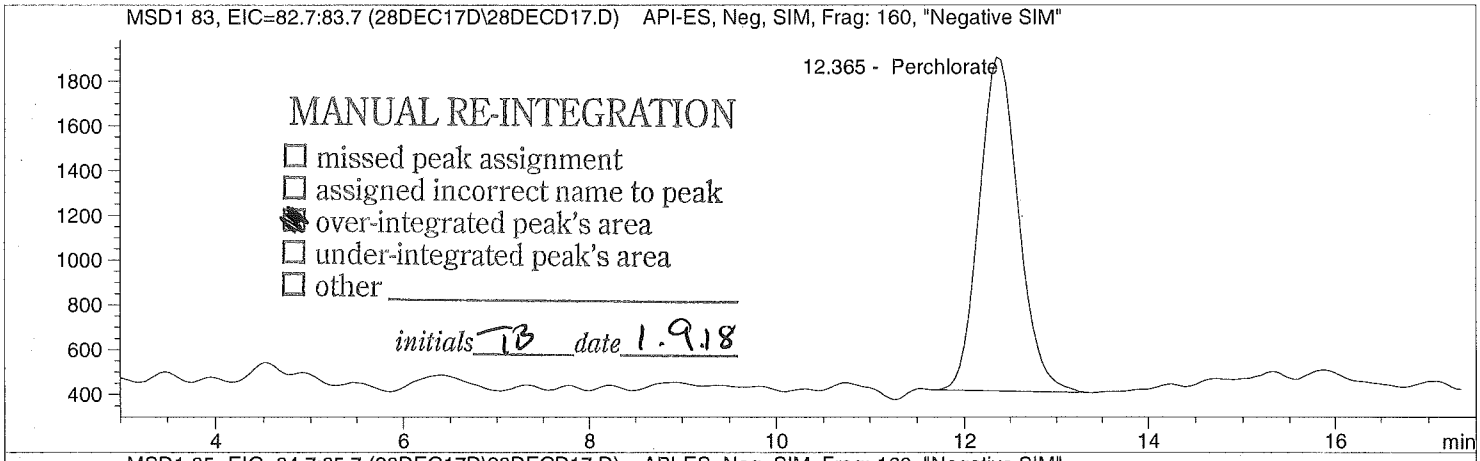
*** End of Report ***

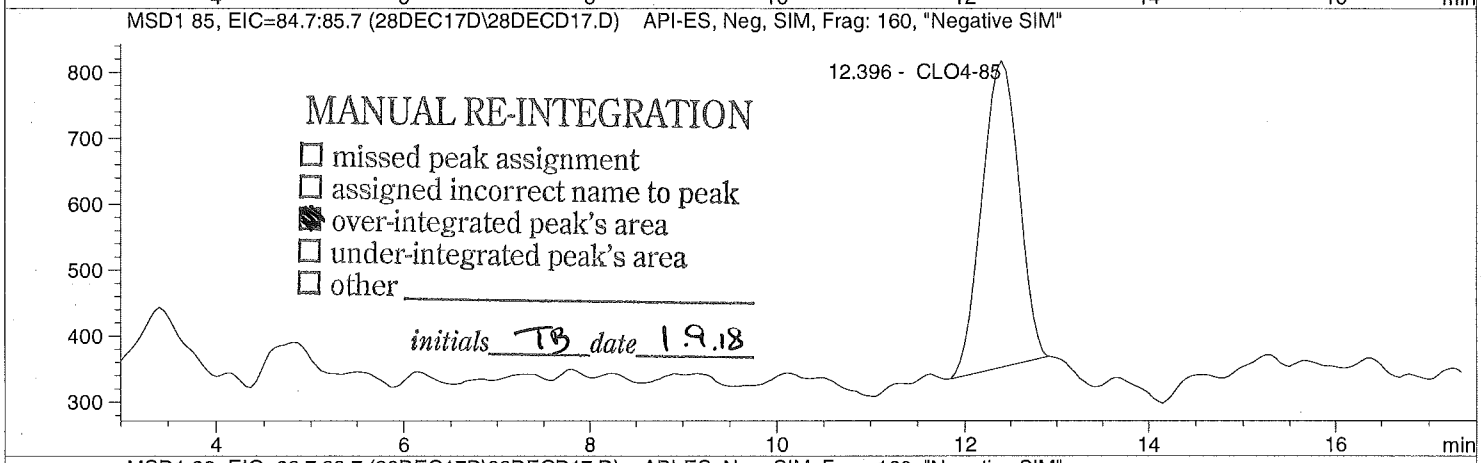
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD17.D Sample Name: 581177 LODV@1.

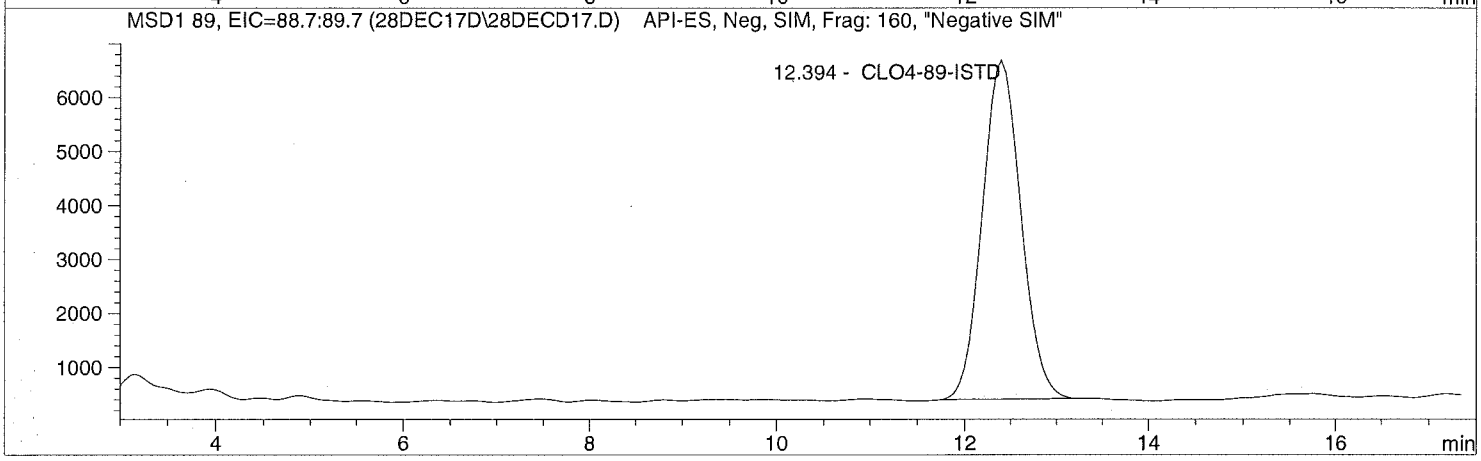
Injection Date:	12/28/2017 16:03:29	Seq Line:	17
Sample Name:	581177 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD17.D Sample Name: 581177 LODV@1.

Injection Date:	12/28/2017 16:03:29	Seq Line:	17
Sample Name:	581177 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
12.365	MM	44610.4	1.1407	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.396	MM	13051.3	0.8123	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.394	PBA	184350.1	5.0000	CLO4-89-ISTD

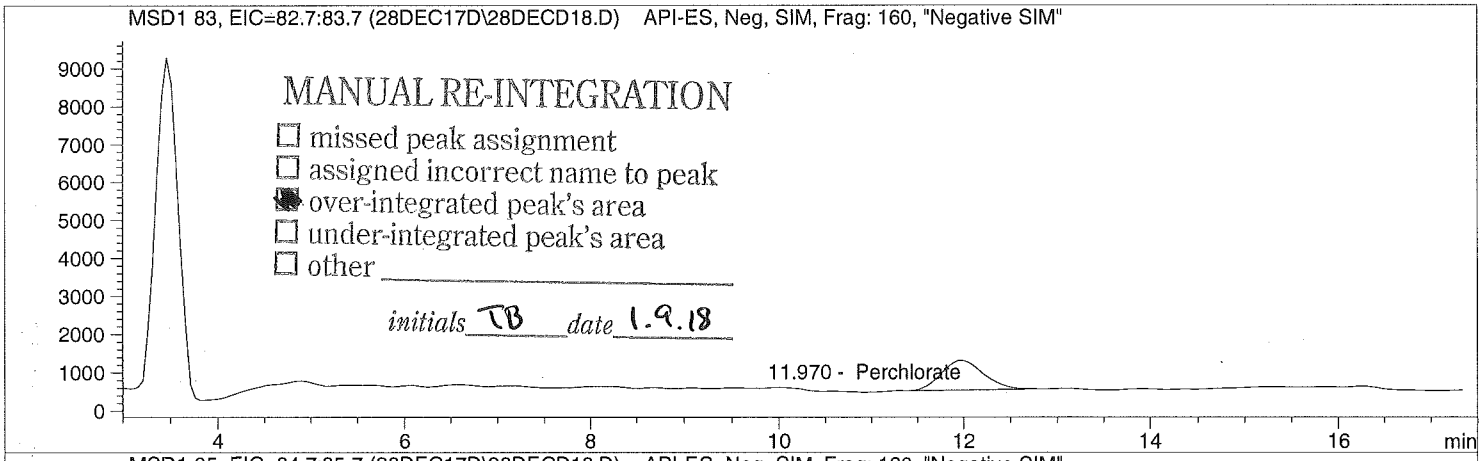
*** End of Report ***

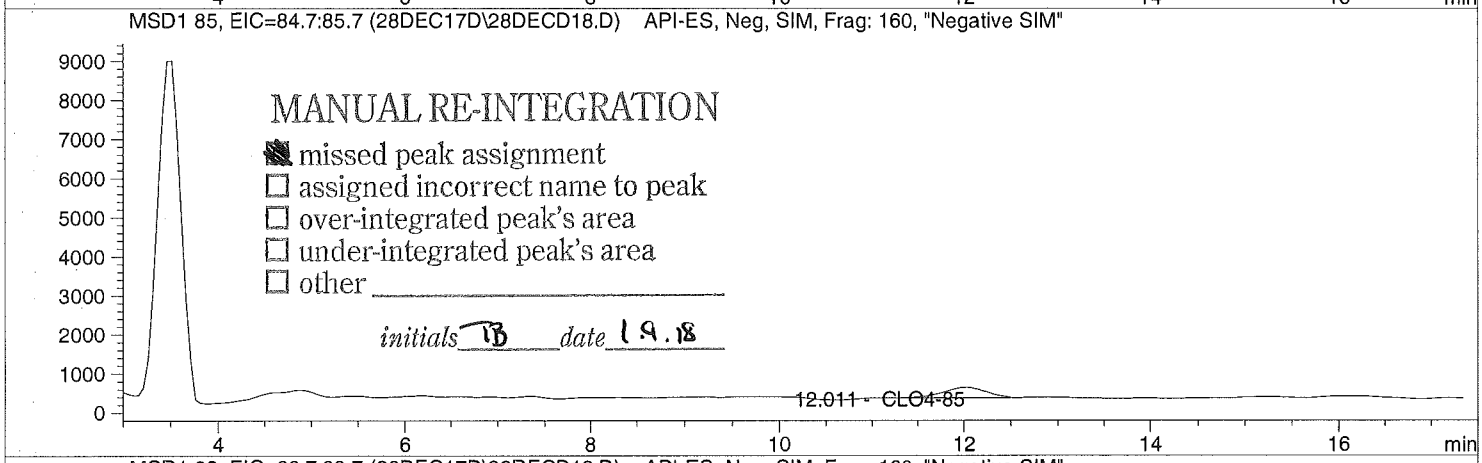
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD18.D Sample Name: 1735689001

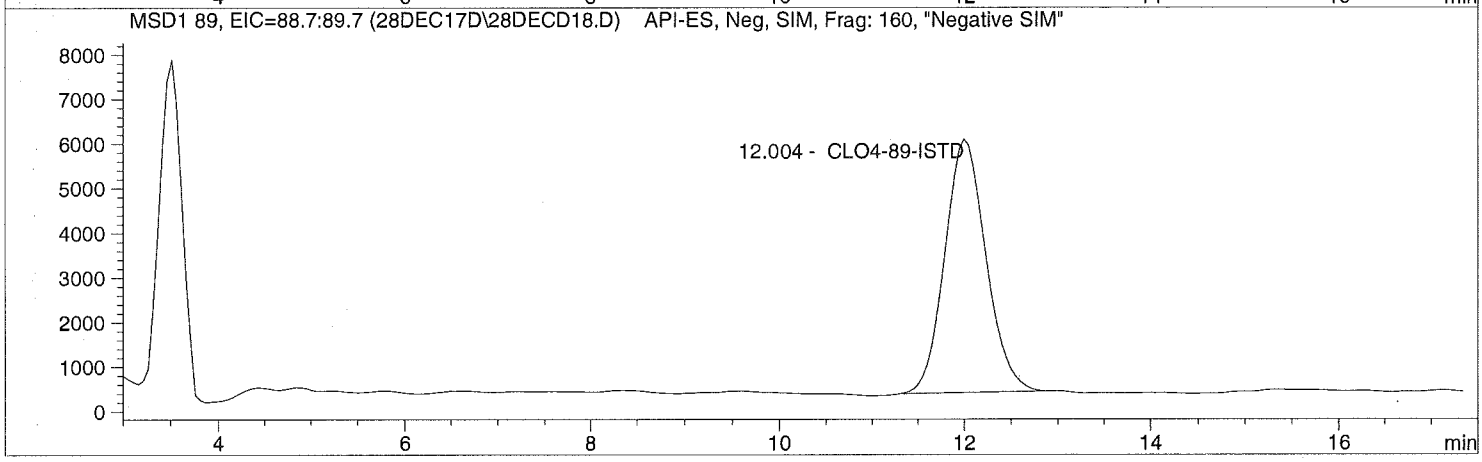
Injection Date:	12/28/2017 16:28:09	Seq Line:	18
Sample Name:	1735689001	Location:	Vial 86
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD18.D Sample Name: 1735689001

Injection Date:	12/28/2017 16:28:09	Seq Line:	18
Sample Name:	1735689001	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
11.970	MM	24383.9	0.6698	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.011	MM	8719.6	0.5129	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.004	BBA	174711.9	5.0000	CLO4-89-ISTD

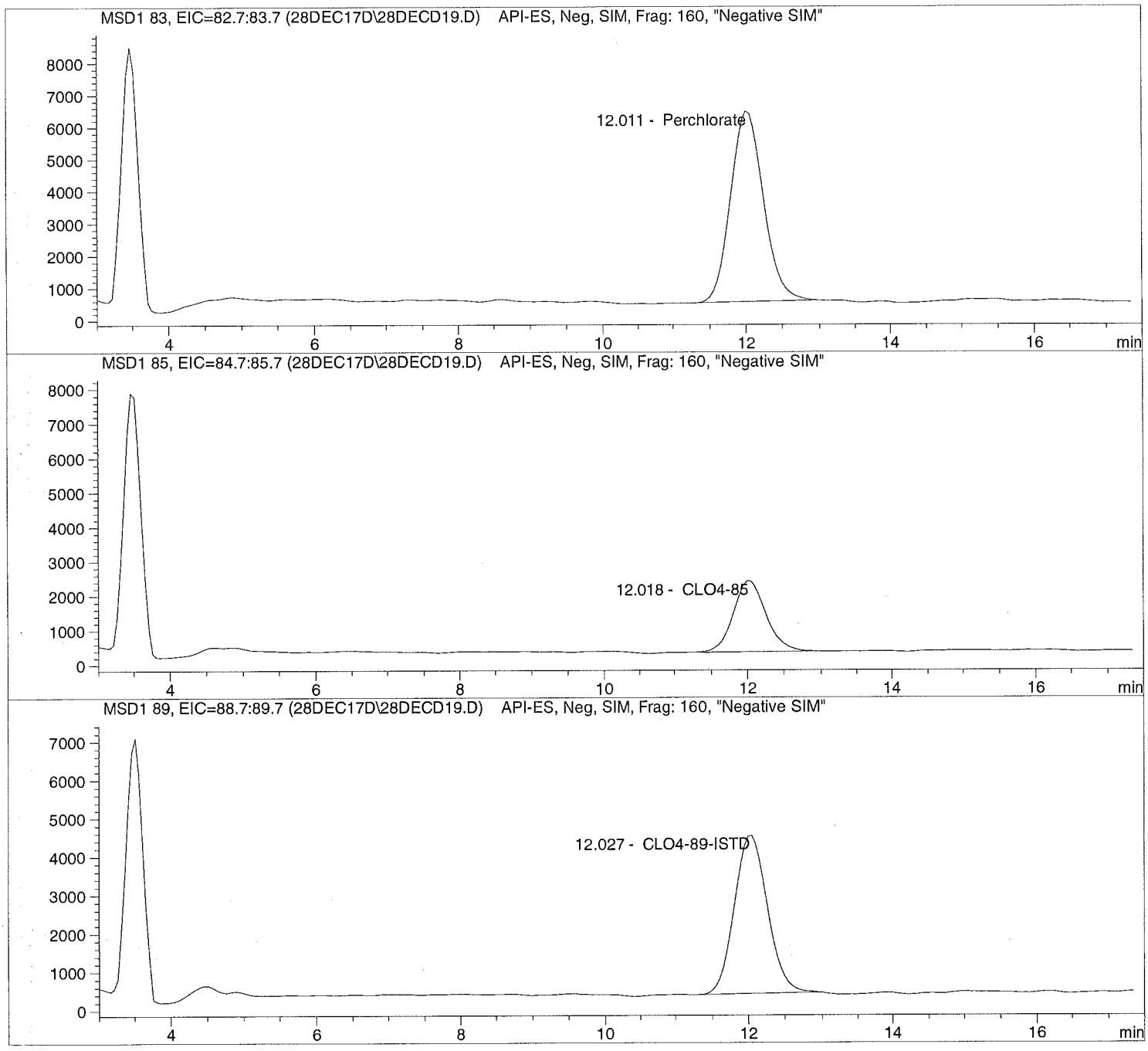
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD19.D Sample Name: 581367 356811S

Injection Date:	12/28/2017 16:47:18	Seq Line:	19
Sample Name:	581367 356811S	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\28DEC17D\28DECD19.D Sample Name: 581367 356811S

Injection Date:	12/28/2017 16:47:18	Seq Line:	19
Sample Name:	581367 356811S	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
12.011	BBA	186973.8	6.4160	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.018	BBA	64792.8	6.7239	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.027	PBA	131273.9	5.0000	CLO4-89-ISTD

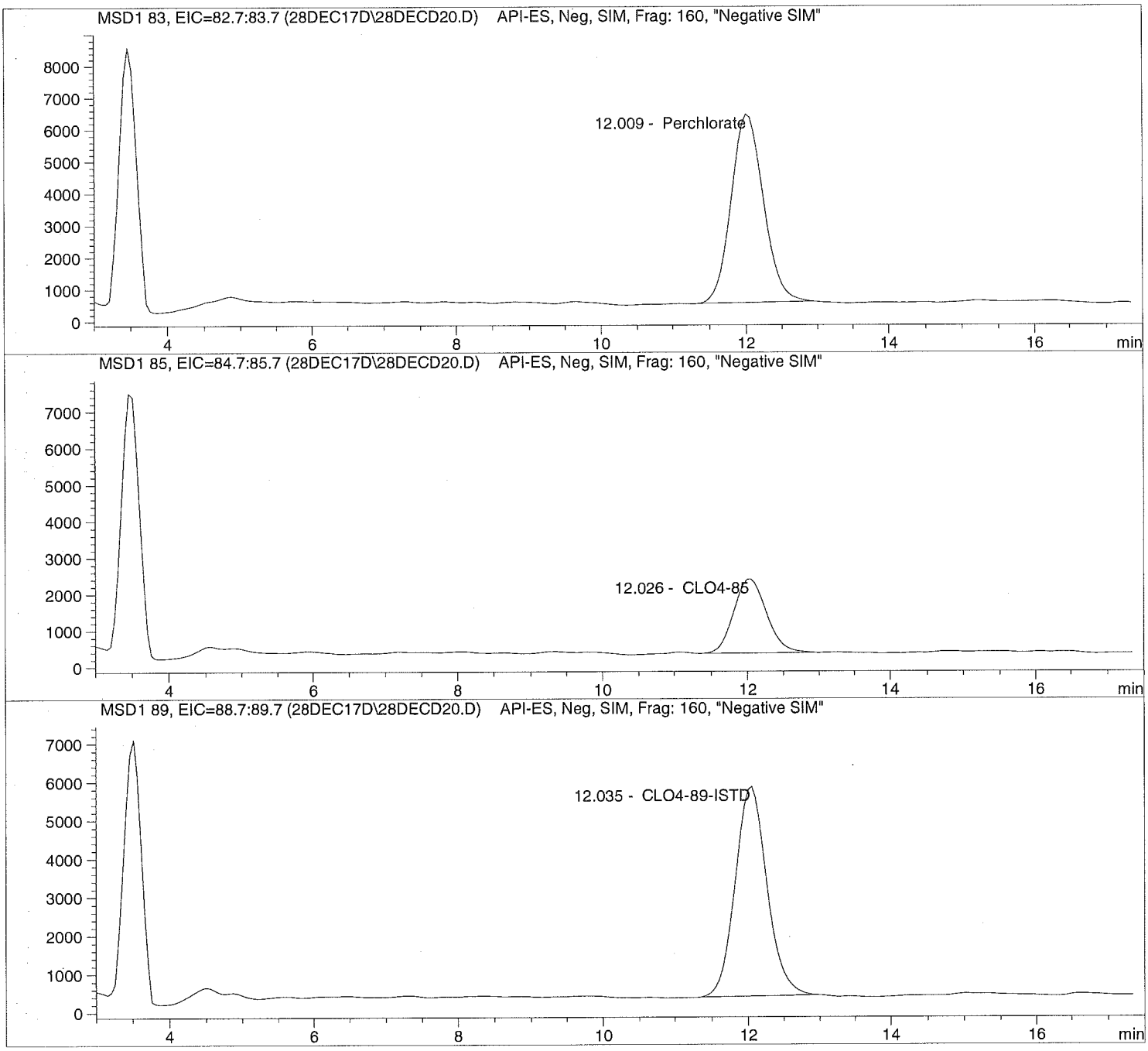
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD20.D Sample Name: 581368 356811D

Injection Date:	12/28/2017 17:06:27	Seq Line:	20
Sample Name:	581368 356811D	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\28DEC17D\28DECD20.D Sample Name: 581368 356811D

Injection Date:	12/28/2017 17:06:27	Seq Line:	20
Sample Name:	581368 356811D	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
12.009	PBA	182161.7	4.9686	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.026	PBA	63917.9	5.2142	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.035	PBA	166580.6	5.0000	CLO4-89-ISTD

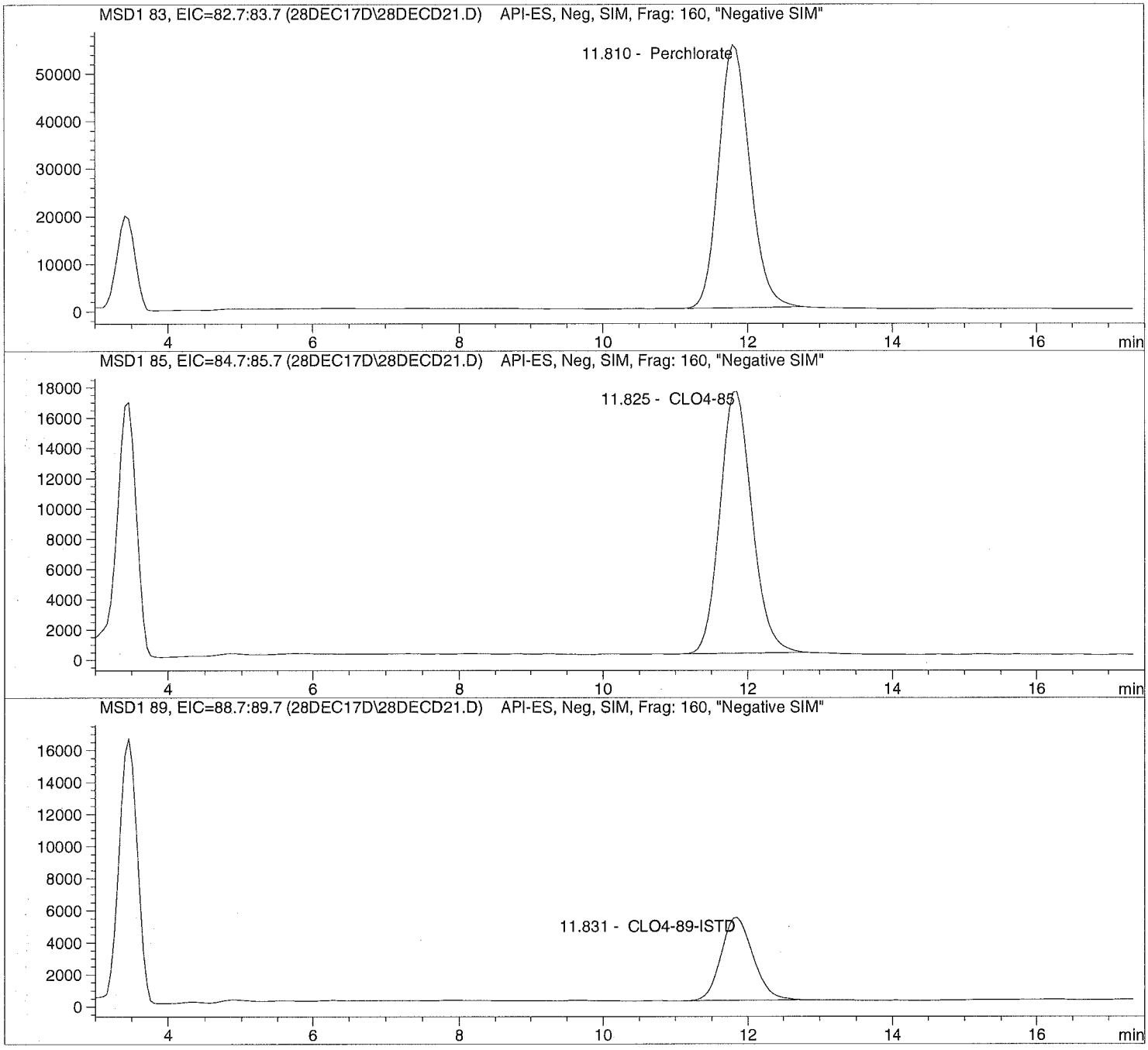
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD21.D Sample Name: 1735685004

Injection Date:	12/28/2017 17:25:40	Seq Line:	21
Sample Name:	1735685004	Location:	Vial 89
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\28DEC17D\28DECD21.D Sample Name: 1735685004

Injection Date:	12/28/2017 17:25:40	Seq Line:	21
Sample Name:	1735685004	Location:	Vial 89
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
11.810	PBA	1653258.4	39.7379	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.825	PBA	533653.0	41.1139	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.831	PBA	159385.2	5.0000	CLO4-89-ISTD

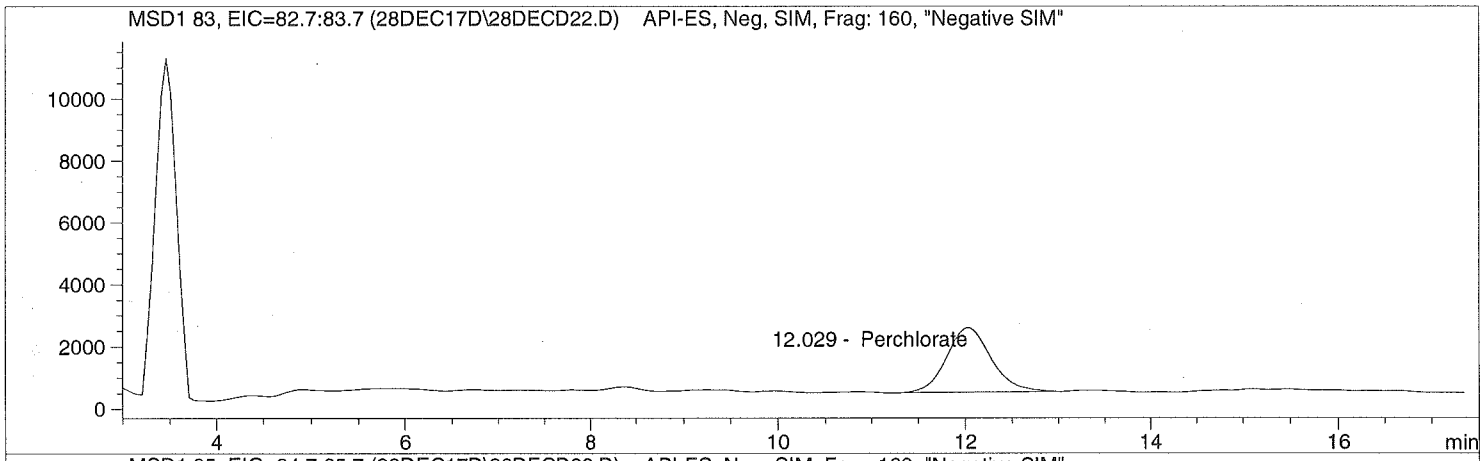
*** End of Report ***

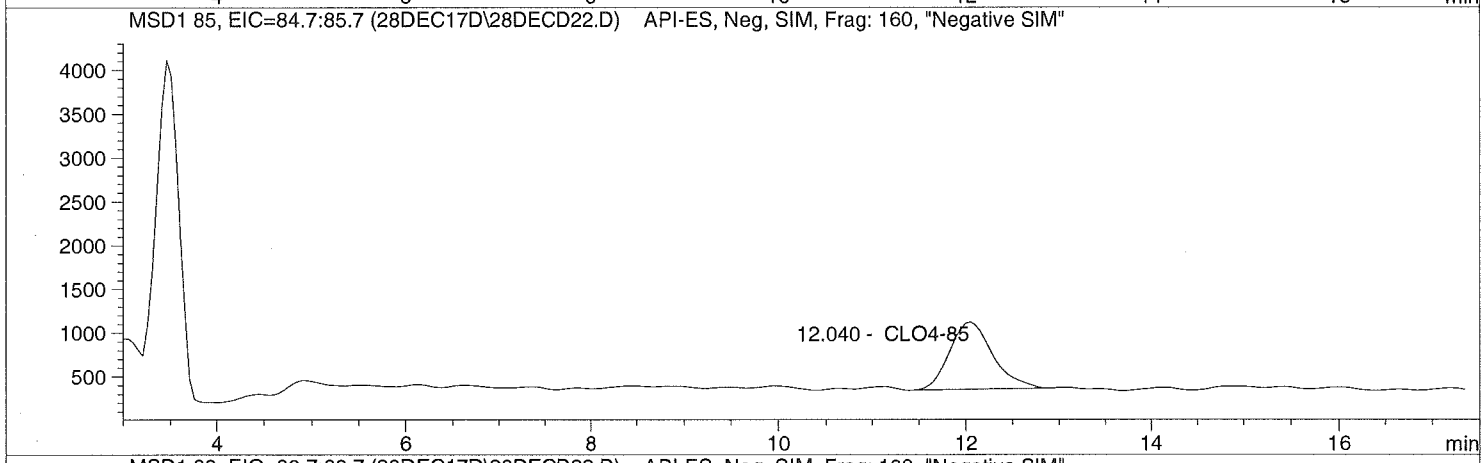
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD22.D Sample Name: 1735685005

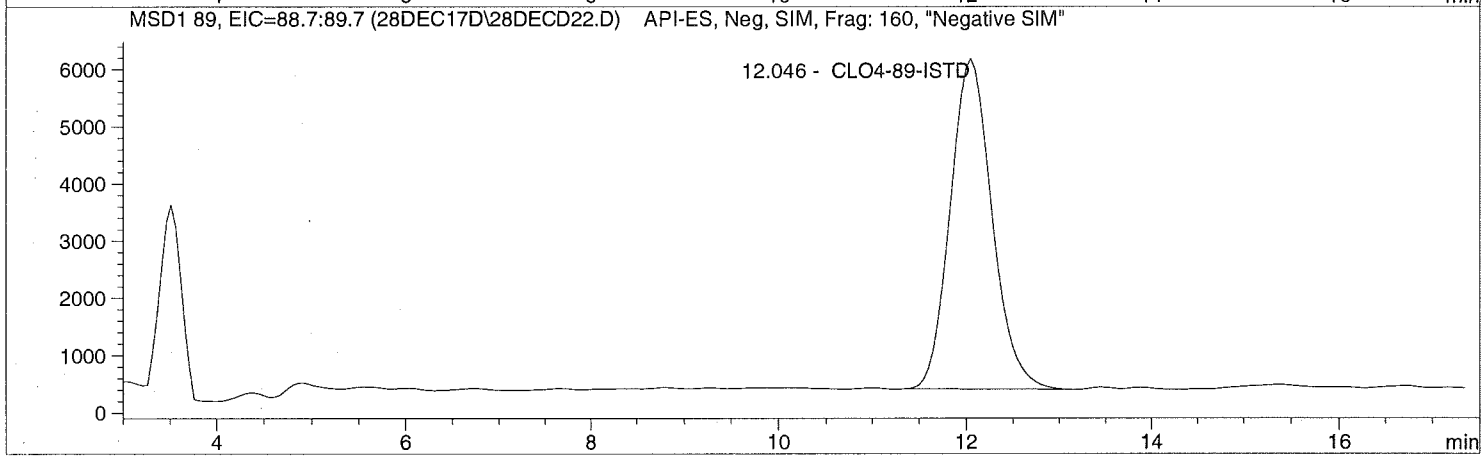
Injection Date:	12/28/2017 17:44:52	Seq Line:	22
Sample Name:	1735685005	Location:	Vial 90
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD22.D Sample Name: 1735685005

Injection Date:	12/28/2017 17:44:52	Seq Line:	22
Sample Name:	1735685005	Location:	Vial 90
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
12.029	PBA	68211.1	1.7773	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.040	PBA	24735.4	1.7747	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.046	PBA	178902.4	5.0000	CLO4-89-ISTD

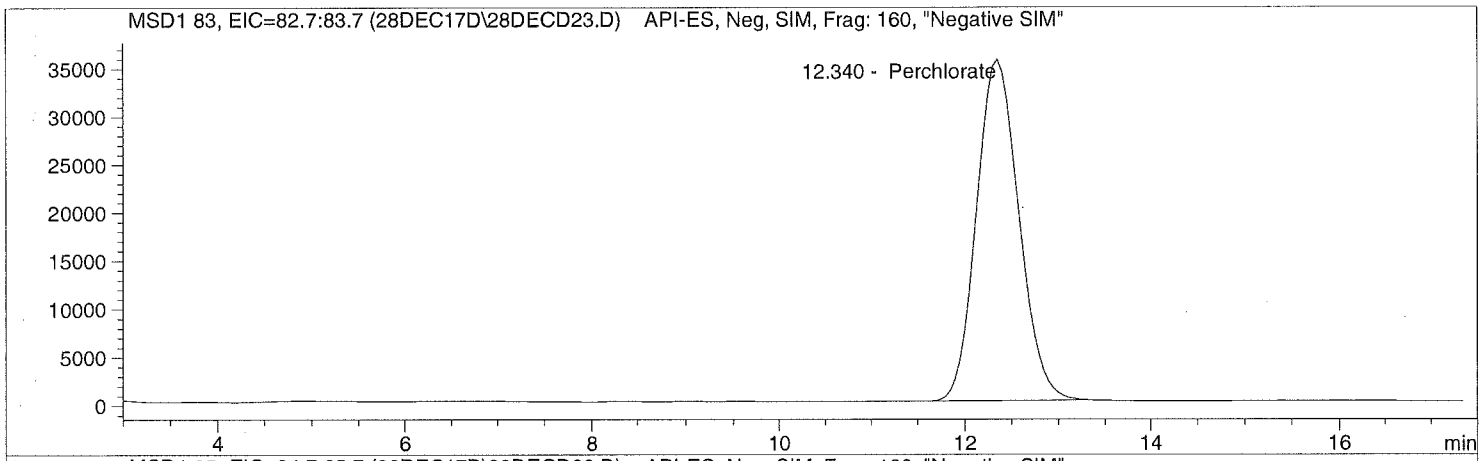
*** End of Report ***

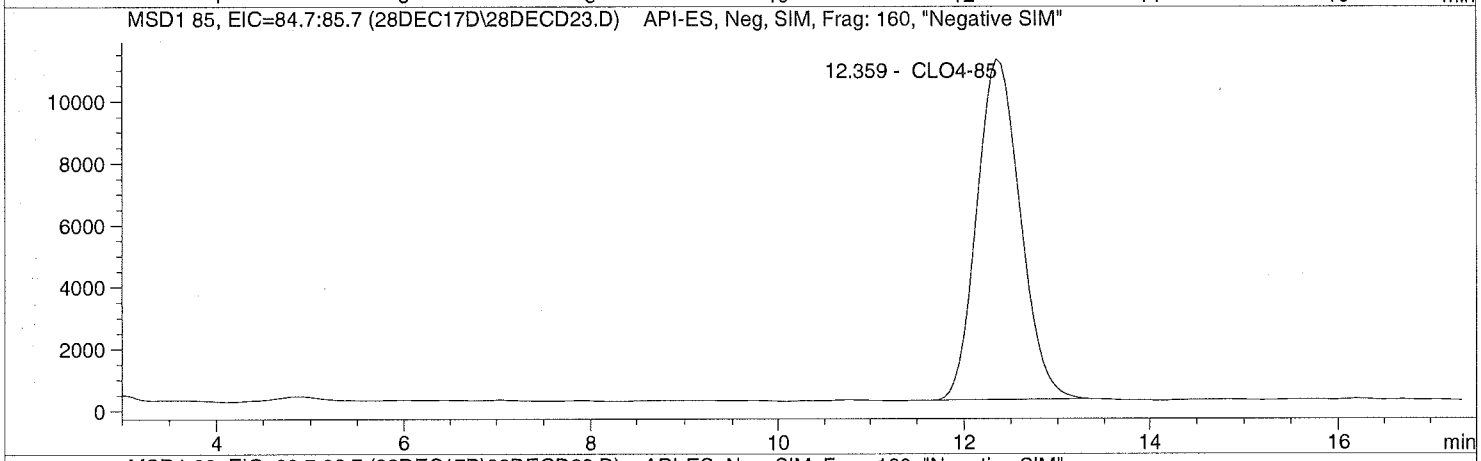
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD23.D Sample Name: 581178 CCV@25

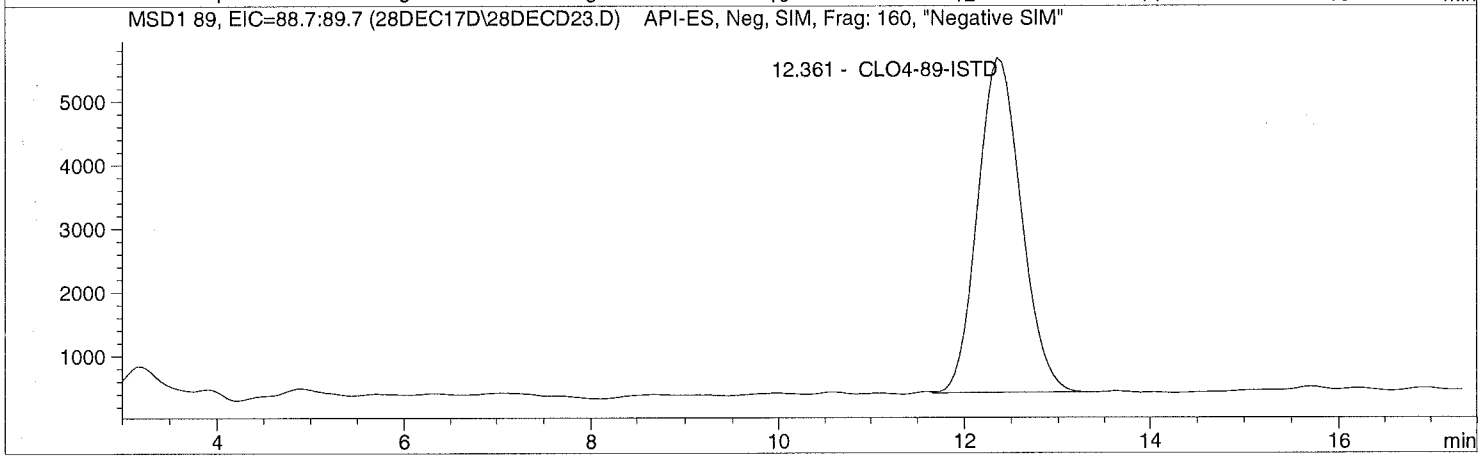
Injection Date:	12/28/2017 18:04:03	Seq Line:	23
Sample Name:	581178 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD23.D Sample Name: 581178 CCV@25

Injection Date:	12/28/2017 18:04:03	Seq Line:	23
Sample Name:	581178 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
12.340	PBA	1108499.4	26.5526	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.359	PBA	353709.5	26.8515	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.361	BBA	169851.7	5.0000	CLO4-89-ISTD

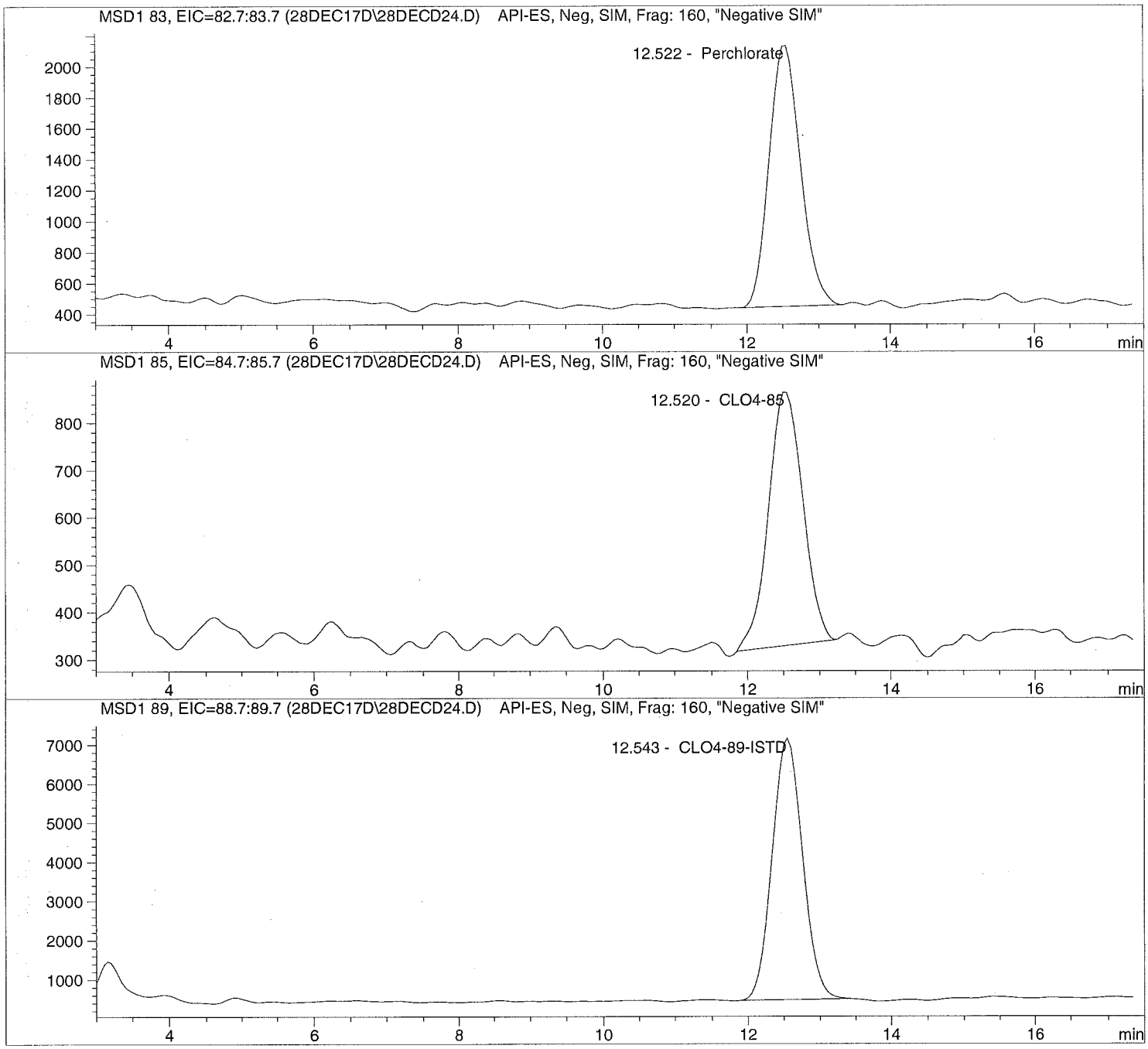
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD24.D Sample Name: 581179 LODV@1.

Injection Date:	12/28/2017 18:23:11	Seq Line:	24
Sample Name:	581179 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\28DEC17D\28DECD24.D Sample Name: 581179 LODV@1.

Injection Date:	12/28/2017 18:23:11	Seq Line:	24
Sample Name:	581179 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
12.522	PBA	50754.7	1.2255	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.520	PBA	17687.4	1.0982	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.543	PBA	194839.2	5.0000	CLO4-89-ISTD

*** End of Report ***

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Raw Data

Initial Calibration

Batch Report: C:\HPCHEM\1\DATA\21AUG17P\21AUG17P.B

Batch Review Method:
C:\HPCHEM\1\METHODS\CLO4-PR3.M

['#' ==> Run has not been reprocessed with Batch Review Method
'*' ==> Run has been saved with batch file]

#*	Sample Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
*	ICAL1@ .05ug/L Vial 71	1	Control	1	4365.90820	12.226	9.14000e-2
*	ICAL2@ .10ug/L Vial 72	1	Control	2	9514.03027	12.210	2.01141e-1
*	ICAL3@ .20ug/L Vial 73	1	Control	3	1.35331e4	12.236	2.88584e-1
*	ICAL4@ 0.5ug/L Vial 74	1	Control	4	2.76171e4	12.161	5.95393e-1
*	ICAL5@ 1.0ug/L Vial 75	1	Control	5	4.75097e4	12.226	1.01731
*	ICAL6@ 5.0ug/L Vial 76	1	Control	6	2.30426e5	12.209	5.01082
*	ICAL7@ 10.ug/L Vial 77	1	Control	7	4.46570e5	12.212	9.64041
*	ICAL8@ 25.ug/L Vial 78	1	Control	8	1.19993e6	12.134	25.19412
*	ICAL9@ 50.ug/L Vial 79	1	Control	9	2.60933e6	12.150	49.96977
*	ICAL Verf@10ug/L Vial 80	1	Control	10	4.49703e5	12.232	9.41499

#*	Sample Location	Inj	SampleType	Run	Perchlorate Area	Perchlorate RT	Perchlorate Amount
*	ICAL1@ .05ug/L Vial 71	1	Control	1	8930.38184	12.237	6.88583e-2
*	ICAL2@ .10ug/L Vial 72	1	Control	2	1.15052e4	12.248	8.73938e-2
*	ICAL3@ .20ug/L Vial 73	1	Control	3	2.62111e4	12.238	1.91166e-1
*	ICAL4@ 0.5ug/L Vial 74	1	Control	4	6.28912e4	12.159	4.52946e-1
*	ICAL5@ 1.0ug/L Vial 75	1	Control	5	1.30706e5	12.231	9.25591e-1
*	ICAL6@ 5.0ug/L Vial 76	1	Control	6	6.80205e5	12.200	4.80762
*	ICAL7@ 10.ug/L Vial 77	1	Control	7	1.41057e6	12.196	9.74126
*	ICAL8@ 25.ug/L Vial 78	1	Control	8	4.00474e6	12.118	25.78802
*	ICAL9@ 50.ug/L Vial 79	1	Control	9	8.85683e6	12.137	49.73658
*	ICAL Verf@10ug/L Vial 80	1	Control	10	1.36065e6	12.218	9.14332

#*	Sample Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
*	ICAL1@ .05ug/L Vial 71	1	Control	1	6.73943e5	12.272	5.00000
*	ICAL2@ .10ug/L Vial 72	1	Control	2	6.67016e5	12.250	5.00000
*	ICAL3@ .20ug/L Vial 73	1	Control	3	6.61031e5	12.267	5.00000
*	ICAL4@ 0.5ug/L Vial 74	1	Control	4	6.52904e5	12.190	5.00000
*	ICAL5@ 1.0ug/L Vial 75	1	Control	5	6.56071e5	12.242	5.00000
*	ICAL6@ 5.0ug/L Vial 76	1	Control	6	6.34251e5	12.221	5.00000
*	ICAL7@ 10.ug/L Vial 77	1	Control	7	6.25689e5	12.216	5.00000
*	ICAL8@ 25.ug/L Vial 78	1	Control	8	6.01523e5	12.141	5.00000
*	ICAL9@ 50.ug/L Vial 79	1	Control	9	5.97661e5	12.156	5.00000
*	ICAL Verf@10ug/L Vial 80	1	Control	10	6.45815e5	12.234	5.00000

*** End of Report ***

Method C:\HPCHEM\1\METHODS\CLO4-PR3.M

Calibration Table

Perchlorate

Calib. Data Modified : 8/21/2017 2:55:52 PM

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
12.226	2	1	5.00000e-2	4365.90820	1.14524e-5		1	CLO4-85
		2	1.00000e-1	9514.03027	1.05108e-5			
		3	2.00000e-1	1.35331e4	1.47786e-5			
		4	5.00000e-1	2.76171e4	1.81047e-5			
		5	1.00000	4.75097e4	2.10483e-5			
		6	5.00000	2.30426e5	2.16990e-5			
		7	10.00000	4.46570e5	2.23929e-5			
		8	25.00000	1.19993e6	2.08345e-5			
		9	50.00000	2.60933e6	1.91620e-5			
12.237	1	1	5.00000e-2	8930.38184	5.59886e-6		1	Perchlorate
		2	1.00000e-1	1.15052e4	8.69173e-6			
		3	2.00000e-1	2.62111e4	7.63037e-6			
		4	5.00000e-1	6.28912e4	7.95024e-6			
		5	1.00000	1.30706e5	7.65074e-6			
		6	5.00000	6.80205e5	7.35073e-6			
		7	10.00000	1.41057e6	7.08933e-6			
		8	25.00000	4.00474e6	6.24259e-6			
		9	50.00000	8.85683e6	5.64536e-6			
12.272	3	1	5.00000	6.73943e5	7.41903e-6	+I1		CLO4-89-ISTD
		2	5.00000	6.67016e5	7.49607e-6			

Method C:\HPCHEM\1\METHODS\CLO4-PR3.M

RetTime [min]	Sig	Lvl	Amount	Area	Amt/Area	Ref	Grp	Name
		3	5.00000	6.61031e5	7.56394e-6			
		4	5.00000	6.52904e5	7.65809e-6			
		5	5.00000	6.56071e5	7.62113e-6			
		6	5.00000	6.34251e5	7.88331e-6			
		7	5.00000	6.25689e5	7.99119e-6			
		8	5.00000	6.01523e5	8.31223e-6			
		9	5.00000	5.97661e5	8.36594e-6			

More compound-specific settings:

Compound: CLO4-85
- Time Window : From 10.676 min To 13.166 min
- Curve Type : Quadratic
- Origin : Forced
- Calibration Level Weights:/
  - Level 1 : 1
  - Level 2 : 1
  - Level 3 : 1
  - Level 4 : 1
  - Level 5 : 1
  - Level 6 : 1
  - Level 7 : 1
  - Level 8 : 1
  - Level 9 : 1

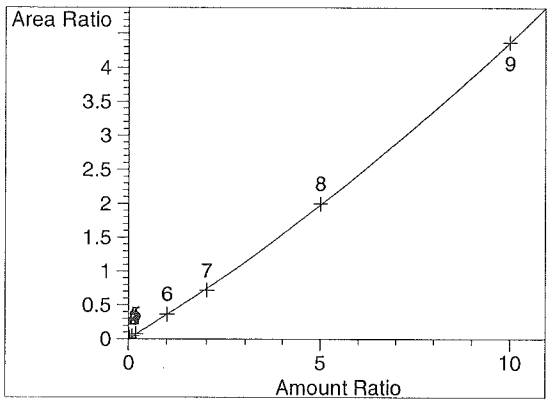
Compound: Perchlorate
- Time Window : From 10.737 min To 13.198 min
- Curve Type : Quadratic
- Origin : Ignored
- Calibration Level Weights:/
  - Level 1 : 1
  - Level 2 : 0.5
  - Level 3 : 0.25
  - Level 4 : 0.1
  - Level 5 : 0.05
  - Level 6 : 0.01
  - Level 7 : 0.005
  - Level 8 : 0.002
  - Level 9 : 0.001

Compound: CLO4-89-ISTD
- Time Window : From 10.704 min To 13.272 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
  - Level 8 : 1
  - Level 9 : 1

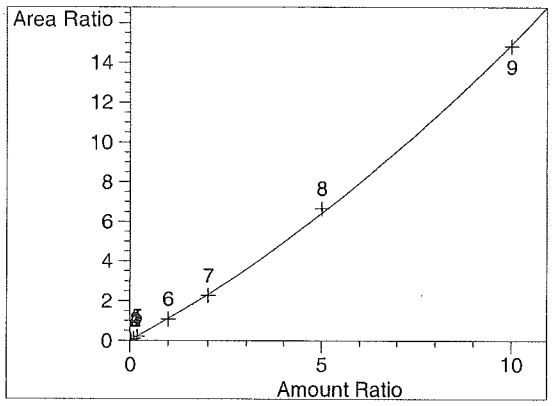
Peak Sum Table

No Entries in table

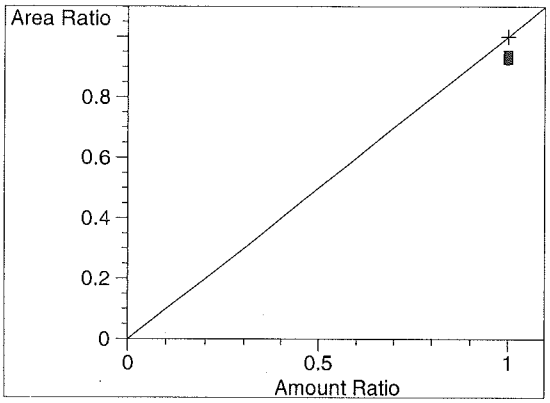
Calibration Curves



CLO4-85 at exp. RT: 12.226
MSD1 85, EIC=84.7:85.7
Correlation: 0.99997
Residual Std. Dev.: 0.01235
Formula: $y = ax^2 + bx$
a: 8.26698e-3
b: 3.54234e-1
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
Level 8 : 1
Level 9 : 1



Perchlorate at exp. RT: 12.237
MSD1 83, EIC=82.7:83.7
Correlation: 0.99970
Residual Std. Dev.: 0.10168
Formula: $y = ax^2 + bx + c$
a: 4.14991e-2
b: 1.07712
c: -1.59065e-3
x: Amount Ratio
y: Area Ratio
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.5
Level 3 : 0.25
Level 4 : 0.1
Level 5 : 0.05
Level 6 : 0.01
Level 7 : 0.005
Level 8 : 0.002
Level 9 : 0.001



CLO4-89-ISTD at exp. RT: 12.272
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
Level 8 : 1
Level 9 : 1

Sequence Table:

Method and Injection Info Part:

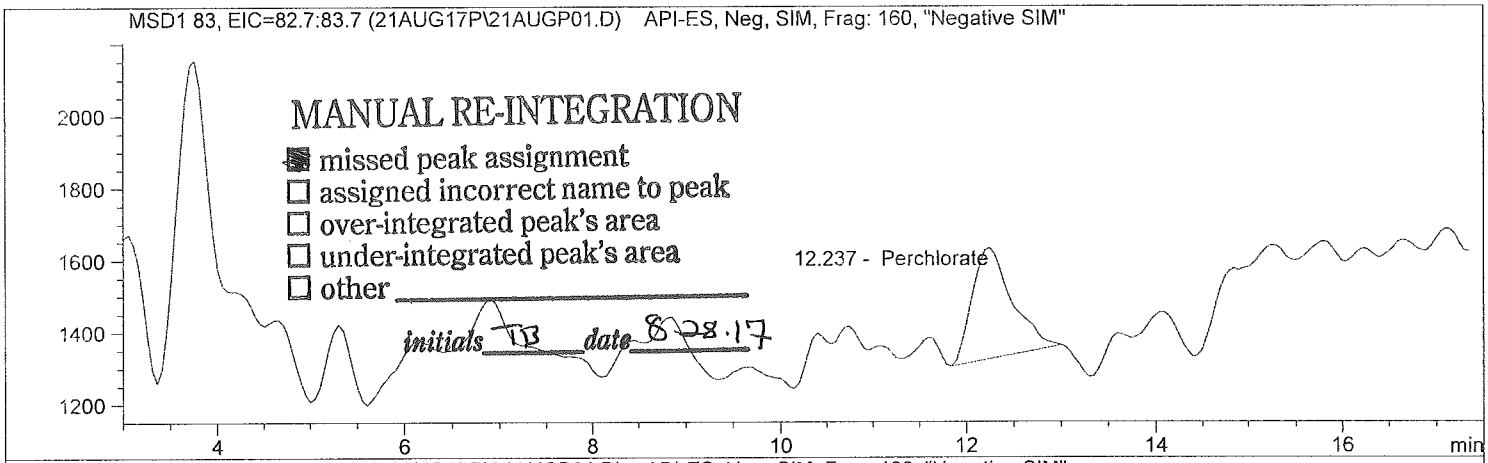
Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	ICAL1@ .05ug/L	CLO4-AQN	1	Ctrl Samp		
2	Vial 72	ICAL2@ .10ug/L	CLO4-AQN	1	Ctrl Samp		
3	Vial 73	ICAL3@ .20ug/L	CLO4-AQN	1	Ctrl Samp		
4	Vial 74	ICAL4@ 0.5ug/L	CLO4-AQN	1	Ctrl Samp		
5	Vial 75	ICAL5@ 1.0ug/L	CLO4-AQN	1	Ctrl Samp		
6	Vial 76	ICAL6@ 5.0ug/L	CLO4-AQN	1	Ctrl Samp		
7	Vial 77	ICAL7@ 10.ug/L	CLO4-AQN	1	Ctrl Samp		
8	Vial 78	ICAL8@ 25.ug/L	CLO4-AQN	1	Ctrl Samp		
9	Vial 79	ICAL9@ 50.ug/L	CLO4-AQN	1	Ctrl Samp		
10	Vial 80	ICAL Verf@10ug/L	CLO4-AQN	1	Ctrl Samp		

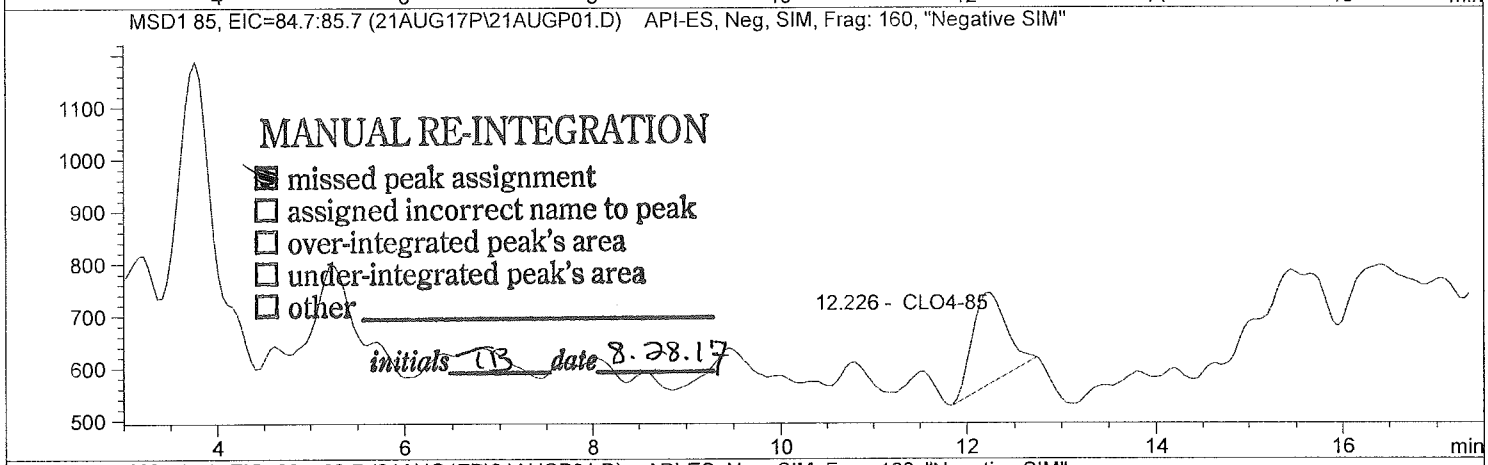
Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP01.D Sample Name: ICAL1@ .05ug/L

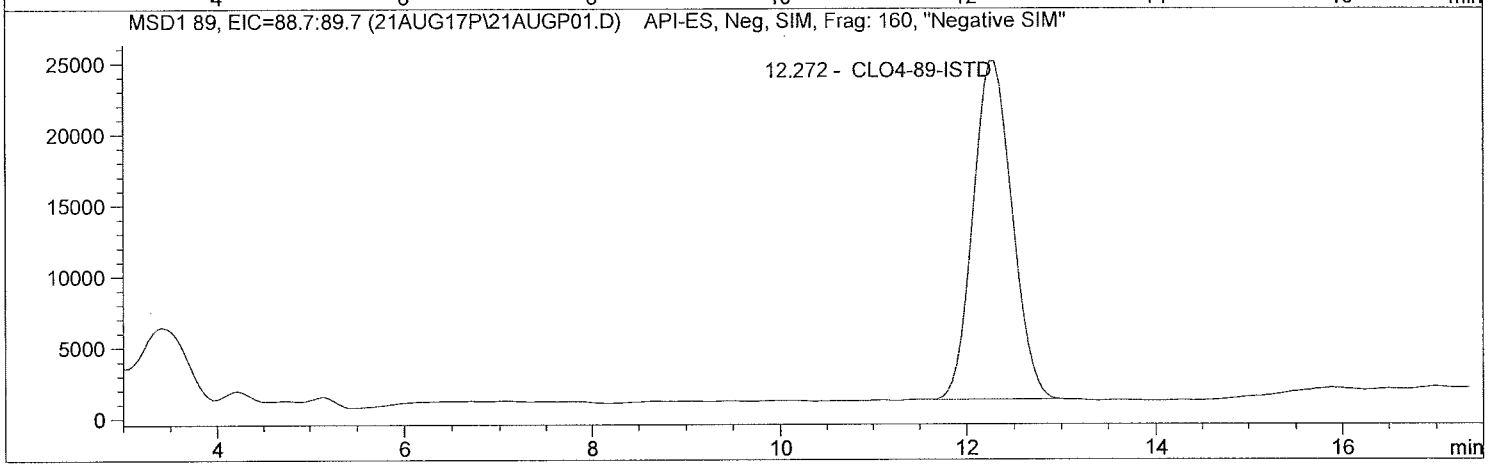
Injection Date:	8/21/2017 09:42:32	Seq Line:	1
Sample Name:	ICAL1@ .05ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP01.D Sample Name: ICAL1@ .05ug/L

Injection Date:	8/21/2017 09:42:32	Seq Line:	1
Sample Name:	ICAL1@ .05ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.050

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.237	MM	8930.4	0.0689	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.226	MM	4365.9	0.0914	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.272	BBA	673942.9	5.0000	CLO4-89-ISTD

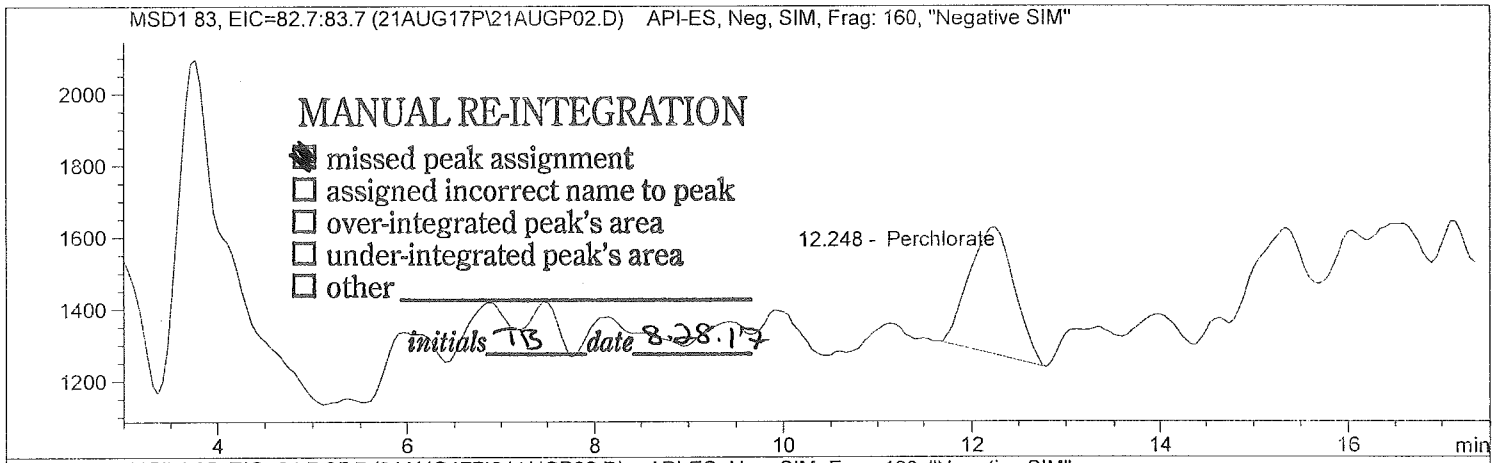
*** End of Report ***

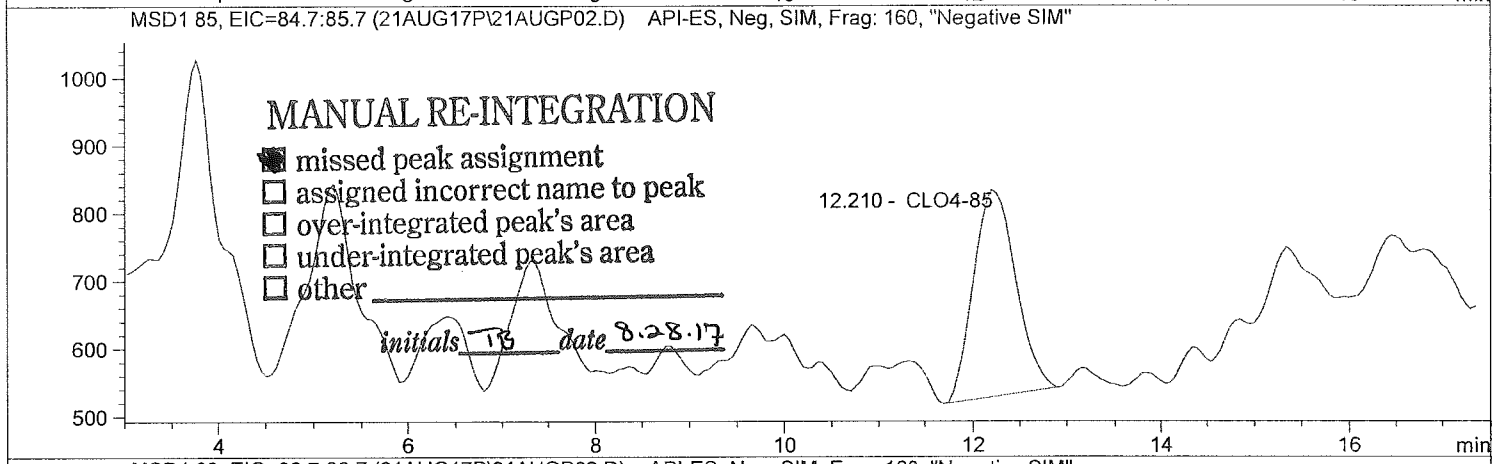
Data File: C:\HPCHEM\1\DATA\21AUG17P\21AUGP02.D Sample Name: ICAL2@ .10ug/L

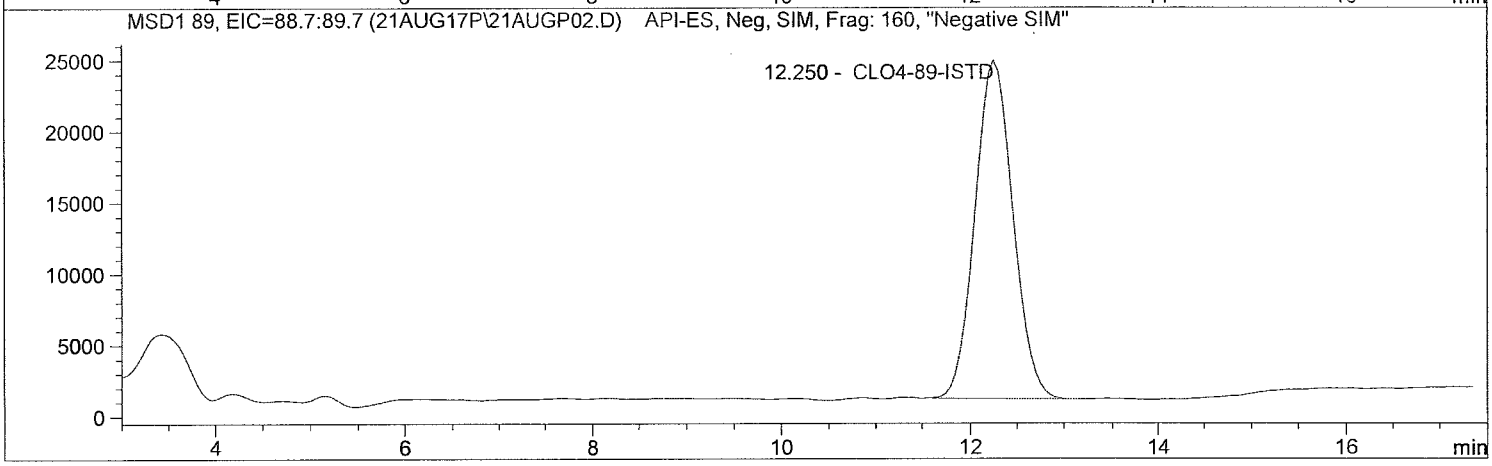
Injection Date:	8/21/2017 10:01:47	Seq Line:	2
Sample Name:	ICAL2@ .10ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP02.D Sample Name: ICAL2@ .10ug/L

Injection Date:	8/21/2017 10:01:47	Seq Line:	2
Sample Name:	ICAL2@ .10ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method:	CLO4-AQN.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed:	8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.100

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.248	MM	11505.2	0.0874	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.210	MM	9514.0	0.2011	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.250	BBA	667016.3	5.0000	CLO4-89-ISTD

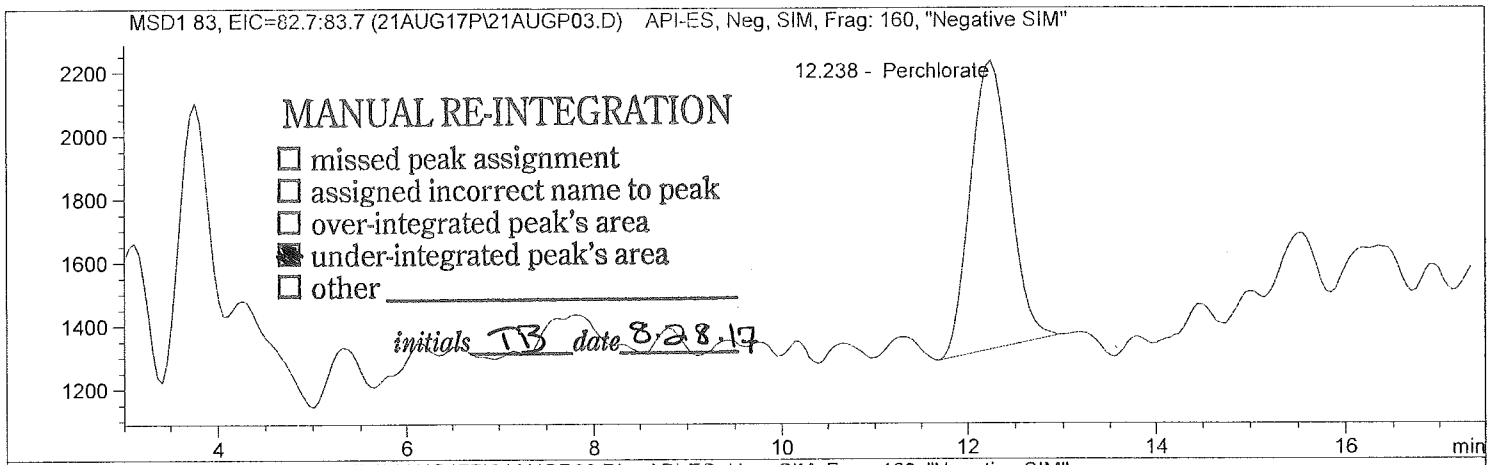
*** End of Report ***

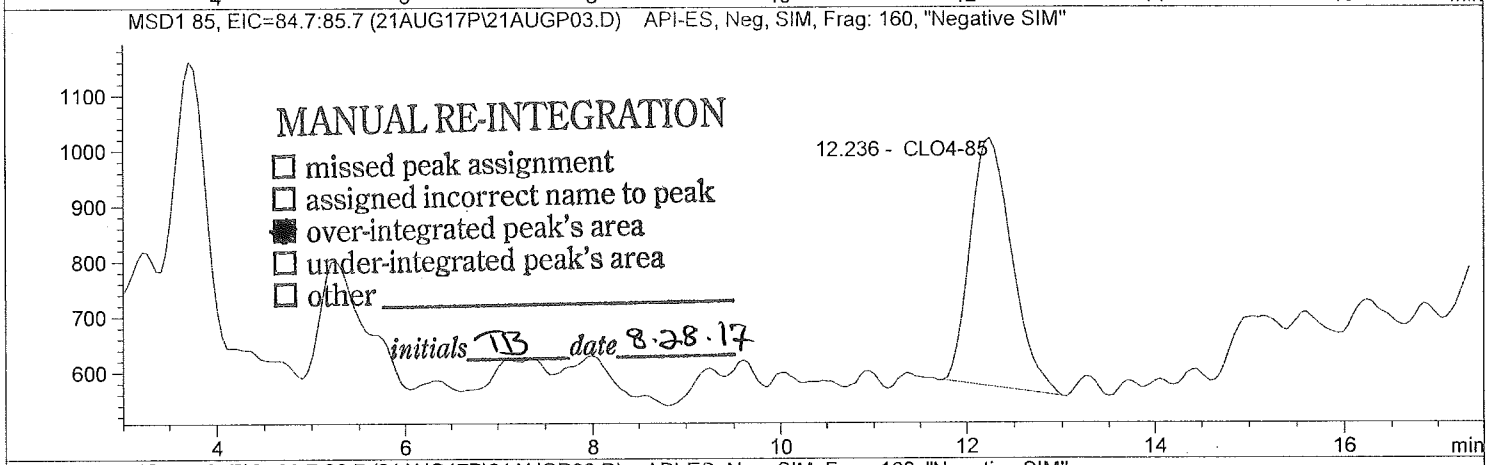
Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP03.D Sample Name: ICAL3@ .20ug/L

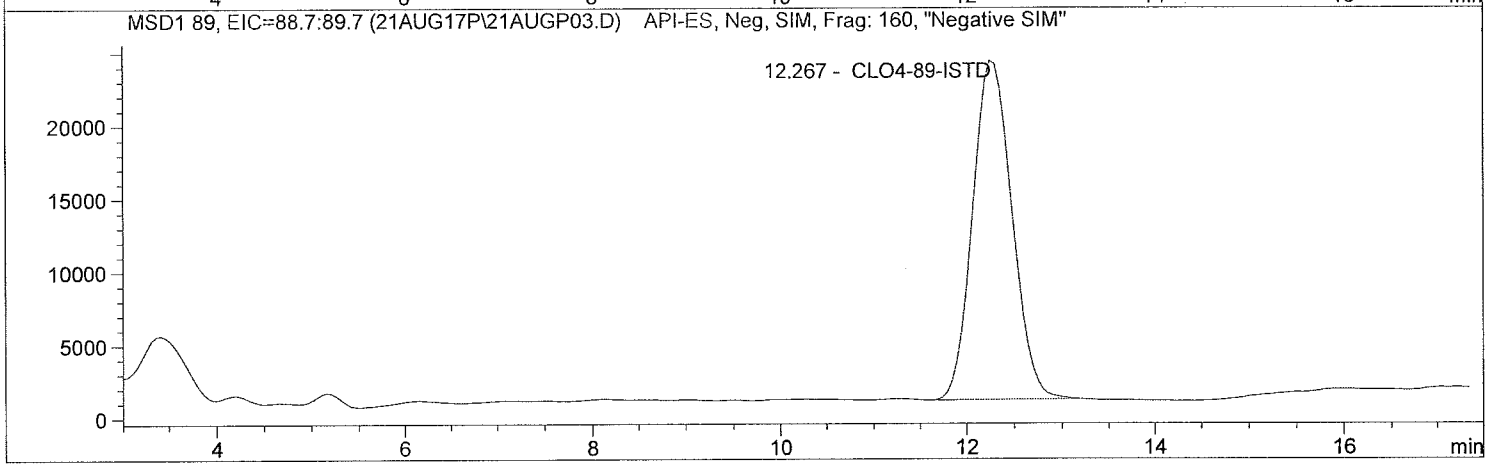
Injection Date:	8/21/2017 10:21:02	Seq Line:	3
Sample Name:	ICAL3@ .20ug/L	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP03.D Sample Name: ICAL3@ .20ug/L

Injection Date:	8/21/2017 10:21:02	Seq Line:	3
Sample Name:	ICAL3@ .20ug/L	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method:	CLO4-AQN.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed:	8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.200

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.238	MM	26211.1	0.1912	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.236	MM	13533.1	0.2886	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.267	PBA	661030.8	5.0000	CLO4-89-ISTD

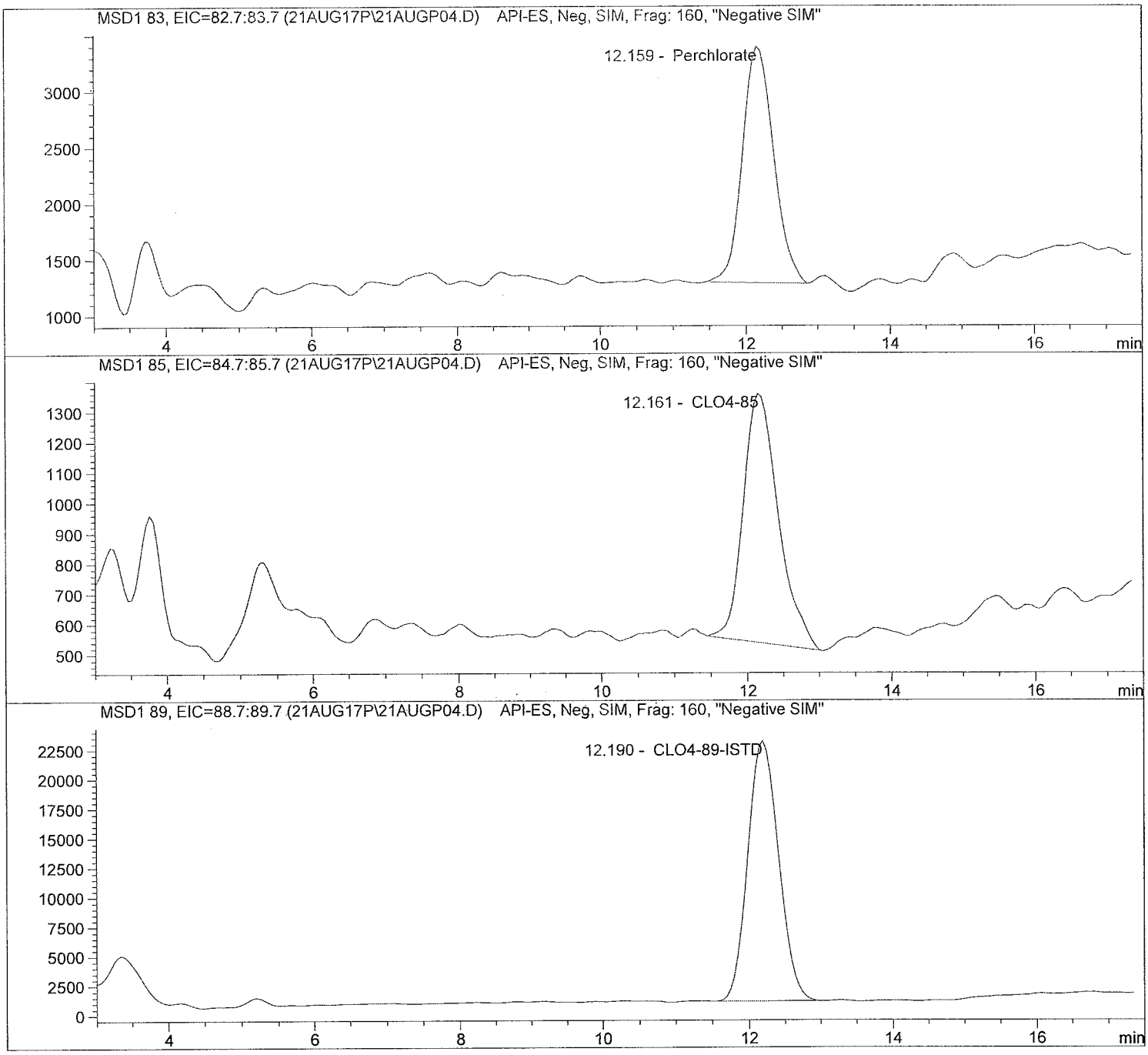
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP04.D Sample Name: ICAL4@ 0.5ug/L

Injection Date:	8/21/2017 10:40:22	Seq Line:	4
Sample Name:	ICAL4@ 0.5ug/L	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP04.D Sample Name: ICAL4@ 0.5ug/L

Injection Date:	8/21/2017 10:40:22	Seq Line:	4
Sample Name:	ICAL4@ 0.5ug/L	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.500

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.159	BBA	62891.2	0.4529	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.161	PBA	27617.1	0.5954	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.190	PBA	652904.1	5.0000	CLO4-89-ISTD

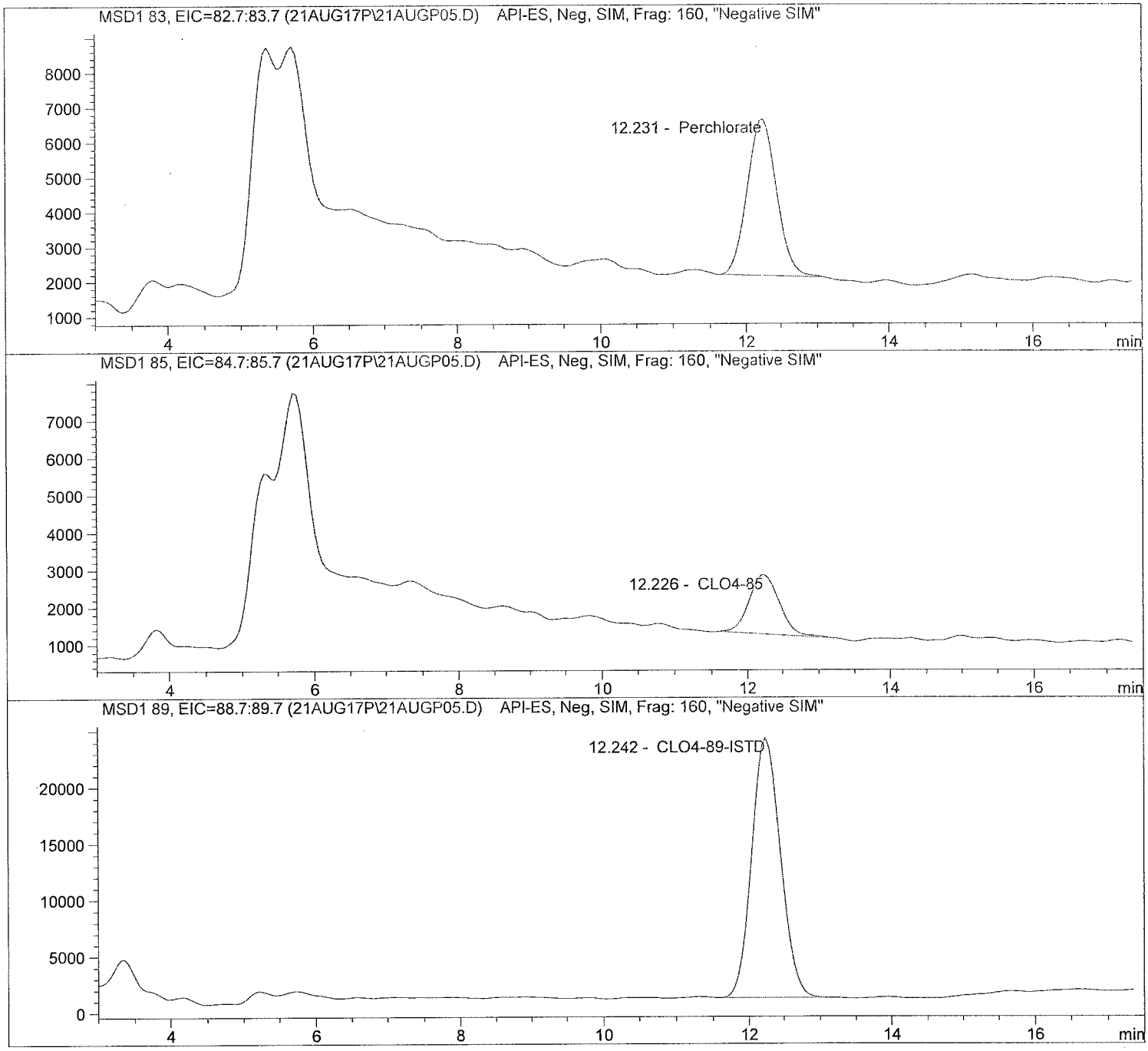
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP05.D Sample Name: ICAL5@ 1.0ug/L

Injection Date:	8/21/2017 10:59:36	Seq Line:	5
Sample Name:	ICAL5@ 1.0ug/L	Location:	Vial 75
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP05.D Sample Name: ICAL5@ 1.0ug/L

Injection Date:	8/21/2017 10:59:36	Seq Line:	5
Sample Name:	ICAL5@ 1.0ug/L	Location:	Vial 75
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
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
12.231	PBA	130706.3	0.9256	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.226	PBA	47509.7	1.0173	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.242	PBA	656070.7	5.0000	CLO4-89-ISTD

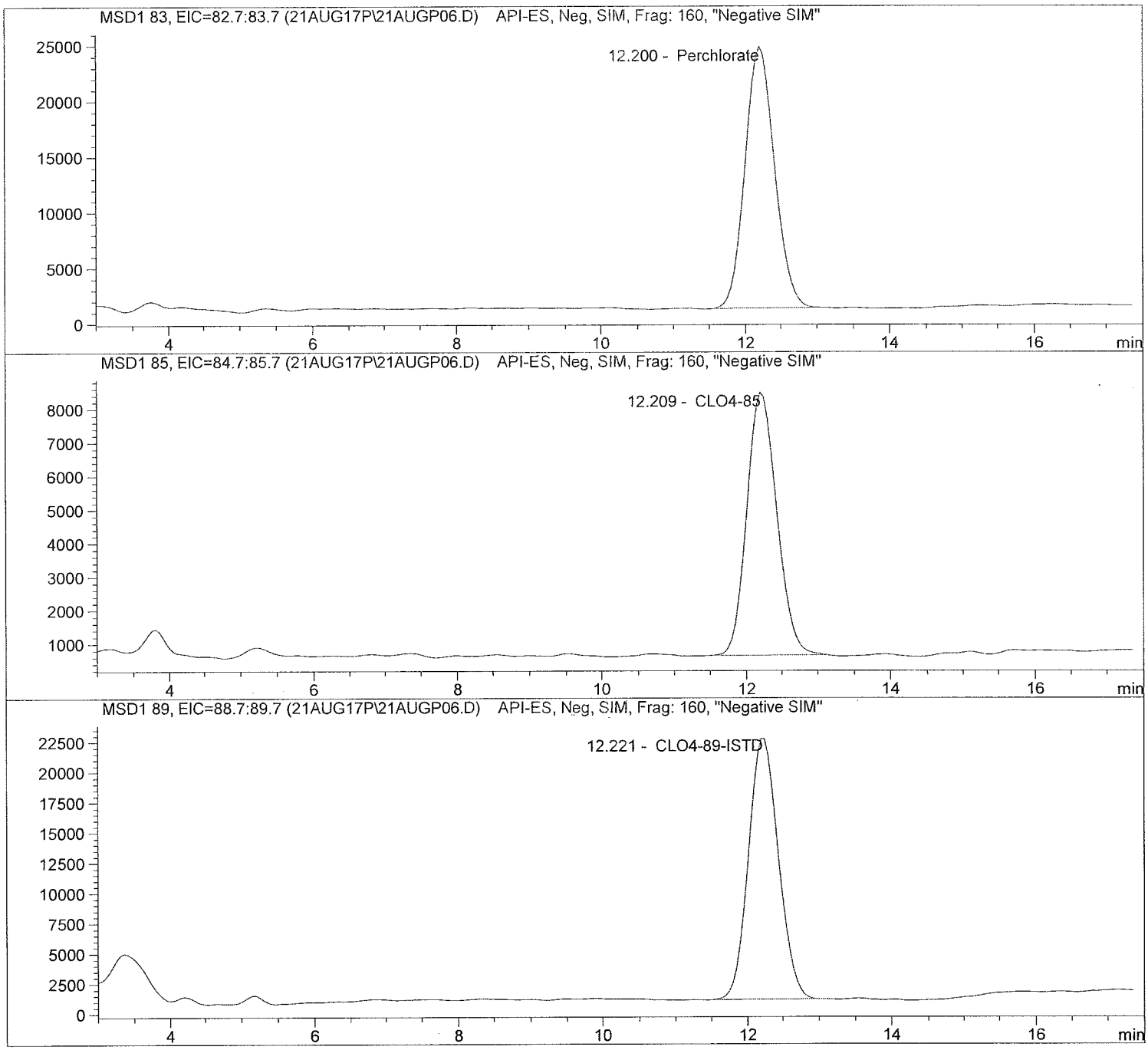
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP06.D Sample Name: ICAL6@ 5.0ug/L

Injection Date:	8/21/2017 11:18:53	Seq Line:	6
Sample Name:	ICAL6@ 5.0ug/L	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP06.D Sample Name: ICAL6@ 5.0ug/L

Injection Date:	8/21/2017 11:18:53	Seq Line:	6
Sample Name:	ICAL6@ 5.0ug/L	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
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
12.200	PBA	680204.6	4.8076	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.209	BBA	230425.8	5.0108	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.221	BBA	634251.4	5.0000	CLO4-89-ISTD

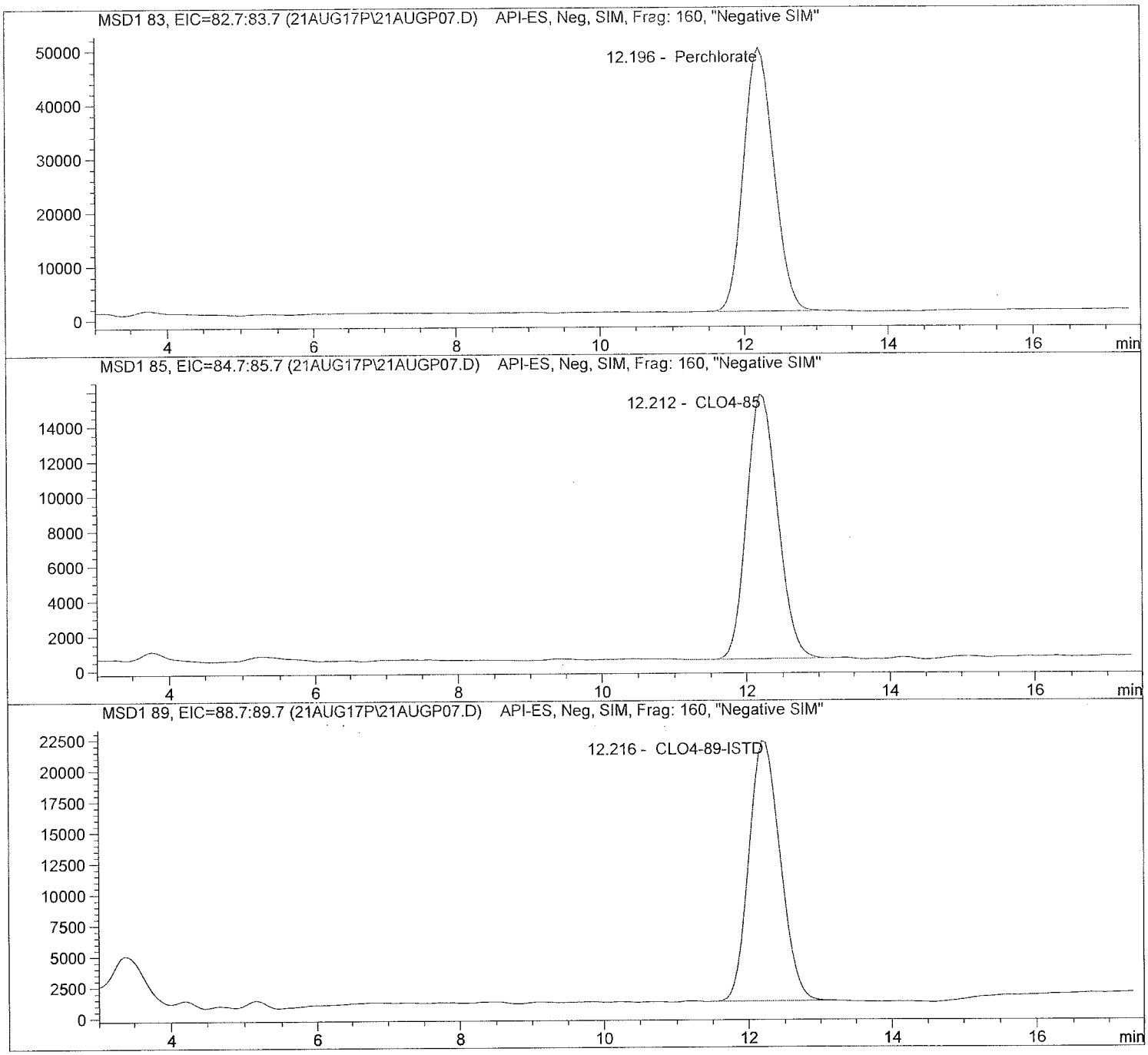
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP07.D Sample Name: ICAL7@ 10.ug/L

Injection Date:	8/21/2017 11:38:12	Seq Line:	7
Sample Name:	ICAL7@ 10.ug/L	Location:	Vial 77
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP07.D Sample Name: ICAL7@ 10.ug/L

Injection Date:	8/21/2017 11:38:12	Seq Line:	7
Sample Name:	ICAL7@ 10.ug/L	Location:	Vial 77
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method:	CLO4-AQN.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed:	8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
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
12.196	BBA	1410569.9	9.7413	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.212	PBA	446569.7	9.6404	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.216	PBA	625689.1	5.0000	CLO4-89-ISTD

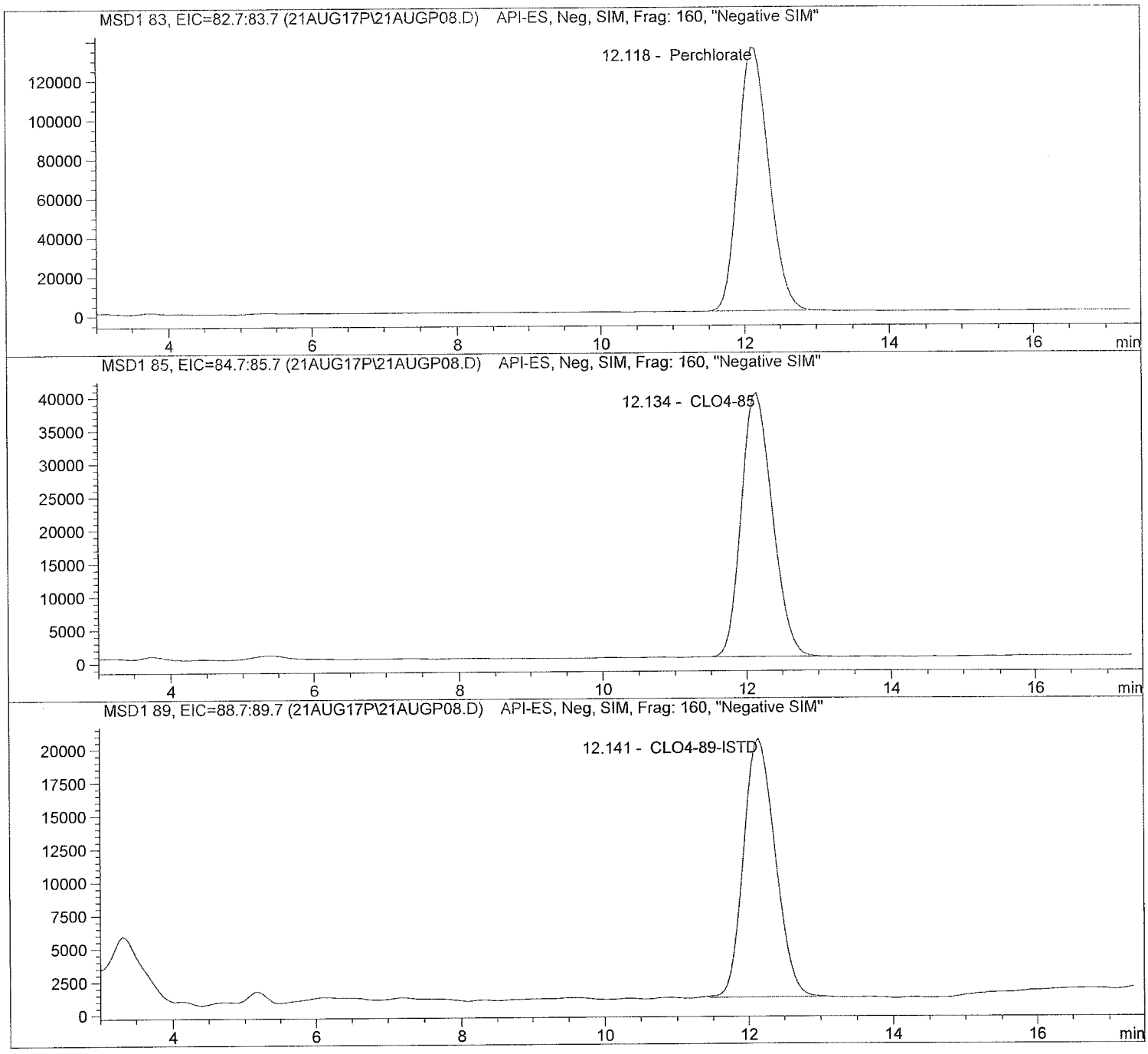
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP08.D Sample Name: ICAL8@ 25.ug/L

Injection Date:	8/21/2017 13:12:50	Seq Line:	8
Sample Name:	ICAL8@ 25.ug/L	Location:	Vial 78
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP08.D Sample Name: ICAL8@ 25.ug/L

Injection Date:	8/21/2017 13:12:50	Seq Line:	8
Sample Name:	ICAL8@ 25.ug/L	Location:	Vial 78
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method:	CLO4-AQN.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed:	8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
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
12.118	BBA	4004745.0	25.7880	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.134	BBA	1199930.0	25.1941	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.141	BBA	601523.1	5.0000	CLO4-89-ISTD

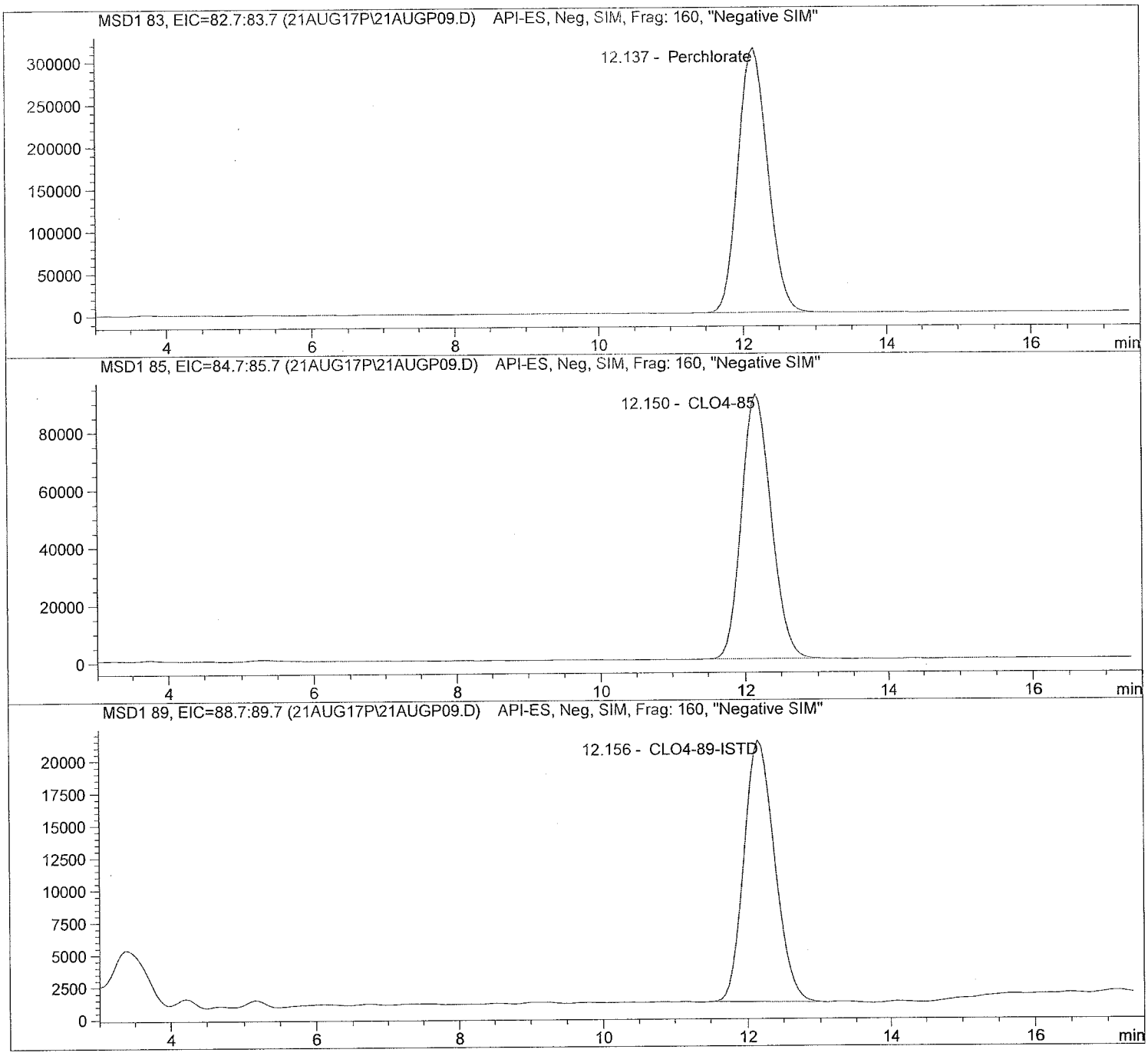
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP09.D Sample Name: ICAL9@ 50.ug/L

Injection Date:	8/21/2017 13:32:10	Seq Line:	9
Sample Name:	ICAL9@ 50.ug/L	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP09.D Sample Name: ICAL9@ 50.ug/L

Injection Date:	8/21/2017 13:32:10	Seq Line:	9
Sample Name:	ICAL9@ 50.ug/L	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
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
12.137	PBA	8856831.0	49.7366	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.150	BBA	2609327.3	49.9698	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.156	BBA	597661.2	5.0000	CLO4-89-ISTD

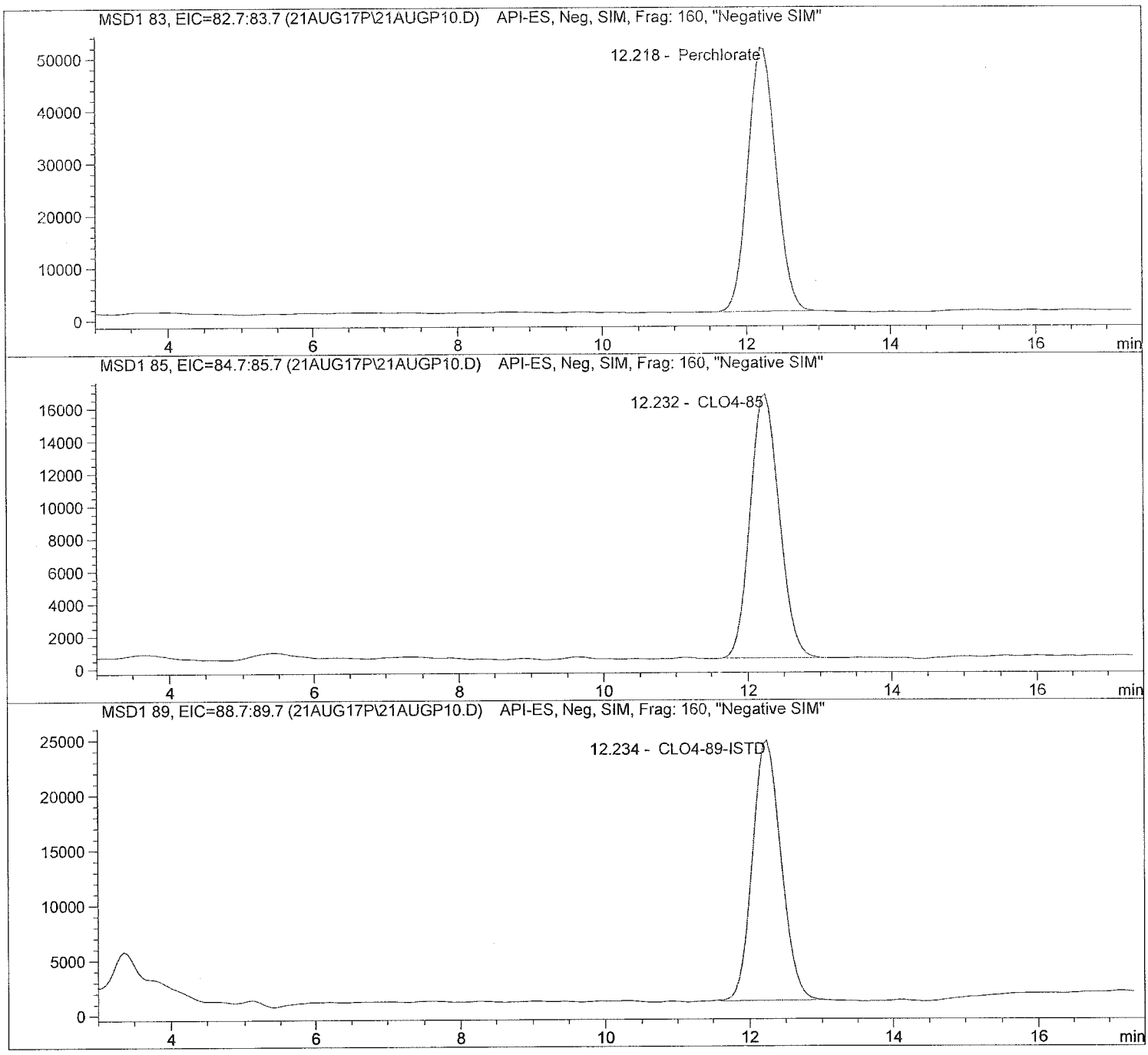
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP10.D Sample Name: ICAL Verf@10ug/L

Injection Date:	8/21/2017 13:51:27	Seq Line:	10
Sample Name:	ICAL Verf@10ug/L	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP10.D Sample Name: ICAL Verf@10ug/L

Injection Date:	8/21/2017 13:51:27	Seq Line:	10
Sample Name:	ICAL Verf@10ug/L	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
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
12.218	BBA	1360649.7	9.1433	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.232	PBA	449703.0	9.4150	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.234	BBA	645815.0	5.0000	CLO4-89-ISTD

*** End of Report ***

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Raw Data

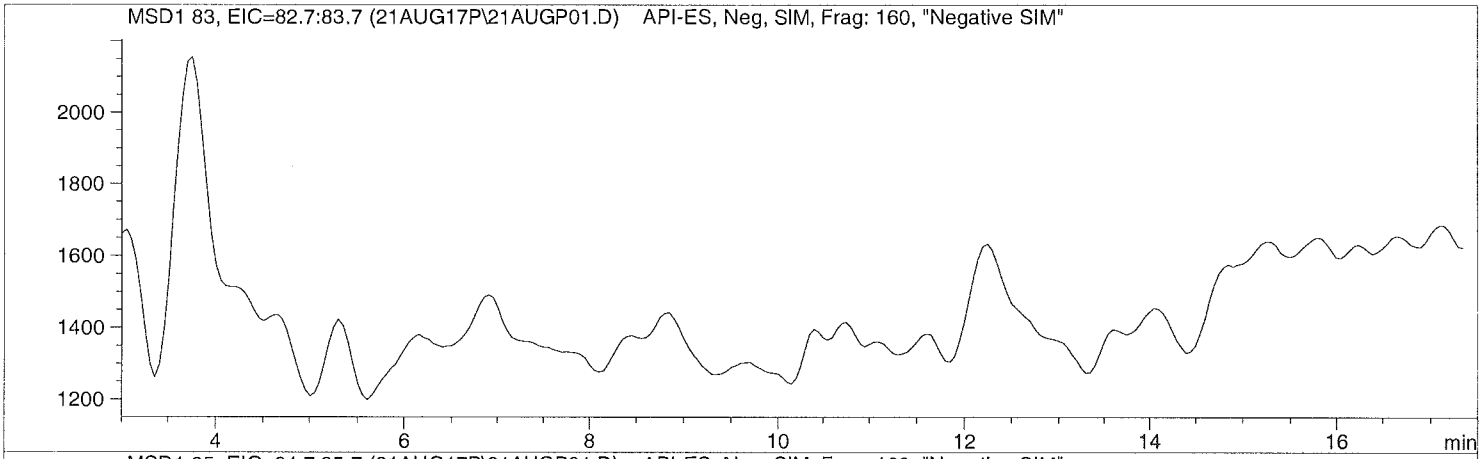
Unmodified

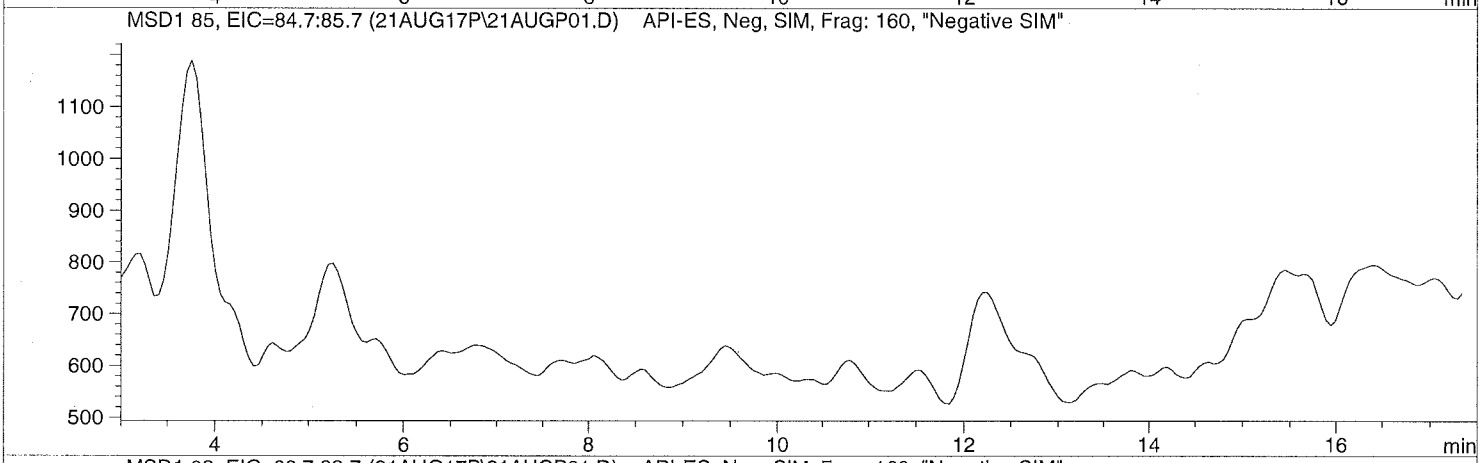
Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP01.D Sample Name: ICAL1@ .05ug/L

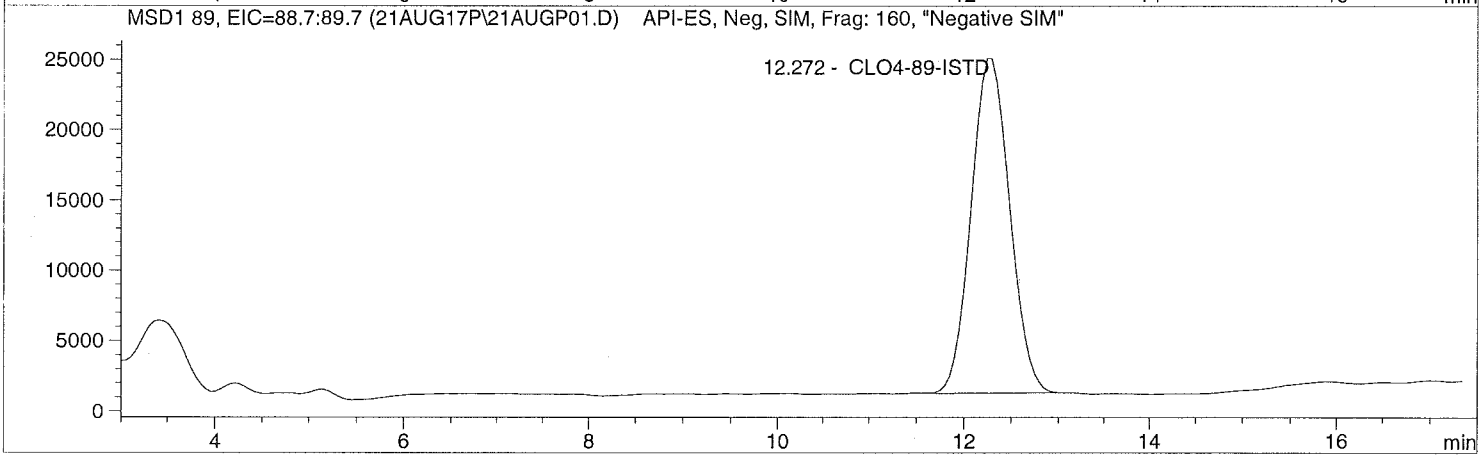
Injection Date:	8/21/2017 09:42:32	Seq Line:	1
Sample Name:	ICAL1@ .05ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP01.D Sample Name: ICAL1@ .05ug/L

Injection Date:	8/21/2017 09:42:32	Seq Line:	1
Sample Name:	ICAL1@ .05ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.050

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
12.272	BBA	673942.9	5.0000	CLO4-89-ISTD

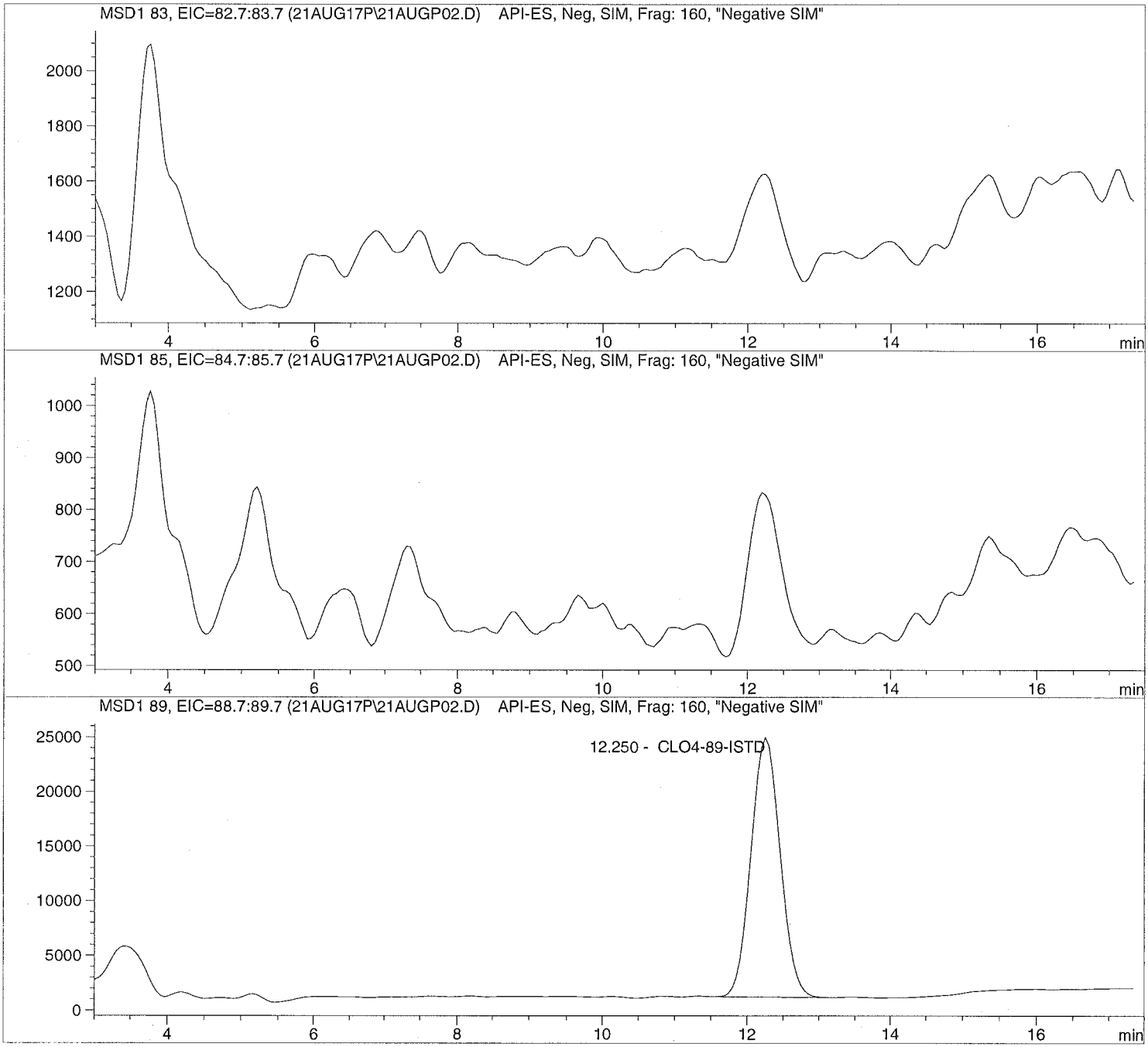
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP02.D Sample Name: ICAL2@ .10ug/L

Injection Date:	8/21/2017 10:01:47	Seq Line:	2
Sample Name:	ICAL2@ .10ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP02.D Sample Name: ICAL2@ .10ug/L

Injection Date:	8/21/2017 10:01:47	Seq Line:	2
Sample Name:	ICAL2@ .10ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.100

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
12.250	BBA	667016.3	5.0000	CLO4-89-ISTD

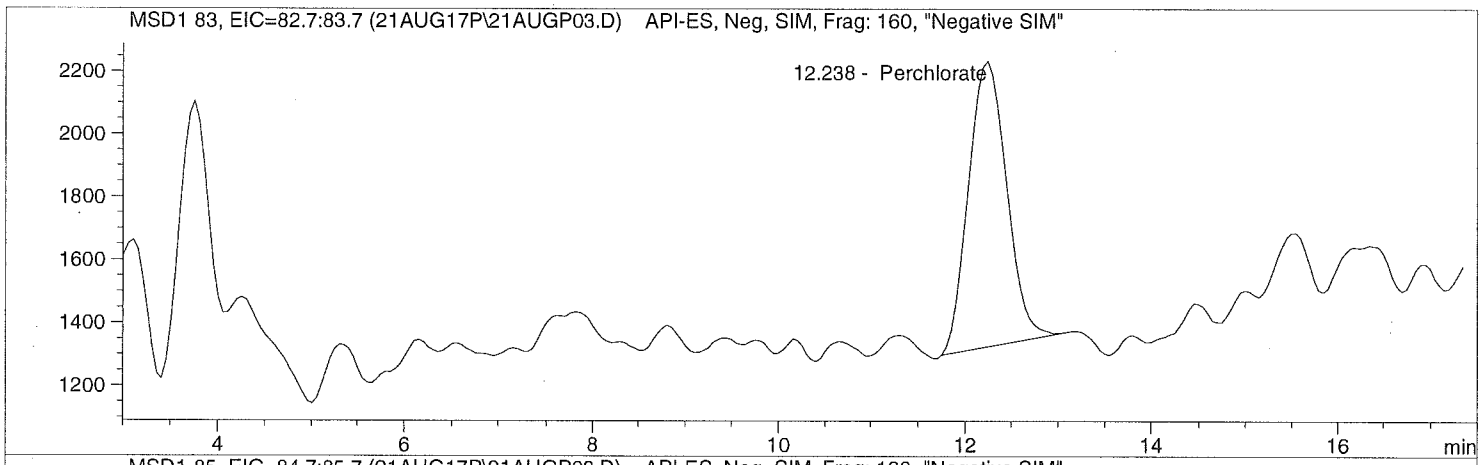
*** End of Report ***

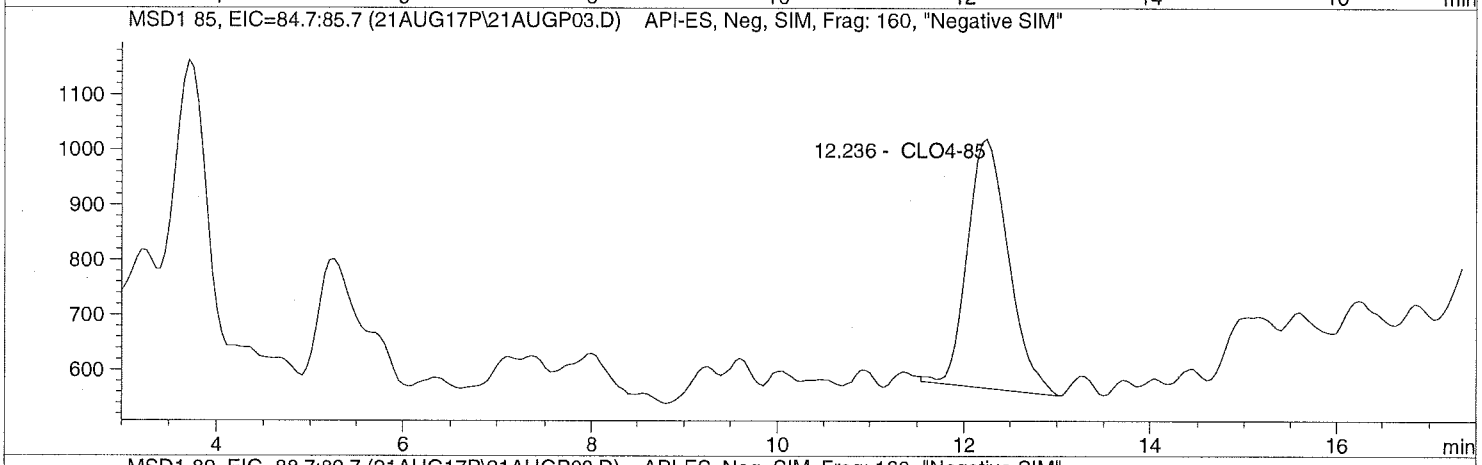
Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP03.D Sample Name: ICAL3@ .20ug/L

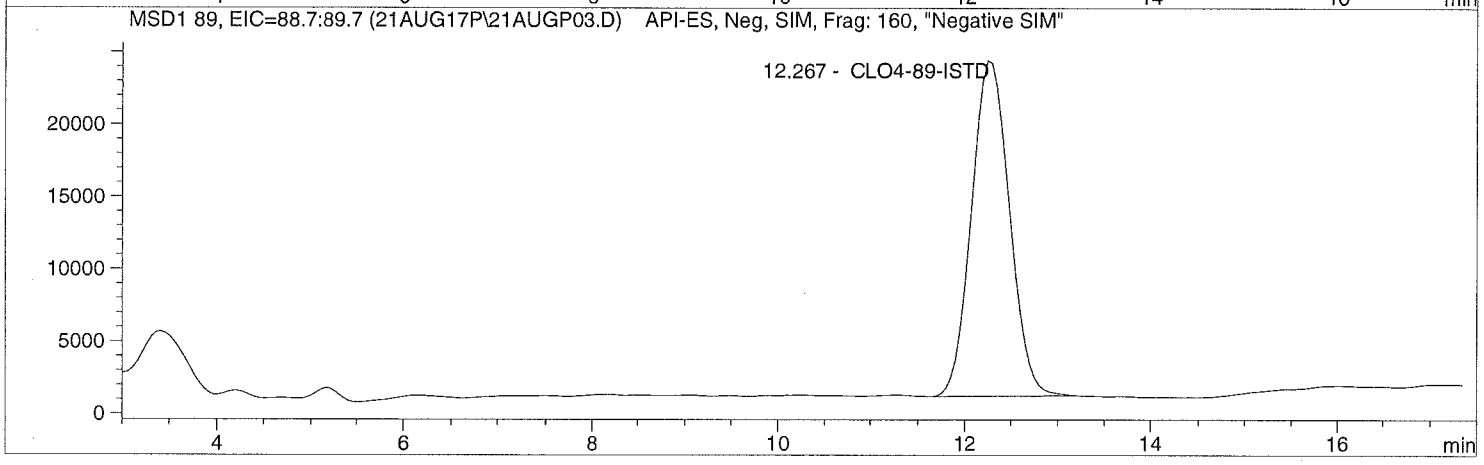
Injection Date:	8/21/2017 10:21:02	Seq Line:	3
Sample Name:	ICAL3@ .20ug/L	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP03.D Sample Name: ICAL3@ .20ug/L

Injection Date:	8/21/2017 10:21:02	Seq Line:	3
Sample Name:	ICAL3@ .20ug/L	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.200

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.238	PBA	26023.7	0.1899	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.236	BBA	13974.8	0.2980	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.267	PBA	661030.8	5.0000	CLO4-89-ISTD

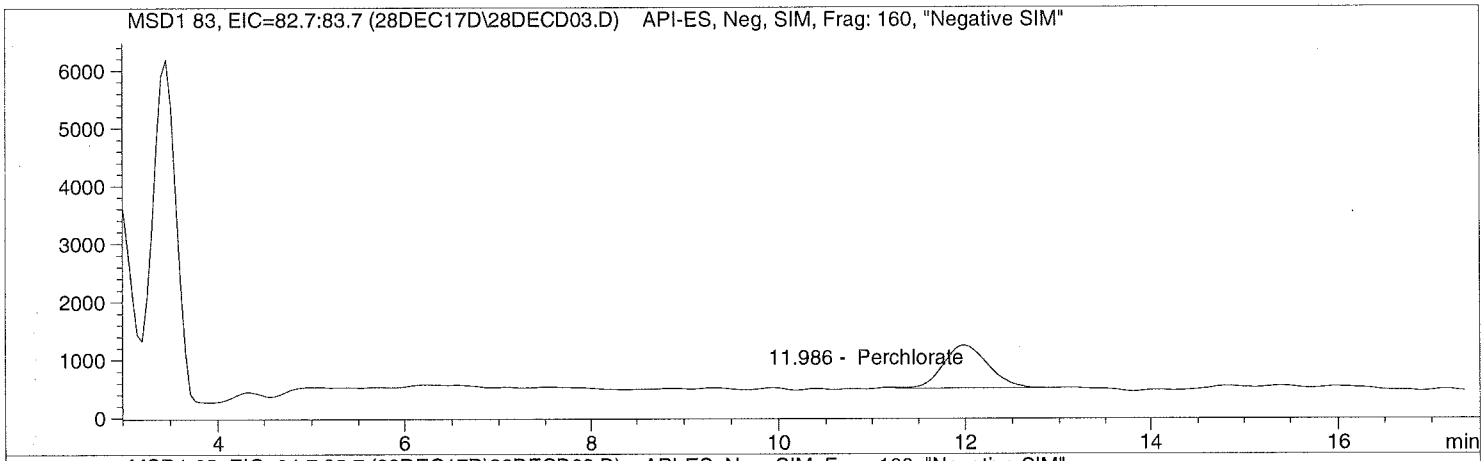
*** End of Report ***

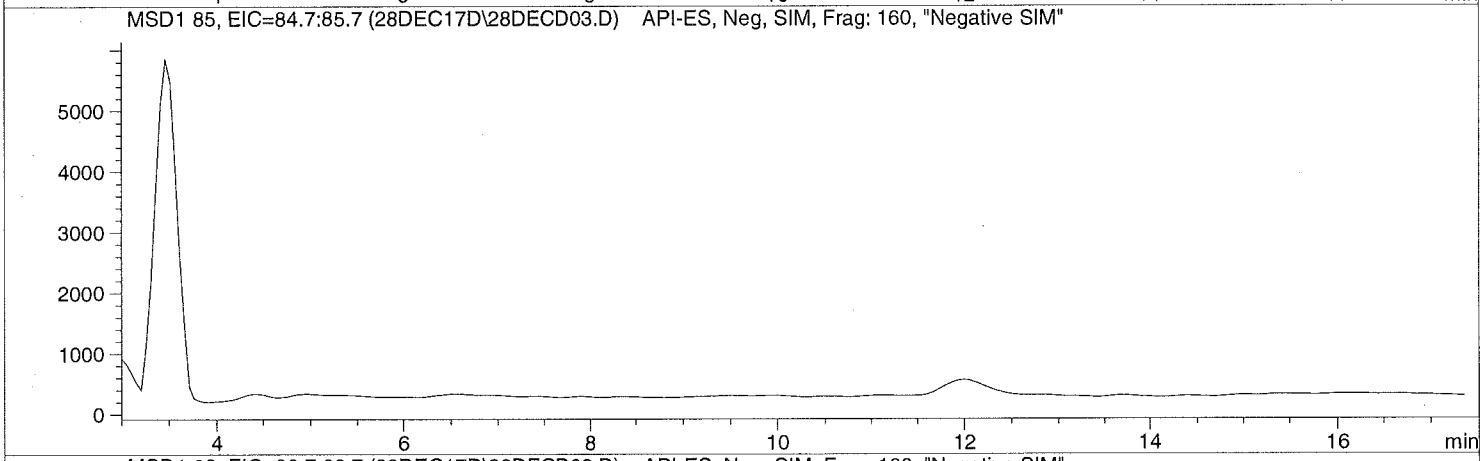
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD03.D Sample Name: 581171 ICS@1.

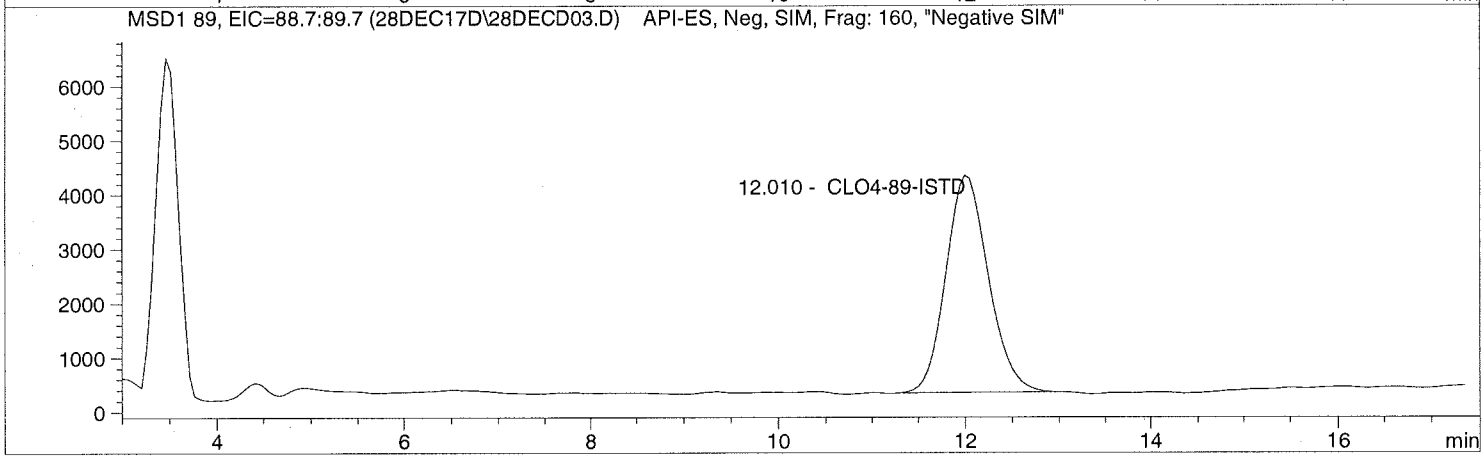
Injection Date:	12/28/2017 11:30:49	Seq Line:	3
Sample Name:	581171 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD03.D Sample Name: 581171 ICS@1.

Injection Date:	12/28/2017 11:30:49	Seq Line:	3
Sample Name:	581171 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
11.986	BBA	24593.0	0.9244	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
12.010	PBA	126199.8	5.0000	CLO4-89-ISTD

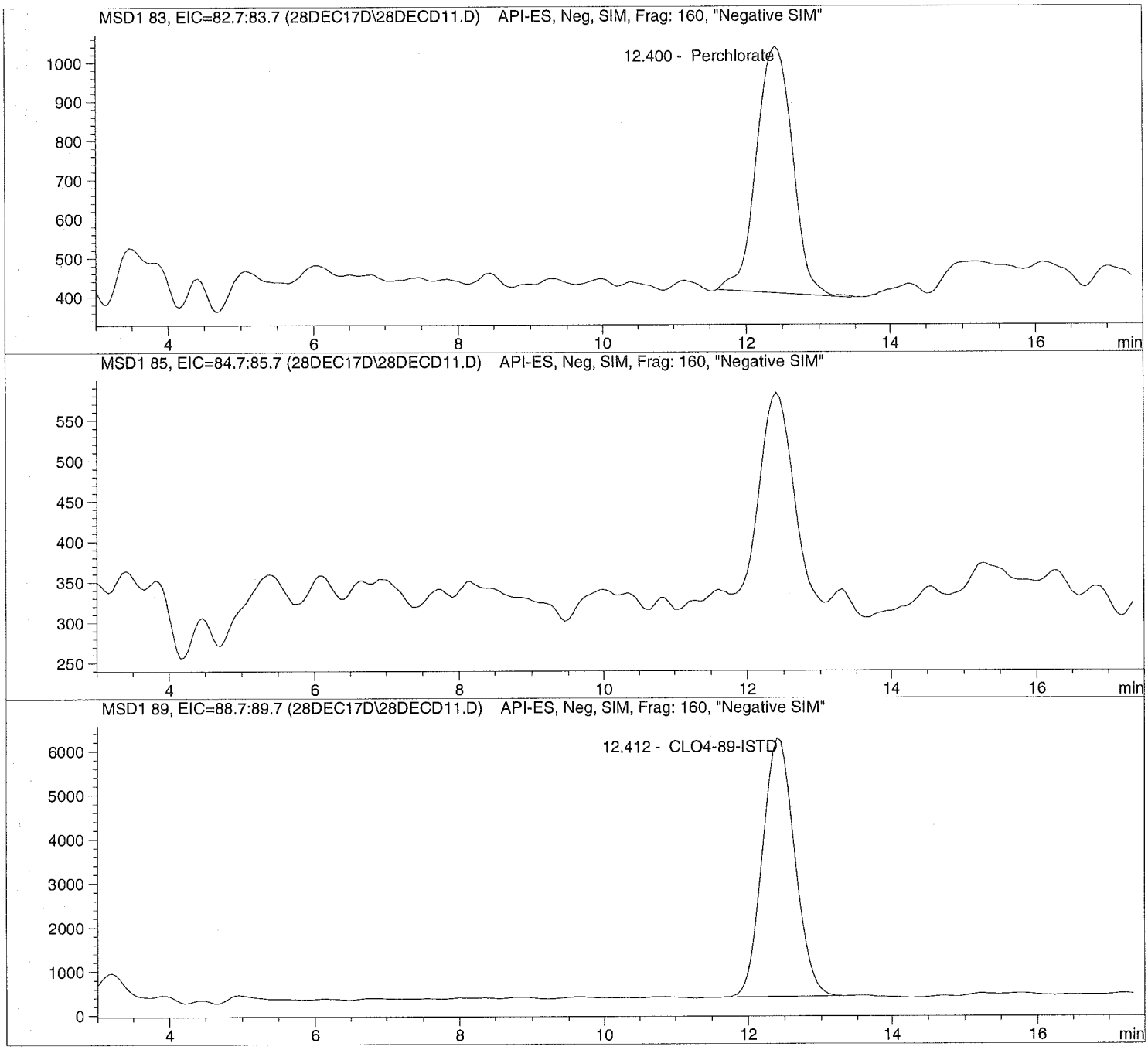
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD11.D Sample Name: 1735685004 100

Injection Date:	12/28/2017 14:08:36	Seq Line:	11
Sample Name:	1735685004 100	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\28DEC17D\28DECD11.D Sample Name: 1735685004 100

Injection Date:	12/28/2017 14:08:36	Seq Line:	11
Sample Name:	1735685004 100	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:	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
12.400	PBA	21505.4	58.0909	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
12.412	BBA	178775.9	500.0000	CLO4-89-ISTD

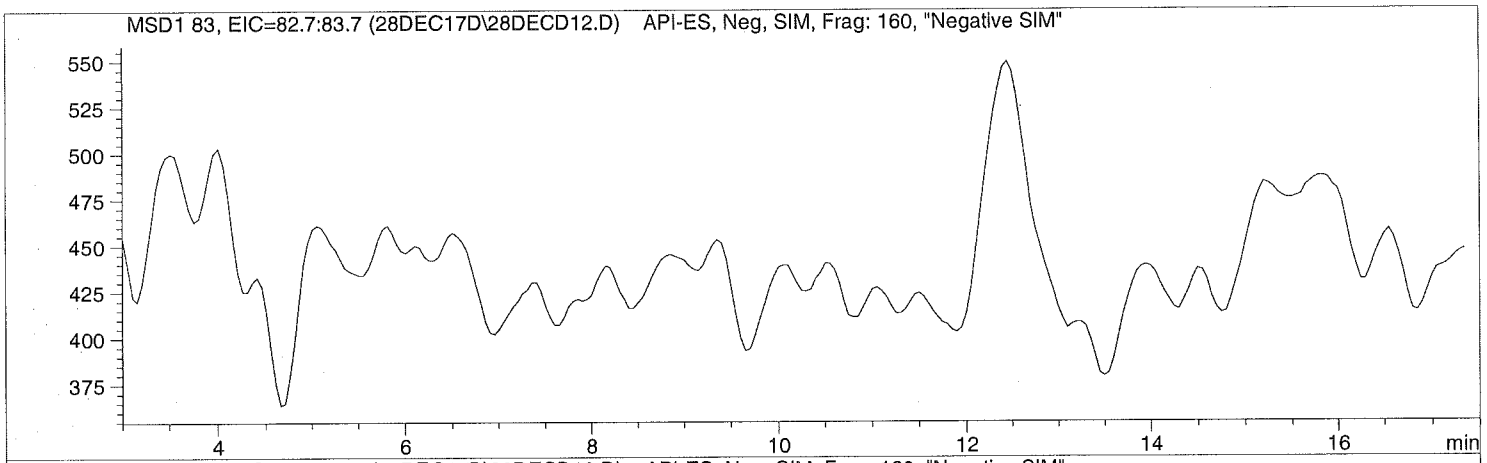
*** End of Report ***

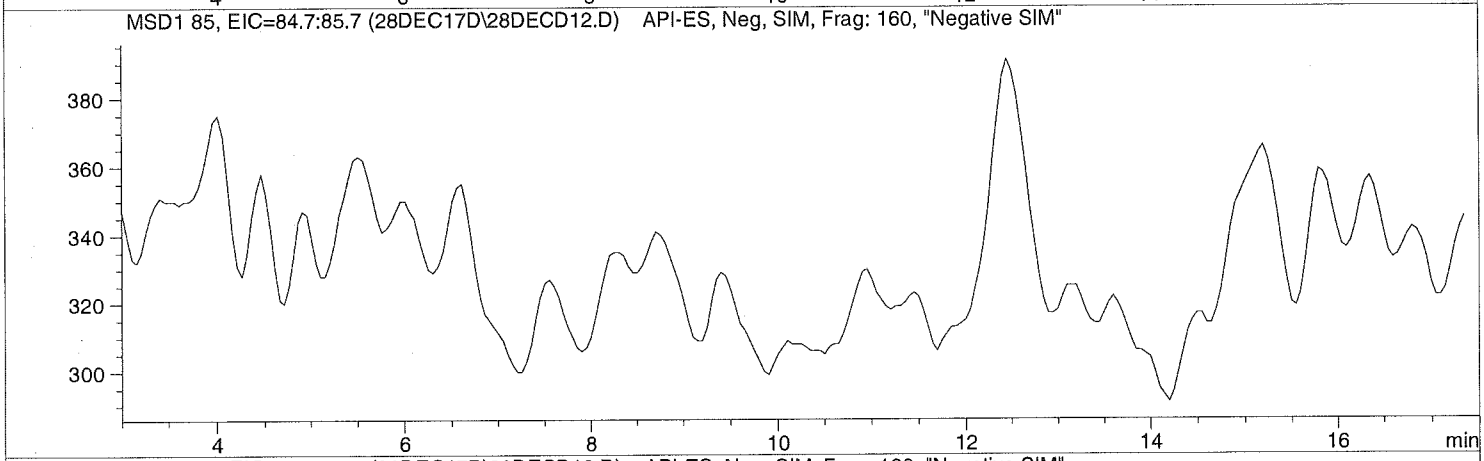
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD12.D Sample Name: 1735685005 100

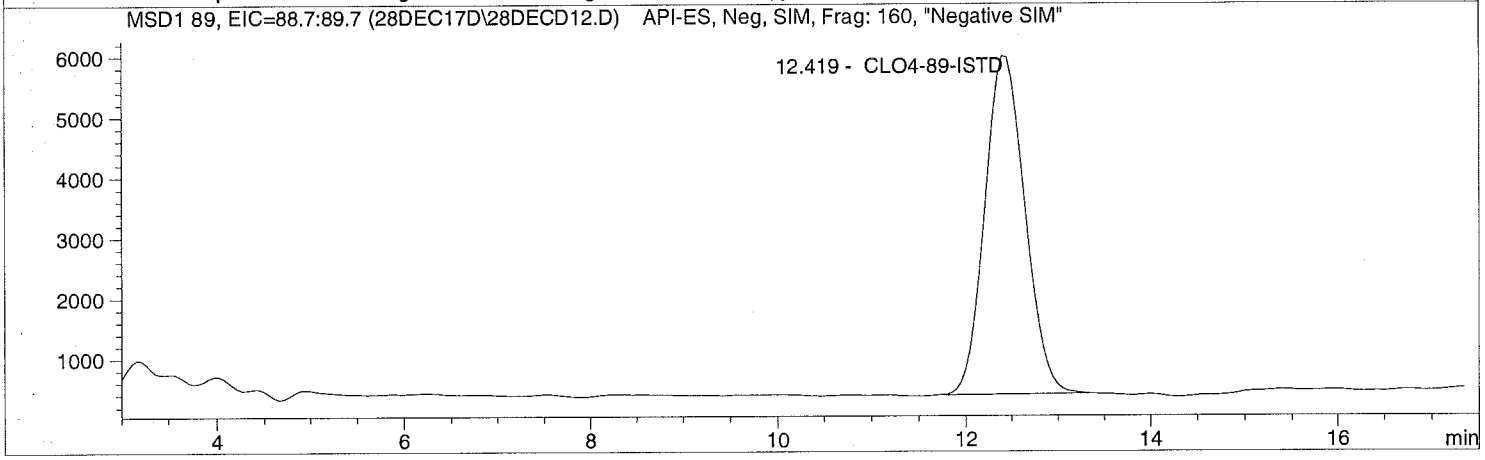
Injection Date:	12/28/2017 14:27:43	Seq Line:	12
Sample Name:	1735685005 100	Location:	Vial 82
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD12.D Sample Name: 1735685005 100

Injection Date:	12/28/2017 14:27:43	Seq Line:	12
Sample Name:	1735685005 100	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:	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
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
12.419	BBA	167796.2	500.0000	CLO4-89-ISTD

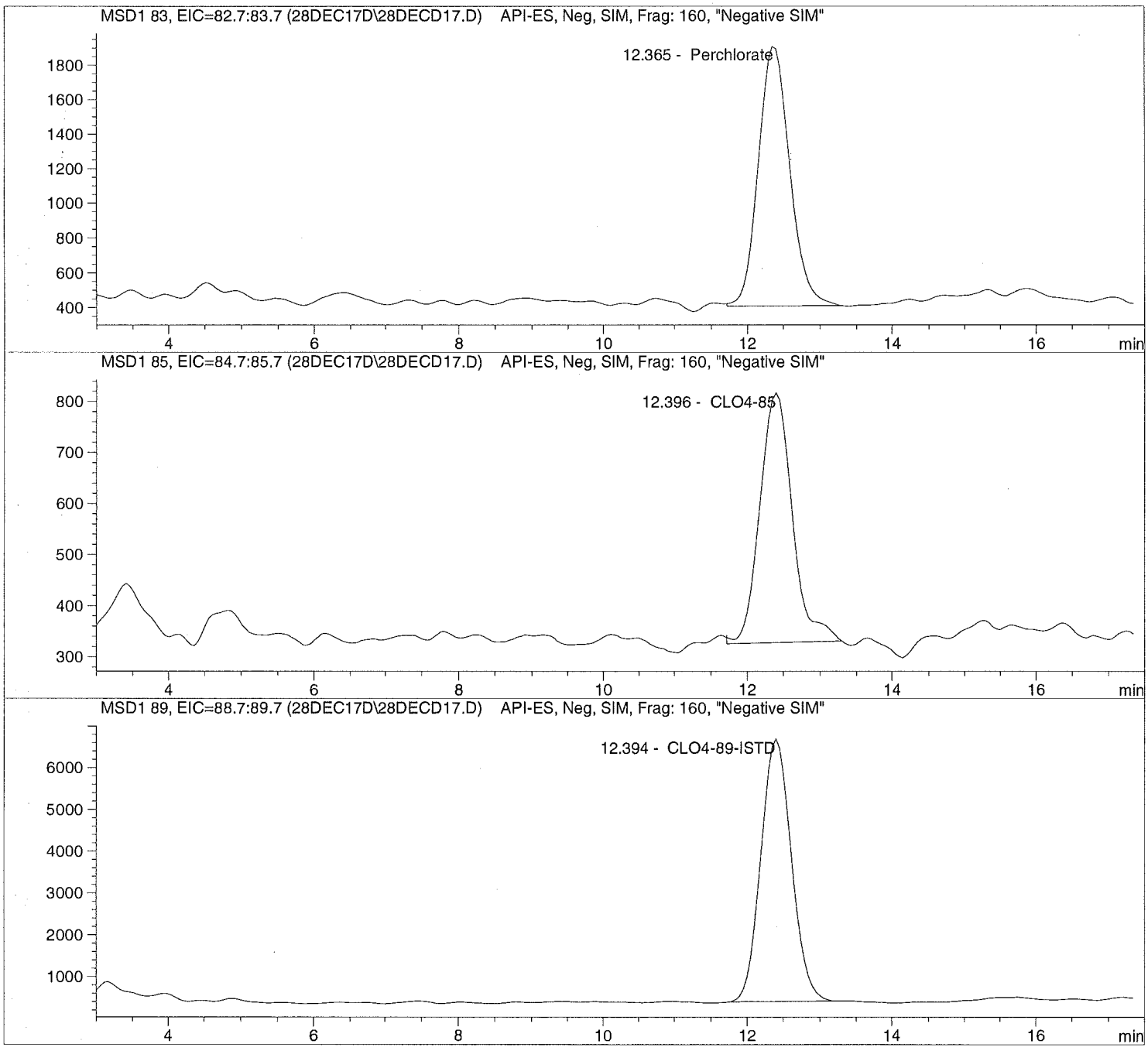
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD17.D Sample Name: 581177 LODV@1.

Injection Date:	12/28/2017 16:03:29	Seq Line:	17
Sample Name:	581177 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\28DEC17D\28DECD17.D Sample Name: 581177 LODV@1.

Injection Date:	12/28/2017 16:03:29	Seq Line:	17
Sample Name:	581177 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
12.365	BBA	45116.8	1.1533	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.396	BBA	15199.4	0.9791	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.394	PBA	184350.1	5.0000	CLO4-89-ISTD

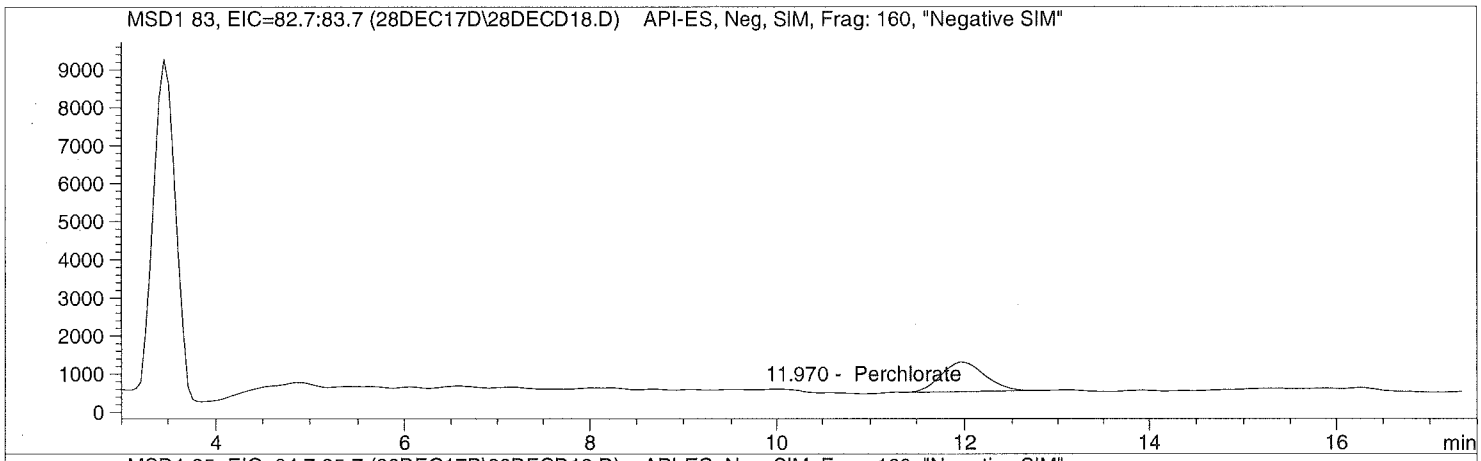
*** End of Report ***

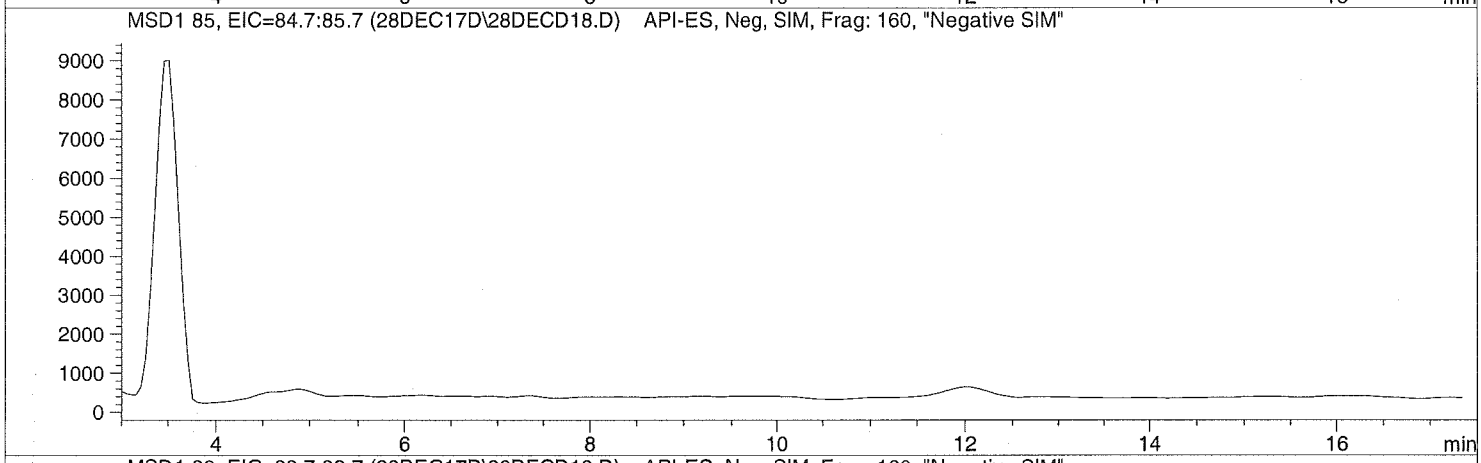
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD18.D Sample Name: 1735689001

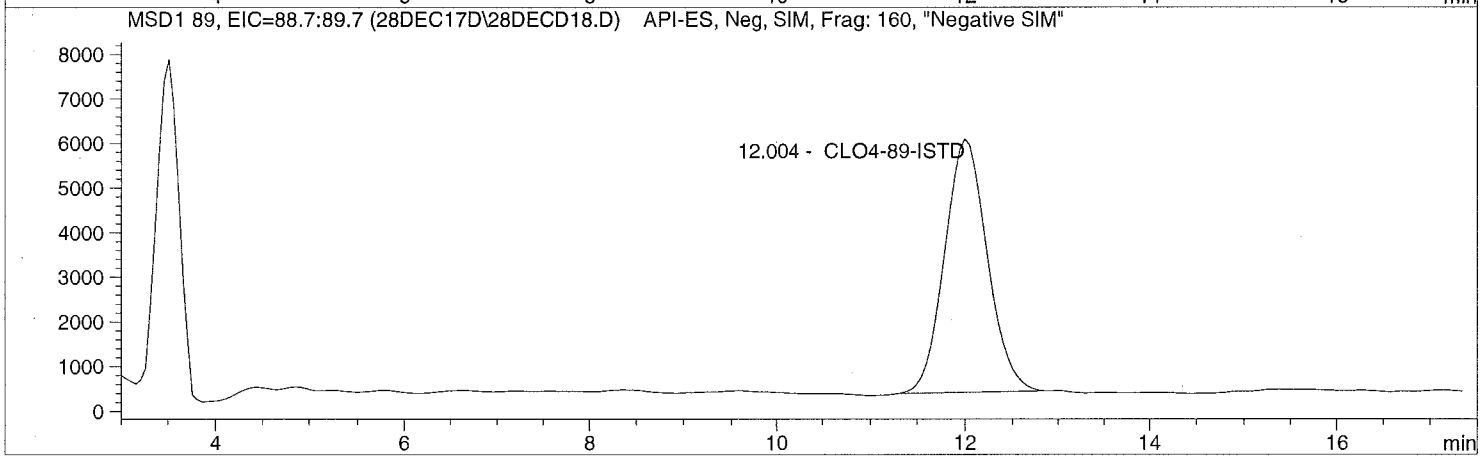
Injection Date:	12/28/2017 16:28:09	Seq Line:	18
Sample Name:	1735689001	Location:	Vial 86
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD18.D Sample Name: 1735689001

Injection Date:	12/28/2017 16:28:09	Seq Line:	18
Sample Name:	1735689001	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
11.970	BBA	24877.5	0.6828	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
12.004	BBA	174711.9	5.0000	CLO4-89-ISTD

*** End of Report ***

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www.alsglobal.com

WorkOrder: HS17121168

Groundwater Treatment Plant Quarterly Effluent Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

13-Feb-2018

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

January 11, 2018

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

Work Order: **HS17121168**

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

Dear Marcia,

ALS Environmental received 2 sample(s) on Dec 21, 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: Groundwater Treatment Plant Quarterly Effluent Samples
Work Order: HS17121168

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS17121168-01	LH18/24-SP650_122017	Water		20-Dec-2017 14:00	21-Dec-2017 09:40	☐
HS17121168-02	Trip Blank	Water	ALS-112117-32	20-Dec-2017 00:00	21-Dec-2017 09:40	☐

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Groundwater Treatment Plant Quarterly Effluent Samples
Work Order: HS17121168

Work Order Comments

• The analysis for Perchlorate was subcontracted to ALS Environmental in Salt Lake City, UT.

GCMS Semivolatiles by Method SW8270SIM

Batch ID: 123757

Sample ID: LCS-123757

• Low area counts for Acenaphthene-d10 and Phenanthrene-d10, they are not associated with target compounds.

Sample ID: LH18/24-SP650_122017 (HS17121168-01)

• One or more surrogate recoveries were above the upper control limits.

Sample ID: LCSD-123757

• LCSD RPD recovered above the RPD limit for Nitrobenzene-d5

GCMS Volatiles by Method SW8260

Batch ID: R308234

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

Metals by Method SW7470

Batch ID: 124068

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

Metals by Method SW6020

Batch ID: 124039

Sample ID: HS17121169-01MS

• MS/MSD and DUPs are for an unrelated sample

WetChemistry by Method SW9056

Batch ID: R308643

Sample ID: CCB

• All reported samples bracketed by this CCB are 10 times greater than the Chloride content in this CCB.

WetChemistry by Method E410.4

Batch ID: R308618

Sample ID: LH18/24-SP650_122017 (HS17121168-01)

• Diltution due to high chloride

WetChemistry by Method E1664A

Batch ID: R308604

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Groundwater Treatment Plant Quarterly Effluent Samples
Work Order: HS17121168

WetChemistry by Method E1664A

ALS Group USA, Corp Date: 11-Jan-18

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

Project: Groundwater Treatment Plant Quarterly Effluent Samples WorkOrder:HS17121168

Sample ID: LH18/24-SP650_122017 Lab ID:HS17121168-01

Collection Date: 20-Dec-2017 14:00 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	31-Dec-2017 17:45
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:45
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 17:45
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:45
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:45
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:45
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:45
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 17:45
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 17:45
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 17:45
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:45
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:45
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:45
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 17:45
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:45
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 17:45
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:45
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 17:45
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:45
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 17:45
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:45
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	31-Dec-2017 17:45
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:45
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	31-Dec-2017 17:45
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 17:45
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:45
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	31-Dec-2017 17:45
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	31-Dec-2017 17:45
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:45
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 17:45
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:45
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:45
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 17:45
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 17:45
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	31-Dec-2017 17:45
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 17:45
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:45
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:45

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. **ANALYTICAL REPORT**
Project: Groundwater Treatment Plant Quarterly Effluent Samples WorkOrder:HS17121168
Sample ID: LH18/24-SP650_122017 Lab ID:HS17121168-01
Collection Date: 20-Dec-2017 14:00 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	31-Dec-2017 17:45
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:45
cis-1,2-Dichloroethene	**4.1**		**0.20**	**0.50**	**1.0**	**ug/L**	1	31-Dec-2017 17:45
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	31-Dec-2017 17:45
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:45
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:45
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:45
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:45
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	31-Dec-2017 17:45
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:45
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	31-Dec-2017 17:45
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	31-Dec-2017 17:45
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 17:45
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:45
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:45
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:45
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:45
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:45
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:45
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:45
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:45
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:45
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:45
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:45
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:45
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:45
Surr: 1,2-Dichloroethane-d4	*90.3*			**0**	*81-118*	*%REC*	*1*	*31-Dec-2017 17:45*
Surr: 4-Bromofluorobenzene	*99.1*			**0**	*85-114*	*%REC*	*1*	*31-Dec-2017 17:45*
Surr: Dibromofluoromethane	*99.7*			**0**	*80-119*	*%REC*	*1*	*31-Dec-2017 17:45*
Surr: Toluene-d8	*96.8*			**0**	*89-112*	*%REC*	*1*	*31-Dec-2017 17:45*
SEMIVOLATILES SIM		**Method:SW8270SIM**				Prep:SW3510 / 22-Dec-2017		Analyst: ACN
1,4-Dioxane	**2.9**		**0.10**	**0.10**	**0.10**	**ug/L**	10	09-Jan-2018 16:40
Surr: 2-Fluorobiphenyl	*174*	*S*		**0**	*40-140*	*%REC*	*10*	*09-Jan-2018 16:40*
Surr: 4-Terphenyl-d14	*129*			**0**	*40-140*	*%REC*	*10*	*09-Jan-2018 16:40*
Surr: Nitrobenzene-d5	*57.1*			**0**	*40-140*	*%REC*	*10*	*09-Jan-2018 16:40*

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.
ANALYTICAL REPORT
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder:HS17121168
Sample ID: LH18/24-SP650_122017
Lab ID:HS17121168-01
Collection Date: 20-Dec-2017 14:00
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 04-Jan-2018		Analyst: JDE
Aluminum	**0.00533**	J	**0.00180**	**0.00500**	**0.0100**	**mg/L**	1	05-Jan-2018 12:56
Antimony	0.00100	U	0.000400	0.00100	0.00200	mg/L	1	05-Jan-2018 12:56
Arsenic	**0.000623**	J	**0.000400**	**0.00100**	**0.00200**	**mg/L**	1	05-Jan-2018 12:56
Barium	**0.200**		**0.00190**	**0.00250**	**0.00400**	**mg/L**	1	05-Jan-2018 12:56
Beryllium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	05-Jan-2018 12:56
Cadmium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	05-Jan-2018 12:56
Calcium	**13.3**		**0.0340**	**0.100**	**0.500**	**mg/L**	1	05-Jan-2018 12:56
Chromium	0.00100	U	0.000400	0.00100	0.00400	mg/L	1	05-Jan-2018 12:56
Cobalt	0.00100	U	0.000200	0.00100	0.00500	mg/L	1	05-Jan-2018 12:56
Iron	**0.0174**	J	**0.0120**	**0.100**	**0.200**	**mg/L**	1	05-Jan-2018 12:56
Lead	0.00100	U	0.000600	0.00100	0.00200	mg/L	1	05-Jan-2018 12:56
Magnesium	**23.6**		**0.0100**	**0.100**	**0.200**	**mg/L**	1	05-Jan-2018 12:56
Manganese	**0.0531**		**0.000700**	**0.00100**	**0.00500**	**mg/L**	1	05-Jan-2018 12:56
Nickel	**0.00184**	J	**0.000600**	**0.00100**	**0.00200**	**mg/L**	1	05-Jan-2018 12:56
Potassium	**2.00**		**0.0180**	**0.100**	**0.200**	**mg/L**	1	05-Jan-2018 12:56
Selenium	0.00200	U	0.00110	0.00200	0.00200	mg/L	1	05-Jan-2018 12:56
Silver	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	05-Jan-2018 12:56
Sodium	**538**		**0.0700**	**0.500**	**1.00**	**mg/L**	5	05-Jan-2018 17:14
Thallium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	05-Jan-2018 12:56
Vanadium	0.00100	U	0.000600	0.00100	0.00500	mg/L	1	05-Jan-2018 12:56
Zinc	**0.00385**	J	**0.00200**	**0.00250**	**0.00400**	**mg/L**	1	05-Jan-2018 12:56
MERCURY BY SW7470A		**Method:SW7470**				Prep:SW7470 / 05-Jan-2018		Analyst: JCJ
Mercury	0.000100	U	0.0000300	0.000100	0.000200	mg/L	1	05-Jan-2018 14:13
OIL & GREASE (HEM) BY E1664A		**Method:E1664A**						Analyst: KAH
Oil and Grease	1.00	U	0.610	1.00	2.00	mg/L	1	08-Jan-2018 11:00
CHEMICAL OXYGEN DEMAND BY E410.4		**Method:E410.4**						Analyst: AJH
Chemical Oxygen Demand	**105**		**25.0**	**37.5**	**75.0**	**mg/L**	5	08-Jan-2018 16:00
ANIONS BY SW9056A		**Method:SW9056**						Analyst: KMU
Chloride	**583**		**4.00**	**5.00**	**10.0**	**mg/L**	20	08-Jan-2018 22:08
Sulfate	**56.5**		**1.00**	**1.25**	**2.50**	**mg/L**	5	08-Jan-2018 22:52
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. **ANALYTICAL REPORT**

Project: Groundwater Treatment Plant Quarterly Effluent Samples WorkOrder:HS17121168

Sample ID: Trip Blank Lab ID:HS17121168-02

Collection Date: 20-Dec-2017 00:00 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	31-Dec-2017 16:06
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:06
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 16:06
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:06
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:06
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:06
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:06
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 16:06
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 16:06
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 16:06
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:06
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:06
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:06
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 16:06
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:06
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 16:06
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:06
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 16:06
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:06
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 16:06
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:06
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	31-Dec-2017 16:06
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:06
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	31-Dec-2017 16:06
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 16:06
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:06
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	31-Dec-2017 16:06
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	31-Dec-2017 16:06
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:06
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 16:06
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:06
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:06
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 16:06
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 16:06
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	31-Dec-2017 16:06
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 16:06
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:06
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:06

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. **ANALYTICAL REPORT**

Project: Groundwater Treatment Plant Quarterly Effluent Samples WorkOrder:HS17121168

Sample ID: Trip Blank Lab ID:HS17121168-02

Collection Date: 20-Dec-2017 00:00 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	31-Dec-2017 16:06
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:06
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:06
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	31-Dec-2017 16:06
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:06
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:06
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:06
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:06
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	31-Dec-2017 16:06
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:06
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	31-Dec-2017 16:06
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	31-Dec-2017 16:06
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 16:06
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:06
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:06
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:06
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:06
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:06
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:06
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:06
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:06
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:06
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:06
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:06
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:06
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:06
Surr: 1,2-Dichloroethane-d4	*91.2*			**0**	*81-118*	*%REC*	*1*	*31-Dec-2017 16:06*
Surr: 4-Bromofluorobenzene	*96.9*			**0**	*85-114*	*%REC*	*1*	*31-Dec-2017 16:06*
Surr: Dibromofluoromethane	*98.4*			**0**	*80-119*	*%REC*	*1*	*31-Dec-2017 16:06*
Surr: Toluene-d8	*96.7*			**0**	*89-112*	*%REC*	*1*	*31-Dec-2017 16:06*

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: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Batch ID: 123757 **Method:** SEMIVOLATILES SIM **Prep:** 3510_B_SIM

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS17121168-01	1	980	1 (mL)	0.00102

Batch ID: 124039 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS17121168-01	1	10	10 (mL)	1

Batch ID: 124068 **Method:** MERCURY BY SW7470A **Prep:** HG_WPR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS17121168-01	1	10	10 (mL)	1

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 123757	**Test Name :** SEMIVOLATILES SIM			**Matrix:** Water		
HS17121168-01	LH18/24-SP650_122017	20 Dec 2017 14:00		22 Dec 2017 16:00	09 Jan 2018 16:40	10
Batch ID 124039	**Test Name :** ICP-MS METALS BY SW6020A			**Matrix:** Water		
HS17121168-01	LH18/24-SP650_122017	20 Dec 2017 14:00		04 Jan 2018 12:18	05 Jan 2018 17:14	5
HS17121168-01	LH18/24-SP650_122017	20 Dec 2017 14:00		04 Jan 2018 12:18	05 Jan 2018 12:56	1
Batch ID 124068	**Test Name :** MERCURY BY SW7470A			**Matrix:** Water		
HS17121168-01	LH18/24-SP650_122017	20 Dec 2017 14:00		05 Jan 2018 11:12	05 Jan 2018 14:13	1
Batch ID R308234	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C			**Matrix:** Water		
HS17121168-01	LH18/24-SP650_122017	20 Dec 2017 14:00			31 Dec 2017 17:45	1
HS17121168-02	Trip Blank	20 Dec 2017 00:00			31 Dec 2017 16:06	1
Batch ID R308604	**Test Name :** OIL & GREASE (HEM) BY E1664A			**Matrix:** Water		
HS17121168-01	LH18/24-SP650_122017	20 Dec 2017 14:00			08 Jan 2018 11:00	1
Batch ID R308618	**Test Name :** CHEMICAL OXYGEN DEMAND BY E410.4			**Matrix:** Water		
HS17121168-01	LH18/24-SP650_122017	20 Dec 2017 14:00			08 Jan 2018 16:00	5
Batch ID R308643	**Test Name :** ANIONS BY SW9056A			**Matrix:** Water		
HS17121168-01	LH18/24-SP650_122017	20 Dec 2017 14:00			08 Jan 2018 22:52	5
HS17121168-01	LH18/24-SP650_122017	20 Dec 2017 14:00			08 Jan 2018 22:08	20
Batch ID R308777	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)			**Matrix:** Water		
HS17121168-01	LH18/24-SP650_122017	20 Dec 2017 14:00			11 Jan 2018 09:13	1

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

QC BATCH REPORT

Batch ID: 124039 **Instrument: ICPMS04** **Method: SW6020**

MBLK Sample ID: **MBLK-124039** Units: **mg/L** Analysis Date: **05-Jan-2018 12:52**
Client ID: Run ID: **ICPMS04_308513** SeqNo: **4382579** PrepDate: **04-Jan-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.003836	0.0100								J
Antimony	0.000414	0.00200								J
Arsenic	0.00100	0.00200								U
Barium	0.00250	0.00400								U
Beryllium	0.00100	0.00200								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
Iron	0.100	0.200								U
Lead	0.00100	0.00200								U
Magnesium	0.100	0.200								U
Manganese	0.00100	0.00500								U
Nickel	0.00100	0.00200								U
Potassium	0.1187	0.200								J
Selenium	0.00200	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

MBLK Sample ID: **MBLK-124039** Units: **mg/L** Analysis Date: **05-Jan-2018 17:59**
Client ID: Run ID: **ICPMS04_308513** SeqNo: **4383227** PrepDate: **04-Jan-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Zinc	0.002768	0.00400								J

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: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

QC BATCH REPORT

Batch ID: 124039 **Instrument: ICPMS04** **Method: SW6020**

LCS Sample ID: **LCS-124039** Units: **mg/L** Analysis Date: **05-Jan-2018 12:54**
Client ID: Run ID: **ICPMS04_308513** SeqNo: **4382580** PrepDate: **04-Jan-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1054	0.0100	0.1	0	105	80 - 120				
Antimony	0.05156	0.00200	0.05	0	103	80 - 120				
Arsenic	0.04974	0.00200	0.05	0	99.5	80 - 120				
Barium	0.04885	0.00400	0.05	0	97.7	80 - 120				
Beryllium	0.05003	0.00200	0.05	0	100	80 - 120				
Cadmium	0.04997	0.00200	0.05	0	99.9	80 - 120				
Calcium	4.952	0.500	5	0	99.0	80 - 120				
Chromium	0.05099	0.00400	0.05	0	102	80 - 120				
Cobalt	0.04969	0.00500	0.05	0	99.4	80 - 120				
Iron	5.175	0.200	5	0	104	80 - 120				
Lead	0.04874	0.00200	0.05	0	97.5	80 - 120				
Magnesium	5.149	0.200	5	0	103	80 - 120				
Manganese	0.04927	0.00500	0.05	0	98.5	80 - 120				
Nickel	0.05052	0.00200	0.05	0	101	80 - 120				
Potassium	5.156	0.200	5	0	103	80 - 120				
Selenium	0.0508	0.00200	0.05	0	102	80 - 120				
Silver	0.04994	0.00200	0.05	0	99.9	80 - 120				
Sodium	5.11	0.200	5	0	102	80 - 120				
Thallium	0.04789	0.00200	0.05	0	95.8	80 - 120				
Vanadium	0.04828	0.00500	0.05	0	96.6	80 - 120				
Zinc	0.05156	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: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

QC BATCH REPORT

Batch ID: 124039 **Instrument: ICPMS04** **Method: SW6020**

MS Sample ID: **HS17121169-01MS** Units: **mg/L** Analysis Date: **05-Jan-2018 13:03**
Client ID: Run ID: **ICPMS04_308513** SeqNo: **4382584** PrepDate: **04-Jan-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Aluminum	0.1477	0.0100	0.1	0.04991	97.8	80 - 120			
Antimony	0.04878	0.00200	0.05	0.000843	95.9	80 - 120			
Arsenic	0.05114	0.00200	0.05	0.001429	99.4	80 - 120			
Barium	0.7045	0.00400	0.05	0.6795	50.0	80 - 120			SO
Beryllium	0.04968	0.00200	0.05	0.000089	99.2	80 - 120			
Cadmium	0.04733	0.00200	0.05	0.000326	94.0	80 - 120			
Calcium	45.13	0.500	5	40.33	96.1	80 - 120			O
Chromium	0.04892	0.00400	0.05	0.0019	94.0	80 - 120			
Cobalt	0.05523	0.00500	0.05	0.008769	92.9	80 - 120			
Iron	5.774	0.200	5	0.8909	97.7	80 - 120			
Lead	0.04683	0.00200	0.05	0.000257	93.2	80 - 120			
Magnesium	35.5	0.200	5	32.37	62.6	80 - 120			SO
Manganese	0.5631	0.00500	0.05	0.5244	77.4	80 - 120			SO
Nickel	0.05984	0.00200	0.05	0.01395	91.8	80 - 120			
Potassium	6.515	0.200	5	1.644	97.4	80 - 120			
Selenium	0.05077	0.00200	0.05	0.00049	101	80 - 120			
Silver	0.04521	0.00200	0.05	-0.000011	90.4	80 - 120			
Sodium	243.6	0.200	5	240.3	67.7	80 - 120			SEO
Thallium	0.04548	0.00200	0.05	-0.000005	91.0	80 - 120			
Vanadium	0.04768	0.00500	0.05	0.000627	94.1	80 - 120			
Zinc	0.1683	0.00400	0.05	0.1207	95.2	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: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

QC BATCH REPORT

Batch ID: 124039 **Instrument: ICPMS04** **Method: SW6020**

MSD Sample ID: **HS17121169-01MSD** Units: **mg/L** Analysis Date: **05-Jan-2018 13:05**
Client ID: Run ID: **ICPMS04_308513** SeqNo: **4382585** PrepDate: **04-Jan-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1535	0.0100	0.1	0.04991	104	80 - 120	0.1477	3.84	20	
Antimony	0.05006	0.00200	0.05	0.000843	98.4	80 - 120	0.04878	2.6	20	
Arsenic	0.04934	0.00200	0.05	0.001429	95.8	80 - 120	0.05114	3.59	20	
Barium	0.7221	0.00400	0.05	0.6795	85.3	80 - 120	0.7045	2.47	20	O
Beryllium	0.05056	0.00200	0.05	0.000089	101	80 - 120	0.04968	1.74	20	
Cadmium	0.04705	0.00200	0.05	0.000326	93.4	80 - 120	0.04733	0.593	20	
Calcium	45.63	0.500	5	40.33	106	80 - 120	45.13	1.11	20	O
Chromium	0.05302	0.00400	0.05	0.0019	102	80 - 120	0.04892	8.06	20	
Cobalt	0.05764	0.00500	0.05	0.008769	97.8	80 - 120	0.05523	4.28	20	
Iron	5.944	0.200	5	0.8909	101	80 - 120	5.774	2.9	20	
Lead	0.0477	0.00200	0.05	0.000257	94.9	80 - 120	0.04683	1.83	20	
Magnesium	37.09	0.200	5	32.37	94.3	80 - 120	35.5	4.37	20	O
Manganese	0.5828	0.00500	0.05	0.5244	117	80 - 120	0.5631	3.44	20	O
Nickel	0.06242	0.00200	0.05	0.01395	97.0	80 - 120	0.05984	4.22	20	
Potassium	6.661	0.200	5	1.644	100	80 - 120	6.515	2.23	20	
Selenium	0.0422	0.00200	0.05	0.00049	83.4	80 - 120	0.05077	18.4	20	
Silver	0.04737	0.00200	0.05	-0.000011	94.8	80 - 120	0.04521	4.66	20	
Sodium	253.4	0.200	5	240.3	262	80 - 120	243.6	3.91	20	SEO
Thallium	0.0458	0.00200	0.05	-0.000005	91.6	80 - 120	0.04548	0.703	20	
Vanadium	0.04892	0.00500	0.05	0.000627	96.6	80 - 120	0.04768	2.57	20	
Zinc	0.1734	0.00400	0.05	0.1207	106	80 - 120	0.1683	3.02	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: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

QC BATCH REPORT

Batch ID: 124039 **Instrument: ICPMS04** **Method: SW6020**

PDS Sample ID: **HS17121169-01PDS** Units: **mg/L** Analysis Date: **05-Jan-2018 13:07**
Client ID: Run ID: **ICPMS04_308513** SeqNo: **4382586** PrepDate: **04-Jan-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1511	0.0100	0.1	0.04991	101	75 - 125				
Antimony	0.09514	0.00200	0.1	0.000843	94.3	75 - 125				
Arsenic	0.1002	0.00200	0.1	0.001429	98.8	75 - 125				
Barium	0.7605	0.00400	0.1	0.6795	81.0	75 - 125				O
Beryllium	0.1132	0.00200	0.1	0.000089	113	75 - 125				
Cadmium	0.09741	0.00200	0.1	0.000326	97.1	75 - 125				
Calcium	51.81	0.500	10	40.33	115	75 - 125				O
Chromium	0.1033	0.00400	0.1	0.0019	101	75 - 125				
Cobalt	0.1075	0.00500	0.1	0.008769	98.8	75 - 125				
Iron	11.07	0.200	10	0.8909	102	75 - 125				
Lead	0.09863	0.00200	0.1	0.000257	98.4	75 - 125				
Magnesium	41.24	0.200	10	32.37	88.7	75 - 125				
Manganese	0.6169	0.00500	0.1	0.5244	92.5	75 - 125				O
Nickel	0.111	0.00200	0.1	0.01395	97.0	75 - 125				
Potassium	12.1	0.200	10	1.644	105	75 - 125				
Selenium	0.1132	0.00200	0.1	0.00049	113	75 - 125				
Silver	0.09771	0.00200	0.1	-0.000011	97.7	75 - 125				
Thallium	0.09934	0.00200	0.1	-0.000005	99.4	75 - 125				
Vanadium	0.1022	0.00500	0.1	0.000627	102	75 - 125				
Zinc	0.223	0.00400	0.1	0.1207	102	75 - 125				

PDS Sample ID: **HS17121169-01PDS** Units: **mg/L** Analysis Date: **05-Jan-2018 20:19**
Client ID: Run ID: **ICPMS04_308513** SeqNo: **4383320** PrepDate: **04-Jan-2018** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium	270.2	1.00	50	240.3	60.0	75 - 125				SO

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: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

QC BATCH REPORT

Batch ID: 124039 **Instrument: ICPMS04** **Method: SW6020**

SD Sample ID: **HS17121169-01SD** Units: **mg/L** Analysis Date: **05-Jan-2018 13:00**
Client ID: Run ID: **ICPMS04_308513** SeqNo: **4382583** PrepDate: **04-Jan-2018** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Aluminum	0.05321	0.0500					0.04991	0	10	
Antimony	0.00500	0.0100					0.000843	0	10	U
Arsenic	0.00500	0.0100					0.001429	0	10	U
Barium	0.6468	0.0200					0.6795	4.8	10	
Beryllium	0.00500	0.0100					0.000089	0	10	U
Cadmium	0.00500	0.0100					0.000326	0	10	U
Calcium	38.07	2.50					40.33	5.59	10	
Chromium	0.00500	0.0200					0.0019	0	10	U
Cobalt	0.008292	0.0250					0.008769	0	10	J
Iron	0.8531	1.00					0.8909	0	10	J
Lead	0.00500	0.0100					0.000257	0	10	U
Magnesium	32.64	1.00					32.37	0.824	10	
Manganese	0.5058	0.0250					0.5244	3.55	10	
Nickel	0.01425	0.0100					0.01395	2.16	10	
Potassium	1.78	1.00					1.644	8.25	10	
Selenium	0.0100	0.0100					0.00049	0	10	U
Silver	0.00500	0.0100					-0.000011	0	10	U
Thallium	0.00500	0.0100					-0.000005	0	10	U
Vanadium	0.00500	0.0250					0.000627	0	10	U
Zinc	0.1103	0.0200					0.1207	8.57	10	

SD Sample ID: **HS17121169-01SD** Units: **mg/L** Analysis Date: **05-Jan-2018 20:17**
Client ID: Run ID: **ICPMS04_308513** SeqNo: **4383319** PrepDate: **04-Jan-2018** DF: **25**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Sodium	220.5	5.00					224	1.57	10	

The following samples were analyzed in this batch: HS17121168-01

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: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

QC BATCH REPORT

Batch ID: 124068 **Instrument: HG03** **Method: SW7470**

MBLK Sample ID: **MBLK-124068** Units: **mg/L** Analysis Date: **05-Jan-2018 14:06**
Client ID: Run ID: **HG03_308532** SeqNo: **4382981** PrepDate: **05-Jan-2018** 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-124068** Units: **mg/L** Analysis Date: **05-Jan-2018 14:08**
Client ID: Run ID: **HG03_308532** SeqNo: **4382982** PrepDate: **05-Jan-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00518	0.000200	0.005	0	104	80 - 120				

MS Sample ID: **HS17121224-05MS** Units: **mg/L** Analysis Date: **05-Jan-2018 14:23**
Client ID: Run ID: **HG03_308532** SeqNo: **4382991** PrepDate: **05-Jan-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00503	0.000200	0.005	0.000009	100	75 - 125				

MSD Sample ID: **HS17121224-05MSD** Units: **mg/L** Analysis Date: **05-Jan-2018 14:25**
Client ID: Run ID: **HG03_308532** SeqNo: **4382992** PrepDate: **05-Jan-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00497	0.000200	0.005	0.000009	99.2	75 - 125	0.00503	1.2	20	

The following samples were analyzed in this batch: HS17121168-01

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: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

QC BATCH REPORT

Batch ID: 123757 **Instrument: SV-5** **Method: SW8270SIM**

MBLK Sample ID: **MBLK-123757** Units: **ug/L** Analysis Date: **09-Jan-2018 14:01**
Client ID: Run ID: **SV-5_308690** SeqNo: **4386307** PrepDate: **22-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.010	0.010								U
Surr: 2-Fluorobiphenyl	*0.0975*	*0*	*0.08*	*0*	*122*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.0869*	*0*	*0.08*	*0*	*109*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.06725*	*0*	*0.08*	*0*	*84.1*	*40 - 140*				

LCS Sample ID: **LCS-123757** Units: **ug/L** Analysis Date: **09-Jan-2018 18:13**
Client ID: Run ID: **SV-5_308690** SeqNo: **4386415** PrepDate: **22-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.06293	0.010	0.08	0	78.7	40 - 140				
Surr: 2-Fluorobiphenyl	*0.08228*	*0*	*0.08*	*0*	*103*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.07305*	*0*	*0.08*	*0*	*91.3*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.06459*	*0*	*0.08*	*0*	*80.7*	*40 - 140*				

LCSD Sample ID: **LCSD-123757** Units: **ug/L** Analysis Date: **09-Jan-2018 14:43**
Client ID: Run ID: **SV-5_308690** SeqNo: **4386309** PrepDate: **22-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.0687	0.010	0.08	0	85.9	40 - 140	0.06293	8.77	20	
Surr: 2-Fluorobiphenyl	*0.0905*	*0*	*0.08*	*0*	*113*	*40 - 140*	*0.08228*	*9.52*	*20*	
Surr: 4-Terphenyl-d14	*0.08437*	*0*	*0.08*	*0*	*105*	*40 - 140*	*0.07305*	*14.4*	*20*	
Surr: Nitrobenzene-d5	*0.0822*	*0*	*0.08*	*0*	*103*	*40 - 140*	*0.06459*	*24*	*20*	R

The following samples were analyzed in this batch: HS17121168-01

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: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

QC BATCH REPORT

Batch ID: R308234 **Instrument: VOA2** **Method: SW8260**

MBLK Sample ID: **VBLKW-171231** Units: **ug/L** Analysis Date: **31-Dec-2017 15:17**
Client ID: Run ID: **VOA2_308234** SeqNo: **4375147** 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: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

QC BATCH REPORT

Batch ID: R308234 **Instrument: VOA2** **Method: SW8260**

MBLK Sample ID: **VBLKW-171231** Units: **ug/L** Analysis Date: **31-Dec-2017 15:17**
Client ID: Run ID: **VOA2_308234** SeqNo: **4375147** 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	*45.6*	*1.0*	*50*	*0*	*91.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.04*	*1.0*	*50*	*0*	*96.1*	*85 - 114*				
Surr: Dibromofluoromethane	*49.22*	*1.0*	*50*	*0*	*98.4*	*80 - 119*				
Surr: Toluene-d8	*48.55*	*1.0*	*50*	*0*	*97.1*	*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: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

QC BATCH REPORT

Batch ID: R308234 **Instrument: VOA2** **Method: SW8260**

LCS Sample ID: **VLCSW-171231** Units: **ug/L** Analysis Date: **31-Dec-2017 14:28**
Client ID: Run ID: **VOA2_308234** SeqNo: **4375145** 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	47.86	1.0	50	0	95.7	78 - 124				
1,1,1-Trichloroethane	47.85	1.0	50	0	95.7	74 - 131				
1,1,2,2-Tetrachloroethane	41.54	1.0	50	0	83.1	71 - 121				
1,1,2-Trichloroethane	46.09	1.0	50	0	92.2	80 - 119				
1,1-Dichloroethane	46.48	1.0	50	0	93.0	77 - 125				
1,1-Dichloroethene	49.4	1.0	50	0	98.8	71 - 131				
1,1-Dichloropropene	51.32	1.0	50	0	103	79 - 125				
1,2,3-Trichlorobenzene	51.87	1.0	50	0	104	69 - 129				
1,2,3-Trichloropropane	44.61	1.0	50	0	89.2	73 - 122				
1,2,4-Trichlorobenzene	52.6	1.0	50	0	105	69 - 130				
1,2,4-Trimethylbenzene	42.39	1.0	50	0	84.8	76 - 124				
1,2-Dibromo-3-chloropropane	43.41	1.0	50	0	86.8	62 - 128				
1,2-Dibromoethane	48.3	1.0	50	0	96.6	77 - 121				
1,2-Dichlorobenzene	43.99	1.0	50	0	88.0	80 - 119				
1,2-Dichloroethane	49.28	1.0	50	0	98.6	73 - 128				
1,2-Dichloropropane	46.94	1.0	50	0	93.9	78 - 122				
1,3,5-Trimethylbenzene	43.25	1.0	50	0	86.5	75 - 124				
1,3-Dichlorobenzene	44.39	1.0	50	0	88.8	80 - 119				
1,3-Dichloropropane	45.35	1.0	50	0	90.7	80 - 119				
1,4-Dichlorobenzene	44.46	1.0	50	0	88.9	79 - 118				
2,2-Dichloropropane	50.02	1.0	50	0	100	60 - 139				
2-Butanone	86.86	2.0	100	0	86.9	56 - 143				
2-Chlorotoluene	42.25	1.0	50	0	84.5	79 - 122				
2-Hexanone	86.53	2.0	100	0	86.5	57 - 139				
4-Chlorotoluene	43.02	1.0	50	0	86.0	78 - 122				
4-Isopropyltoluene	44.78	1.0	50	0	89.6	77 - 127				
4-Methyl-2-pentanone	88.08	2.0	100	0	88.1	67 - 130				
Acetone	89.2	2.0	100	0	89.2	39 - 160				
Benzene	47.24	1.0	50	0	94.5	79 - 120				
Bromobenzene	43.78	1.0	50	0	87.6	80 - 120				
Bromochloromethane	49.33	1.0	50	0	98.7	78 - 123				
Bromodichloromethane	48.13	1.0	50	0	96.3	79 - 125				
Bromoform	50.51	1.0	50	0	101	66 - 130				
Bromomethane	54.19	1.0	50	0	108	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: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

QC BATCH REPORT

Batch ID: R308234 **Instrument: VOA2** **Method: SW8260**

LCS Sample ID: **VLCSW-171231** Units: **ug/L** Analysis Date: **31-Dec-2017 14:28**
Client ID: Run ID: **VOA2_308234** SeqNo: **4375145** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	98.72	2.0	100	0	98.7	64 - 133				
Carbon tetrachloride	40.99	1.0	50	0	82.0	72 - 136				
Chlorobenzene	46.43	1.0	50	0	92.9	80 - 120				
Chloroethane	43.11	1.0	50	0	86.2	82 - 118				
Chloroform	46.54	1.0	50	0	93.1	79 - 124				
Chloromethane	49.86	1.0	50	0	99.7	50 - 139				
cis-1,2-Dichloroethene	47.37	1.0	50	0	94.7	78 - 123				
cis-1,3-Dichloropropene	52.05	1.0	50	0	104	75 - 124				
Dibromochloromethane	48.61	1.0	50	0	97.2	74 - 126				
Dibromomethane	49.85	1.0	50	0	99.7	79 - 123				
Dichlorodifluoromethane	46.5	1.0	50	0	93.0	32 - 152				
Ethylbenzene	45.93	1.0	50	0	91.9	79 - 121				
Hexachlorobutadiene	50.83	1.0	50	0	102	66 - 134				
Isopropylbenzene	47.55	1.0	50	0	95.1	72 - 131				
m,p-Xylene	92.23	2.0	100	0	92.2	80 - 121				
Methylene chloride	45.03	2.0	50	0	90.1	74 - 124				
Naphthalene	48.76	1.0	50	0	97.5	61 - 128				
n-Butylbenzene	47.57	1.0	50	0	95.1	75 - 128				
n-Propylbenzene	44.13	1.0	50	0	88.3	76 - 126				
o-Xylene	46.93	1.0	50	0	93.9	78 - 122				
sec-Butylbenzene	45.5	1.0	50	0	91.0	77 - 126				
Styrene	47.93	1.0	50	0	95.9	78 - 128				
tert-Butylbenzene	43.81	1.0	50	0	87.6	78 - 124				
Tetrachloroethene	52.24	1.0	50	0	104	74 - 129				
Toluene	46.23	1.0	50	0	92.5	80 - 121				
trans-1,2-Dichloroethene	51.28	1.0	50	0	103	75 - 124				
trans-1,3-Dichloropropene	51.85	1.0	50	0	104	73 - 127				
Trichloroethene	49	1.0	50	0	98.0	79 - 123				
Trichlorofluoromethane	51.82	1.0	50	0	104	65 - 141				
Vinyl chloride	48.57	1.0	50	0	97.1	58 - 137				
Surr: 1,2-Dichloroethane-d4	*47.17*	*1.0*	*50*	*0*	*94.3*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.78*	*1.0*	*50*	*0*	*99.6*	*85 - 114*				
Surr: Dibromofluoromethane	*47.39*	*1.0*	*50*	*0*	*94.8*	*80 - 119*				
Surr: Toluene-d8	*46.57*	*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: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

QC BATCH REPORT

Batch ID: R308234 **Instrument: VOA2** **Method: SW8260**

MS Sample ID: **HS17121224-01MS** Units: **ug/L** Analysis Date: **01-Jan-2018 00:44**
Client ID: Run ID: **VOA2_308234** SeqNo: **4375169** 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	47.04	1.0	50	0	94.1	78 - 124				
1,1,1-Trichloroethane	48.9	1.0	50	0	97.8	74 - 131				
1,1,2,2-Tetrachloroethane	40.4	1.0	50	0	80.8	71 - 121				
1,1,2-Trichloroethane	44.91	1.0	50	0	89.8	80 - 119				
1,1-Dichloroethane	45.71	1.0	50	0	91.4	77 - 125				
1,1-Dichloroethene	51.49	1.0	50	0	103	71 - 131				
1,1-Dichloropropene	51.53	1.0	50	0	103	79 - 125				
1,2,3-Trichlorobenzene	49.47	1.0	50	0	98.9	69 - 129				
1,2,3-Trichloropropane	41.84	1.0	50	0	83.7	73 - 122				
1,2,4-Trichlorobenzene	48.75	1.0	50	0	97.5	69 - 130				
1,2,4-Trimethylbenzene	40.85	1.0	50	0	81.7	76 - 124				
1,2-Dibromo-3-chloropropane	41.97	1.0	50	0	83.9	62 - 128				
1,2-Dibromoethane	47.88	1.0	50	0	95.8	77 - 121				
1,2-Dichlorobenzene	42.75	1.0	50	0	85.5	80 - 119				
1,2-Dichloroethane	50.56	1.0	50	0	101	73 - 128				
1,2-Dichloropropane	46.39	1.0	50	0	92.8	78 - 122				
1,3,5-Trimethylbenzene	41.56	1.0	50	0	83.1	75 - 124				
1,3-Dichlorobenzene	42.78	1.0	50	0	85.6	80 - 119				
1,3-Dichloropropane	44.3	1.0	50	0	88.6	80 - 119				
1,4-Dichlorobenzene	42.48	1.0	50	0	85.0	79 - 118				
2,2-Dichloropropane	43.91	1.0	50	0	87.8	60 - 139				
2-Butanone	87.07	2.0	100	0	87.1	56 - 143				
2-Chlorotoluene	40.98	1.0	50	0	82.0	79 - 122				
2-Hexanone	86.07	2.0	100	0	86.1	57 - 139				
4-Chlorotoluene	41.09	1.0	50	0	82.2	78 - 122				
4-Isopropyltoluene	42.85	1.0	50	0	85.7	77 - 127				
4-Methyl-2-pentanone	87.52	2.0	100	0	87.5	67 - 130				
Acetone	93.39	2.0	100	0	93.4	39 - 160				
Benzene	47.56	1.0	50	0	95.1	79 - 120				
Bromobenzene	41.47	1.0	50	0	82.9	80 - 120				
Bromochloromethane	48.01	1.0	50	0	96.0	78 - 123				
Bromodichloromethane	47.87	1.0	50	0	95.7	79 - 125				
Bromoform	49.09	1.0	50	0	98.2	66 - 130				
Bromomethane	44.46	1.0	50	0	88.9	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: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

QC BATCH REPORT

Batch ID: R308234 **Instrument: VOA2** **Method: SW8260**

MS Sample ID: **HS17121224-01MS** Units: **ug/L** Analysis Date: **01-Jan-2018 00:44**
Client ID: Run ID: **VOA2_308234** SeqNo: **4375169** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	99.01	2.0	100	0	99.0	64 - 133				
Carbon tetrachloride	43.9	1.0	50	0	87.8	72 - 136				
Chlorobenzene	45.69	1.0	50	0	91.4	80 - 120				
Chloroethane	44.2	1.0	50	0	88.4	82 - 118				
Chloroform	45.8	1.0	50	0	91.6	79 - 124				
Chloromethane	53.01	1.0	50	0	106	50 - 139				
cis-1,2-Dichloroethene	47.51	1.0	50	0	95.0	78 - 123				
cis-1,3-Dichloropropene	50.46	1.0	50	0	101	75 - 124				
Dibromochloromethane	47.38	1.0	50	0	94.8	74 - 126				
Dibromomethane	49.4	1.0	50	0	98.8	79 - 123				
Dichlorodifluoromethane	55.3	1.0	50	0	111	32 - 152				
Ethylbenzene	45.71	1.0	50	0	91.4	79 - 121				
Hexachlorobutadiene	45.23	1.0	50	0	90.5	66 - 134				
Isopropylbenzene	47.41	1.0	50	0	94.8	72 - 131				
m,p-Xylene	91.1	2.0	100	0	91.1	80 - 121				
Methylene chloride	45.7	2.0	50	0	91.4	74 - 124				
Naphthalene	47.28	1.0	50	0	94.6	61 - 128				
n-Butylbenzene	44.14	1.0	50	0	88.3	75 - 128				
n-Propylbenzene	42.52	1.0	50	0	85.0	76 - 126				
o-Xylene	45.9	1.0	50	0	91.8	78 - 122				
sec-Butylbenzene	43.8	1.0	50	0	87.6	77 - 126				
Styrene	46.71	1.0	50	0	93.4	78 - 128				
tert-Butylbenzene	43.15	1.0	50	0	86.3	78 - 124				
Tetrachloroethene	51.95	1.0	50	0	104	74 - 129				
Toluene	45.86	1.0	50	0	91.7	80 - 121				
trans-1,2-Dichloroethene	51.36	1.0	50	0	103	75 - 124				
trans-1,3-Dichloropropene	50.22	1.0	50	0	100	73 - 127				
Trichloroethene	49.6	1.0	50	0	99.2	79 - 123				
Trichlorofluoromethane	52.84	1.0	50	0	106	65 - 141				
Vinyl chloride	50.95	1.0	50	0	102	58 - 137				
Surr: 1,2-Dichloroethane-d4	*46.83*	*1.0*	*50*	*0*	*93.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.15*	*1.0*	*50*	*0*	*98.3*	*85 - 114*				
Surr: Dibromofluoromethane	*47.87*	*1.0*	*50*	*0*	*95.7*	*80 - 119*				
Surr: Toluene-d8	*46.64*	*1.0*	*50*	*0*	*93.3*	*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: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

QC BATCH REPORT

Batch ID: R308234 **Instrument: VOA2** **Method: SW8260**

MSD Sample ID: **HS17121224-01MSD** Units: **ug/L** Analysis Date: **01-Jan-2018 01:09**
Client ID: Run ID: **VOA2_308234** SeqNo: **4375170** 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	46.34	1.0	50	0	92.7	78 - 124	47.04	1.51	20	
1,1,1-Trichloroethane	48.97	1.0	50	0	97.9	74 - 131	48.9	0.149	20	
1,1,2,2-Tetrachloroethane	40.71	1.0	50	0	81.4	71 - 121	40.4	0.767	20	
1,1,2-Trichloroethane	45.32	1.0	50	0	90.6	80 - 119	44.91	0.901	20	
1,1-Dichloroethane	46.42	1.0	50	0	92.8	77 - 125	45.71	1.56	20	
1,1-Dichloroethene	51.21	1.0	50	0	102	71 - 131	51.49	0.547	20	
1,1-Dichloropropene	52.6	1.0	50	0	105	79 - 125	51.53	2.04	20	
1,2,3-Trichlorobenzene	49.28	1.0	50	0	98.6	69 - 129	49.47	0.389	20	
1,2,3-Trichloropropane	41.66	1.0	50	0	83.3	73 - 122	41.84	0.434	20	
1,2,4-Trichlorobenzene	49.76	1.0	50	0	99.5	69 - 130	48.75	2.06	20	
1,2,4-Trimethylbenzene	39.67	1.0	50	0	79.3	76 - 124	40.85	2.93	20	
1,2-Dibromo-3-chloropropane	43.31	1.0	50	0	86.6	62 - 128	41.97	3.13	20	
1,2-Dibromoethane	47.75	1.0	50	0	95.5	77 - 121	47.88	0.282	20	
1,2-Dichlorobenzene	41.6	1.0	50	0	83.2	80 - 119	42.75	2.73	20	
1,2-Dichloroethane	48.63	1.0	50	0	97.3	73 - 128	50.56	3.88	20	
1,2-Dichloropropane	45.87	1.0	50	0	91.7	78 - 122	46.39	1.13	20	
1,3,5-Trimethylbenzene	40.48	1.0	50	0	81.0	75 - 124	41.56	2.65	20	
1,3-Dichlorobenzene	41.64	1.0	50	0	83.3	80 - 119	42.78	2.72	20	
1,3-Dichloropropane	44.75	1.0	50	0	89.5	80 - 119	44.3	1	20	
1,4-Dichlorobenzene	41.85	1.0	50	0	83.7	79 - 118	42.48	1.48	20	
2,2-Dichloropropane	43.76	1.0	50	0	87.5	60 - 139	43.91	0.35	20	
2-Butanone	87.75	2.0	100	0	87.8	56 - 143	87.07	0.785	20	
2-Chlorotoluene	39.92	1.0	50	0	79.8	79 - 122	40.98	2.62	20	
2-Hexanone	87.81	2.0	100	0	87.8	57 - 139	86.07	2	20	
4-Chlorotoluene	40.01	1.0	50	0	80.0	78 - 122	41.09	2.68	20	
4-Isopropyltoluene	42.11	1.0	50	0	84.2	77 - 127	42.85	1.74	20	
4-Methyl-2-pentanone	88.49	2.0	100	0	88.5	67 - 130	87.52	1.09	20	
Acetone	95.78	2.0	100	0	95.8	39 - 160	93.39	2.52	20	
Benzene	47.41	1.0	50	0	94.8	79 - 120	47.56	0.31	20	
Bromobenzene	41.03	1.0	50	0	82.1	80 - 120	41.47	1.07	20	
Bromochloromethane	48.61	1.0	50	0	97.2	78 - 123	48.01	1.26	20	
Bromodichloromethane	47.86	1.0	50	0	95.7	79 - 125	47.87	0.0172	20	
Bromoform	49.89	1.0	50	0	99.8	66 - 130	49.09	1.63	20	
Bromomethane	44.08	1.0	50	0	88.2	53 - 141	44.46	0.858	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: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

QC BATCH REPORT

Batch ID: R308234 **Instrument: VOA2** **Method: SW8260**

MSD Sample ID: **HS17121224-01MSD** Units: **ug/L** Analysis Date: **01-Jan-2018 01:09**
Client ID: Run ID: **VOA2_308234** SeqNo: **4375170** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	98.72	2.0	100	0	98.7	64 - 133	99.01	0.294	20	
Carbon tetrachloride	43.69	1.0	50	0	87.4	72 - 136	43.9	0.479	20	
Chlorobenzene	45.36	1.0	50	0	90.7	80 - 120	45.69	0.726	20	
Chloroethane	42.34	1.0	50	0	84.7	82 - 118	44.2	4.31	20	
Chloroform	46.14	1.0	50	0	92.3	79 - 124	45.8	0.75	20	
Chloromethane	50	1.0	50	0	100.0	50 - 139	53.01	5.85	20	
cis-1,2-Dichloroethene	47.11	1.0	50	0	94.2	78 - 123	47.51	0.846	20	
cis-1,3-Dichloropropene	49.73	1.0	50	0	99.5	75 - 124	50.46	1.45	20	
Dibromochloromethane	47.49	1.0	50	0	95.0	74 - 126	47.38	0.242	20	
Dibromomethane	48.72	1.0	50	0	97.4	79 - 123	49.4	1.39	20	
Dichlorodifluoromethane	54.4	1.0	50	0	109	32 - 152	55.3	1.65	20	
Ethylbenzene	45.12	1.0	50	0	90.2	79 - 121	45.71	1.31	20	
Hexachlorobutadiene	46.3	1.0	50	0	92.6	66 - 134	45.23	2.34	20	
Isopropylbenzene	46.69	1.0	50	0	93.4	72 - 131	47.41	1.54	20	
m,p-Xylene	90.36	2.0	100	0	90.4	80 - 121	91.1	0.813	20	
Methylene chloride	44.91	2.0	50	0	89.8	74 - 124	45.7	1.75	20	
Naphthalene	47.07	1.0	50	0	94.1	61 - 128	47.28	0.45	20	
n-Butylbenzene	43.71	1.0	50	0	87.4	75 - 128	44.14	0.973	20	
n-Propylbenzene	41.18	1.0	50	0	82.4	76 - 126	42.52	3.2	20	
o-Xylene	45.96	1.0	50	0	91.9	78 - 122	45.9	0.14	20	
sec-Butylbenzene	42.94	1.0	50	0	85.9	77 - 126	43.8	1.98	20	
Styrene	46.51	1.0	50	0	93.0	78 - 128	46.71	0.428	20	
tert-Butylbenzene	42.01	1.0	50	0	84.0	78 - 124	43.15	2.68	20	
Tetrachloroethene	50.69	1.0	50	0	101	74 - 129	51.95	2.46	20	
Toluene	45.44	1.0	50	0	90.9	80 - 121	45.86	0.932	20	
trans-1,2-Dichloroethene	51.43	1.0	50	0	103	75 - 124	51.36	0.135	20	
trans-1,3-Dichloropropene	50.28	1.0	50	0	101	73 - 127	50.22	0.109	20	
Trichloroethene	49.1	1.0	50	0	98.2	79 - 123	49.6	1.01	20	
Trichlorofluoromethane	52.07	1.0	50	0	104	65 - 141	52.84	1.45	20	
Vinyl chloride	50.1	1.0	50	0	100	58 - 137	50.95	1.7	20	
Surr: 1,2-Dichloroethane-d4	*47.86*	*1.0*	*50*	*0*	*95.7*	*81 - 118*	*46.83*	*2.19*	*20*	
Surr: 4-Bromofluorobenzene	*49.38*	*1.0*	*50*	*0*	*98.8*	*85 - 114*	*49.15*	*0.463*	*20*	
Surr: Dibromofluoromethane	*48.38*	*1.0*	*50*	*0*	*96.8*	*80 - 119*	*47.87*	*1.05*	*20*	
Surr: Toluene-d8	*46.83*	*1.0*	*50*	*0*	*93.7*	*89 - 112*	*46.64*	*0.406*	*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:	Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder:	HS17121168

QC BATCH REPORT

Batch ID:	**R308234**	**Instrument:**	**VOA2**	**Method:**	**SW8260**

The following samples were analyzed in this batch:	HS17121168-01	HS17121168-02

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: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

QC BATCH REPORT

Batch ID: R308604 **Instrument: Balance1** **Method: E1664A**

MBLK Sample ID: **WBLKW-010818** Units: **mg/L** Analysis Date: **08-Jan-2018 11:00**
Client ID: Run ID: **Balance1_308604** SeqNo: **4384461** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Oil and Grease	1.00	2.00								U

LCS Sample ID: **WLCSW-010818** Units: **mg/L** Analysis Date: **08-Jan-2018 11:00**
Client ID: Run ID: **Balance1_308604** SeqNo: **4384463** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Oil and Grease	40.8	2.00	40	0	102	78 - 114				

LCSD Sample ID: **WLCSDW-010818** Units: **mg/L** Analysis Date: **08-Jan-2018 11:00**
Client ID: Run ID: **Balance1_308604** SeqNo: **4384462** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Oil and Grease	39.2	2.00	40	0	98.0	78 - 114	40.8	4	18	

MS Sample ID: **HS17121405-01MS** Units: **mg/L** Analysis Date: **08-Jan-2018 11:00**
Client ID: Run ID: **Balance1_308604** SeqNo: **4384456** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Oil and Grease	36	2.00	40	1.2	87.0	78 - 114				

The following samples were analyzed in this batch: HS17121168-01

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: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

QC BATCH REPORT

Batch ID: R308618 **Instrument: WetChem_HS** **Method: E410.4**

MBLK Sample ID: **MBLK-R308618** Units: **mg/L** Analysis Date: **08-Jan-2018 16:00**
Client ID: Run ID: **WetChem_HS_308618** SeqNo: **4384758** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	7.50	15.0								U

LCS Sample ID: **LCS-R308618** Units: **mg/L** Analysis Date: **08-Jan-2018 16:00**
Client ID: Run ID: **WetChem_HS_308618** SeqNo: **4384757** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	102	15.0	100	0	102	85 - 115				

MS Sample ID: **HS17121318-01MS** Units: **mg/L** Analysis Date: **08-Jan-2018 16:00**
Client ID: Run ID: **WetChem_HS_308618** SeqNo: **4384759** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	400	75.0	250	125	110	80 - 120				

DUP Sample ID: **HS17121318-01DUP** Units: **mg/L** Analysis Date: **08-Jan-2018 16:00**
Client ID: Run ID: **WetChem_HS_308618** SeqNo: **4384760** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	140	75.0					125	11.3	20	

The following samples were analyzed in this batch: HS17121168-01

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: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

QC BATCH REPORT

Batch ID: R308643 **Instrument: ICS2100** **Method: SW9056**

MBLK Sample ID: **WBLKW1-010818** Units: **mg/L** Analysis Date: **09-Jan-2018 12:00**
Client ID: Run ID: **ICS2100_308643** SeqNo: **4385653** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.250	0.500								U
Sulfate	0.250	0.500								U

LCS Sample ID: **WLCSW1-010818** Units: **mg/L** Analysis Date: **08-Jan-2018 21:25**
Client ID: Run ID: **ICS2100_308643** SeqNo: **4385611** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.95	0.500	20	0	105	80 - 120				
Sulfate	20.99	0.500	20	0	105	80 - 120				

LCSD Sample ID: **WLCSDW1-010818** Units: **mg/L** Analysis Date: **08-Jan-2018 21:39**
Client ID: Run ID: **ICS2100_308643** SeqNo: **4385612** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.58	0.500	20	0	103	80 - 120	20.95	1.79	20	
Sulfate	20.51	0.500	20	0	103	80 - 120	20.99	2.33	20	

MS Sample ID: **HS17121169-01MS** Units: **mg/L** Analysis Date: **08-Jan-2018 23:35**
Client ID: Run ID: **ICS2100_308643** SeqNo: **4385619** PrepDate: DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	650.5	10.0	200	470.1	90.2	80 - 120				
Sulfate	265.5	10.0	200	57.8	104	80 - 120				

MS Sample ID: **HS17121151-10MS** Units: **mg/L** Analysis Date: **09-Jan-2018 02:15**
Client ID: Run ID: **ICS2100_308643** SeqNo: **4385629** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	204.3	5.00	100	101.3	103	80 - 120				
Sulfate	480.4	5.00	100	378.5	102	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: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

QC BATCH REPORT

Batch ID: R308643 **Instrument: ICS2100** **Method: SW9056**

MSD Sample ID: **HS17121169-01MSD** Units: **mg/L** Analysis Date: **08-Jan-2018 23:50**
Client ID: Run ID: **ICS2100_308643** SeqNo: **4385620** PrepDate: DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	651.3	10.0	200	470.1	90.6	80 - 120	650.5	0.115	20	
Sulfate	264.5	10.0	200	57.8	103	80 - 120	265.5	0.371	20	

MSD Sample ID: **HS17121151-10MSD** Units: **mg/L** Analysis Date: **09-Jan-2018 02:30**
Client ID: Run ID: **ICS2100_308643** SeqNo: **4385630** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	197.3	5.00	100	101.3	96.0	80 - 120	204.3	3.5	20	
Sulfate	467.4	5.00	100	378.5	88.9	80 - 120	480.4	2.76	20	

The following samples were analyzed in this batch: HS17121168-01

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: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: **HS17121168**

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 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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
Work Order: HS17121168

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS17121168-01	LH18/24-SP650_122017	Login	12/21/2017 3:49:17 PM	CL	WET214
HS17121168-01	LH18/24-SP650_122017	Login	12/21/2017 3:49:17 PM	CL	WET214
HS17121168-01	LH18/24-SP650_122017	Login	12/21/2017 3:49:17 PM	CL	WET214
HS17121168-01	LH18/24-SP650_122017	Login	12/21/2017 3:49:17 PM	CL	Sub

ALS Group USA, Corp Date: 11-Jan-18

Sample Receipt Checklist

Client Name: Bhate Environmental
Work Order: HS17121168
Date/Time Received: **21-Dec-2017 09:40**
Received by: **JRM**

Checklist completed by: *Cesar A. Lira* eSignature — 21-Dec-2017 Date
Reviewed by: *Sonia West* eSignature — 27-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):	2.6C/2.9C UC/C	IR11	
Cooler(s)/Kit(s):	42568		
Date/Time sample(s) sent to storage:	12/21/2017 12:30		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd., Suite 210 Houston, Tx. 77099 ATTN: SONIA WEST

1

Page 1 of

HS17121168

Bhate Environmental Associates, Inc.
oundwater Treatment Plant Quarterly Effluent Sampl

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

Project No. NWO1312.0150.0 16.0001

Job: GROUNDWATER TREATMENT PLANT QUARTERLY EFFLUENT SAMPLES

Prepared By: Scott Beesinger

P. O. Number

Analyses

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	ROD Volatiles	Total Metals	Oil & Grease	Chemnical Oxygen Demand	Chloride & Sulfate	1, 4 - DIOXANE	PERCHLORATE				Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_122017	Water	12/20/17 / 14:00		4	3		1								HCL	
LH18/24-SP650_122017	Water	12/20/17 / 14:00		1		1									HNO3	
LH18/24-SP650_122017	Water	12/20/17 / 14:00		3					1	1	1				NONE	
LH18/24-SP650_122017	Water	12/20/17 / 14:00		1				1							H2SO4	
Trip Blank	Water	12/20/17		2	2										HCL	

Additional Remarks: **STANDARD TURN AROUND TIME**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	12/20/17	14:30	JM	12.21.17	0940						

For Lab Use Only

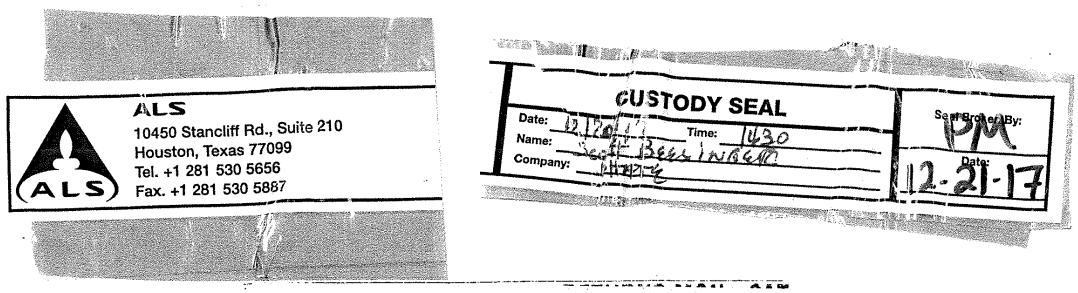
Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
JM	12.21.17	0940		[signature]	12.21.17	0940	2.6		Good

Remarks:

m-11
OC+03

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

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





CUSTODY SEAL
Date: 12/20/17 Time: 1430
Name: Scott Beeringer
Company: [illegible]
Seal Broken By: PM
Date: 12-21-17

FedEx
TRK# 0221 7376 9751 1371

THU - 21 DEC 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

FID 5090257 20DEC17 GGGA 546C1/574C/0C8A

42568

Volatile Organics Raw Data

Bhate Environmental Associates, Inc.
Project: GROUNDWATER TREATMENT PLANT
QUARTERLY EFFLUENT SAMPLES
ALS WO# HS17121168

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121168

	CLIENT SAMPLE NO.	SMC1 (DCE) #	SMC2 #	SMC3 (TOL) #	OTHER #	TOT OUT
01	VLCSW-171231	94	95	93	100	0
02	VBLKW-171231	91	98	97	96	0
03	HS17121168-02	91	98	97	97	0
04	HS17121168-01	90	100	97	99	0
05	HS17121224-01	94	96	93	98	0
06	HS17121224-01	96	97	94	99	0
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						

		QC LIMITS
SMC1 (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.: HS17121168

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.: HS17121168

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 III VOA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121168

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 III VOA

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121168

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.: HS17121168

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.: HS1712116

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.: HS1712116

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.: HS1712116

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.: HS1712116

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.: HS1712116

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: 30160 **Analyst:** Anjana Poluri

Date: 12-19-2017 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	12-19-2017 09:21 am	1.00	50 mL	50 mL	D121901.D	Liquid	Y	NA
	Not reported									
2	BFB	TUNE	12-19-2017 09:45 am	1.00	50 mL	50 mL	D121902.D	Liquid	Y	NA
	Auto find/purged									
3	VSTD00.5	ICAL1	12-19-2017 10:10 am	1.00	50 mL	50 mL	D121903.D	Liquid	Y	NA
	0.5 uL cal std/250 mL DI									
4	VSTD001	ICAL2	12-19-2017 10:34 am	1.00	50 mL	50 mL	D121904.D	Liquid	Y	NA
	1 uL cal std/250 mL DI									
5	VSTD002	ICAL3	12-19-2017 10:59 am	1.00	50 mL	50 mL	D121905.D	Liquid	Y	NA
	2 uL cal std/250 mL DI									
6	VSTD005	ICAL4	12-19-2017 11:23 am	1.00	50 mL	50 mL	D121906.D	Liquid	Y	NA
	5 uL cal std/250 mL DI									
7	VSTD010	ICAL5	12-19-2017 11:47 am	1.00	50 mL	50 mL	D121907.D	Liquid	Y	NA
	2 uL cal std/50 mL DI									
8	VSTD020	ICAL6	12-19-2017 12:14 pm	1.00	50 mL	50 mL	D121908.D	Liquid	Y	NA
	4 uL cal std/50 mL DI									
9	VSTD050	ICAL7	12-19-2017 12:39 pm	1.00	50 mL	50 mL	D121909.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
10	VSTD100	ICAL8	12-19-2017 01:03 pm	1.00	50 mL	50 mL	D121910.D	Liquid	Y	NA
	20 uL cal std/50 mL DI									
11	VSTD200	ICAL9	12-19-2017 01:27 pm	1.00	50 mL	50 mL	D121911.D	Liquid	Y	NA
	40 uL cal std/50 mL DI									
12	BLK	SAMP	12-19-2017 01:52 pm	1.00	50 mL	50 mL	D121912.D	Liquid	Y	NA
	Cleanup blk									
13	VSTD-ICV	ICV	12-19-2017 02:16 pm	1.00	50 mL	50 mL	D121913.D	Liquid	Y	NA
	10 uL ICV std/50 mL DI									
14	VLCSW-171219	LCS	12-19-2017 02:54 pm	1.00	50 mL	50 mL	D121914.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
15	BLK	SAMP	12-19-2017 03:18 pm	1.00	50 mL	50 mL	D121915.D	Liquid	Y	NA
16	VBLKW171202	MBLK	12-19-2017 03:43 pm	1.00	50 mL	50 mL	D121916.D	Liquid	Y	NA
17	HS17120758-10	SAMP	12-19-2017 04:08 pm	1.00	50 mL	50 mL	D121917.D	Liquid	Y	<2
18	HS17120999-01	SAMP	12-19-2017 04:32 pm	1.00	50 mL	50 mL	D121918.D	Liquid	Y	<2
19	HS17121026-03	SAMP	12-19-2017 04:57 pm	1.00	50 mL	50 mL	D121919.D	Liquid	Y	<2
20	HS17121026-01	SAMP	12-19-2017 05:21 pm	1.00	50 mL	50 mL	D121920.D	Liquid	Y	<2
21	HS17121026-02	SAMP	12-19-2017 05:46 pm	1.00	50 mL	50 mL	D121921.D	Liquid	Y	<2
22	HS17120806-02	SAMP	12-19-2017 06:10 pm	1.00	50 mL	50 mL	D121922.D	Liquid	Y	<2
23	HS17120282-02	SAMP	12-19-2017 06:35 pm	1.00	50 mL	50 mL	D121923.D	Liquid	Y	<2
24	HS17120282-01	SAMP	12-19-2017 07:00 pm	1000.0	50 µL	50 mL	D121924.D	Liquid	Y	<2
25	HS17120282-01	SAMP	12-19-2017 07:27 pm	10000.(	5 µL	50 mL	D121925.D	Liquid	Y	<2
26	HS17120806-02MS	MS	12-19-2017 07:52 pm	1.00	50 mL	50 mL	D121926.D	Liquid	Y	<2
	8 uL cal std/40 mL sample									
27	HS17120806-02MSD	MSD	12-19-2017 08:16 pm	1.00	50 mL	50 mL	D121927.D	Liquid	N	<2
	8 uL cal std/40 mL sample									
28	HS17120743-28	SAMP	12-19-2017 08:43 pm	5.00	10 mL	50 mL	D121928.D	Liquid	Y	<2
29	HS17120743-29	SAMP	12-19-2017 09:11 pm	5.00	10 mL	50 mL	D121929.D	Liquid	Y	<2
30	BLK	BLK	12-19-2017 09:35 pm	1.00	50 mL	50 mL	E121901.D	Liquid	Y	NA
	Cleanup blk									
31	BFB	TUNE	12-19-2017 10:00 pm	1.00	50 mL	50 mL	E121902.D	Liquid	Y	NA
	Auto find/purged									

MSVOA02 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
32	CCV	CCV	12-19-2017 10:24 pm	1.00	50 mL	50 mL	E121903.D	Liquid	Y	NA
33	*10 uL cal std/50 mL DI* VLCSW-171219	LCS	12-19-2017 10:49 pm	1.00	50 mL	50 mL	E121904.D	Liquid	Y	NA
34	*10 uL cal std/50 mL DI* BLK	SAMP	12-19-2017 11:13 pm	1.00	50 mL	50 mL	E121905.D	Liquid	Y	NA
35	*Cleanup blk* VBLKW-171219	MBLK	12-19-2017 11:38 pm	1.00	50 mL	50 mL	E121906.D	Liquid	Y	NA
36	HS17120806-14	SAMP	12-20-2017 12:02 am	1.00	50 mL	50 mL	E121907.D	Liquid	Y	<2
37	HS17120806-12	SAMP	12-20-2017 12:30 am	5.00	10 mL	50 mL	E121908.D	Liquid	Y	<2
38	HS17120806-14MS	MS	12-20-2017 12:54 am	1.00	50 mL	50 mL	E121909.D	Liquid	Y	<2
39	*8 uL cal std/40 mL sample* HS17120806-14MSD	MSD	12-20-2017 01:19 am	1.00	50 mL	50 mL	E121910.D	Liquid	Y	<2
40	*8 uL cal std/40 mL sample* BLK	SAMP	12-20-2017 01:43 am	1.00	50 mL	50 mL	E121911.D	Liquid	Y	NA
41	HS17120743-38	SAMP	12-20-2017 02:08 am	1.00	50 mL	50 mL	E121912.D	Liquid	Y	<2
42	HS17120743-38	SAMP	12-20-2017 02:35 am	5.00	10 mL	50 mL	E121913.D	Liquid	Y	<2
43	HS17120806-10	SAMP	12-20-2017 03:00 am	1.00	50 mL	50 mL	E121914.D	Liquid	Y	<2
44	HS17120806-10	SAMP	12-20-2017 03:27 am	5.00	10 mL	50 mL	E121915.D	Liquid	Y	<2
45	HS17120743-32	SAMP	12-20-2017 03:51 am	1.00	50 mL	50 mL	E121916.D	Liquid	Y	<2
46	HS17120743-32	SAMP	12-20-2017 04:18 am	10.00	5 mL	50 mL	E121917.D	Liquid	Y	<2
47	HS17120806-01	SAMP	12-20-2017 04:43 am	1.00	50 mL	50 mL	E121918.D	Liquid	Y	<2
48	HS17120806-01	SAMP	12-20-2017 05:10 am	10.00	5 mL	50 mL	E121919.D	Liquid	Y	<2
49	HS17120806-13	SAMP	12-20-2017 05:35 am	1.00	50 mL	50 mL	E121920.D	Liquid	Y	<2
50	HS17120806-13	SAMP	12-20-2017 06:02 am	10.00	5 mL	50 mL	E121921.D	Liquid	Y	<2
51	HS17120806-03	SAMP	12-20-2017 06:29 am	5.00	10 mL	50 mL	E121922.D	Liquid	Y	<2
52	HS17120806-03	SAMP	12-20-2017 06:56 am	25.00	2 mL	50 mL	E121923.D	Liquid	Y	<2
53	HS17120743-43	SAMP	12-20-2017 07:24 am	10.00	5 mL	50 mL	E121924.D	Liquid	Y	<2
54	HS17120743-43	SAMP	12-20-2017 07:51 am	100.0(	500 µL	50 mL	E121925.D	Liquid	Y	<2
55	HS17120743-34	SAMP	12-20-2017 08:18 am	10.00	5 mL	50 mL	E121926.D	Liquid	Y	<2
56	HS17120743-34	SAMP	12-20-2017 08:45 am	100.0(	500 µL	50 mL	E121927.D	Liquid	Y	<2
57	HS17120806-16	SAMP	12-20-2017 09:10 am	1.00	50 mL	50 mL	E121928.D	Liquid	Y	<2
58	HS17120806-16	SAMP	12-20-2017 09:37 am	10.00	5 mL	50 mL	E121929.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\D171219.b\D121901.D

Date : 19-DEC-2017 09:21

Client ID: BFB

Instrument: VOA2.i

Sample Info: BFB;BFB;3;;BFB

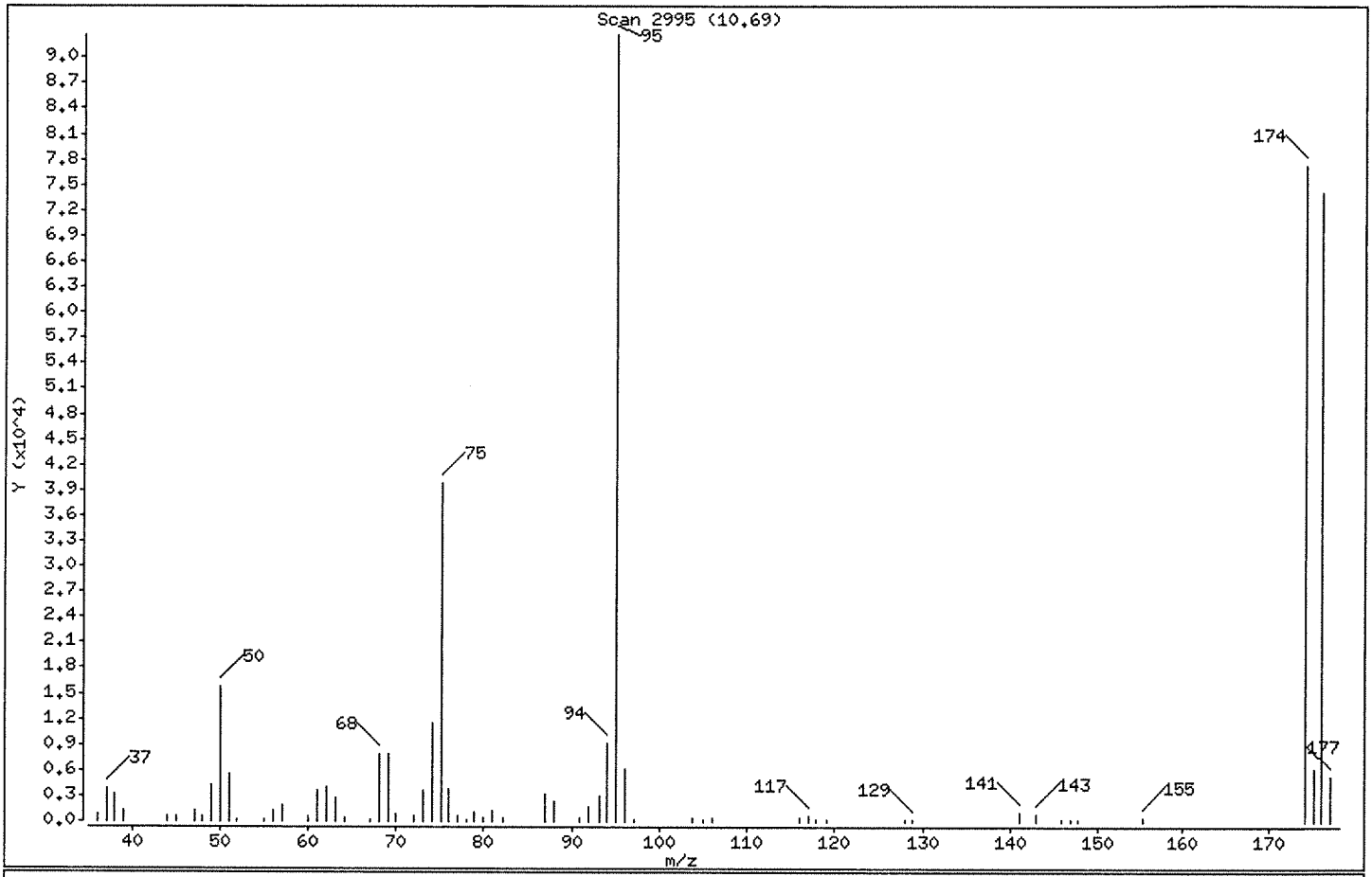
Volume Injected (uL): 2.0

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

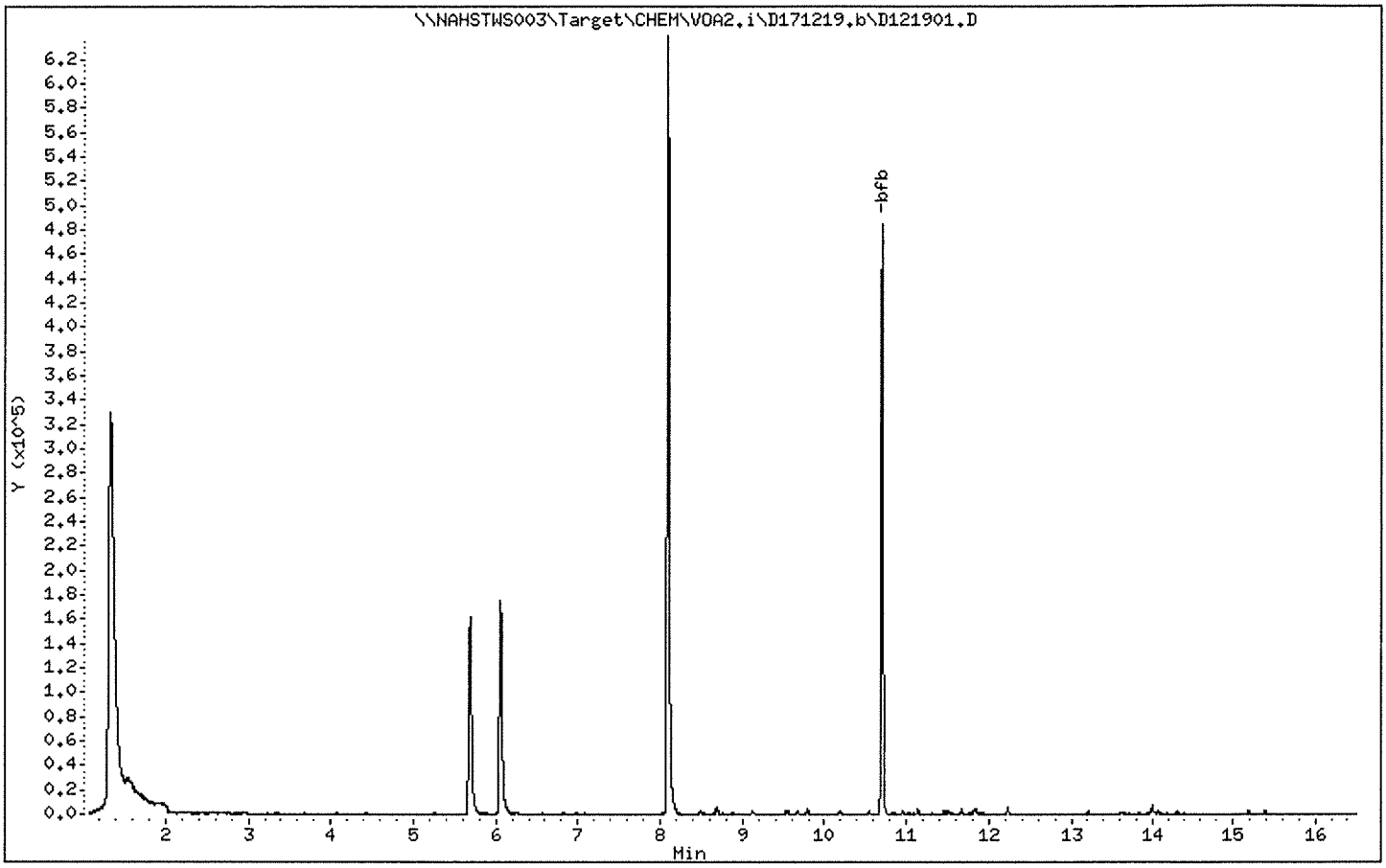
Sample Info: BFB;BFB;3;;BFB

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: 08-Feb-2018 17:04

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 : 08-Feb-2018 17:04 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)

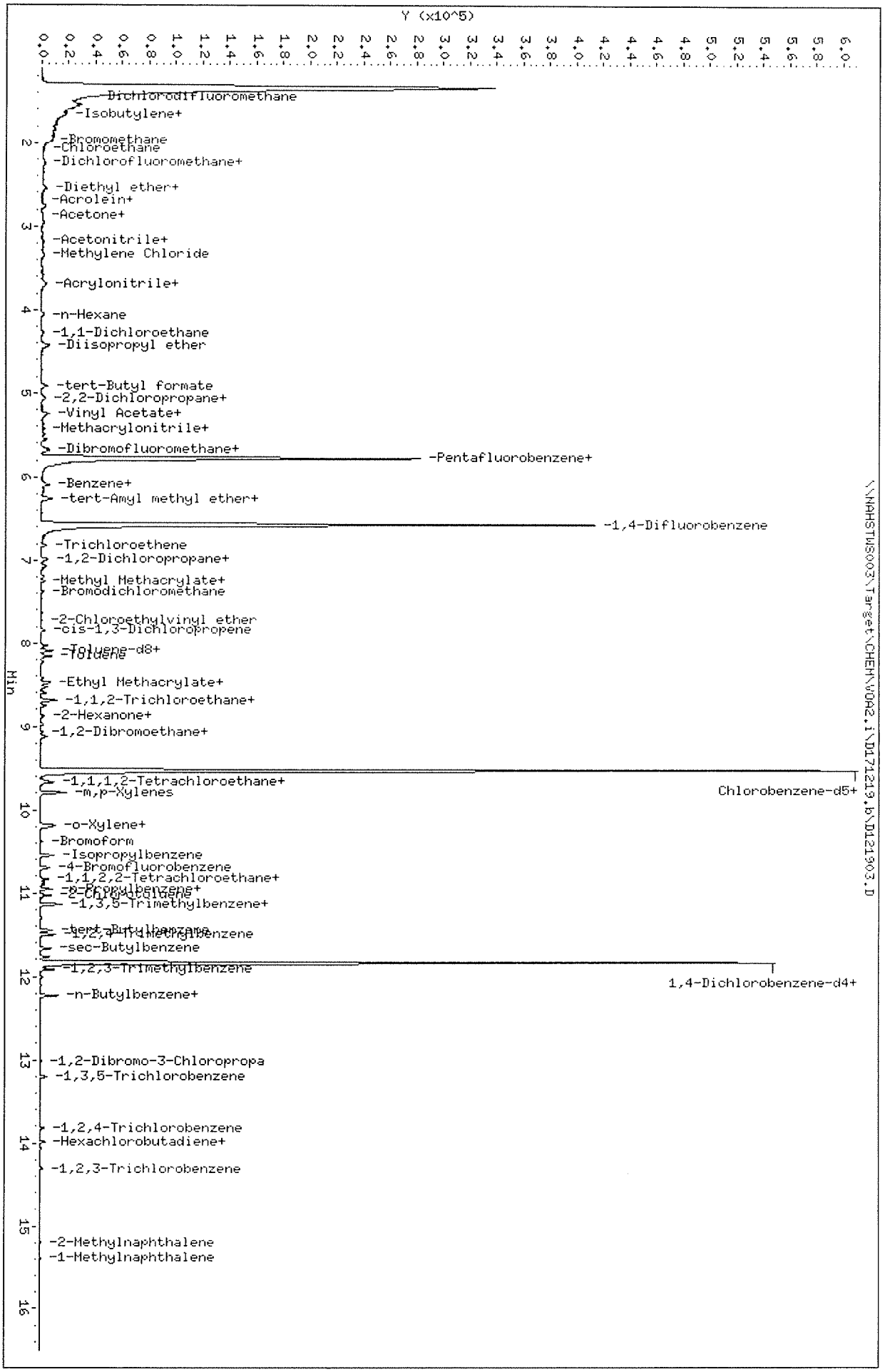
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121903.D
Report Date: 08-Feb-2018 17:04

	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: 08-Feb-2018 17:04

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

\\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121903.D

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121904.D
Report Date: 08-Feb-2018 17:04

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 : 08-Feb-2018 17:04 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)

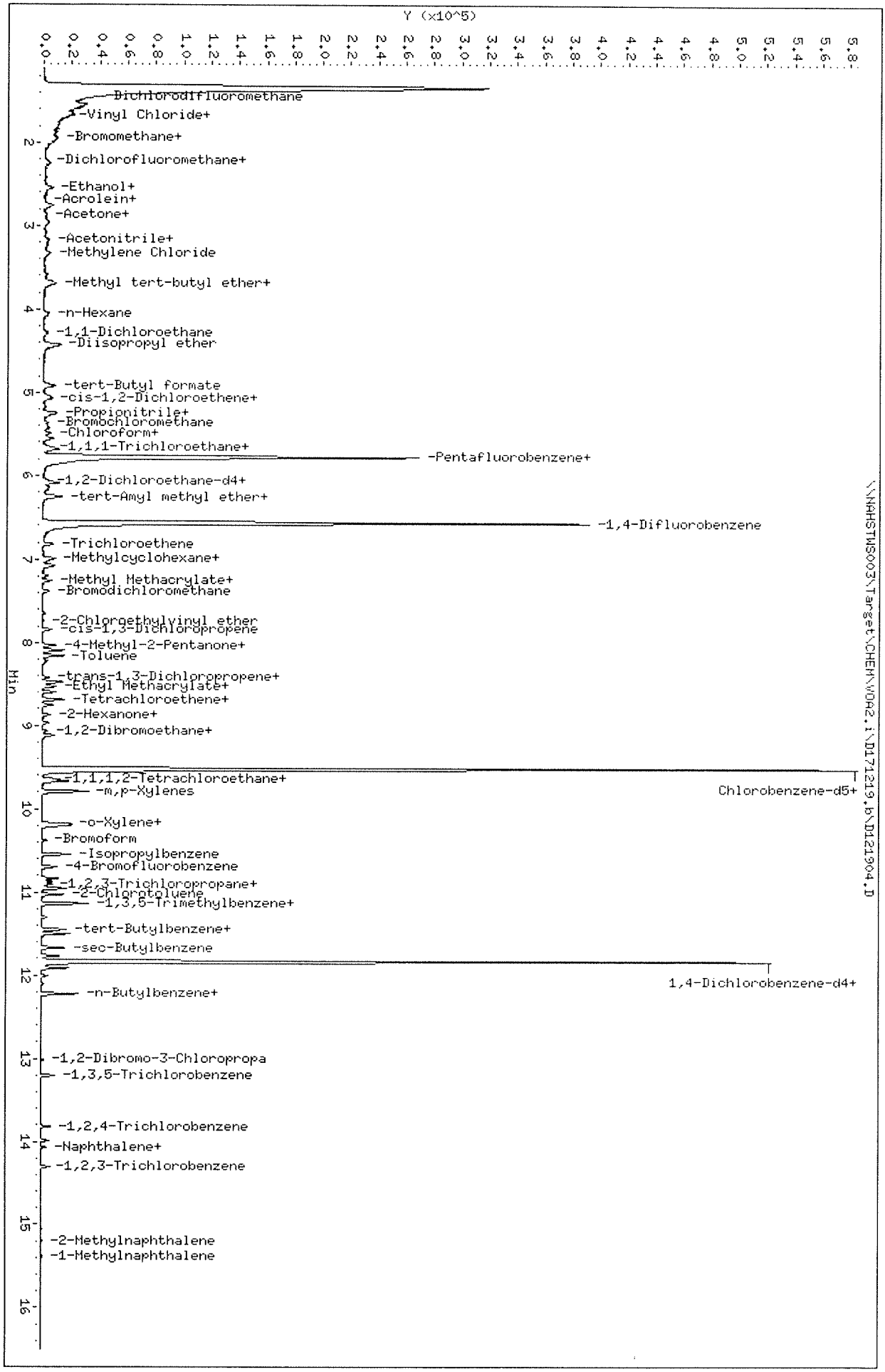
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121904.D
Report Date: 08-Feb-2018 17:04

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	84 1,4-Dichlorobenzene	146	11.860	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: 08-Feb-2018 17:04

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\WOA2.i\D171219.b\D121904.D
Data File: \\NAHSTWS003\Target\CHEM\WOA2.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: WOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121905.D
Report Date: 08-Feb-2018 17:04

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 : 08-Feb-2018 17:04 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)

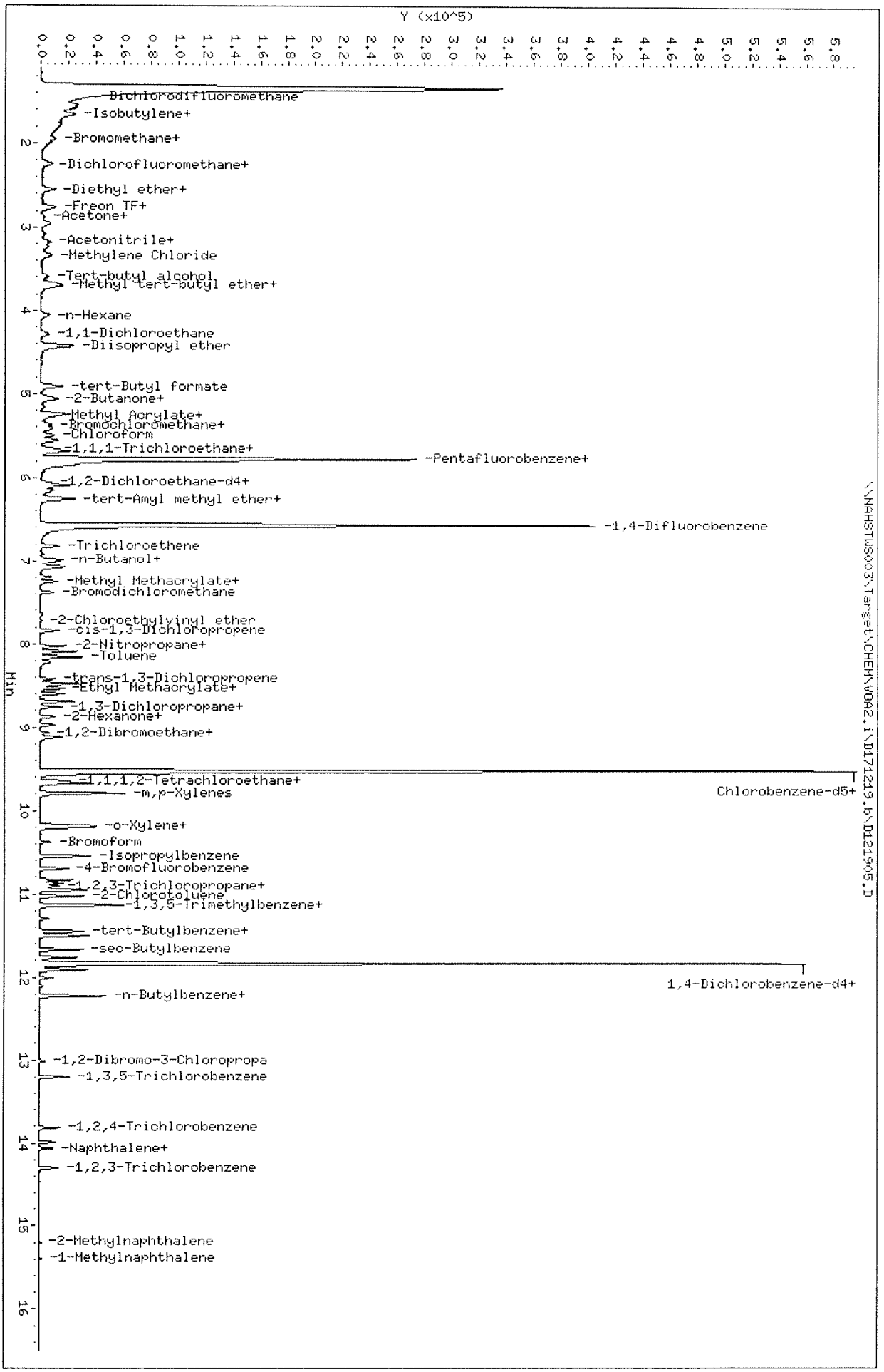
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121905.D
Report Date: 08-Feb-2018 17:04

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
84	1,4-Dichlorobenzene	146	11.860	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: 08-Feb-2018 17:04

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\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: WOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121906.D
Report Date: 08-Feb-2018 17:04

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 : 08-Feb-2018 17:04 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)

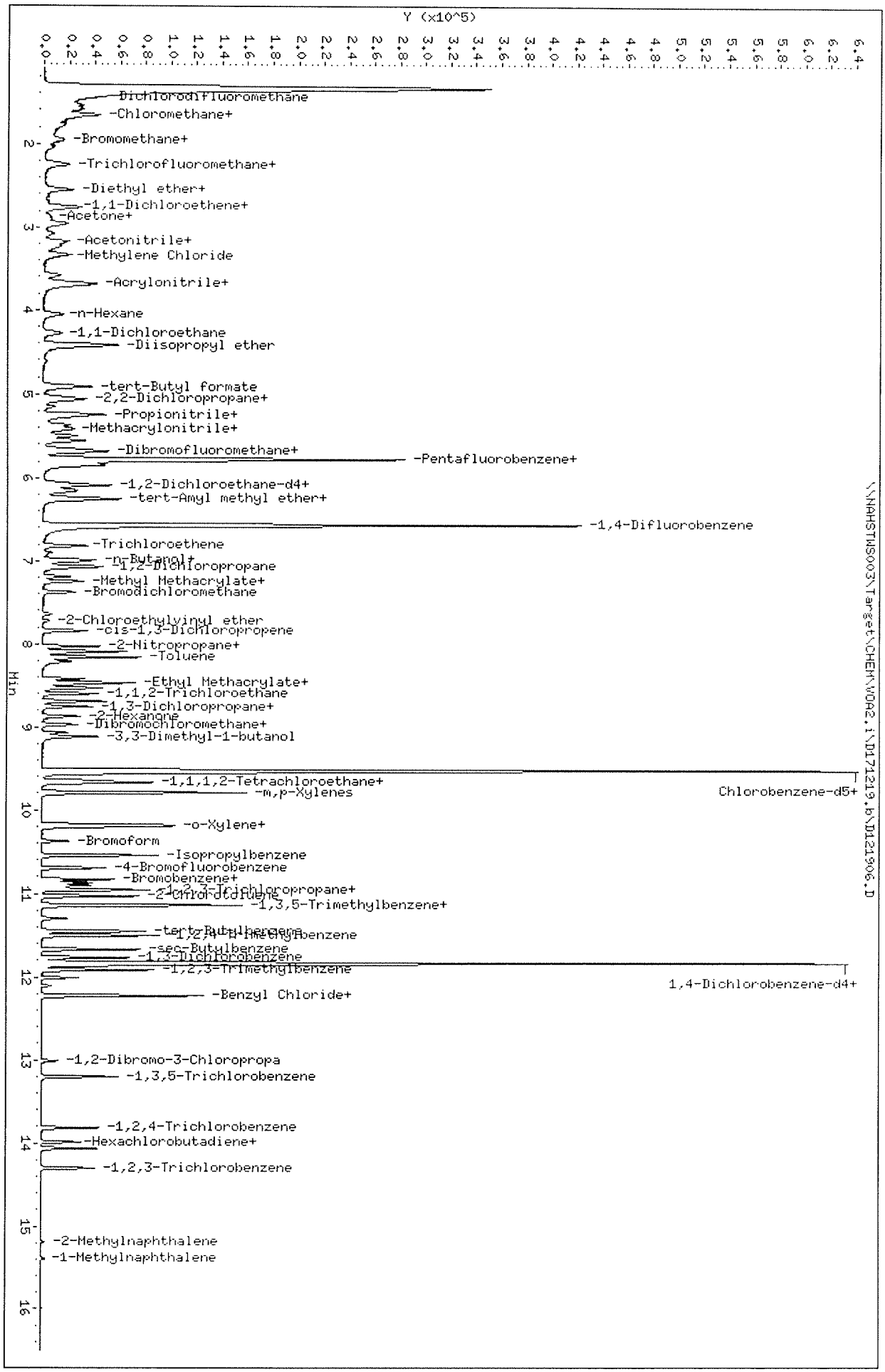
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121906.D
Report Date: 08-Feb-2018 17:04

	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(aM)
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: 08-Feb-2018 17:04

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\WOA2.i\D171219.b\D121906.D
Data File: \\NAHSTWS003\Target\CHEM\WOA2.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: WOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121907.D
Report Date: 08-Feb-2018 17:04

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 : 08-Feb-2018 17:04 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

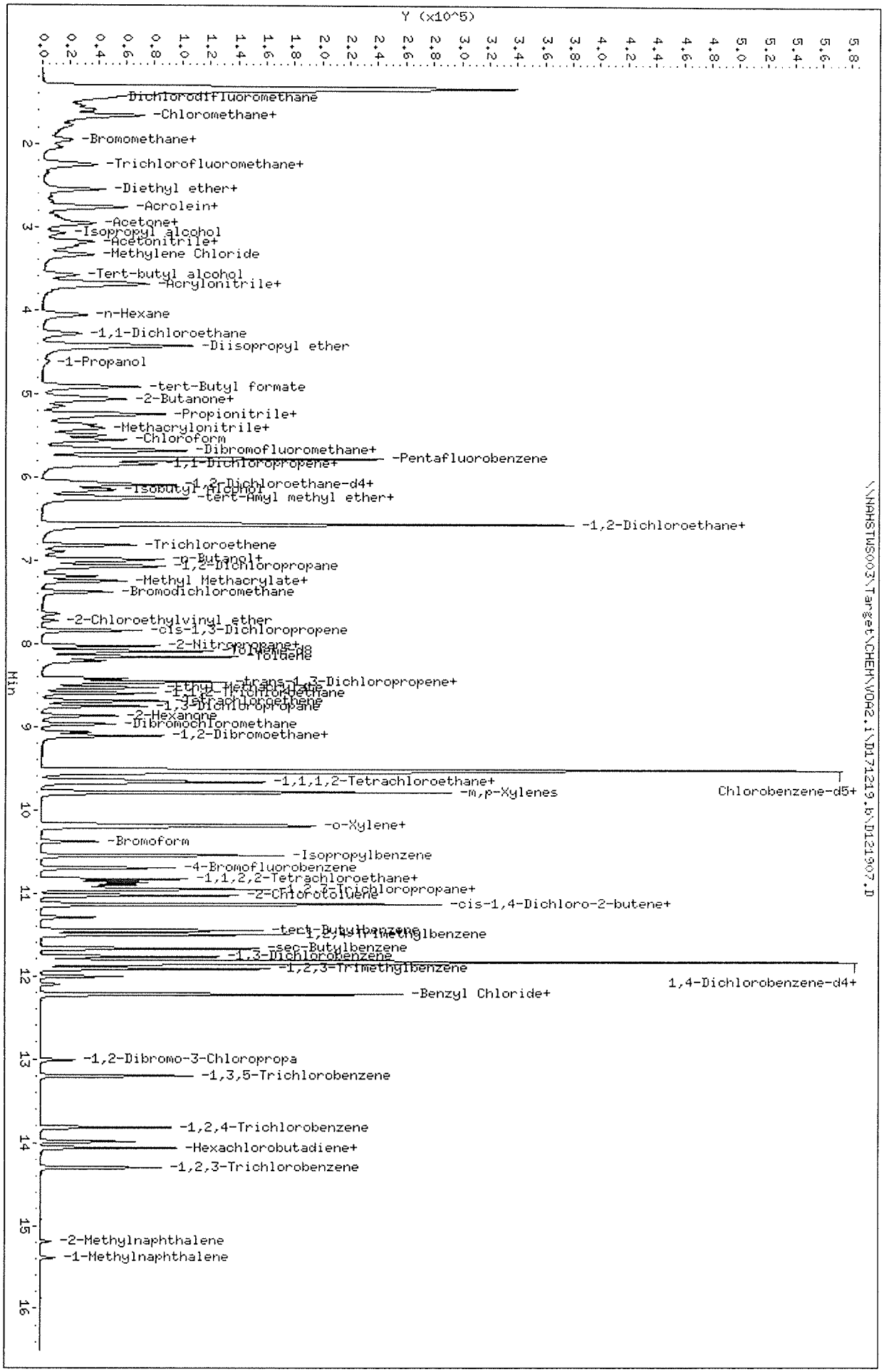
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121907.D
Report Date: 08-Feb-2018 17:04

	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: 08-Feb-2018 17:04

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+
-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\D121907.D
Date : 19-DEC-2017 11:47
Client ID: VSTD010
Sample Info: VSTD010;VSTD010;1;5;
Purge Volume: 5.0
Column phase: DB624
\\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121907.D
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121908.D
Report Date: 08-Feb-2018 17:04

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 : 08-Feb-2018 17:04 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

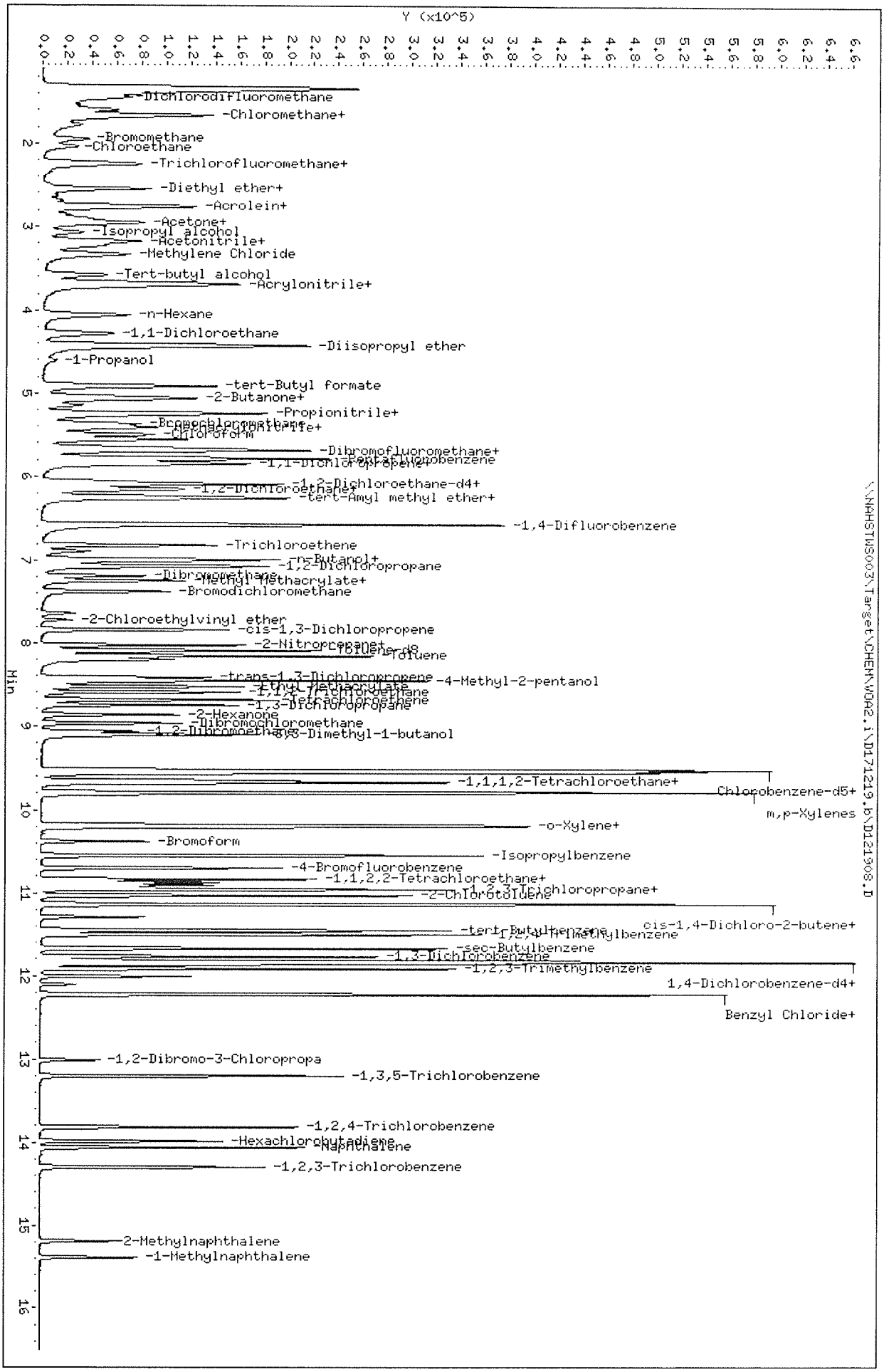
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121908.D
Report Date: 08-Feb-2018 17:04

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
84	1,4-Dichlorobenzene	146	11.860	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)	46649	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: 08-Feb-2018 17:04

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+
-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
-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\WOA2.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: WOA2.i
Operator: AP
Column diameter: 0.18
\\NAHSTWS003\Target\CHEM\WOA2.i\D171219.b\D121908.D

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121909.D
Report Date: 08-Feb-2018 17:04

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 : 08-Feb-2018 17:04 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

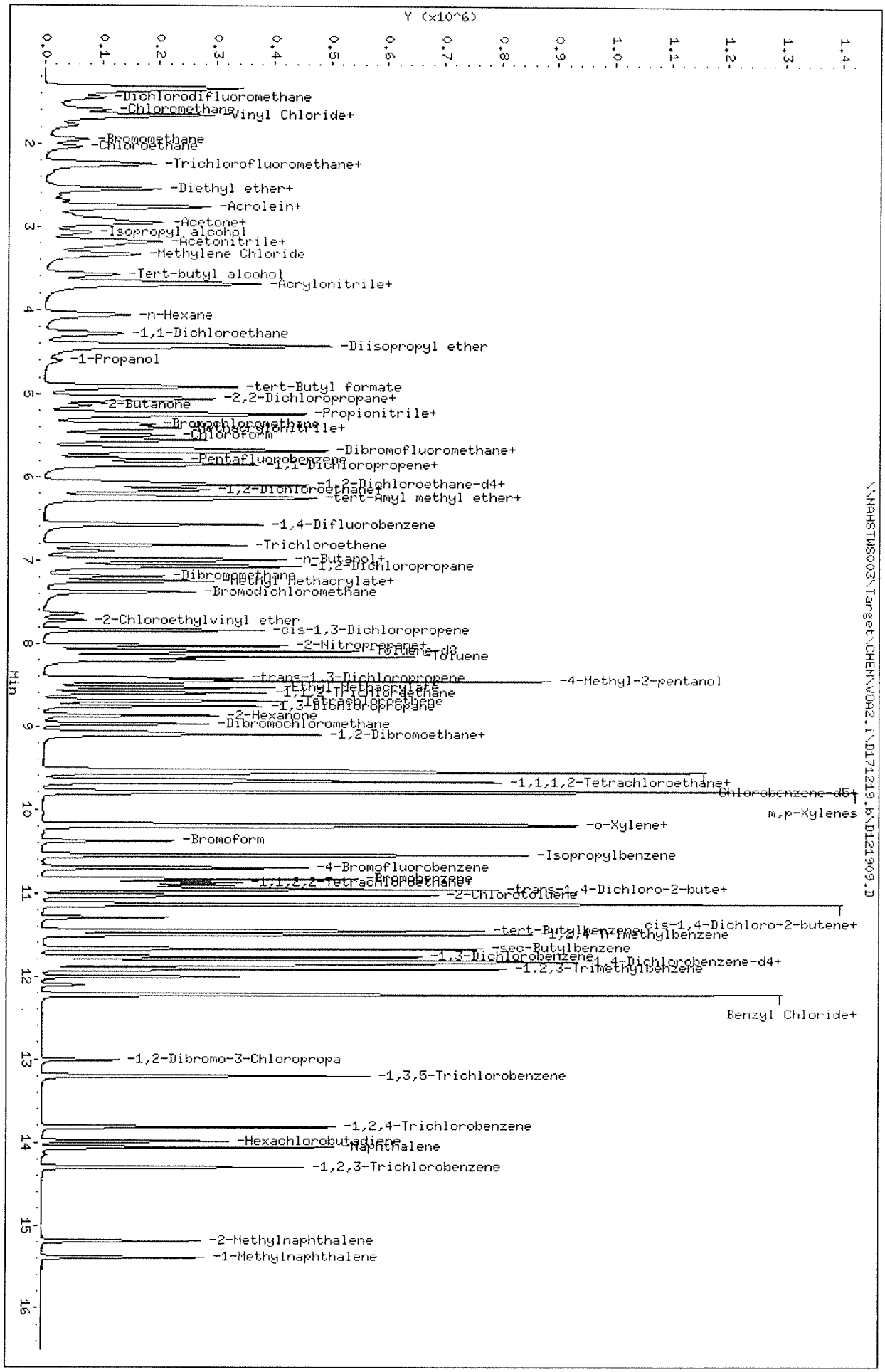
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121909.D
Report Date: 08-Feb-2018 17:04

	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: 08-Feb-2018 17:04

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

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

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

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D
Report Date: 08-Feb-2018 17:04

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 : 08-Feb-2018 17:04 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

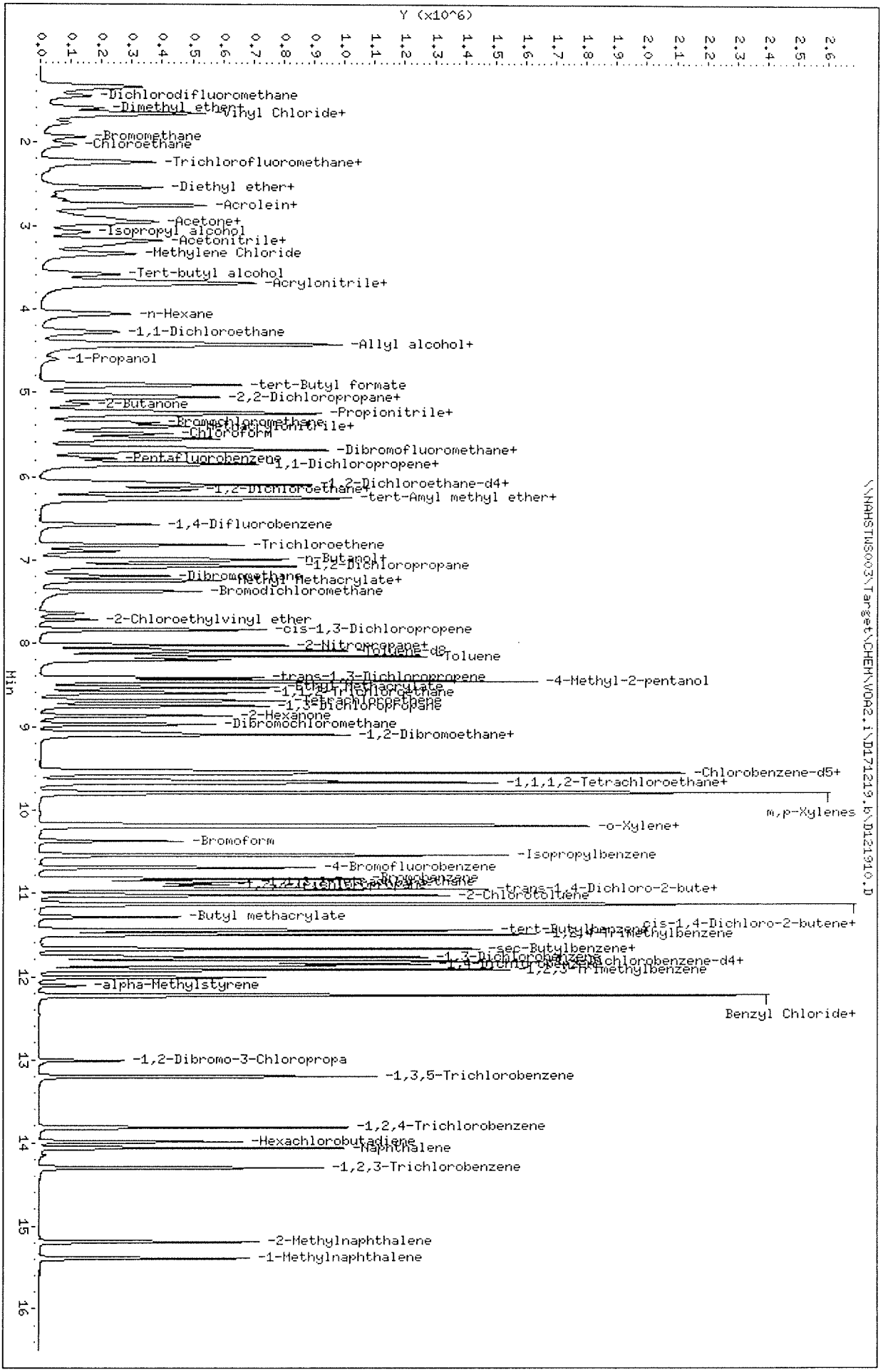
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D
Report Date: 08-Feb-2018 17:04

	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	93.14
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: 08-Feb-2018 17:04

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+
-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
-1,4-Dichlorobenzene-d4+
-1,4-Dichlorobenzene
-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: 08-Feb-2018 17:04

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 : 08-Feb-2018 17:04 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

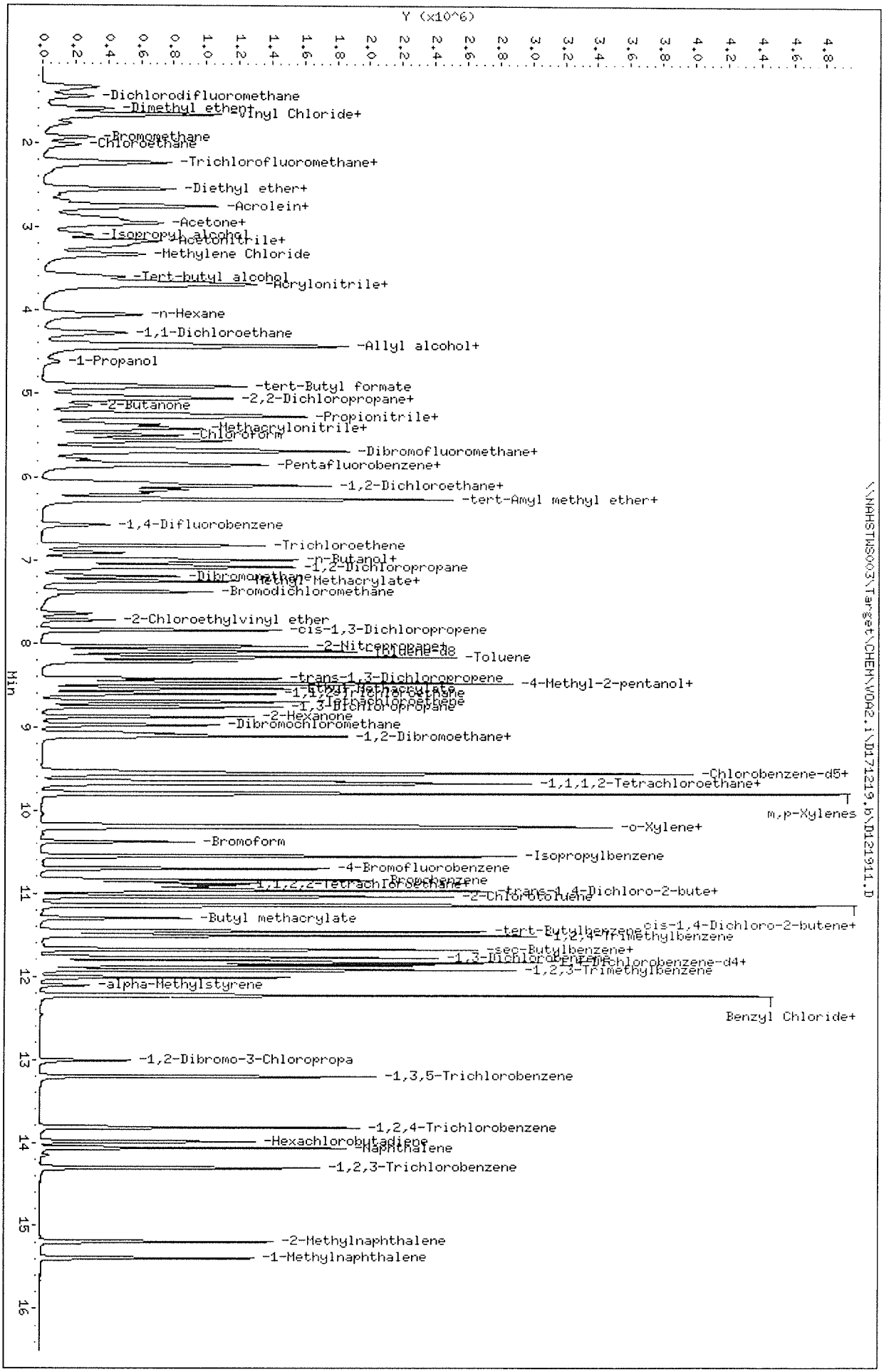
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121911.D
Report Date: 08-Feb-2018 17:04

	Compounds	QUANT STIG 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(M)
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: 08-Feb-2018 17:04

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: 08-Feb-2018 17:05

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 : 08-Feb-2018 17:04 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

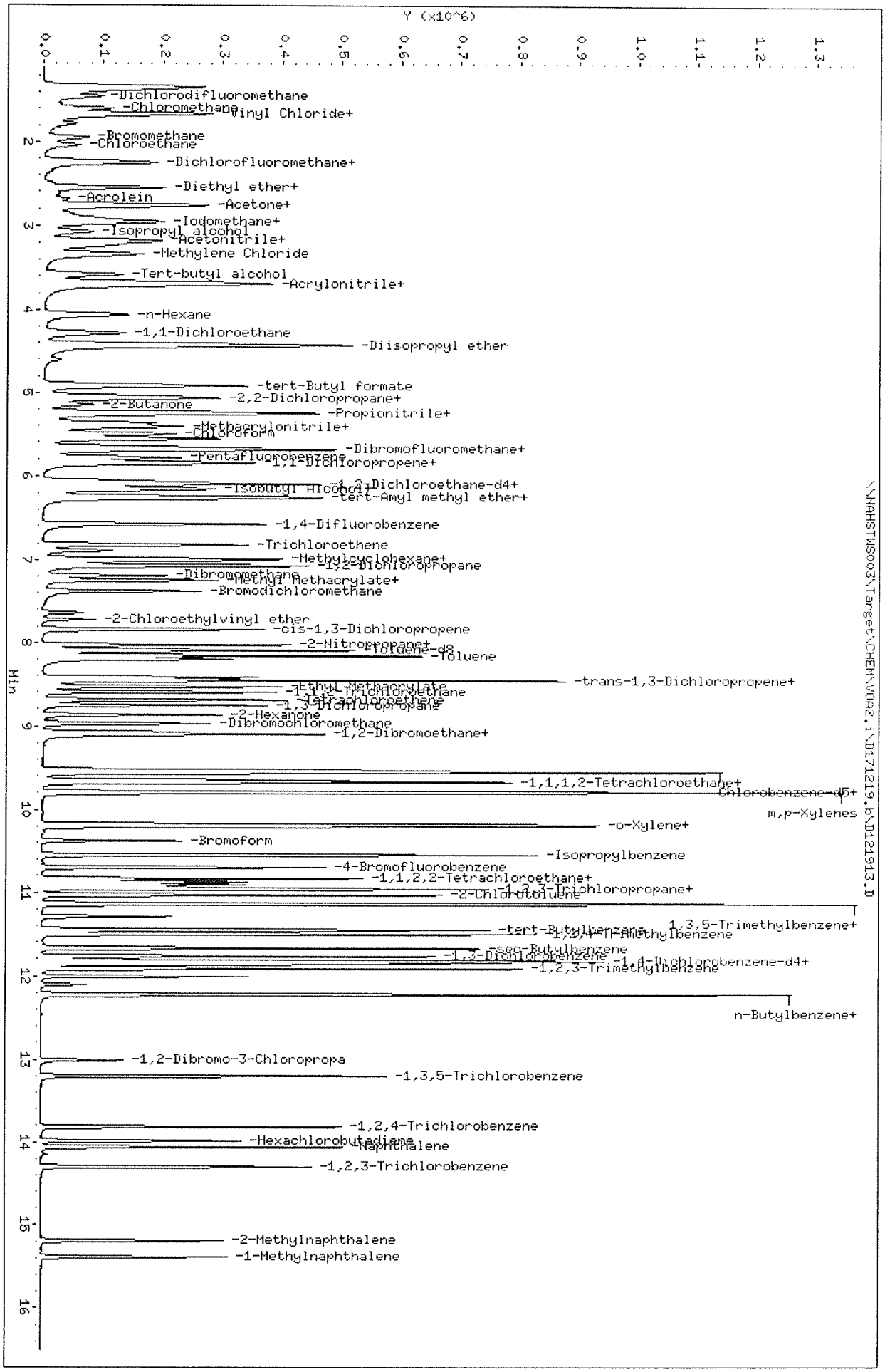
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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: 08-Feb-2018 17:05

	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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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
\\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121913.D
Y (x10^6)
Min
-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
-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

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121168

Lab File ID: D123101 BFB Injection Date: 12/31/17

Instrument ID: VOA2 BFB Injection Time: 1339

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	18.9
75	30.0 - 60.0% of mass 95	46.4
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	86.7
175	5.0 - 9.0% of mass 174	6.1 (7.0)1
176	95.0 - 101.0% of mass 174	87.4 (100.8)1
177	5.0 - 9.0% of mass 176	6.0 (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	D123102	12/31/17	1404
02	VLCSW-171231	VLCSW-171231	D123103	12/31/17	1428
03	VBLKW-171231	VBLKW-171231	D123105	12/31/17	1517
04	HS17121168-0	HS17121168-02	D123107	12/31/17	1606
05	HS17121168-0	HS17121168-01	D123111	12/31/17	1745
06	HS17121224-0	HS17121224-01M	D123127	01/01/18	0044
07	HS17121224-0	HS17121224-01M	D123128	01/01/18	0109
08	CCV_END	CCV_END	D123129	01/01/18	0133
09					
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FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121168

Instrument ID: VOA2 Calibration Date: 12/31/17 Time: 1404

Lab File ID: D123102 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	0.7834339	0.7834339	0.1	1.35	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3990000	0.4087837	0.4087837	0.1	2.45	20.00	AVRG
tert-Butylbenzene	2.7210000	2.5109828	2.5109828	0.1	-7.72	20.00	AVRG
Naphthalene	50.534291	50.000000	2.5922796	0.2	1.07	20.00	LINR
sec-Butylbenzene	3.5940000	3.4383425	3.4383425	0.1	-4.33	20.00	AVRG
1,1,2,2-Tetrachloroethane	1.1930000	1.0296246	1.0296246	0.3	-13.69	20.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.2967527	0.2967527	0.1	-3.02	20.00	AVRG
1,1-Dichloropropene	55.339572	50.000000	0.4305061	0.1	10.68	20.00	LINR
1,1-Dichloroethane	1.0440000	1.0211278	1.0211278	0.2	-2.19	20.00	AVRG
1,1-Dichloroethene	0.4120000	0.4477394	0.4477394	0.1	8.67	20.00	AVRG
1,2,4-Trichlorobenzene	0.9850000	1.0807638	1.0807638	0.2	9.72	20.00	AVRG
1,2-Dibromo-3-Chloropropane	45.120955	50.000000	0.1854610	0.05	-9.76	20.00	LINR
1,2-Dibromoethane	0.3830000	0.3898563	0.3898563	0.1	1.79	20.00	AVRG
1,2-Dichlorobenzene	1.7970000	1.6511734	1.6511734	0.4	-8.12	20.00	AVRG
1,2-Dichloroethane	55.344501	50.000000	0.4885679	0.1	10.69	20.00	LINR
1,2-Dichloropropane	0.3940000	0.3959015	0.3959015	0.1	0.48	20.00	AVRG
1,3-Dichlorobenzene	1.8700000	1.7376490	1.7376490	0.6	-7.08	20.00	AVRG
1,4-Dichlorobenzene	1.7890000	1.6616677	1.6616677	0.4	-7.12	20.00	AVRG
2-Butanone	0.2700000	0.2468740	0.2468740	0.1	-8.56	20.00	AVRG
2-Hexanone	0.2930000	0.2651312	0.2651312	0.1	-9.51	20.00	AVRG
4-Methyl-2-Pentanone	0.4540000	0.4144808	0.4144808	0.1	-8.70	20.00	AVRG
Acetone	94.842113	100.00000	0.1573868	0.1	-5.16	20.00	LINR
Benzene	1.3160000	1.3372083	1.3372083	0.5	1.61	20.00	AVRG
Bromodichloromethane	0.4660000	0.4795462	0.4795462	0.2	2.91	20.00	AVRG
Bromoform	0.2970000	0.3131957	0.3131957	0.1	5.45	20.00	AVRG
Bromomethane	55.990199	50.000000	0.3814083	0.1	11.98	20.00	LINR
Carbon Disulfide	0.9420000	0.9802868	0.9802868	0.1	4.06	20.00	AVRG
Carbon Tetrachloride	0.4750000	0.4294329	0.4294329	0.1	-9.59	20.00	AVRG
Chlorobenzene	1.0300000	1.0009252	1.0009252	0.5	-2.82	20.00	AVRG
Chloroethane	0.4040000	0.3716144	0.3716144	0.1	-8.02	20.00	AVRG
Chloroform	0.9120000	0.8900055	0.8900055	0.2	-2.41	20.00	AVRG
Chloromethane	53.642269	50.000000	0.8960420	0.1	7.28	20.00	LINR
cis-1,2-Dichloroethene	0.5690000	0.5747831	0.5747831	0.1	1.02	20.00	AVRG
cis-1,3-Dichloropropene	0.5350000	0.5950174	0.5950174	0.2	11.22	20.00	AVRG
Dibromochloromethane	0.4320000	0.4420124	0.4420124	0.1	2.32	20.00	AVRG
Dichlorodifluoromethane	0.4270000	0.4274784	0.4274784	0.1	0.11	20.00	AVRG
Ethylbenzene	0.5510000	0.5387145	0.5387145	0.1	-2.23	20.00	AVRG
Isopropylbenzene	1.7050000	1.7094839	1.7094839	0.1	0.26	20.00	AVRG
Methylene Chloride	0.5470000	0.5129354	0.5129354	0.1	-6.23	20.00	AVRG
Tetrachloroethene	55.199033	50.000000	0.3393426	0.2	10.40	20.00	LINR
Toluene	1.5840000	1.5305698	1.5305698	0.4	-3.37	20.00	AVRG
trans-1,2-Dichloroethene	0.4460000	0.4940603	0.4940603	0.1	10.78	20.00	AVRG

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712116

Instrument ID: VOA2 Calibration Date: 12/31/17 Time: 1404

Lab File ID: D123102 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	0.5111178	0.5111178	0.1	12.33	20.00	AVRG
Trichloroethene	0.3700000	0.3886201	0.3886201	0.2	5.03	20.00	AVRG
Trichlorofluoromethane	0.6160000	0.6655858	0.6655858	0.1	8.05	20.00	AVRG
Vinyl Chloride	0.6130000	0.6361688	0.6361688	0.1	3.78	20.00	AVRG
m,p-Xylenes	0.6740000	0.6544416	0.6544416	0.1	-2.90	20.00	AVRG
o-Xylene	0.7050000	0.6927751	0.6927751	0.3	-1.73	20.00	AVRG
Xylenes (total)	0.6190000	0.6178747	0.6178747	0.1	-0.18	20.00	AVRG
1,2,3-Trichloropropane	1.1910000	1.0950432	1.0950432	0.1	-8.06	20.00	AVRG
1,2,3-Trichlorobenzene	0.8490000	0.9206641	0.9206641	0.1	8.44	20.00	AVRG
1,2,4-Trimethylbenzene	3.3300000	2.9414887	2.9414887	0.1	-11.67	20.00	AVRG
1,3,5-Trimethylbenzene	3.2430000	2.9257814	2.9257814	0.1	-9.78	20.00	AVRG
2,2-Dichloropropane	0.7280000	0.7708198	0.7708198	0.1	5.88	20.00	AVRG
1,3-Dichloropropane	0.6170000	0.5926122	0.5926122	0.1	-3.95	20.00	AVRG
2-Chlorotoluene	2.8400000	2.4939296	2.4939296	0.1	-12.18	20.00	AVRG
4-Chlorotoluene	3.0920000	2.7441465	2.7441465	0.1	-11.25	20.00	AVRG
p-Isopropyltoluene	3.0780000	2.9208622	2.9208622	0.1	-5.10	20.00	AVRG
Bromochloromethane	0.2700000	0.2818500	0.2818500	0.1	4.39	20.00	AVRG
Bromobenzene	1.1090000	1.0003348	1.0003348	0.1	-9.80	20.00	AVRG
Dibromomethane	0.2040000	0.2202961	0.2202961	0.1	7.99	20.00	AVRG
Hexachlorobutadiene	52.873285	50.000000	0.4845284	0.1	5.75	20.00	LINR
n-Propylbenzene	4.2270000	3.8888054	3.8888054	0.1	-8.00	20.00	AVRG
n-Butylbenzene	2.2870000	2.2817135	2.2817135	0.05	-0.23	20.00	AVRG
Styrene	1.1240000	1.1369645	1.1369645	0.3	1.15	20.00	AVRG
1,2-Dichloroethane-d4	0.5560000	0.5226369	0.5226369	0.1	-6.00	20.00	AVRG
Dibromofluoromethane	0.4500000	0.4232590	0.4232590	0.1	-5.94	20.00	AVRG
Toluene-d8	1.3180000	1.2274044	1.2274044	0.1	-6.87	20.00	AVRG
4-Bromofluorobenzene	0.4810000	0.4741749	0.4741749	0.1	-1.42	20.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121168

Instrument ID: VOA2 Calibration Date: 01/01/18 Time: 0133

Lab File ID: D123129 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	0.7345603	0.7345603	0.1	-4.97	50.00	AVRG
1,1,1,2-Tetrachloroethane	0.3990000	0.3878466	0.3878466	0.1	-2.80	50.00	AVRG
tert-Butylbenzene	2.7210000	2.3251743	2.3251743	0.1	-14.55	50.00	AVRG
Naphthalene	50.422099	50.000000	2.5865840	0.2	0.84	50.00	LINR
sec-Butylbenzene	3.5940000	3.0788206	3.0788206	0.1	-14.33	50.00	AVRG
1,1,2,2-Tetrachloroethane	1.1930000	1.0194698	1.0194698	0.3	-14.54	50.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.2880370	0.2880370	0.1	-5.87	50.00	AVRG
1,1-Dichloropropene	49.603025	50.000000	0.3866199	0.1	-0.79	50.00	LINR
1,1-Dichloroethane	1.0440000	0.9682337	0.9682337	0.2	-7.26	50.00	AVRG
1,1-Dichloroethene	0.4120000	0.4082224	0.4082224	0.1	-0.92	50.00	AVRG
1,2,4-Trichlorobenzene	0.9850000	1.0040318	1.0040318	0.2	1.93	50.00	AVRG
1,2-Dibromo-3-Chloropropane	46.711683	50.000000	0.1920784	0.05	-6.58	50.00	LINR
1,2-Dibromoethane	0.3830000	0.3839427	0.3839427	0.1	0.25	50.00	AVRG
1,2-Dichlorobenzene	1.7970000	1.5599921	1.5599921	0.4	-13.19	50.00	AVRG
1,2-Dichloroethane	51.377117	50.000000	0.4536080	0.1	2.75	50.00	LINR
1,2-Dichloropropane	0.3940000	0.3679965	0.3679965	0.1	-6.60	50.00	AVRG
1,3-Dichlorobenzene	1.8700000	1.6138171	1.6138171	0.6	-13.70	50.00	AVRG
1,4-Dichlorobenzene	1.7890000	1.5160043	1.5160043	0.4	-15.26	50.00	AVRG
2-Butanone	0.2700000	0.2661324	0.2661324	0.1	-1.43	50.00	AVRG
2-Hexanone	0.2930000	0.2817528	0.2817528	0.1	-3.84	50.00	AVRG
4-Methyl-2-Pentanone	0.4540000	0.4348170	0.4348170	0.1	-4.22	50.00	AVRG
Acetone	104.38284	100.00000	0.1728369	0.1	4.38	50.00	LINR
Benzene	1.3160000	1.2313394	1.2313394	0.5	-6.43	50.00	AVRG
Bromodichloromethane	0.4660000	0.4511987	0.4511987	0.2	-3.18	50.00	AVRG
Bromoform	0.2970000	0.3120199	0.3120199	0.1	5.06	50.00	AVRG
Bromomethane	46.945176	50.000000	0.3224283	0.1	-6.11	50.00	LINR
Carbon Disulfide	0.9420000	0.9064839	0.9064839	0.1	-3.77	50.00	AVRG
Carbon Tetrachloride	0.4750000	0.3949022	0.3949022	0.1	-16.86	50.00	AVRG
Chlorobenzene	1.0300000	0.9482240	0.9482240	0.5	-7.94	50.00	AVRG
Chloroethane	0.4040000	0.3471433	0.3471433	0.1	-14.07	50.00	AVRG
Chloroform	0.9120000	0.8427925	0.8427925	0.2	-7.59	50.00	AVRG
Chloromethane	50.641248	50.000000	0.8467903	0.1	1.28	50.00	LINR
cis-1,2-Dichloroethene	0.5690000	0.5404282	0.5404282	0.1	-5.02	50.00	AVRG
cis-1,3-Dichloropropene	0.5350000	0.5365532	0.5365532	0.2	0.29	50.00	AVRG
Dibromochloromethane	0.4320000	0.4270479	0.4270479	0.1	-1.15	50.00	AVRG
Dichlorodifluoromethane	0.4270000	0.3741881	0.3741881	0.1	-12.37	50.00	AVRG
Ethylbenzene	0.5510000	0.4989157	0.4989157	0.1	-9.45	50.00	AVRG
Isopropylbenzene	1.7050000	1.5850098	1.5850098	0.1	-7.04	50.00	AVRG
Methylene Chloride	0.5470000	0.4938533	0.4938533	0.1	-9.72	50.00	AVRG
Tetrachloroethene	49.359535	50.000000	0.3045222	0.2	-1.28	50.00	LINR
Toluene	1.5840000	1.4357542	1.4357542	0.4	-9.36	50.00	AVRG
trans-1,2-Dichloroethene	0.4460000	0.4518983	0.4518983	0.1	1.32	50.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712116

Instrument ID: VOA2 Calibration Date: 01/01/18 Time: 0133

Lab File ID: D123129 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	0.4724271	0.4724271	0.1	3.83	50.00	AVRG
Trichloroethene	0.3700000	0.3600414	0.3600414	0.2	-2.69	50.00	AVRG
Trichlorofluoromethane	0.6160000	0.6129933	0.6129933	0.1	-0.49	50.00	AVRG
Vinyl Chloride	0.6130000	0.5874974	0.5874974	0.1	-4.16	50.00	AVRG
m,p-Xylenes	0.6740000	0.6064089	0.6064089	0.1	-10.03	50.00	AVRG
o-Xylene	0.7050000	0.6473246	0.6473246	0.3	-8.18	50.00	AVRG
Xylenes (total)	0.6190000	0.5603096	0.5603096	0.1	-9.48	50.00	AVRG
1,2,3-Trichloropropane	1.1910000	1.0839644	1.0839644	0.1	-8.99	50.00	AVRG
1,2,3-Trichlorobenzene	0.8490000	0.8878406	0.8878406	0.1	4.57	50.00	AVRG
1,2,4-Trimethylbenzene	3.3300000	2.7044192	2.7044192	0.1	-18.79	50.00	AVRG
1,3,5-Trimethylbenzene	3.2430000	2.6552399	2.6552399	0.1	-18.12	50.00	AVRG
2,2-Dichloropropane	0.7280000	0.5966358	0.5966358	0.1	-18.04	50.00	AVRG
1,3-Dichloropropane	0.6170000	0.5806728	0.5806728	0.1	-5.89	50.00	AVRG
2-Chlorotoluene	2.8400000	2.3147231	2.3147231	0.1	-18.50	50.00	AVRG
4-Chlorotoluene	3.0920000	2.5268170	2.5268170	0.1	-18.28	50.00	AVRG
p-Isopropyltoluene	3.0780000	2.6035774	2.6035774	0.1	-15.41	50.00	AVRG
Bromochloromethane	0.2700000	0.2739339	0.2739339	0.1	1.46	50.00	AVRG
Bromobenzene	1.1090000	0.9413587	0.9413587	0.1	-15.12	50.00	AVRG
Dibromomethane	0.2040000	0.2077250	0.2077250	0.1	1.82	50.00	AVRG
Hexachlorobutadiene	46.391042	50.000000	0.4256136	0.1	-7.22	50.00	LINR
n-Propylbenzene	4.2270000	3.5433670	3.5433670	0.1	-16.17	50.00	AVRG
n-Butylbenzene	2.2870000	2.0465665	2.0465665	0.05	-10.51	50.00	AVRG
Styrene	1.1240000	1.0647645	1.0647645	0.3	-5.27	50.00	AVRG
1,2-Dichloroethane-d4	0.5560000	0.5281435	0.5281435	0.1	-5.01	50.00	AVRG
Dibromofluoromethane	0.4500000	0.4281762	0.4281762	0.1	-4.85	50.00	AVRG
Toluene-d8	1.3180000	1.2418907	1.2418907	0.1	-5.77	50.00	AVRG
4-Bromofluorobenzene	0.4810000	0.4801812	0.4801812	0.1	-0.17	50.00	AVRG

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121168

Lab File ID (Standard): D123102 Date Analyzed: 12/31/17

Instrument ID: VOA2 Time Analyzed: 1404

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	227284	5.78	337296	6.57	312351	9.53
	UPPER LIMIT	454568	6.28	674592	7.07	624702	10.03
	LOWER LIMIT	113642	5.28	168648	6.07	156176	9.03
	CLIENT SAMPLE NO.						
01	VLCSW-171231	232173	5.78	350112	6.57	319446	9.53
02	VBLKW-171231	248348	5.78	350622	6.57	318957	9.52
03	HS17121168-02	249978	5.78	350240	6.57	318962	9.52
04	HS17121168-01	242847	5.78	349935	6.57	319735	9.52
05	HS17121224-01	230121	5.78	338952	6.57	312265	9.52
06	HS17121224-01	227155	5.78	338925	6.57	312827	9.53
07							
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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.: HS17121168

Lab File ID (Standard): D123102 Date Analyzed: 12/31/17

Instrument ID: VOA2 Time Analyzed: 1404

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

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	146365	11.84				
	UPPER LIMIT	292730	12.34				
	LOWER LIMIT	73183	11.34				
	CLIENT SAMPLE NO.						
01	VLCSW-171231	147881	11.83				
02	VBLKW-171231	141116	11.83				
03	HS17121168-02	137900	11.84				
04	HS17121168-01	148654	11.83				
05	HS17121224-01	147666	11.83				
06	HS17121224-01	149308	11.84				
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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: 30338
Date: 12-31-2017
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	12-31-2017 01:39 pm	1.00	50 mL	50 mL	D123101.D	Liquid	Y	NA
	Auto find/purged									
2	CCV	CCV	12-31-2017 02:04 pm	1.00	50 mL	50 mL	D123102.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
3	VLCSW-171231	LCS	12-31-2017 02:28 pm	1.00	50 mL	50 mL	D123103.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
4	BLK	SAMP	12-31-2017 02:53 pm	1.00	50 mL	50 mL	D123104.D	Liquid	Y	NA
	CLeanup Blk									
5	VBLKW-171231	MBLK	12-31-2017 03:17 pm	1.00	50 mL	50 mL	D123105.D	Liquid	Y	NA
6	HS17121158-03	SAMP	12-31-2017 03:42 pm	1.00	50 mL	50 mL	D123106.D	Liquid	Y	<2
7	HS17121168-02	SAMP	12-31-2017 04:06 pm	1.00	50 mL	50 mL	D123107.D	Liquid	Y	<2
8	HS17121169-02	SAMP	12-31-2017 04:31 pm	1.00	50 mL	50 mL	D123108.D	Liquid	Y	<2
9	HS17121224-09	SAMP	12-31-2017 04:56 pm	1.00	50 mL	50 mL	D123109.D	Liquid	Y	<2
10	HS17121400-02	SAMP	12-31-2017 05:20 pm	1.00	50 mL	50 mL	D123110.D	Liquid	Y	<2
11	HS17121168-01	SAMP	12-31-2017 05:45 pm	1.00	50 mL	50 mL	D123111.D	Liquid	Y	<2
12	HS17121224-01	SAMP	12-31-2017 06:09 pm	1.00	50 mL	50 mL	D123112.D	Liquid	Y	<2
13	HS17121224-08	SAMP	12-31-2017 06:34 pm	1.00	50 mL	50 mL	D123113.D	Liquid	Y	<2
14	HS17121400-01	SAMP	12-31-2017 06:58 pm	1.00	50 mL	50 mL	D123114.D	Liquid	Y	<2
15	HS17121224-05	SAMP	12-31-2017 07:23 pm	1.00	50 mL	50 mL	D123115.D	Liquid	Y	<2
16	HS17121224-05	SAMP	12-31-2017 07:50 pm	10.00	5 mL	50 mL	D123116.D	Liquid	Y	<2
17	HS17121224-06	SAMP	12-31-2017 08:17 pm	5.00	10 mL	50 mL	D123117.D	Liquid	Y	<2
18	HS17121224-06	SAMP	12-31-2017 08:45 pm	50.00	1 mL	50 mL	D123118.D	Liquid	Y	<2
19	HS17121169-01	SAMP	12-31-2017 09:12 pm	10.00	5 mL	50 mL	D123119.D	Liquid	Y	<2
20	HS17121169-01	SAMP	12-31-2017 09:39 pm	100.0(	500 µL	50 mL	D123120.D	Liquid	Y	<2
21	HS17121224-02	SAMP	12-31-2017 10:06 pm	10.00	5 mL	50 mL	D123121.D	Liquid	Y	<2
22	HS17121224-02	SAMP	12-31-2017 10:33 pm	100.0(	500 µL	50 mL	D123122.D	Liquid	Y	<2
23	HS17121224-04	SAMP	12-31-2017 11:01 pm	10.00	5 mL	50 mL	D123123.D	Liquid	Y	<2
24	HS17121224-04	SAMP	12-31-2017 11:28 pm	100.0(	500 µL	50 mL	D123124.D	Liquid	Y	<2
25	HS17121224-03	SAMP	12-31-2017 11:53 pm	100.0(	500 µL	50 mL	D123125.D	Liquid	Y	<2
26	HS17121224-03	SAMP	01-01-2018 12:20 am	1000.0	50 µL	50 mL	D123126.D	Liquid	Y	<2
27	HS17121224-01MS	MS	01-01-2018 12:44 am	1.00	50 mL	50 mL	D123127.D	Liquid	Y	<2
	8 uL cal std/40 mL sample									
28	HS17121224-01MSD	MSD	01-01-2018 01:09 am	1.00	50 mL	50 mL	D123128.D	Liquid	Y	<2
	8 uL cal std/40 mL sample									
29	CCV_END	CCV	01-01-2018 01:33 am	1.00	50 mL	50 mL	D123129.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
30	BFB	TUNE	01-01-2018 01:58 am	1.00	50 mL	50 mL	E123101.D	Liquid	Y	NA
31	CCV	CCV	01-01-2018 02:23 am	1.00	50 mL	50 mL	E123102.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
32	CCV	CCV	01-01-2018 02:47 am	1.00	50 mL	50 mL	E123103.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
33	VLCSW-171231	LCS	01-01-2018 03:12 am	1.00	50 mL	50 mL	E123104.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
34	BLK	SAMP	01-01-2018 03:37 am	1.00	50 mL	50 mL	E123105.D	Liquid	Y	NA
	Cleanup blk									
35	VBLKW-171231	MBLK	01-01-2018 04:01 am	1.00	50 mL	50 mL	E123106.D	Liquid	Y	NA

MSVOA02 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
36	HS17121073-10	SAMP	01-01-2018 04:26 am	1.00	50 mL	50 mL	E123107.D	Liquid	Y	<2
37	HS17121073-08	SAMP	01-01-2018 04:50 am	1.00	50 mL	50 mL	E123108.D	Liquid	Y	<2
38	HS17121073-09	SAMP	01-01-2018 05:15 am	1.00	50 mL	50 mL	E123109.D	Liquid	Y	<2
39	HS17121073-08MS	MS	01-01-2018 05:40 am	1.00	50 mL	50 mL	E123110.D	Liquid	Y	<2
	8 uL cal std/40 mL sample									
40	HS17121073-08MSD	MSD	01-01-2018 06:04 am	1.00	50 mL	50 mL	E123111.D	Liquid	Y	<2
	8 uL cal std/40 mL sample									
41	HS17121037-03	SAMP	01-01-2018 06:29 am	1.00	50 mL	50 mL	E123112.D	Liquid	Y	<2
42	HS17121006-03	SAMP	01-01-2018 06:54 am	1.00	50 mL	50 mL	E123113.D	Liquid	Y	<2
43	HS17121219-05	SAMP	01-01-2018 07:18 am	1.00	50 mL	50 mL	E123114.D	Liquid	Y	<2
44	HS17121219-06	SAMP	01-01-2018 07:43 am	1.00	50 mL	50 mL	E123115.D	Liquid	Y	<2
45	HS17121006-01	SAMP	01-01-2018 08:08 am	1.00	50 mL	50 mL	E123116.D	Liquid	Y	<2
46	HS17121006-02	SAMP	01-01-2018 08:32 am	1.00	50 mL	50 mL	E123117.D	Liquid	Y	<2
47	HS17121171-15	SAMP	01-01-2018 08:57 am	1.00	50 mL	50 mL	E123118.D	Liquid	Y	<2
48	HS17121171-16	SAMP	01-01-2018 09:21 am	1.00	50 mL	50 mL	E123119.D	Liquid	Y	<2
49	HS17121171-17	SAMP	01-01-2018 09:46 am	1.00	50 mL	50 mL	E123120.D	Liquid	Y	<2
50	HS17121171-18	SAMP	01-01-2018 10:11 am	1.00	50 mL	50 mL	E123121.D	Liquid	Y	<2
51	HS17121171-19	SAMP	01-01-2018 10:35 am	1.00	50 mL	50 mL	E123122.D	Liquid	Y	<2
52	HS17121171-20	SAMP	01-01-2018 11:00 am	1.00	50 mL	50 mL	E123123.D	Liquid	Y	<2
53	HS17121171-21	SAMP	01-01-2018 11:24 am	1.00	50 mL	50 mL	E123124.D	Liquid	Y	<2
54	HS17121171-21	SAMP	01-01-2018 11:52 am	10.00	5 mL	50 mL	E123125.D	Liquid	Y	<2
55	HS17121073-03	SAMP	01-01-2018 12:16 pm	100.0(	500 µL	50 mL	E123126.D	Liquid	Y	<2
56	HS17121073-03	SAMP	01-01-2018 12:44 pm	1000.0	50 µL	50 mL	E123127.D	Liquid	Y	<2
57	HS17121073-06	SAMP	01-01-2018 01:08 pm	100.0(	500 µL	50 mL	E123128.D	Liquid	Y	<2
58	HS17121073-06	SAMP	01-01-2018 01:36 pm	1000.0	50 µL	50 mL	E123129.D	Liquid	Y	<2

Chemical	Value
SURR ID	29814-99-03
IS ID	29814-99-04
LCS/MS ID	29814-99-01
CAL STD ID	29814-99-01
BFB ID	29814-99-03
pH Paper	634-37-03

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123101.D

Date : 31-DEC-2017 13:39

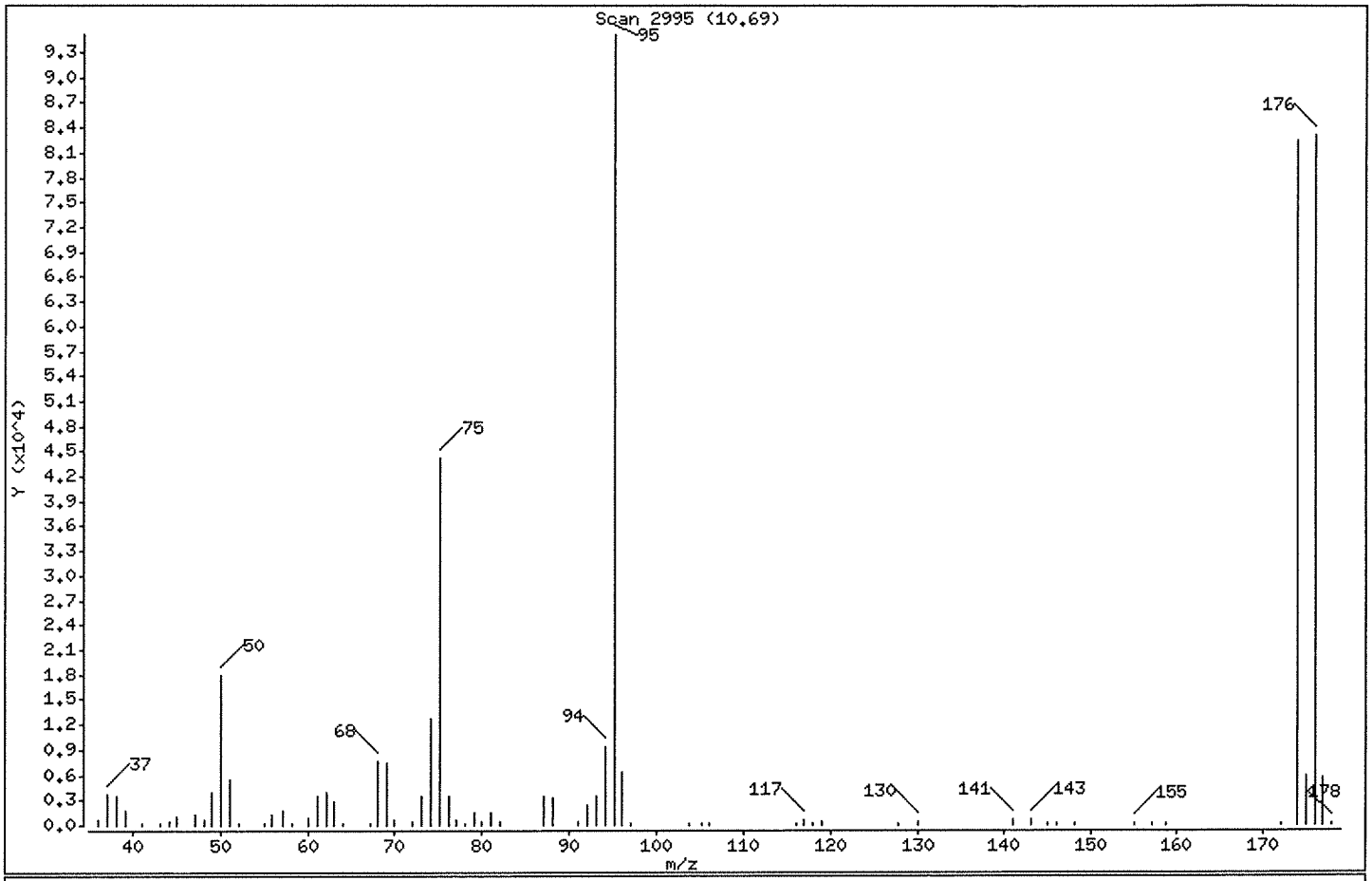
Client ID: BFB Instrument: VOA2.i

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	18.94
75	30.00 - 60.00% of mass 95	46.44
96	5.00 - 9.00% of mass 95	6.67
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	86.67
175	5.00 - 9.00% of mass 174	6.10 (7.04)
176	95.00 - 101.00% of mass 174	87.40 (100.84)
177	5.00 - 9.00% of mass 176	5.99 (6.85)

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123101.D

Date : 31-DEC-2017 13:39

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: D123101.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
36.00	619	60.10	853	80.90	1581	127.80	228
37.10	3633	61.10	3473	82.00	478	130.00	458
38.10	3566	62.10	3859	87.00	3554	141.00	737
39.10	1752	63.10	2859	88.00	3308	143.00	732
41.10	303	64.00	216	91.00	350	145.00	192
43.10	249	67.10	153	92.10	2431	145.90	281
44.10	460	68.10	7760	93.00	3459	148.00	192
45.00	1004	69.10	7520	94.10	9447	155.00	321
47.10	1343	70.00	712	95.10	95192	157.00	151
48.10	607	72.00	411	96.10	6349	158.80	158
49.10	3926	73.10	3507	97.10	157	172.20	189
50.10	18032	74.10	12652	103.80	248	174.00	82504
51.10	5374	75.10	44208	105.20	171	175.10	5807
52.20	260	76.10	3572	106.00	233	176.00	83200
55.10	232	77.10	760	116.00	157	177.00	5699
56.00	1334	78.00	264	117.00	551	178.00	220
57.10	1833	79.00	1485	117.90	245		
58.10	151	80.00	514	119.00	427		

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123101.D

Date : 31-DEC-2017 13:39

Client ID: BFB

Instrument: VOA2.i

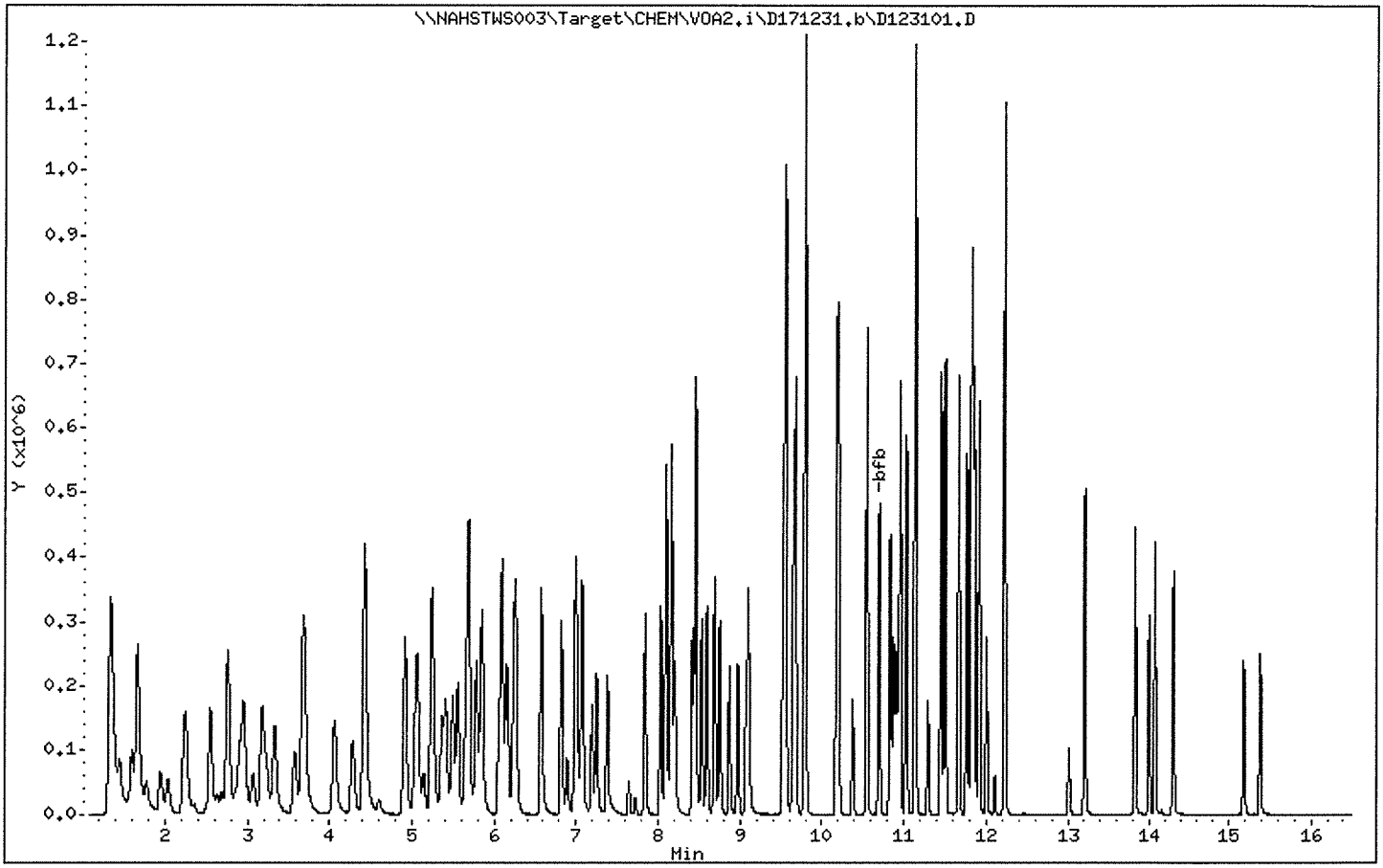
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123102.D
Report Date: 08-Feb-2018 17:29

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123102.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 31-DEC-2017 14:04
Operator : AP Inst ID: VOA2.i
Smp Info : CCV;CCV;2;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171231.b\8260LL.m
Meth Date : 08-Feb-2018 17:29 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	(0.978)	178062	50.0000	50.69
*	1 Pentafluorobenzene	168	5.782	5.782	(1.000)	227284	50.0000	
$	30 Dibromofluoromethane	113	5.689	5.689	(0.984)	96200	50.0000	46.97
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	337296	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.055	6.055	(1.047)	118787	50.0000	46.96
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	312351	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.849)	383381	50.0000	46.55
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	148109	50.0000	49.24
*	70 1,4-Dichlorobenzene-d4	152	11.838	11.838	(1.000)	146365	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.918)	150701	50.0000	43.16
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	92691	50.0000	48.51
	32 1,1-Dichloropropene	75	5.856	5.856	(0.891)	145208	50.0000	55.33
	22 1,1-Dichloroethane	63	4.277	4.277	(0.740)	232086	50.0000	48.91
	11 1,1-Dichloroethene	96	2.750	2.750	(0.476)	101764	50.0000	54.24
	90 1,2,4-Trichlorobenzene	180	13.818	13.818	(1.167)	158186	50.0000	54.86
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	27145	50.0000	45.12
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	121772	50.0000	50.88
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	241674	50.0000	45.93
	33 1,2-Dichloroethane	62	6.145	6.145	(0.935)	164792	50.0000	55.34
	42 1,2-Dichloropropane	63	7.066	7.066	(1.075)	133536	50.0000	50.26
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	254331	50.0000	46.45

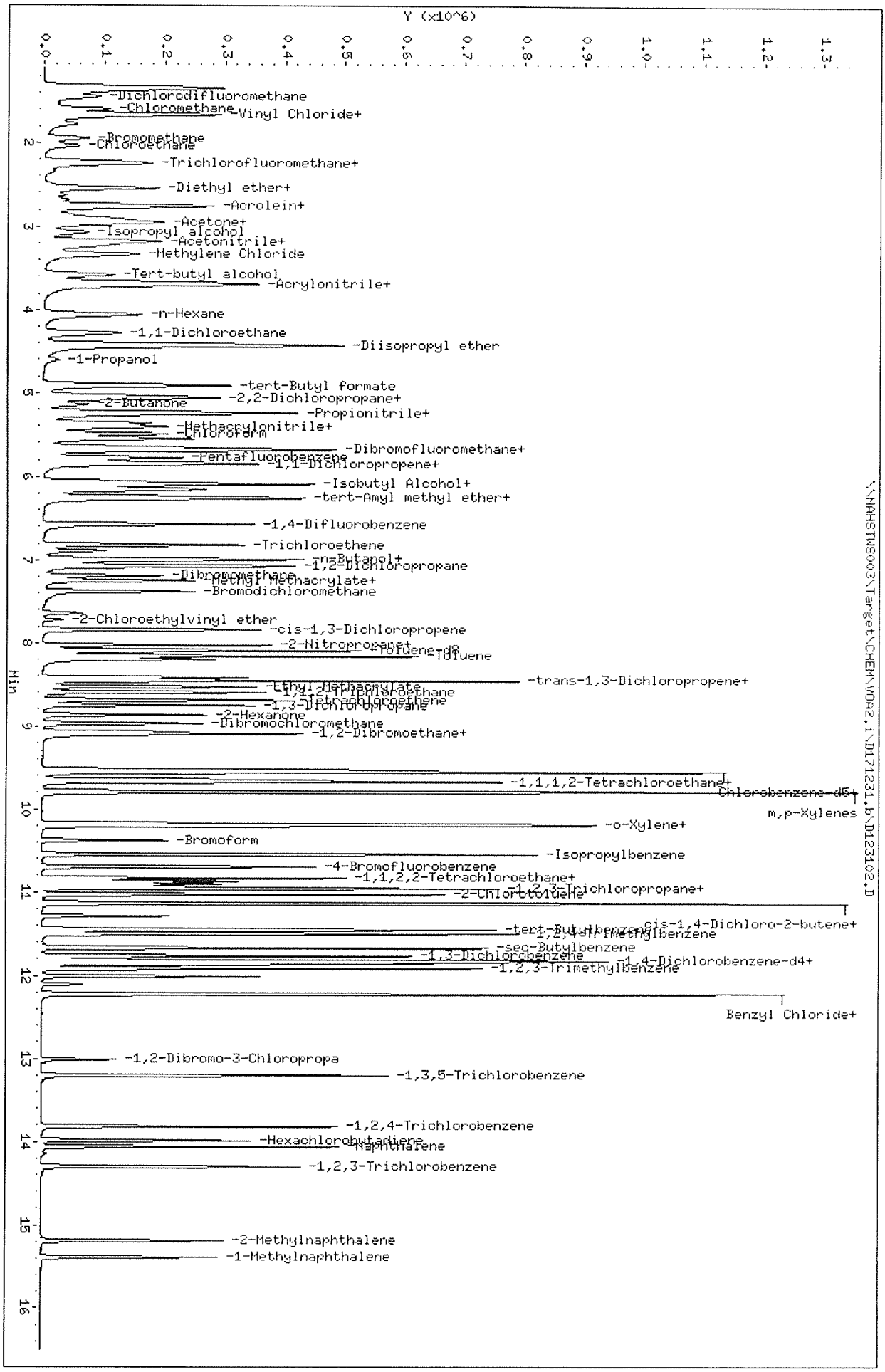
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123102.D
Report Date: 08-Feb-2018 17:29

	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	11.860	11.860	(1.002)	243210	50.0000	46.44
24	2-Butanone	43	5.144	5.144	(0.890)	112221	100.000	91.50
52	2-Hexanone	43	8.866	8.866	(0.931)	165628	100.000	90.50
45	4-Methyl-2-Pentanone	43	8.025	8.025	(0.842)	258927	100.000	91.37
10	Acetone	43	2.862	2.862	(0.495)	71543	100.000	94.84
37	Benzene	78	6.090	6.090	(0.927)	451035	50.0000	50.82
39	Bromodichloromethane	83	7.377	7.377	(1.123)	161749	50.0000	51.49
66	Bromoform	173	10.378	10.378	(1.089)	97827	50.0000	52.79
6	Bromomethane	94	1.941	1.941	(0.336)	86688	50.0000	55.99
19	Carbon Disulfide	76	2.952	2.952	(0.511)	445607	100.000	104.01
34	Carbon Tetrachloride	117	5.834	5.834	(0.888)	144846	50.0000	45.20
59	Chlorobenzene	112	9.553	9.553	(1.003)	312640	50.0000	48.60
7	Chloroethane	64	2.041	2.041	(0.353)	84462	50.0000	45.93
28	Chloroform	83	5.494	5.494	(0.950)	202284	50.0000	48.81
3	Chloromethane	50	1.588	1.588	(0.275)	203656	50.0000	53.64
27	cis-1,2-Dichloroethene	96	5.067	5.067	(0.876)	130639	50.0000	50.52
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	200697	50.0000	55.63
55	Dibromochloromethane	129	8.972	8.972	(0.942)	138063	50.0000	51.19
2	Dichlorodifluoromethane	85	1.447	1.447	(0.250)	97159	50.0000	50.00
61	Ethylbenzene	106	9.672	9.672	(1.015)	168268	50.0000	48.87
67	Isopropylbenzene	105	10.548	10.548	(1.107)	533959	50.0000	50.13
17	Methylene Chloride	84	3.334	3.334	(0.577)	116582	50.0000	46.86
56	Tetrachloroethene	164	8.690	8.690	(0.912)	105994	50.0000	55.19
50	Toluene	91	8.157	8.157	(0.856)	478075	50.0000	48.29
20	trans-1,2-Dichloroethene	96	3.671	3.671	(0.635)	112292	50.0000	55.34
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	172398	50.0000	56.16
38	Trichloroethene	130	6.819	6.819	(1.038)	131080	50.0000	52.46
8	Trichlorofluoromethane	101	2.256	2.256	(0.390)	151277	50.0000	53.98
5	Vinyl Chloride	62	1.685	1.685	(0.291)	144591	50.0000	51.90
62	m,p-Xylenes	106	9.790	9.790	(1.028)	408831	100.000	97.09
63	o-Xylene	106	10.179	10.179	(1.068)	216389	50.0000	49.12
M 95	Xylenes (total)	106				625220	150.000	(a)
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	160276	50.0000	45.96
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.208)	134753	50.0000	54.23
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	430531	50.0000	44.16
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.940)	428232	50.0000	45.10
26	2,2-Dichloropropane	77	5.041	5.041	(0.872)	175195	50.0000	52.90
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	185103	50.0000	48.03
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	365024	50.0000	43.90
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	401647	50.0000	44.36
82	p-Isopropyltoluene	119	11.818	11.818	(0.998)	427512	50.0000	47.45
29	Bromochloromethane	128	5.365	5.365	(0.928)	64060	50.0000	52.05
74	Bromobenzene	156	10.833	10.833	(0.915)	146414	50.0000	45.09
44	Dibromomethane	93	7.188	7.188	(1.094)	74305	50.0000	53.97
91	Hexachlorobutadiene	225	13.991	13.991	(1.182)	70918	50.0000	52.87
73	n-Propylbenzene	91	10.955	10.955	(0.925)	569185	50.0000	45.99
87	n-Butylbenzene	91	12.223	12.223	(1.033)	333963	50.0000	49.87
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	503253	50.0000	47.83
92	Naphthalene	128	14.061	14.061	(1.188)	379419	50.0000	50.53
78	tert-Butylbenzene	119	11.453	11.453	(0.967)	367520	50.0000	46.14
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	127684	50.0000	51.22
64	Styrene	104	10.198	10.198	(1.070)	355132	50.0000	50.54

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123102.D
Report Date: 08-Feb-2018 17:29

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
Min
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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
-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 : 31-DEC-2017 14:04
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\D171231.b\D123103.D
Report Date: 08-Feb-2018 17:29

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123103.D
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Inj Date : 31-DEC-2017 14:28
Operator : AP Inst ID: VOA2.i
Smp Info : VLCSW-171231;VLCSW-171231;3;;LCS
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171231.b\8260LL.m
Meth Date : 08-Feb-2018 17:29 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

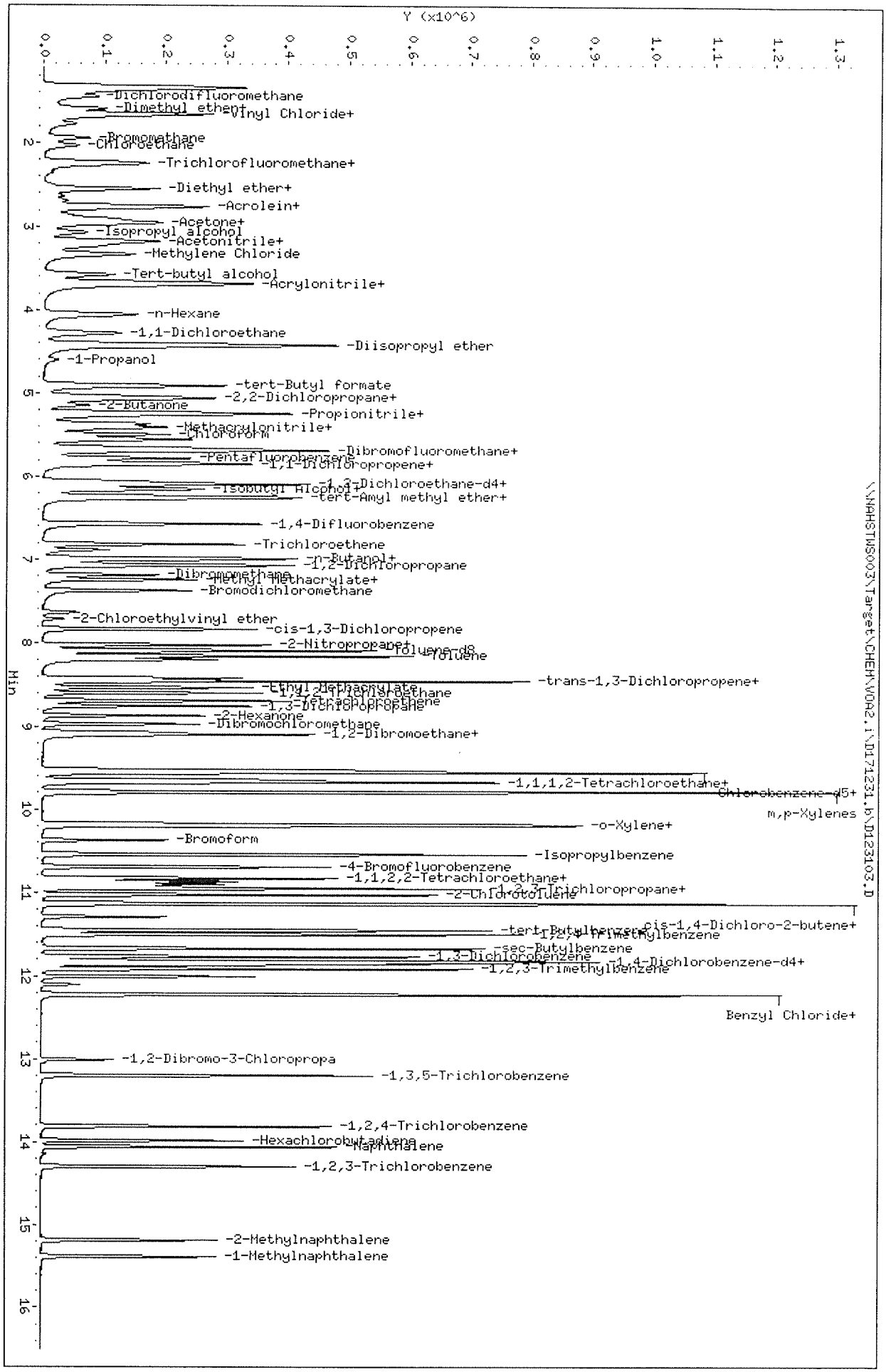
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	CONCENTRATIONS FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	171718	47.8547	47.85
*	1 Pentafluorobenzene	168	5.779	5.782	(1.000)	232173	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.689	(0.984)	99128	47.3885	47.38
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	350112	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.055	(1.048)	121862	47.1689	47.16
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	319446	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.849)	392219	46.5681	46.56
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	153094	49.7765	49.77
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.838	(1.000)	147881	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	146527	41.5359	41.53
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	90075	46.0943	46.09
	32 1,1-Dichloropropene	75	5.856	5.856	(0.891)	139971	51.3244	51.32
	22 1,1-Dichloroethane	63	4.284	4.277	(0.741)	225301	46.4807	46.48
	11 1,1-Dichloroethene	96	2.753	2.750	(0.476)	94660	49.3995	49.39
	90 1,2,4-Trichlorobenzene	180	13.817	13.818	(1.168)	153234	52.5982	52.59
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	26376	43.4139	43.41
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	118224	48.3039	48.30
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	233845	43.9938	43.99
	33 1,2-Dichloroethane	62	6.145	6.145	(0.935)	152345	49.2804	49.28
	42 1,2-Dichloropropane	63	7.069	7.066	(1.076)	129453	46.9438	46.94
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	245556	44.3919	44.39

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123103.D
Report Date: 08-Feb-2018 17:29

	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)	235222	44.4594	44.45
	24 2-Butanone	43	5.144	5.144	(0.890)	108816	86.8575	86.85
	52 2-Hexanone	43	8.866	8.866	(0.931)	161951	86.5263	86.52
	45 4-Methyl-2-Pentanone	43	8.029	8.025	(0.843)	255275	88.0817	88.08
	10 Acetone	43	2.856	2.862	(0.494)	68837	89.1969	89.19
	37 Benzene	78	6.094	6.090	(0.927)	435166	47.2396	47.23
	39 Bromodichloromethane	83	7.377	7.377	(1.123)	156945	48.1347	48.13
	66 Bromoform	173	10.374	10.378	(1.089)	95718	50.5132	50.51
	6 Bromomethane	94	1.941	1.941	(0.336)	85834	54.1944	54.19
	19 Carbon Disulfide	76	2.955	2.952	(0.511)	431981	98.7150	98.71
	34 Carbon Tetrachloride	117	5.834	5.834	(0.888)	136308	40.9876	40.98
	59 Chlorobenzene	112	9.553	9.553	(1.003)	305466	46.4327	46.43
	7 Chloroethane	64	2.038	2.041	(0.353)	80986	43.1139	43.11
	28 Chloroform	83	5.493	5.494	(0.951)	196984	46.5368	46.53
	3 Chloromethane	50	1.591	1.588	(0.275)	193609	49.8558	49.85
	27 cis-1,2-Dichloroethene	96	5.067	5.067	(0.877)	125121	47.3694	47.36
	46 cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	194892	52.0488	52.04
	55 Dibromochloromethane	129	8.969	8.972	(0.941)	134079	48.6143	48.61
	2 Dichlorodifluoromethane	85	1.447	1.447	(0.250)	92301	46.5043	46.50
	61 Ethylbenzene	106	9.672	9.672	(1.015)	161739	45.9333	45.93
	67 Isopropylbenzene	105	10.548	10.548	(1.107)	517914	47.5456	47.54
	17 Methylene Chloride	84	3.334	3.334	(0.577)	114439	45.0325	45.03
	56 Tetrachloroethene	164	8.690	8.690	(0.912)	102757	52.2357	52.23
	50 Toluene	91	8.160	8.157	(0.857)	468018	46.2300	46.23
	20 trans-1,2-Dichloroethene	96	3.671	3.671	(0.635)	106296	51.2839	51.28
	51 trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	165207	51.8510	51.85
	38 Trichloroethene	130	6.819	6.819	(1.038)	127063	48.9987	48.99
	8 Trichlorofluoromethane	101	2.256	2.256	(0.390)	148345	51.8203	51.82
	5 Vinyl Chloride	62	1.678	1.685	(0.290)	138226	48.5737	48.57
	62 m,p-Xylenes	106	9.790	9.790	(1.028)	397178	92.2346	92.23
	63 o-Xylene	106	10.179	10.179	(1.068)	211437	46.9333	46.93
M	95 Xylenes (total)	106				608615	139.168	139.16
	71 1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	157169	44.6150	44.61
	93 1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	130196	51.8657	51.86
	79 1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	417571	42.3923	42.39
	75 1,3,5-Trimethylbenzene	105	11.135	11.132	(0.941)	414908	43.2534	43.25
	26 2,2-Dichloropropane	77	5.044	5.041	(0.873)	169202	50.0238	50.02
	54 1,3-Dichloropropane	76	8.754	8.754	(0.919)	178741	45.3497	45.34
	76 2-Chlorotoluene	91	11.029	11.029	(0.932)	354956	42.2537	42.25
	77 4-Chlorotoluene	91	11.138	11.138	(0.941)	393530	43.0235	43.02
	82 p-Isopropyltoluene	119	11.818	11.818	(0.999)	407643	44.7830	44.78
	29 Bromochloromethane	128	5.368	5.365	(0.929)	62014	49.3348	49.33
	74 Bromobenzene	156	10.833	10.833	(0.915)	143613	43.7795	43.77
	44 Dibromomethane	93	7.188	7.188	(1.094)	71234	49.8468	49.84
	91 Hexachlorobutadiene	225	13.987	13.991	(1.182)	68912	50.8342	50.83
	73 n-Propylbenzene	91	10.955	10.955	(0.926)	551824	44.1350	44.13
	87 n-Butylbenzene	91	12.223	12.223	(1.033)	321788	47.5659	47.56
	81 sec-Butylbenzene	105	11.667	11.668	(0.986)	483657	45.5013	45.50
	92 Naphthalene	128	14.061	14.061	(1.188)	370060	48.7642	48.76
	78 tert-Butylbenzene	119	11.449	11.453	(0.967)	352496	43.8058	43.80
	60 1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	121998	47.8589	47.85
	64 Styrene	104	10.198	10.198	(1.070)	344378	47.9289	47.92


Y (x10^6)
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Min
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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
-Diisopropyl ether
-1-Propanol
-tert-Butyl formate
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
-1,1-Dichloropropene+
-1,3-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
-1-Methylnaphthalene
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Sample Info: VLCSW-171231,VLCSW-171231,3,,LCS
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123105.D
Report Date: 08-Feb-2018 17:29

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123105.D
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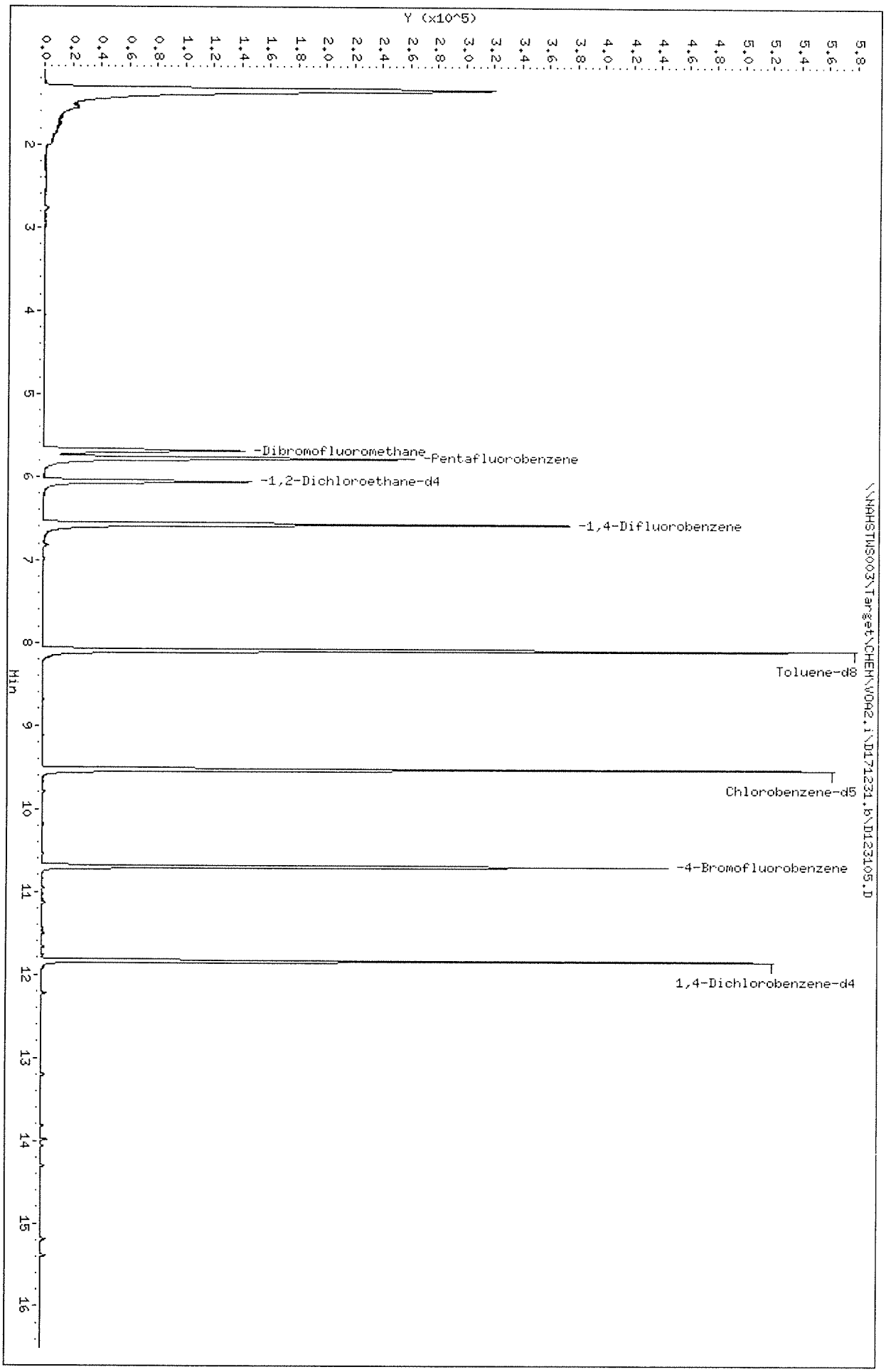
Inj Date : 31-DEC-2017 15:17
Operator : AP Inst ID: VOA2.i
Smp Info : VBLKW-171231;VBLKW-171231;3;;BLANK
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171231.b\8260LL.m
Meth Date : 08-Feb-2018 17:29 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: 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)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	5.779	5.782	(1.000)	248348	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.689	(0.984)	110129	49.2186	49.21
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	350622	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.052	6.055	(1.047)	126009	45.5974	45.59
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	318957	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	408314	48.5534	48.55
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	147537	48.0432	48.04
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.838	(1.000)	141116	50.0000	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Client ID: VBLKW-171231
Sample Info: VBLKW-171231;VBLKW-171231;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\D171231.b\D123105.D
Min

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123107.D
Report Date: 08-Feb-2018 17:29

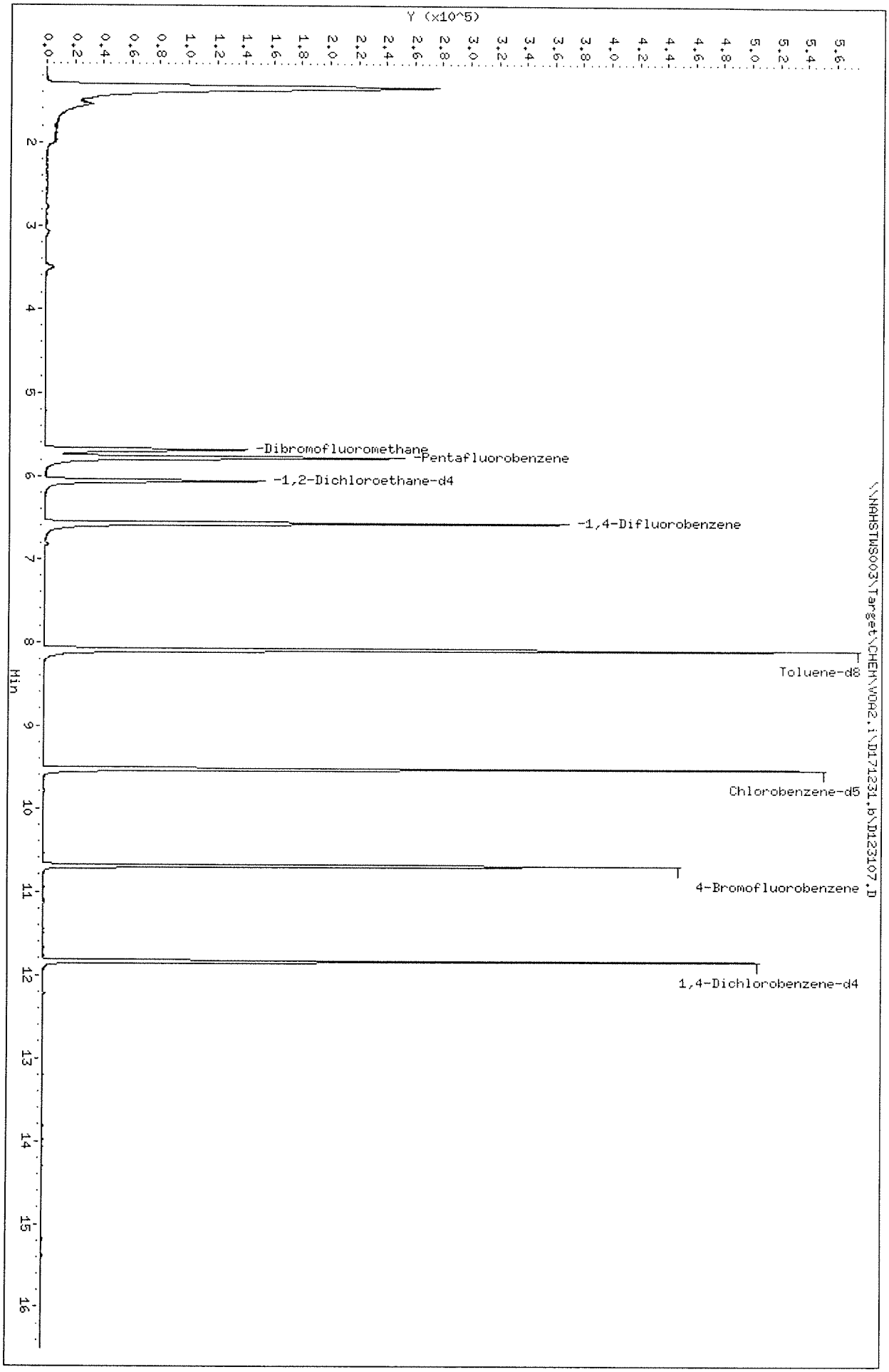
ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123107.D
Lab Smp Id: HS17121168-02 Client Smp ID: HS17121168-02
Inj Date : 31-DEC-2017 16:06
Operator : AP Inst ID: VOA2.i
Smp Info : HS17121168-02;HS17121168-02;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171231.b\8260LL.m
Meth Date : 08-Feb-2018 17:29 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	5.782	(1.000)	249978	50.0000	
$ 30 Dibromofluoromethane	113	5.683	5.689	(0.984)	110844	49.2151	49.21
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	350240	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.055	(1.048)	126810	45.5881	45.58
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	318962	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	406615	48.3506	48.35
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	148738	48.4336	48.43
* 70 1,4-Dichlorobenzene-d4	152	11.838	11.838	(1.000)	137900	50.0000	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Sample Info: HS17121168-02;HS17121168-02;;;
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\D171231.b\D123111.D
Report Date: 08-Feb-2018 17:29

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123111.D
Lab Smp Id: HS17121168-01 Client Smp ID: HS17121168-01
Inj Date : 31-DEC-2017 17:45
Operator : AP Inst ID: VOA2.i
Smp Info : HS17121168-01;HS17121168-01;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171231.b\8260LL.m
Meth Date : 08-Feb-2018 17:29 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

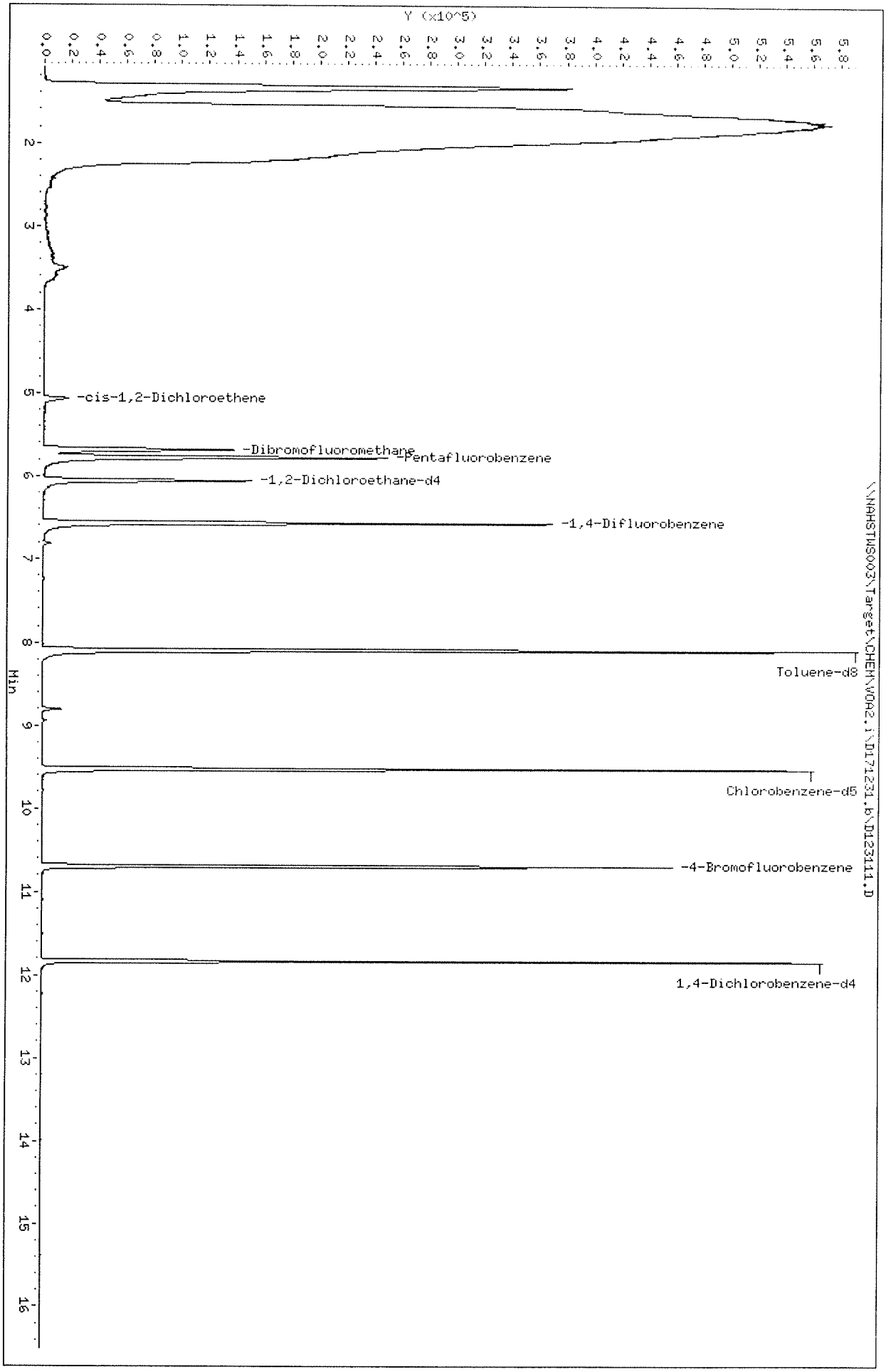
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	5.779	5.782	(1.000)	242847	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.689	(0.984)	109086	49.8568	49.85
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	349935	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.058	6.055	(1.048)	121965	45.1338	45.13
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	319735	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	408108	48.4108	48.41
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	152605	49.5726	49.57
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.838	(1.000)	148654	50.0000	
27 cis-1,2-Dichloroethene	96	5.073	5.067	(0.878)	11347	4.10703	4.10(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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Sample Info: HS171211168-01;HS171211168-01;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: WOA2.i
Operator: AP
Column diameter: 0.18
Y (x10^5)
-cis-1,2-Dichloroethene
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
Toluene-d8
Chlorobenzene-d5
-4-Bromofluorobenzene
1,4-Dichlorobenzene-d4
\\NAHSTWS003\Target\CHEM\WOA2.i\D171231.b\D123111.D
Min

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123111.D

Date : 31-DEC-2017 17:45

Client ID: HS17121168-01

Instrument: VOA2.i

Sample Info: HS17121168-01;HS17121168-01;;;

Purge Volume: 5.0

Operator: AP

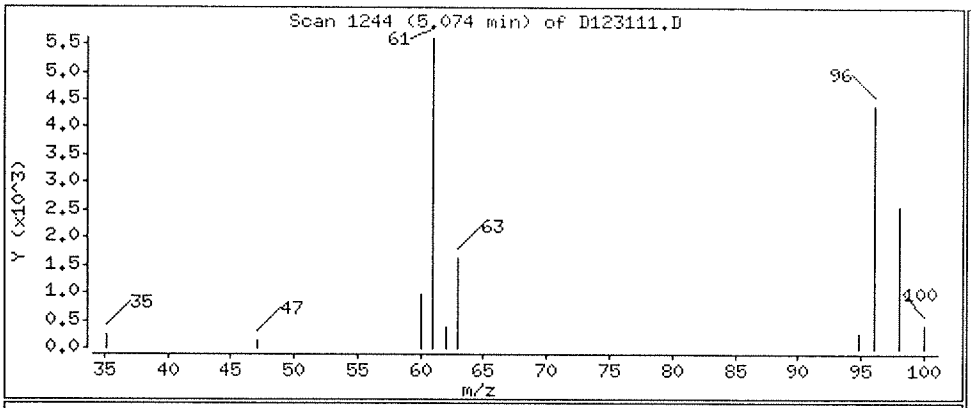
Column phase: DB624

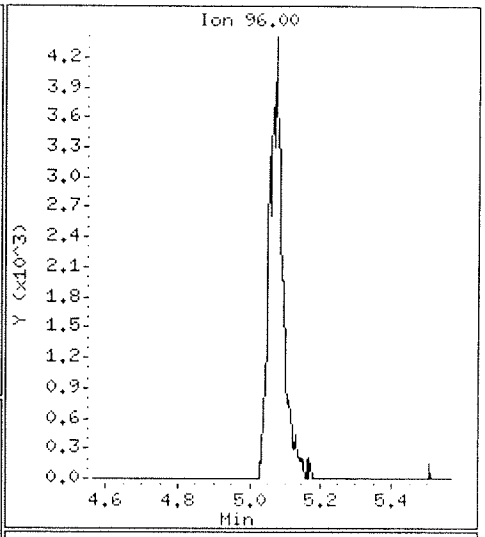
Column diameter: 0.18

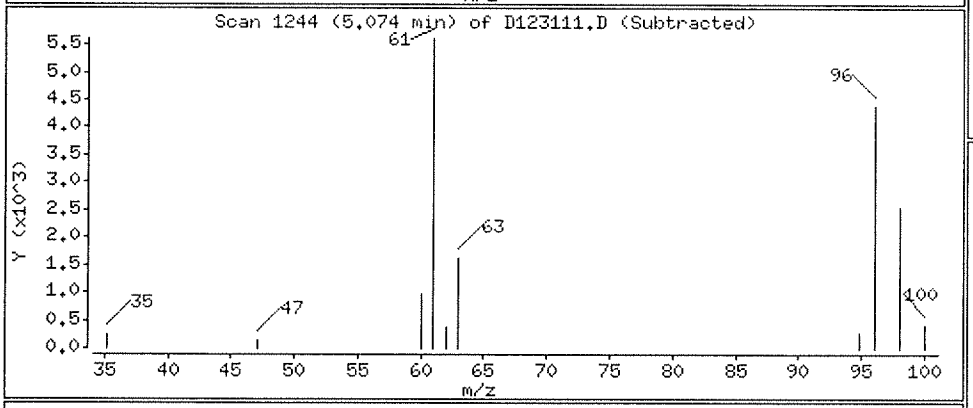
27 cis-1,2-Dichloroethene

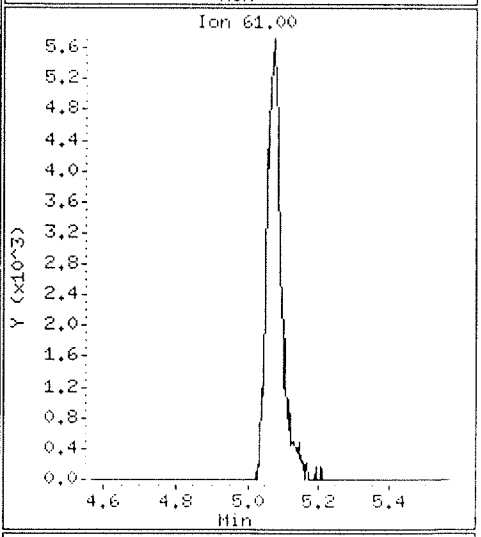
Concentration: 4.10 ug/l

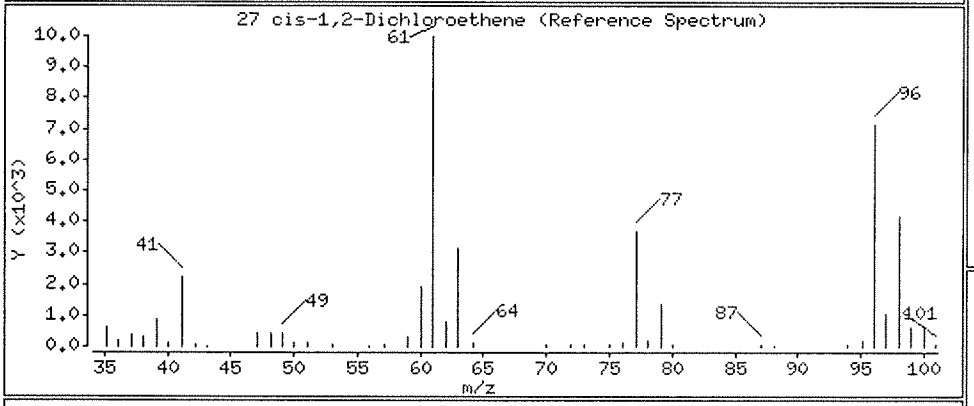
Review Code:

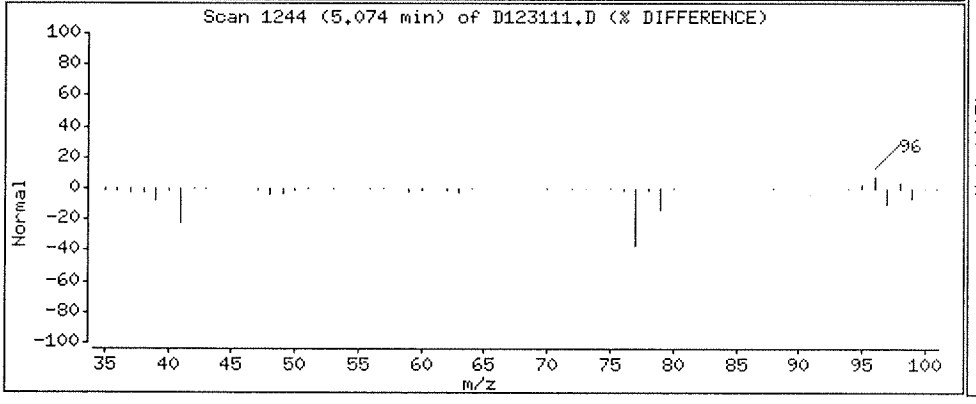


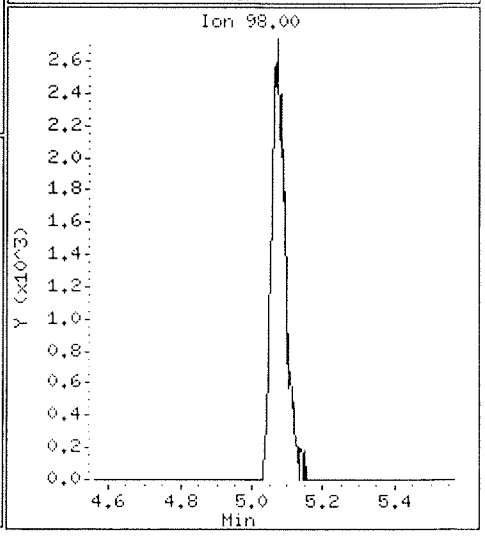












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123127.D
Report Date: 08-Feb-2018 17:29

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123127.D
Lab Smp Id: HS17121224-01MS Client Smp ID: HS17121224-01MS
Inj Date : 01-JAN-2018 00:44
Operator : AP Inst ID: VOA2.i
Smp Info : HS17121224-01MS;HS17121224-01MS;3;;MS
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171231.b\8260LL.m
Meth Date : 08-Feb-2018 17:29 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 21 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

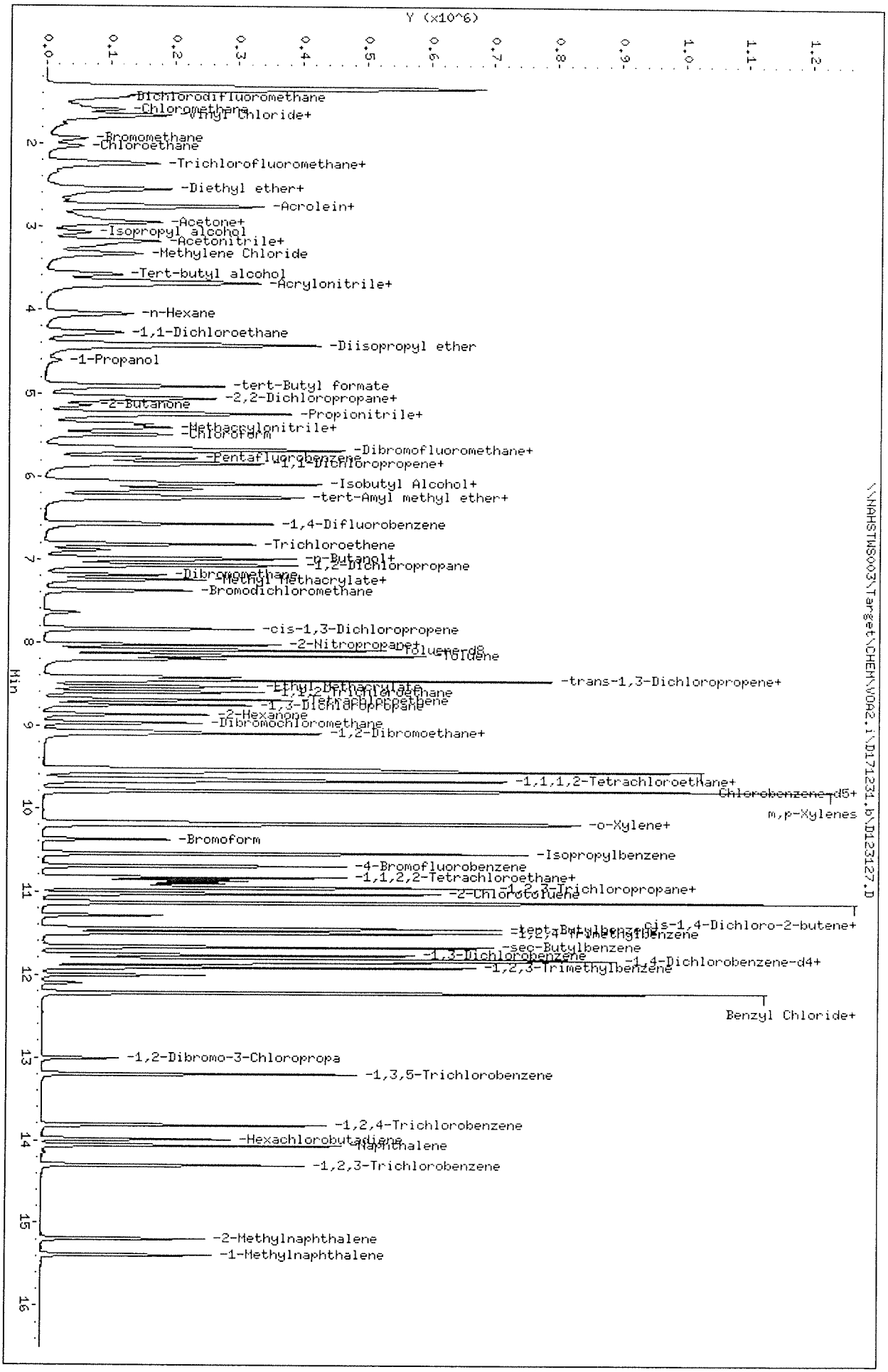
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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 STG 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)	173916	48.8994	48.89
*	1 Pentafluorobenzene	168	5.779	5.782	(1.000)	230121	50.0000	
$	30 Dibromofluoromethane	113	5.683	5.689	(0.983)	99252	47.8709	47.87
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	338952	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.055	(1.048)	119908	46.8265	46.82
*	47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	312265	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.850)	383964	46.6363	46.63
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	147778	49.1530	49.15
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.838	(1.000)	147666	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	142303	40.3973	40.39
	53 1,1,2-Trichloroethane	83	8.597	8.593	(0.903)	85797	44.9148	44.91
	32 1,1-Dichloropropene	75	5.853	5.856	(0.891)	136052	51.5337	51.53
	22 1,1-Dichloroethane	63	4.281	4.277	(0.741)	219590	45.7065	45.70
	11 1,1-Dichloroethene	96	2.747	2.750	(0.475)	97799	51.4927	51.49
	90 1,2,4-Trichlorobenzene	180	13.814	13.818	(1.167)	141805	48.7460	48.74
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	25453	41.9737	41.97
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	114562	47.8841	47.88
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	226910	42.7513	42.75
	33 1,2-Dichloroethane	62	6.145	6.145	(0.935)	151297	50.5554	50.55
	42 1,2-Dichloropropane	63	7.066	7.066	(1.075)	123842	46.3877	46.38
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	236316	42.7836	42.78

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123127.D
Report Date: 08-Feb-2018 17:29

	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)	224403	42.4763	42.47
24	2-Butanone	43	5.147	5.144	(0.891)	108113	87.0658	87.06
52	2-Hexanone	43	8.866	8.866	(0.931)	157478	86.0713	86.07
45	4-Methyl-2-Pentanone	43	8.026	8.025	(0.843)	247953	87.5227	87.52
10	Acetone	43	2.859	2.862	(0.495)	71357	93.3944	93.39
37	Benzene	78	6.091	6.090	(0.927)	424120	47.5564	47.55
39	Bromodichloromethane	83	7.377	7.377	(1.123)	151097	47.8669	47.86
66	Bromoform	173	10.374	10.378	(1.089)	90923	49.0862	49.08
6	Bromomethane	94	1.935	1.941	(0.335)	70466	44.4584	44.45
19	Carbon Disulfide	76	2.952	2.952	(0.511)	429426	99.0062	99.00
34	Carbon Tetrachloride	117	5.831	5.834	(0.887)	141334	43.8982	43.89
59	Chlorobenzene	112	9.553	9.553	(1.003)	293796	45.6857	45.68
7	Chloroethane	64	2.034	2.041	(0.352)	82297	44.2025	44.20
28	Chloroform	83	5.494	5.494	(0.951)	192140	45.7972	45.79
3	Chloromethane	50	1.592	1.588	(0.275)	203798	53.0068	53.00
27	cis-1,2-Dichloroethene	96	5.067	5.067	(0.877)	124396	47.5149	47.51
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	182912	50.4578	50.45
55	Dibromochloromethane	129	8.969	8.972	(0.942)	127728	47.3766	47.37
2	Dichlorodifluoromethane	85	1.450	1.447	(0.251)	108794	55.3028	55.30
61	Ethylbenzene	106	9.668	9.672	(1.015)	157350	45.7145	45.71
67	Isopropylbenzene	105	10.545	10.548	(1.107)	504851	47.4122	47.41
17	Methylene Chloride	84	3.334	3.334	(0.577)	115107	45.6993	45.69
56	Tetrachloroethene	164	8.690	8.690	(0.912)	99913	51.9489	51.94
50	Toluene	91	8.157	8.157	(0.856)	453870	45.8635	45.86
20	trans-1,2-Dichloroethene	96	3.671	3.671	(0.635)	105515	51.3610	51.36
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	154912	50.2207	50.22
38	Trichloroethene	130	6.816	6.819	(1.037)	124529	49.6026	49.60
8	Trichlorofluoromethane	101	2.253	2.256	(0.390)	149913	52.8350	52.83
5	Vinyl Chloride	62	1.678	1.685	(0.290)	143715	50.9529	50.95
62	m,p-Xylenes	106	9.790	9.790	(1.028)	383483	91.1023	91.10
63	o-Xylene	106	10.175	10.179	(1.068)	202134	45.9001	45.90
M 95	Xylenes (total)	106				585617	137.002	137.00
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	147179	41.8400	41.83
93	1,2,3-Trichlorobenzene	182	14.299	14.302	(1.208)	123997	49.4682	49.46
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	401757	40.8462	40.84
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	398100	41.5616	41.56
26	2,2-Dichloropropane	77	5.041	5.041	(0.872)	147221	43.9134	43.91
54	1,3-Dichloropropane	76	8.751	8.754	(0.919)	170685	44.3017	44.30
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	343788	40.9639	40.98
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	375304	41.0907	41.09
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	389481	42.8500	42.85
29	Bromochloromethane	128	5.365	5.365	(0.928)	59812	48.0073	48.00
74	Bromobenzene	156	10.833	10.833	(0.915)	135830	41.4672	41.46
44	Dibromomethane	93	7.188	7.188	(1.094)	68345	49.3998	49.39
91	Hexachlorobutadiene	225	13.988	13.991	(1.182)	61289	45.2289	45.22
73	n-Propylbenzene	91	10.955	10.955	(0.926)	530888	42.5223	42.52
87	n-Butylbenzene	91	12.220	12.223	(1.033)	298175	44.1396	44.13
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	464879	43.7984	43.79
92	Naphthalene	128	14.061	14.061	(1.188)	358413	47.2823	47.28
78	tert-Butylbenzene	119	11.449	11.453	(0.967)	346706	43.1489	43.14
60	1,1,1,2-Tetrachloroethane	131	9.643	9.646	(1.012)	117226	47.0444	47.04
64	Styrene	104	10.198	10.198	(1.071)	328096	46.7130	46.71



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Date : 01-JAN-2018 00:44
Client ID: HS171211224-01MS
Sample Info: HS171211224-01MS;HS171211224-01MS;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\D171231.b\D123128.D
Report Date: 08-Feb-2018 17:29

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123128.D
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Operator : AP Inst ID: VOA2.i
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Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171231.b\8260LL.m
Meth Date : 08-Feb-2018 17:29 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 21 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

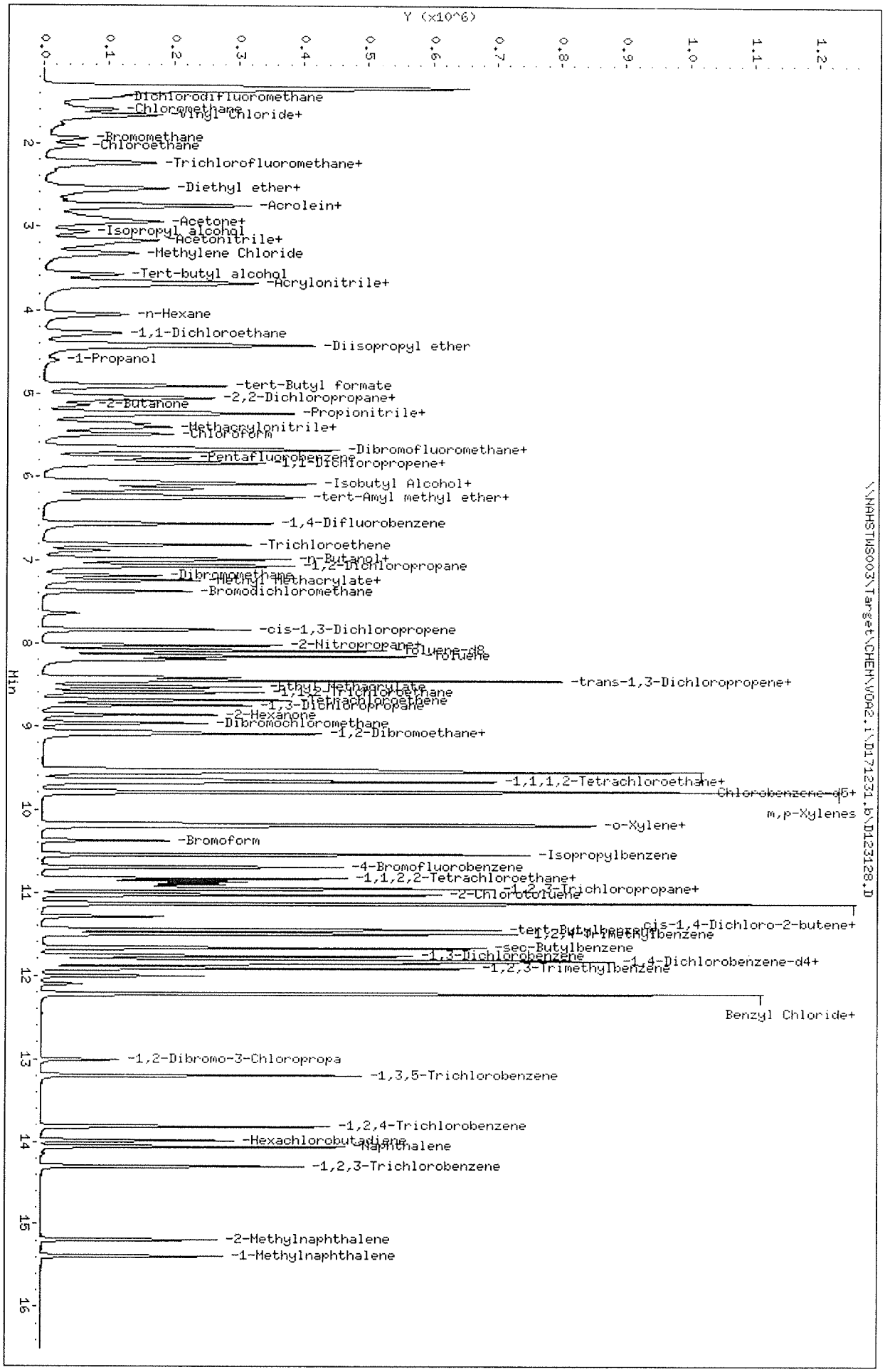
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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	5.648	5.654	(0.977)	171931	48.9725	48.97
*	1 Pentafluorobenzene	168	5.783	5.782	(1.000)	227155	50.0000	
$	30 Dibromofluoromethane	113	5.683	5.689	(0.983)	99011	48.3782	48.37
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	338925	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.055	6.055	(1.047)	120984	47.8636	47.86
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	312827	50.0000	
$	48 Toluene-d8	98	8.090	8.093	(0.849)	386220	46.8261	46.82
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	148731	49.3811	49.38
*	70 1,4-Dichlorobenzene-d4	152	11.835	11.838	(1.000)	149308	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	144993	40.7083	40.70
	53 1,1,2-Trichloroethane	83	8.590	8.593	(0.902)	86729	45.3211	45.32
	32 1,1-Dichloropropene	75	5.850	5.856	(0.890)	138798	52.5969	52.59
	22 1,1-Dichloroethane	63	4.278	4.277	(0.740)	220157	46.4228	46.42
	11 1,1-Dichloroethene	96	2.750	2.750	(0.476)	96012	51.2119	51.21
	90 1,2,4-Trichlorobenzene	180	13.818	13.818	(1.168)	146361	49.7588	49.75
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	26564	43.3068	43.30
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	114445	47.7492	47.74
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	223255	41.6001	41.60
	33 1,2-Dichloroethane	62	6.142	6.145	(0.935)	145541	48.6321	48.63
	42 1,2-Dichloropropane	63	7.066	7.066	(1.075)	122438	45.8655	45.86
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	232534	41.6359	41.63

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123128.D
Report Date: 08-Feb-2018 17:29

	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)	223574	41.8540	41.85
24	2-Butanone	43	5.141	5.144	(0.889)	107561	87.7523	87.75
52	2-Hexanone	43	8.866	8.866	(0.931)	160945	87.8082	87.80
45	4-Methyl-2-Pentanone	43	8.029	8.025	(0.843)	251132	88.4856	88.48
10	Acetone	43	2.859	2.862	(0.495)	72194	95.7822	95.78
37	Benzene	78	6.087	6.090	(0.926)	422773	47.4091	47.40
39	Bromodichloromethane	83	7.377	7.377	(1.123)	151059	47.8587	47.85
66	Bromoform	173	10.378	10.378	(1.089)	92582	49.8920	49.89
6	Bromomethane	94	1.935	1.941	(0.335)	68995	44.0785	44.07
19	Carbon Disulfide	76	2.949	2.952	(0.510)	422646	98.7154	98.71
34	Carbon Tetrachloride	117	5.831	5.834	(0.887)	140648	43.6886	43.68
59	Chlorobenzene	112	9.550	9.553	(1.002)	292197	45.3555	45.35
7	Chloroethane	64	2.035	2.041	(0.352)	77805	42.3354	42.33
28	Chloroform	83	5.494	5.494	(0.950)	191091	46.1418	46.14
3	Chloromethane	50	1.595	1.588	(0.276)	189945	49.9954	49.99
27	cis-1,2-Dichloroethene	96	5.067	5.067	(0.876)	121758	47.1145	47.11
46	cis-1,3-Dichloropropene	75	7.836	7.839	(1.192)	180267	49.7321	49.73
55	Dibromochloromethane	129	8.969	8.972	(0.941)	128268	47.4914	47.49
2	Dichlorodifluoromethane	85	1.447	1.447	(0.250)	105630	54.3956	54.39
61	Ethylbenzene	106	9.672	9.672	(1.015)	155586	45.1208	45.12
67	Isopropylbenzene	105	10.545	10.548	(1.107)	498027	46.6873	46.68
17	Methylene Chloride	84	3.328	3.334	(0.576)	111651	44.9060	44.90
56	Tetrachloroethene	164	8.690	8.690	(0.912)	97741	50.6881	50.68
50	Toluene	91	8.157	8.157	(0.856)	450471	45.4383	45.43
20	trans-1,2-Dichloroethene	96	3.661	3.671	(0.633)	104296	51.4305	51.43
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	155068	50.2753	50.27
38	Trichloroethene	130	6.816	6.819	(1.037)	123267	49.1038	49.10
8	Trichlorofluoromethane	101	2.250	2.256	(0.389)	145852	52.0749	52.07
5	Vinyl Chloride	62	1.678	1.685	(0.290)	139478	50.0964	50.09
62	m,p-Xylenes	106	9.790	9.790	(1.028)	381064	90.3650	90.36
63	o-Xylene	106	10.176	10.179	(1.068)	202782	45.9646	45.96
M 95	Xylenes (total)	106				583846	136.330	136.32
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	148171	41.6588	41.65
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	124889	49.2761	49.27
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	394486	39.6659	39.66
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	392018	40.4765	40.47
26	2,2-Dichloropropane	77	5.041	5.041	(0.872)	144816	43.7600	43.76
54	1,3-Dichloropropane	76	8.751	8.754	(0.918)	172718	44.7488	44.74
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	338614	39.9232	39.92
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	369459	40.0059	40.00
82	p-Isopropyltoluene	119	11.819	11.818	(0.999)	387038	42.1130	42.11
29	Bromochloromethane	128	5.359	5.365	(0.927)	59788	48.6146	48.61
74	Bromobenzene	156	10.830	10.833	(0.915)	135883	41.0272	41.02
44	Dibromomethane	93	7.191	7.188	(1.094)	67393	48.7156	48.71
91	Hexachlorobutadiene	225	13.988	13.991	(1.182)	63426	46.3015	46.30
73	n-Propylbenzene	91	10.955	10.955	(0.926)	519861	41.1812	41.18
87	n-Butylbenzene	91	12.220	12.223	(1.033)	298570	43.7120	43.71
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	460849	42.9412	42.94
92	Naphthalene	128	14.062	14.061	(1.188)	360790	47.0701	47.07
78	tert-Butylbenzene	119	11.449	11.453	(0.967)	341296	42.0085	42.00
60	1,1,1,2-Tetrachloroethane	131	9.643	9.646	(1.012)	115679	46.3402	46.34
64	Styrene	104	10.198	10.198	(1.070)	327282	46.5133	46.51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1.1
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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
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
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
cis-1,4-Dichloro-2-butene+
tert-Butylbenzene
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\D171231.b\D123128.D
Date : 01-JAN-2018 01:09
Client ID: HS17121224-01MSD
Sample Info: HS17121224-01MSD;HS17121224-01MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
\\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123128.D

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123129.D
Lab Smp Id: CCV_END Client Smp ID: CCV_END
Inj Date : 01-JAN-2018 01:33
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\D171231.b\8260Wend.m
Meth Date : 08-Feb-2018 17:29 VOA2.i Quant Type: ISTD
Cal Date : 04-DEC-2017 14:03 Cal File: X120408.D
Als bottle: 22 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
Cpnd Variable		Local Compound Variable

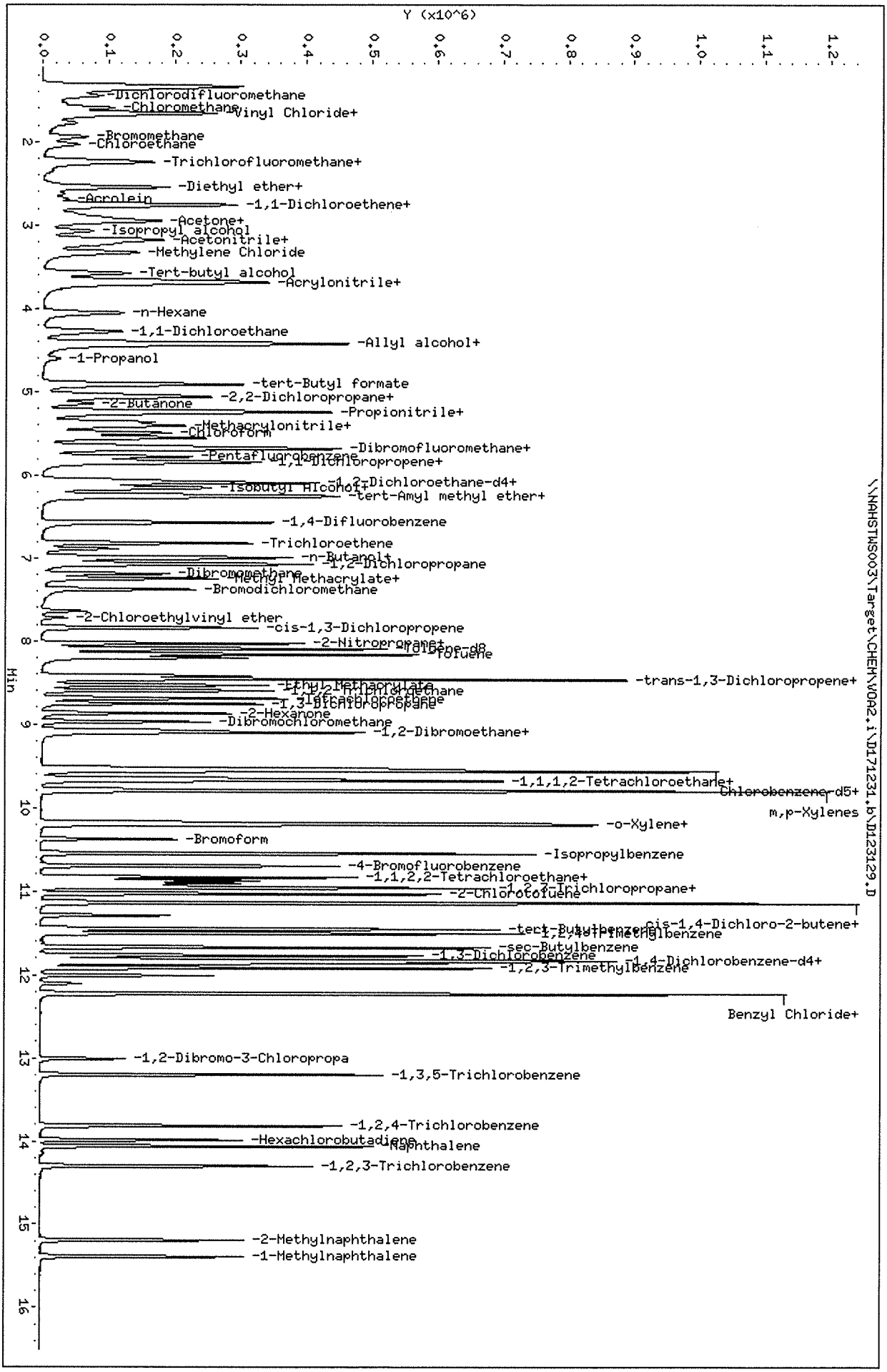
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
31 1,1,1-Trichloroethane	97	5.651	5.651	(0.978)	166469	50.0000	45.41
* 1 Pentafluorobenzene	168	5.779	5.779	(1.000)	226624	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.686	(0.984)	97035	50.0000	32.73
* 36 1,4-Difluorobenzene	114	6.569	6.569	(1.000)	338413	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	119690	50.0000	31.28
* 47 Chlorobenzene-d5	117	9.524	9.524	(1.000)	309332	50.0000	
$ 48 Toluene-d8	98	8.090	8.090	(0.849)	384277	50.0000	41.37
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	148582	50.0000	44.53
* 70 1,4-Dichlorobenzene-d4	152	11.835	11.835	(1.000)	146586	50.0000	
68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	149440	50.0000	50.89
53 1,1,2-Trichloroethane	83	8.594	8.594	(0.902)	89127	50.0000	44.53
32 1,1-Dichloropropene	75	5.850	5.850	(0.891)	132386	50.0000	43.87
22 1,1-Dichloroethane	63	4.274	4.274	(0.740)	218190	50.0000	43.32
11 1,1-Dichloroethene	96	2.750	2.750	(0.476)	93545	50.0000	40.31
90 1,2,4-Trichlorobenzene	180	13.814	13.814	(1.167)	146541	50.0000	102.17
89 1,2-Dibromo-3-Chloropropane	155	13.009	13.009	(1.099)	28156	50.0000	71.07
57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	118879	50.0000	51.12
88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	228673	50.0000	59.07
33 1,2-Dichloroethane	62	6.145	6.145	(0.936)	155324	50.0000	43.27
42 1,2-Dichloropropane	63	7.066	7.066	(1.076)	125624	50.0000	46.54
83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	236563	50.0000	59.42
84 1,4-Dichlorobenzene	146	11.857	11.857	(1.002)	222225	50.0000	59.35

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123129.D Page 2
Report Date: 08-Feb-2018 17:29

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	
24	2-Butanone	43	5.147	5.147	(0.891)	119541	100.000	105.17	
52	2-Hexanone	43	8.866	8.866	(0.931)	174365	100.000	73.13	
45	4-Methyl-2-Pentanone	43	8.026	8.026	(0.843)	268970	100.000	101.59	
10	Acetone	43	2.859	2.859	(0.495)	72974	100.000	97.82	
37	Benzene	78	6.087	6.087	(0.927)	421634	50.0000	43.87	
39	Bromodichloromethane	83	7.377	7.377	(1.123)	154499	50.0000	44.82	
66	Bromoform	173	10.378	10.378	(1.090)	96642	50.0000	56.82	
6	Bromomethane	94	1.932	1.932	(0.334)	72358	50.0000	35.24	
19	Carbon Disulfide	76	2.949	2.949	(0.510)	410862	100.000	57.54	
34	Carbon Tetrachloride	117	5.834	5.834	(0.888)	135222	50.0000	52.19	
59	Chlorobenzene	112	9.553	9.553	(1.003)	293408	50.0000	48.03	
7	Chloroethane	64	2.031	2.031	(0.352)	78671	50.0000	40.95	
28	Chloroform	83	5.491	5.491	(0.950)	190240	50.0000	38.55	
3	Chloromethane	50	1.592	1.592	(0.275)	191903	50.0000	52.64	
27	cis-1,2-Dichloroethene	96	5.067	5.067	(0.877)	122474	50.0000	40.95	
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	183726	50.0000	43.38	
55	Dibromochloromethane	129	8.969	8.969	(0.942)	132141	50.0000	48.24	
2	Dichlorodifluoromethane	85	1.447	1.447	(0.250)	84800	50.0000	38.00	
61	Ethylbenzene	106	9.672	9.672	(1.015)	154379	50.0000	51.33	
67	Isopropylbenzene	105	10.545	10.545	(1.107)	491867	50.0000	69.65	
17	Methylene Chloride	84	3.331	3.331	(0.576)	109252	50.0000	38.35	
56	Tetrachloroethene	164	8.690	8.690	(0.912)	94228	50.0000	63.76	
50	Toluene	91	8.157	8.157	(0.856)	444299	50.0000	45.34	
20	trans-1,2-Dichloroethene	96	3.665	3.665	(0.634)	102411	50.0000	39.56	
51	trans-1,3-Dichloropropene	75	8.414	8.414	(1.281)	161749	50.0000	43.77	
38	Trichloroethene	130	6.816	6.816	(1.038)	123219	50.0000	54.49	
8	Trichlorofluoromethane	101	2.250	2.250	(0.389)	138919	50.0000	44.92	
5	Vinyl Chloride	62	1.675	1.675	(0.290)	132835	50.0000	39.82	
62	m,p-Xylenes	106	9.790	9.790	(1.028)	375281	100.000	103.95	
63	o-Xylene	106	10.176	10.176	(1.068)	200301	50.0000	55.41	
M 95	Xylenes (total)	106				575582	150.000		(a)
71	1,2,3-Trichloropropane	75	10.901	10.901	(0.921)	158745	50.0000	41.18	
93	1,2,3-Trichlorobenzene	180	14.299	14.299	(1.208)	128534	50.0000	110.01	
79	1,2,4-Trimethylbenzene	105	11.498	11.498	(0.972)	396373	50.0000	64.89	
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	389366	50.0000	68.38	
26	2,2-Dichloropropane	77	5.038	5.038	(0.872)	135212	50.0000	34.13	
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	179677	50.0000	41.76	
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	339306	50.0000	59.37	
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	370396	50.0000	54.29	
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	381648	50.0000	73.96	
29	Bromochloromethane	128	5.365	5.365	(0.928)	61937	50.0000	51.12	
74	Bromobenzene	156	10.830	10.830	(0.915)	138009	50.0000	52.33	
44	Dibromomethane	93	7.191	7.191	(1.095)	71839	50.0000	42.62	
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	62389	50.0000	136.05	
73	n-Propylbenzene	91	10.955	10.955	(0.926)	519408	50.0000	62.10	
87	n-Butylbenzene	91	12.220	12.220	(1.033)	300931	50.0000	71.95	
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	451312	50.0000	76.31	
92	Naphthalene	128	14.062	14.062	(1.188)	379157	50.0000	96.12	
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	340838	50.0000	84.10	
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.013)	120011	50.0000	54.18	
64	Styrene	104	10.198	10.198	(1.071)	329469	50.0000	50.68	

QC Flag Legend

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



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123129.D
Date : 01-JAN-2018 01:33
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

Semivolatile Organics Raw Data

Bhate Environmental Associates, Inc.
Project: GROUNDWATER TREATMENT PLANT
QUARTERLY EFFLUENT SAMPLES
ALS WO# HS17121168

FORM 2
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121168

	CLIENT SAMPLE NO.	S1 (NBZ)#	S2 #	S3 (FBP)#	S4 #	S5 #	S6 #	S7 #	S8 #	TOT OUT
01	MBLK-123757	84	109	122						0
02	LCSD-123757	103	105	113						0
03	HS17121168-01	57	128	174D						0
04	LCS-123757	81	91	103						0
05										
06										
07										
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		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(41-120)
S2	= 4-Terphenyl-d14	(40-140)
S3 (FBP)	= 2-Fluorobiphenyl	(40-140)

\# Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

SV05 -Logbook

Batch: 29699
Date: 11-27-2017
Method: 8270D(SIM)
Comments: MSSV-003(SIM)

Analyst: Andrew Neir
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	DFTPP	TUNE	11-27-2017 04:32 pm	1.00			01.D		Y	NA
2	DX-0.08	CAL	11-27-2017 04:47 pm	1.00			02.D		Y	NA
3	DX-0.01	CAL	11-27-2017 05:19 pm	1.00			03.D		Y	NA
4	DX-0.03	CAL	11-27-2017 05:40 pm	1.00			04.D		Y	NA
5	DX-0.05	CAL	11-27-2017 06:00 pm	1.00			05.D		Y	NA
6	DX-0.1	CAL	11-27-2017 06:21 pm	1.00			06.D		Y	NA
7	DX-0.15	CAL	11-27-2017 06:41 pm	1.00			07.D		Y	NA
8	DX-0.2	CAL	11-27-2017 07:01 pm	1.00			08.D		Y	NA
9	DX-0.5	CAL	11-27-2017 07:22 pm	1.00			09.D		Y	NA
10	DX-ICV	SAMP	11-27-2017 07:42 pm	1.00			10.D		Y	NA
11	CCB	SAMP	11-27-2017 08:03 pm	1.00			11.D		Y	NA
12	MBLK-122270	MBLK	11-27-2017 08:23 pm	1.00	1000.00 mL	1.00 mL	12.D	Liquid	Y	NA
13	LCS-122270	LCS	11-27-2017 08:44 pm	1.00	1000.00 mL	1.00 mL	13.D	Liquid	Y	NA
14	LCSD-122270	LCSD	11-27-2017 09:05 pm	1.00	1000.00 mL	1.00 mL	14.D	Liquid	Y	NA
15	HS17110800-01	SAMP	11-27-2017 09:25 pm	20.00	1000.00 mL	1.00 mL	15.D	Liquid	Y	NA
16	HS17110800-02	SAMP	11-27-2017 09:46 pm	10.00	1000.00 mL	1.00 mL	16.D	Liquid	Y	NA
17	HS17110800-03	SAMP	11-27-2017 10:06 pm	10.00	1000.00 mL	1.00 mL	17.D	Liquid	Y	NA
18	HS17110800-04	SAMP	11-27-2017 10:27 pm	4.00	1000.00 mL	1.00 mL	18.D	Liquid	Y	NA
19	HS17110800-05	SAMP	11-27-2017 10:47 pm	20.00	1000.00 mL	1.00 mL	19.D	Liquid	Y	NA
20	HS17110800-06	SAMP	11-27-2017 11:08 pm	20.00	1000.00 mL	1.00 mL	20.D	Liquid	Y	NA
21	HS17110731-01	SAMP	11-27-2017 11:28 pm	4.00	1000.00 mL	11.00 mL	21.D	Liquid	Y	NA
22	HS17110731-02	SAMP	11-27-2017 11:49 pm	100.0(	1000.00 mL	1.00 mL	22.D	Liquid	Y	NA
23	HS17110731-03	SAMP	11-28-2017 12:09 am	500.0(	1000.00 mL	1.00 mL	23.D	Liquid	Y	NA
24	HS17110732-01	SAMP	11-28-2017 12:30 am	20.00	1000.00 mL	1.00 mL	24.D	Liquid	Y	NA
25	HS17110732-02	SAMP	11-28-2017 12:50 am	500.0(	1000.00 mL	1.00 mL	25.D	Liquid	Y	NA
26	HS17110813-01	SAMP	11-28-2017 01:11 am	20.00	1000.00 mL	1.00 mL	26.D	Liquid	Y	NA
27	HS17110813-02	SAMP	11-28-2017 01:31 am	20.00	1000.00 mL	1.00 mL	27.D	Liquid	Y	NA
28	HS17110816-01	SAMP	11-28-2017 01:52 am	20.00	1000.00 mL	1.00 mL	28.D	Liquid	Y	NA
29	HS17110816-02	SAMP	11-28-2017 02:12 am	20.00	1000.00 mL	1.00 mL	29.D	Liquid	Y	NA
30	DX-0.08	SAMP	11-28-2017 11:28 am	1.00	1000.00 mL	1000.00 mL	30.D	Liquid	Y	NA

SV05 -Logbook

Chemical	Value
IS ID	3041118-01
CAL STD ID	3041117-04
DFTPP ID	29722-96-01
PCP Tailing	0.67
Benz. Tailing	0.86
STD-01	3041117-01
STD-02	3041117-02
STD-03	3041117-03
STD-04	3041117-05
STD-05	3041117-06
STD-06	3041117-07
ICV ID	3041117-08

FORM 3
WATER SEMIVOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

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

Matrix Spike - Sample No.: DX-ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	% REC #	QC. LIMITS REC.
1,4-Dioxane	0.08000	0.08408	105	75-125

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

COMMENTS: _____

_____

FORM III SV

FORM 5
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Contract:

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

Lab File ID: 01 DFTPP Injection Date: 11/27/17

Instrument ID: SV5 DFTPP Injection Time: 1632

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	47.4
68	Less than 2.0% of mass 69	0.9 (1.6)1
69	Mass 69 relative abundance	58.7
70	Less than 2.0% of mass 69	0.4 (0.7)1
127	10.0 - 80.0% of mass 198	62.4
197	Less than 2.0% of mass 198	0.7
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	8.3
275	10.0 - 60.0% of mass 198	26.8
365	1.0 - 100.0% of mass 198	2.7
441	Present, but less than mass 443	9.7
442	50.0 - 150.0% of mass 198	63.2
443	15.0 - 24.0% of mass 442	13.5 (21.3)2

1-Value is % mass 69 2-Value is % mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	DX-0.08	DX-0.08	02	11/27/17	1647
02	DX-0.01	DX-0.01	03	11/27/17	1719
03	DX-0.03	DX-0.03	04	11/27/17	1740
04	DX-0.05	DX-0.05	05	11/27/17	1800
05	DX-0.1	DX-0.1	06	11/27/17	1821
06	DX-0.15	DX-0.15	07	11/27/17	1841
07	DX-0.2	DX-0.2	08	11/27/17	1901
08	DX-0.5	DX-0.5	09	11/27/17	1922
09	DX-ICV	DX-ICV	10	11/27/17	1942
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 6
SEMIVOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

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

Instrument ID: SV5 Calibration Date(s): 11/27/17 11/27/17

Column: RTX-5SIL MS ID: 0.28 (mm) Calibration Time(s): 1647 1922

LAB FILE ID: RF0.01: 03 RF0.025: 04 RF0.05: 05
RF0.08: 02 RF0.1: 06 RF0.15: 07

COMPOUND	RF0.01	RF0.025	RF0.05	RF0.08	RF0.1	RF0.15
1,4-Dioxane	0.082	0.080	0.075	0.082	0.082	0.084
Nitrobenzene-d5	0.654	0.579	0.439	0.385	0.438	0.456
4-Terphenyl-d14	1622	5762	17709	16179	39094	22443
2-Fluorobiphenyl	0.785	0.995	0.834	0.847	0.871	0.908

FORM VI SV

FORM 6
SEMIVOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

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

Instrument ID: SV5 Calibration Date(s): 11/27/17 11/27/17

Column: RTX-5SIL MS ID: 0.28 (mm) Calibration Time(s): 1647 1922

LAB FILE ID: RF0.2: 08 RF0.5: 09

COMPOUND	RF0.2	RF0.5
1,4-Dioxane	0.086	0.091
Nitrobenzene-d5	0.455	0.408
4-Terphenyl-d14	31676	145184
2-Fluorobiphenyl	0.918	0.933

FORM VI SV

FORM 6
SEMIVOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

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

Instrument ID: SV5 Calibration Date(s): 11/27/17 11/27/17

Column: RTX-5SIL MS ID: 0.28 (mm) Calibration Time(s): 1647 1922

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MAX %RSD OR R^2
1,4-Dioxane	AVRG		8.286e-002		5.457	20.000
Nitrobenzene-d5	AVRG		0.47670052		19.241	20.000
4-Terphenyl-d14	2ORDR	0.14589860	1.02412250	-3.79e-002	0.9949042	0.9900000
2-Fluorobiphenyl	AVRG		0.88628899		7.424	20.000

FORM VI SV

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\01.D

Date : 27-NOV-2017 16:32

Client ID: DFTPP

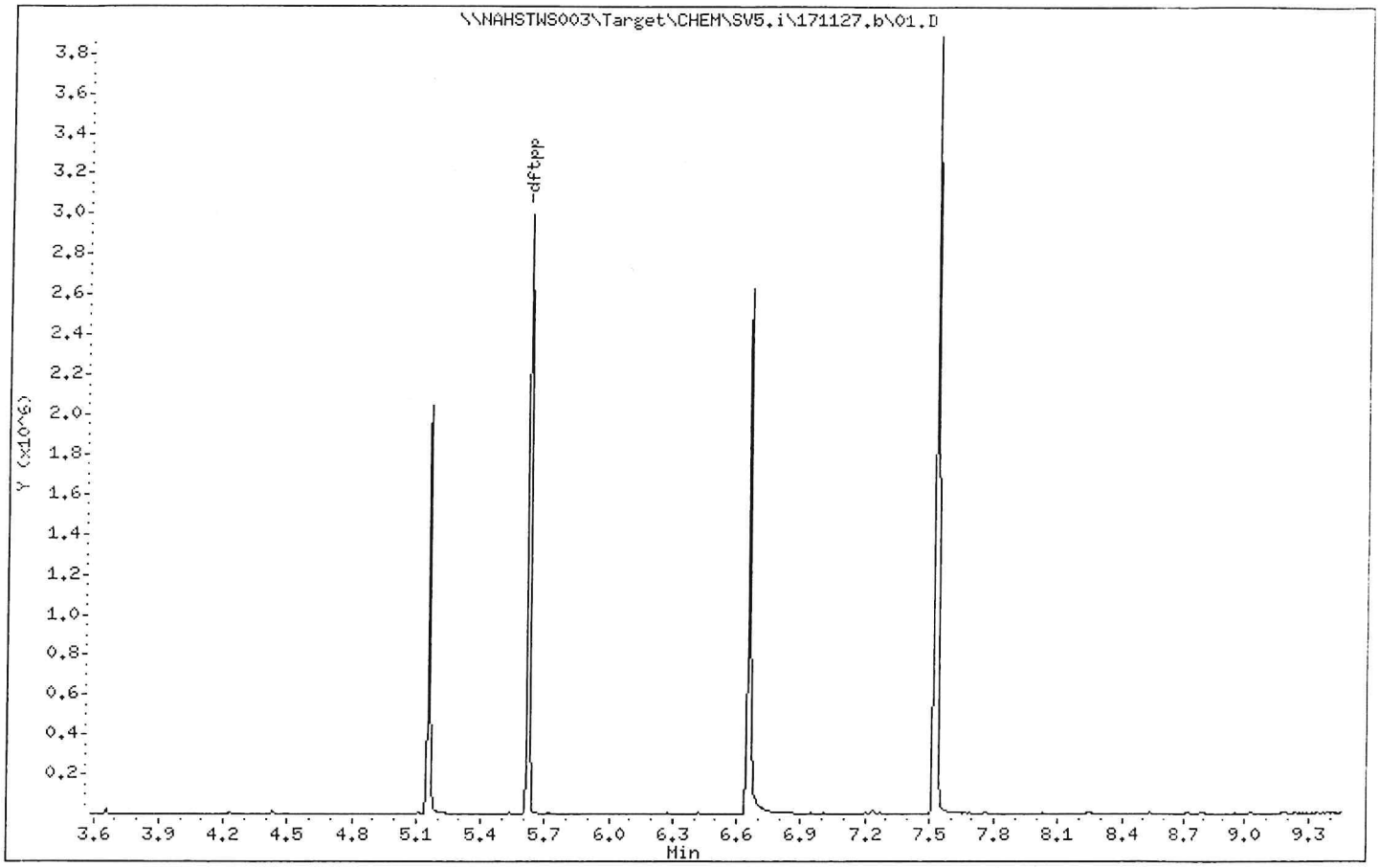
Instrument: SV5.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: GY

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\01.D

Date : 27-NOV-2017 16:32

Client ID: DFTPP

Instrument: SV5.i

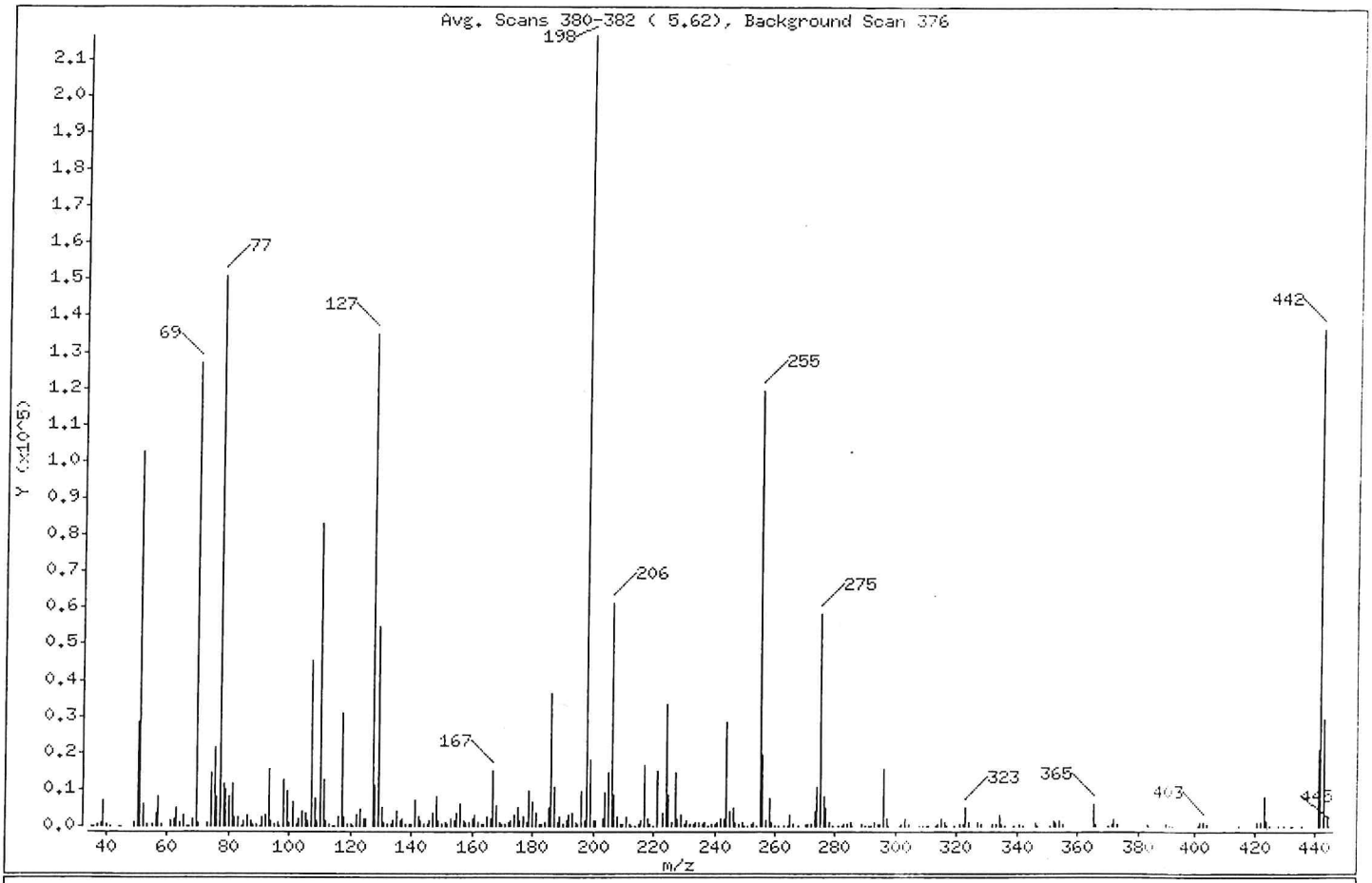
Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: GY

Column phase: DB-5MS

Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	47.36
68	Less than 2.00% of mass 69	0.92 (1.57)
69	Mass 69 relative abundance	58.68
70	Less than 2.00% of mass 69	0.43 (0.73)
127	10.00 - 80.00% of mass 198	62.40
197	Less than 2.00% of mass 198	0.70
199	5.00 - 9.00% of mass 198	8.31
275	10.00 - 60.00% of mass 198	26.85
365	1.00 - 100.00% of mass 198	2.68
441	Present, but less than mass 443	9.71
442	50.00 - 150.00% of mass 198	63.22
443	15.00 - 24.00% of mass 442	13.47 (21.30)

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\01.D

Date : 27-NOV-2017 16:32

Client ID: DFTPP Instrument: SV5.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: GY

Column phase: DB-5MS Column diameter: 0.25

Data File: 01.D
Spectrum: Avg. Scans 380-382 (5.62), Background Scan 376
Location of Maximum: 198.00
Number of points: 311

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	64	123.00	4367	203.00	1836	286.00	163
36.00	179	124.00	1955	204.00	8877	289.00	252
37.00	524	125.00	1853	205.00	14549	290.00	180
38.00	1167	127.00	134976	206.00	61392	291.00	51
39.00	7068	128.00	10832	207.00	8276	292.00	164
40.00	376	129.00	54648	208.00	2239	293.00	1211
41.00	227	130.00	5039	209.00	641	294.00	331
44.00	62	131.00	760	210.00	737	295.00	305
45.00	158	132.00	443	211.00	2528	296.00	15231
49.00	855	133.00	285	212.00	478	297.00	2060
50.00	28200	134.00	1641	213.00	220	298.00	168
51.00	102448	135.00	4151	214.00	62	301.00	141
52.00	5837	136.00	1588	215.00	744	302.00	254
53.00	268	137.00	2001	216.00	1491	303.00	1992
55.00	442	138.00	436	217.00	16600	304.00	485
56.00	3389	139.00	385	218.00	2218	308.00	211
57.00	7803	140.00	693	219.00	297	309.00	59
58.00	295	141.00	6880	220.00	135	310.00	212
61.00	1446	142.00	2474	221.00	15007	311.00	79
62.00	1853	143.00	1584	223.00	3574	313.00	60
63.00	4945	144.00	424	224.00	33280	314.00	719
64.00	785	145.00	396	225.00	8598	315.00	1801
65.00	2792	146.00	1411	226.00	993	316.00	916
66.00	173	147.00	3551	227.00	14374	317.00	165
67.00	213	148.00	7951	228.00	1888	319.00	53
68.00	1993	149.00	1446	229.00	3181	321.00	590
69.00	126936	150.00	490	230.00	371	322.00	263
70.00	922	151.00	1135	231.00	1318	323.00	4734
73.00	1073	152.00	643	232.00	300	324.00	1033
74.00	14177	153.00	2120	233.00	393	327.00	1117
75.00	21464	154.00	1634	234.00	909	328.00	440
76.00	8028	155.00	3726	235.00	1155	332.00	342
77.00	150656	156.00	5846	236.00	600	333.00	530
78.00	11390	157.00	1245	237.00	1152	334.00	2964
79.00	9952	158.00	1237	238.00	68	335.00	698

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\01.D

Date : 27-NOV-2017 16:32

Client ID: DFTPP

Instrument: SV5.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: GY

Column phase: DB-5MS

Column diameter: 0.25

Data File: 01.D
Spectrum: Avg. Scans 380-382 (5.62), Background Scan 376
Location of Maximum: 198.00
Number of points: 311

m/z	Y	m/z	Y	m/z	Y	m/z	Y
80.00	8009	159.00	919	239.00	624	336.00	83
81.00	11268	160.00	2200	240.00	319	339.00	127
82.00	2605	161.00	3181	241.00	801	341.00	498
83.00	2536	162.00	821	242.00	1868	342.00	197
84.00	91	163.00	316	243.00	1973	346.00	825
85.00	1564	164.00	494	244.00	28352	347.00	99
86.00	2774	165.00	2389	245.00	4068	351.00	55
87.00	1457	166.00	1859	246.00	5194	352.00	1396
88.00	640	167.00	14805	247.00	1109	353.00	1086
89.00	314	168.00	5607	248.00	377	354.00	1448
90.00	56	169.00	990	249.00	1137	355.00	310
91.00	2323	170.00	460	250.00	244	365.00	5793
92.00	3022	171.00	551	251.00	197	366.00	674
93.00	15440	172.00	1178	252.00	367	370.00	69
94.00	1256	173.00	1556	253.00	886	371.00	287
95.00	377	174.00	2888	254.00	194	372.00	2202
96.00	851	175.00	5089	255.00	119520	373.00	605
97.00	166	176.00	1670	256.00	19512	383.00	527
98.00	12622	177.00	2269	257.00	1635	384.00	134
99.00	9552	178.00	869	258.00	7227	390.00	306
100.00	846	179.00	9433	259.00	1170	391.00	166
101.00	6363	180.00	6527	260.00	227	392.00	111
102.00	355	181.00	3394	261.00	203	401.00	76
103.00	2141	182.00	578	263.00	63	402.00	864
104.00	4035	183.00	400	264.00	201	403.00	1064
105.00	3704	184.00	889	265.00	2960	404.00	544
106.00	1296	185.00	4909	266.00	674	415.00	52
107.00	45168	186.00	36312	268.00	69	421.00	1112
108.00	7315	187.00	10594	270.00	291	422.00	1216
109.00	1533	188.00	1161	271.00	280	423.00	8029
110.00	82920	189.00	2311	272.00	444	424.00	1632
111.00	12346	190.00	401	273.00	4022	425.00	182
112.00	1525	191.00	1280	274.00	10527	428.00	72
113.00	622	192.00	3160	275.00	58072	430.00	117
114.00	121	193.00	3303	276.00	8016	432.00	104

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\01.D

Date : 27-NOV-2017 16:32

Client ID: DFTPP

Instrument: SV5.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: GY

Column phase: DB-5MS

Column diameter: 0.25

Data File: 01.D

Spectrum: Avg. Scans 380-382 (5.62), Background Scan 376

Location of Maximum: 198.00

Number of points: 311

m/z	Y	m/z	Y	m/z	Y	m/z	Y
115.00	211	194.00	802	277.00	4976	433.00	62
116.00	2538	195.00	631	278.00	778	436.00	56
117.00	30648	196.00	9545	279.00	222	441.00	21008
118.00	2305	197.00	1505	281.00	52	442.00	136768
119.00	288	198.00	216320	282.00	50	443.00	29136
120.00	476	199.00	17976	283.00	528	444.00	2817
121.00	231	200.00	1509	284.00	434	445.00	88
122.00	2773	201.00	1436	285.00	858		

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\02.D
Lab Smp Id: DX-0.08 Client Smp ID: DX-0.08
Inj Date : 27-NOV-2017 16:47 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : DX-0.08;DX-0.08
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\DXSIM.m
Meth Date : 11-Jan-2018 15:47 aneir Quant Type: ISTD
Cal Date : 20-NOV-2017 15:12 Cal File: 010.D
Als bottle: 2 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 45 Naphthalene-d8	136	4.800	4.800	(1.000)	80734	0.10000	(H)
$ 33 Nitrobenzene-d5	82	4.146	4.147	(0.864)	24870	0.08000	0.06456 (MH)
* 86 Acenaphthene-d10	164	6.480	6.479	(1.000)	53474	0.10000	(H)
$ 69 2-Fluorobiphenyl	172	5.821	5.825	(0.938)	36229	0.08000	0.07644
* 126 Phenanthrene-d10	188	7.811	7.811	(1.000)	68006	0.10000	
* 182 Chrysene-d12	240	10.198	10.198	(1.000)	36826	0.10000	
$ 158 4-Terphenyl-d14	244	9.097	9.097	(0.892)	16179	0.08000	0.05060 (M)
* 198 Perylene-d12	264	12.114	12.120	(1.000)	19912	0.10000	(M)
1 1,4-Dioxane	58	1.978	2.032	(0.441)	5306	0.08000	0.07932 (aH)

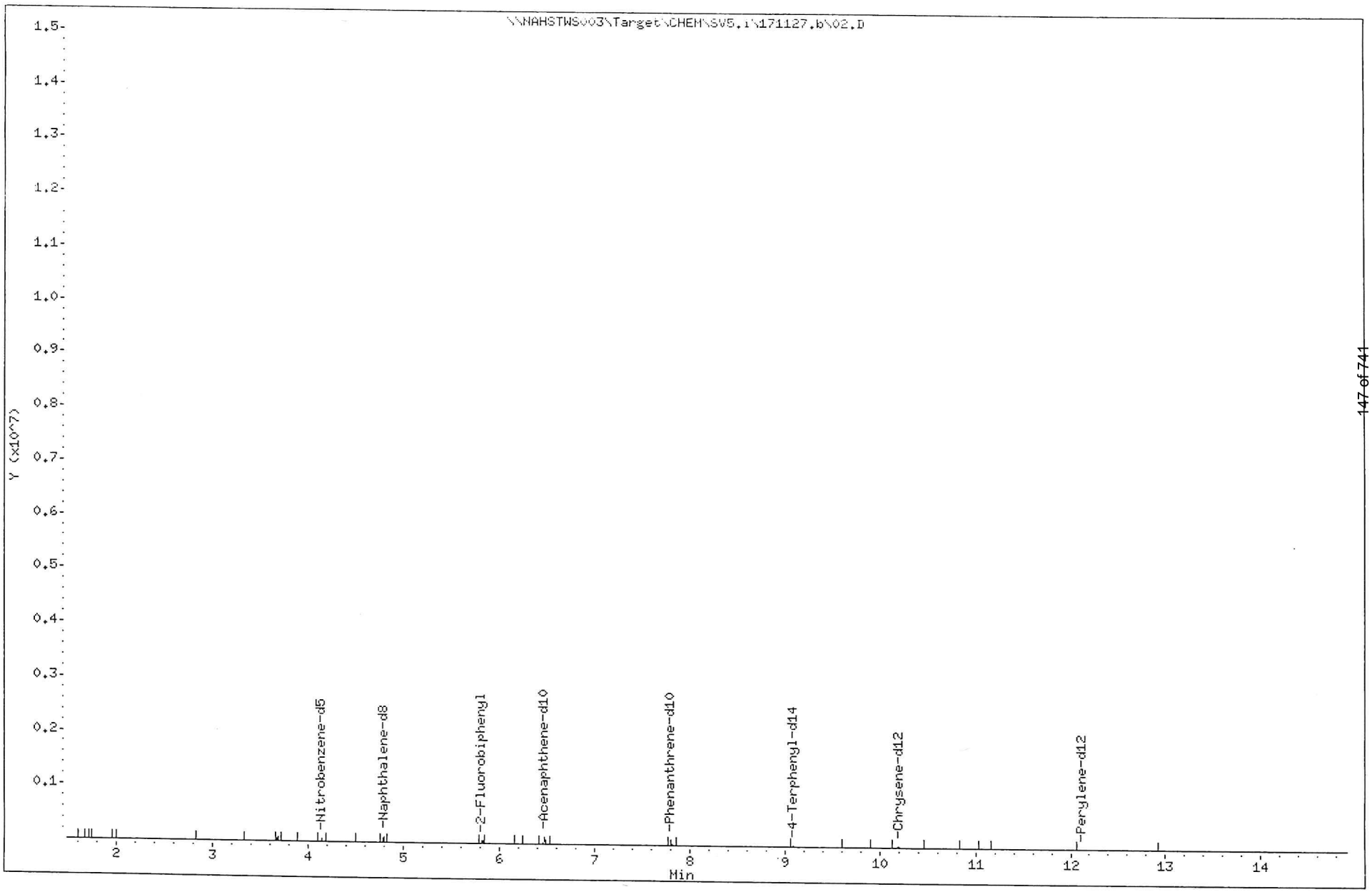
QC Flag Legend

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\SV5.i\171127.b\02.D
Date : 27-NOV-2017 16:47
Client ID: DX-0.08
Sample Info: DX-0.08;DX-0.08
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV5.i

Operator: GY
Column diameter: 0.28



Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\03.D Page 1
Report Date: 08-Feb-2018 09:59

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\03.D
Lab Smp Id: DX-0.01 Client Smp ID: DX-0.01
Inj Date : 27-NOV-2017 17:19 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : DX-0.01;DX-0.01
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\DXSIM.m
Meth Date : 11-Jan-2018 15:47 aneir Quant Type: ISTD
Cal Date : 20-NOV-2017 15:12 Cal File: 010.D
Als bottle: 3 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-CO.. (NG)
* 45 Naphthalene-d8	136	4.800	4.800	(1.000)	67668	0.10000	
$ 33 Nitrobenzene-d5	82	4.146	4.147	(0.864)	2358	0.01000	0.008596 (M)
* 86 Acenaphthene-d10	164	6.480	6.479	(1.000)	44655	0.10000	
$ 69 2-Fluorobiphenyl	172	5.821	5.825	(0.898)	3504	0.01000	0.008854
* 126 Phenanthrene-d10	188	7.811	7.811	(1.000)	59120	0.10000	
* 182 Chrysene-d12	240	10.198	10.198	(1.000)	21732	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.097	9.097	(0.892)	1493	0.01000	0.008669 (M)
* 198 Perylene-d12	264	12.120	12.120	(1.000)	11157	0.10000	

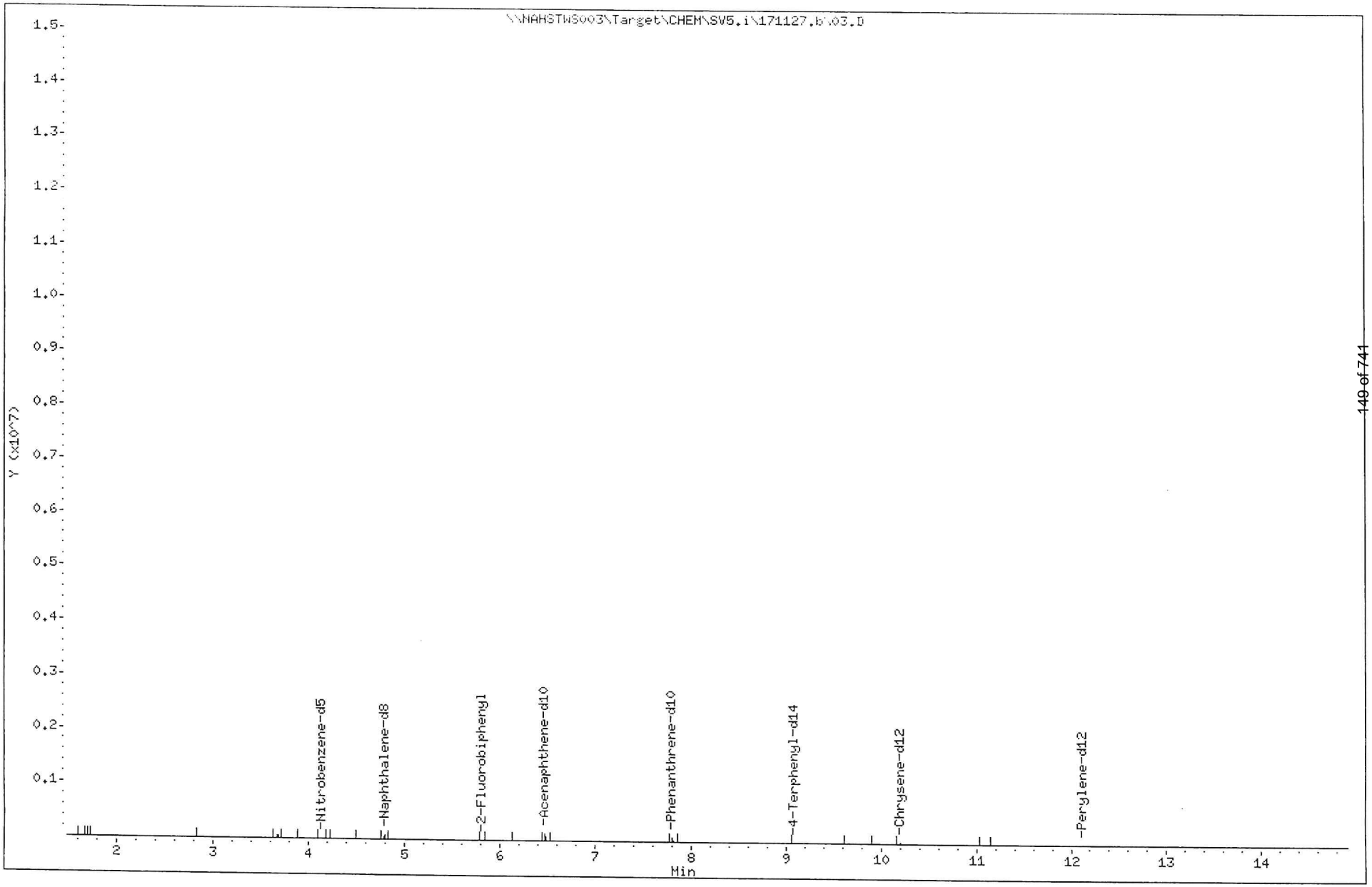
QC Flag Legend

M - Compound response manually integrated.

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\03.D
Date : 27-NOV-2017 17:19
Client ID: DX-0.01
Sample Info: DX-0.01;DX-0.01
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV5.i

Operator: GY
Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\04.D
Lab Smp Id: DX-0.03 Client Smp ID: DX-0.03
Inj Date : 27-NOV-2017 17:40 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : DX-0.03;DX-0.03
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\DXSIM.m
Meth Date : 11-Jan-2018 15:47 aneir Quant Type: ISTD
Cal Date : 20-NOV-2017 15:12 Cal File: 010.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 45 Naphthalene-d8	136	4.800	4.800	(1.000)	71168	0.10000	
$ 33 Nitrobenzene-d5	82	4.146	4.147	(0.864)	8040	0.02500	0.0278 (M)
* 86 Acenaphthene-d10	164	6.480	6.479	(1.000)	47659	0.10000	
$ 69 2-Fluorobiphenyl	172	5.821	5.825	(0.898)	11858	0.02500	0.02807
* 126 Phenanthrene-d10	188	7.811	7.811	(1.000)	64839	0.10000	
* 182 Chrysene-d12	240	10.213	10.198	(1.000)	26518	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.102	9.097	(0.891)	5050	0.02500	0.02381 (M)
* 198 Perylene-d12	264	12.130	12.120	(1.000)	13137	0.10000	

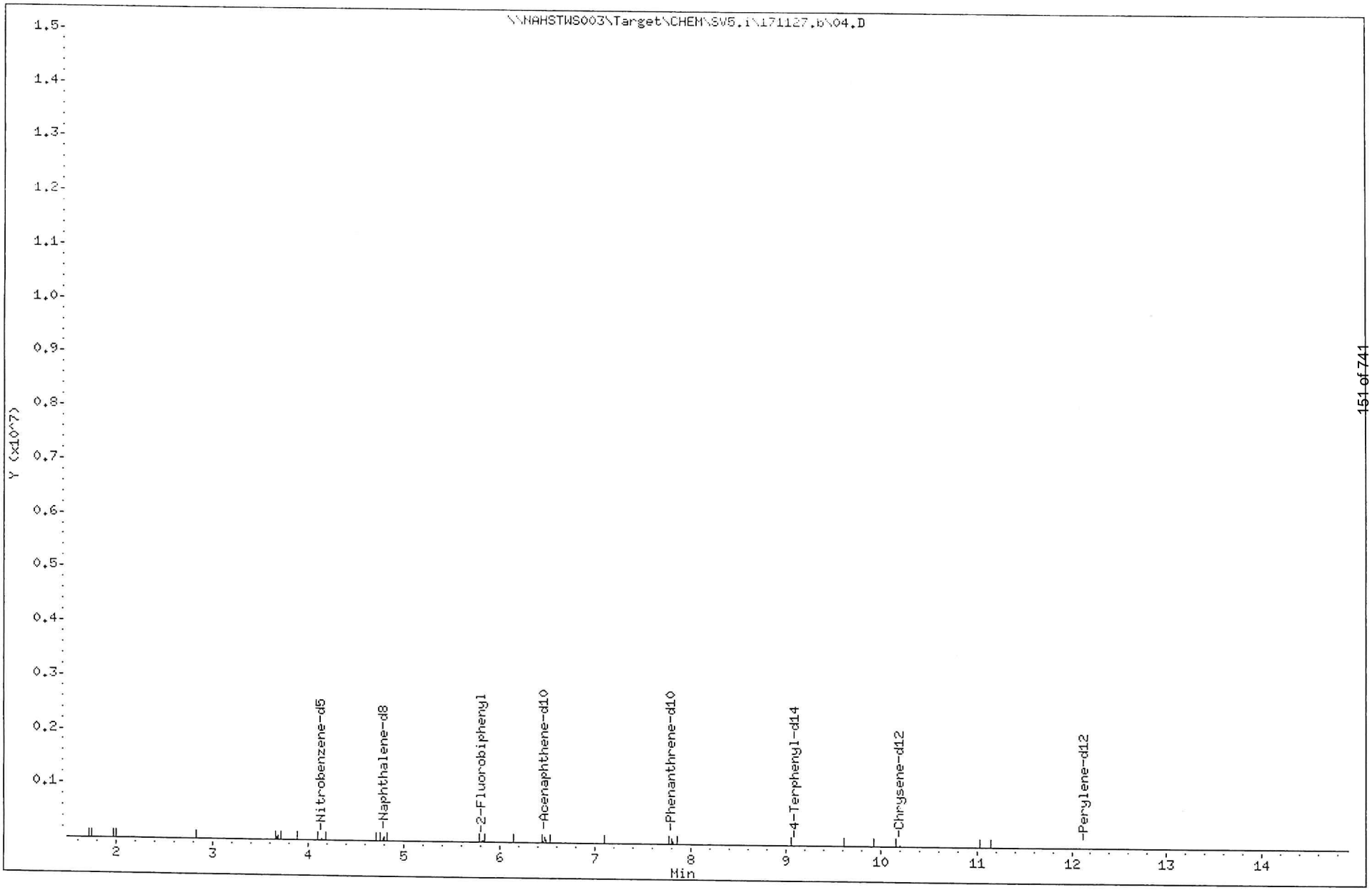
QC Flag Legend

M - Compound response manually integrated.

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\04.D
Date : 27-NOV-2017 17:40
Client ID: DX-0.03
Sample Info: DX-0.03;DX-0.03
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV5.i

Operator: GY
Column diameter: 0.28



Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\05.D Page 1
Report Date: 08-Feb-2018 09:59

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\05.D
Lab Smp Id: DX-0.05 Client Smp ID: DX-0.05
Inj Date : 27-NOV-2017 18:00 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : DX-0.05;DX-0.05
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\DXSIM.m
Meth Date : 11-Jan-2018 15:47 aneir Quant Type: ISTD
Cal Date : 20-NOV-2017 15:12 Cal File: 010.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 45 Naphthalene-d8	136	4.796	4.800	(1.000)	125682	0.10000	
$ 33 Nitrobenzene-d5	82	4.146	4.147	(0.865)	24393	0.05000	0.04788 (M)
* 86 Acenaphthene-d10	164	6.479	6.479	(1.000)	83458	0.10000	
$ 69 2-Fluorobiphenyl	172	5.821	5.825	(0.898)	34818	0.05000	0.04707
* 126 Phenanthrene-d10	188	7.806	7.811	(1.000)	111086	0.10000	
* 182 Chrysene-d12	240	10.191	10.198	(1.000)	52655	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.091	9.097	(0.892)	15896	0.05000	0.03712 (M)
* 198 Perylene-d12	264	12.114	12.120	(1.000)	31179	0.10000	

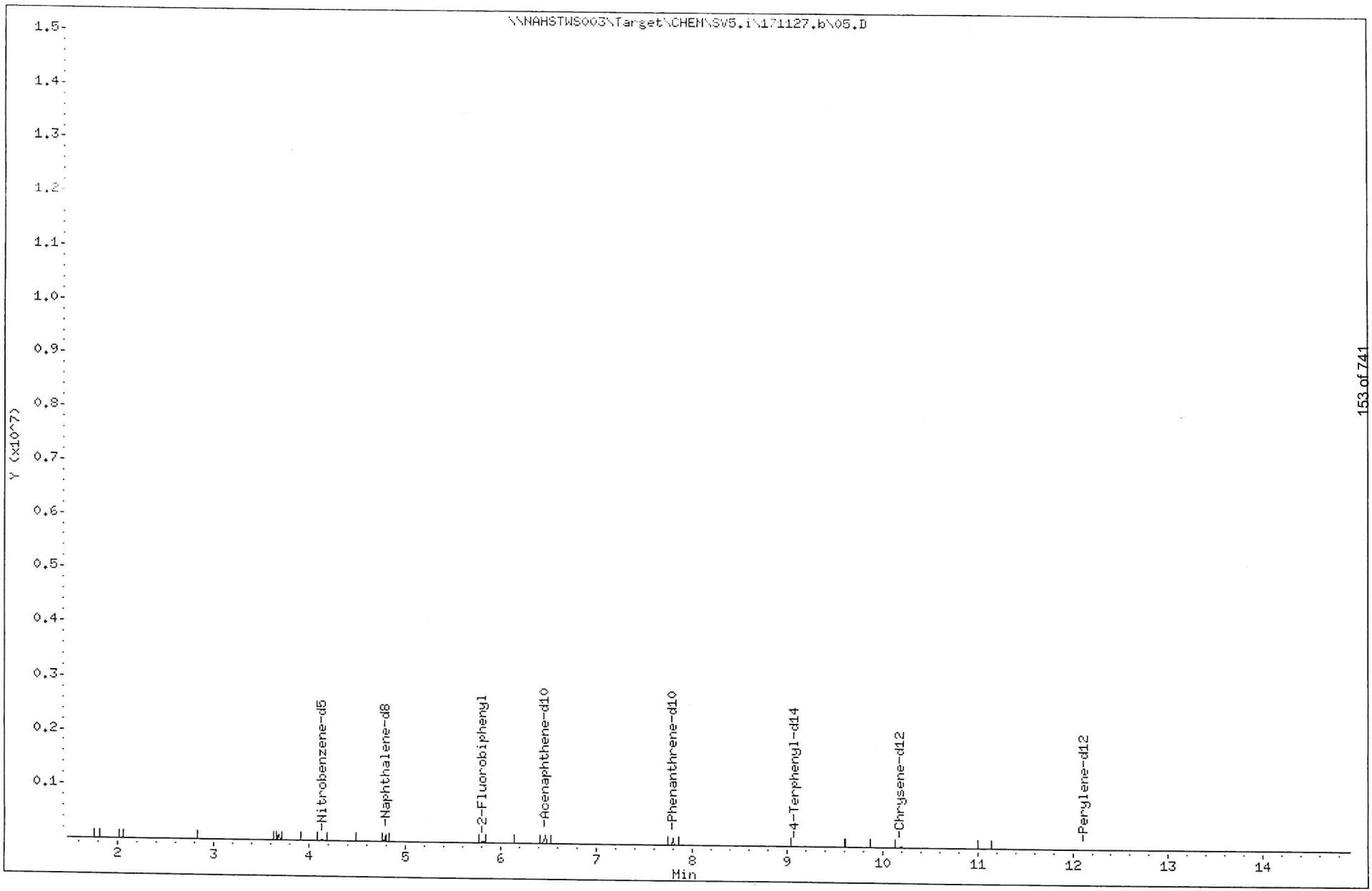
QC Flag Legend

M - Compound response manually integrated.

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\05.D
Date : 27-NOV-2017 18:00
Client ID: DX-0.05
Sample Info: DX-0.05;DX-0.05
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV5.i

Operator: GY
Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\06.D
Lab Smp Id: DX-0.1 Client Smp ID: DX-0.1
Inj Date : 27-NOV-2017 18:21 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : DX-0.1;DX-0.1
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\DXSIM.m
Meth Date : 11-Jan-2018 15:47 aneir Quant Type: ISTD
Cal Date : 20-NOV-2017 15:12 Cal File: 010.D
Als bottle: 6 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 45 Naphthalene-d8	136	4.796	4.800	(1.000)	127490	0.10000	
$ 33 Nitrobenzene-d5	82	4.146	4.147	(0.865)	51947	0.10000	0.1095 (M)
* 86 Acenaphthene-d10	164	6.474	6.479	(1.000)	84497	0.10000	
$ 69 2-Fluorobiphenyl	172	5.821	5.825	(0.899)	73577	0.10000	0.09824
* 126 Phenanthrene-d10	188	7.806	7.811	(1.000)	107687	0.10000	
* 182 Chrysene-d12	240	10.184	10.198	(1.000)	51138	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.086	9.097	(0.892)	36635	0.10000	0.08716 (M)
* 198 Perylene-d12	264	12.093	12.120	(1.000)	28102	0.10000	
1 1,4-Dioxane	58	2.034	2.032	(0.424)	10469	0.10000	0.09910 (aM)

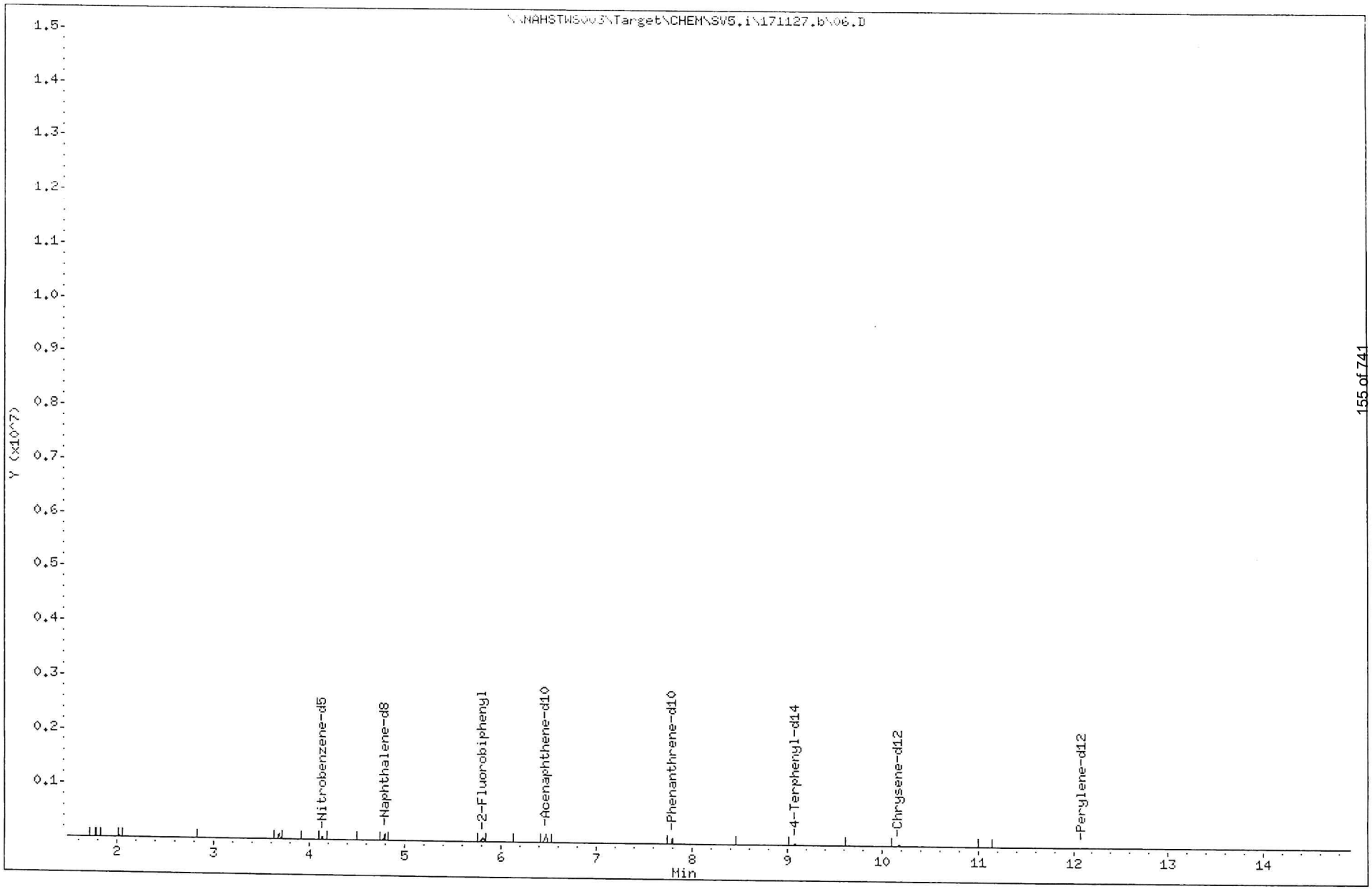
QC Flag Legend

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

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\06.D
Date : 27-NOV-2017 18:21
Client ID: DX-0.1
Sample Info: DX-0.1;DX-0.1
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV5.i

Operator: GY
Column diameter: 0.28



Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\07.D Page 1
Report Date: 08-Feb-2018 09:59

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\07.D
Lab Smp Id: DX-0.15 Client Smp ID: DX-0.15
Inj Date : 27-NOV-2017 18:41 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : DX-0.15;DX-0.15
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\DXSIM.m
Meth Date : 11-Jan-2018 15:47 aneir Quant Type: ISTD
Cal Date : 20-NOV-2017 15:12 Cal File: 010.D
Als bottle: 7 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 45 Naphthalene-d8	136	4.800	4.800	(1.000)	53764	0.10000	
$ 33 Nitrobenzene-d5	82	4.146	4.147	(0.864)	34032	0.15000	0.1590(AM)
* 86 Acenaphthene-d10	164	6.479	6.479	(1.000)	35421	0.10000	
$ 69 2-Fluorobiphenyl	172	5.821	5.825	(0.898)	47953	0.15000	0.1536(A)
* 126 Phenanthrene-d10	188	7.811	7.811	(1.000)	46821	0.10000	
* 182 Chrysene-d12	240	10.198	10.198	(1.000)	16112	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.097	9.097	(0.892)	22443	0.15000	0.1604(AM)
* 198 Perylene-d12	264	12.114	12.120	(1.000)	8327	0.10000	
1 1,4-Dioxane	58	1.968	2.032	(0.410)	6762	0.15000	0.1518(aM)

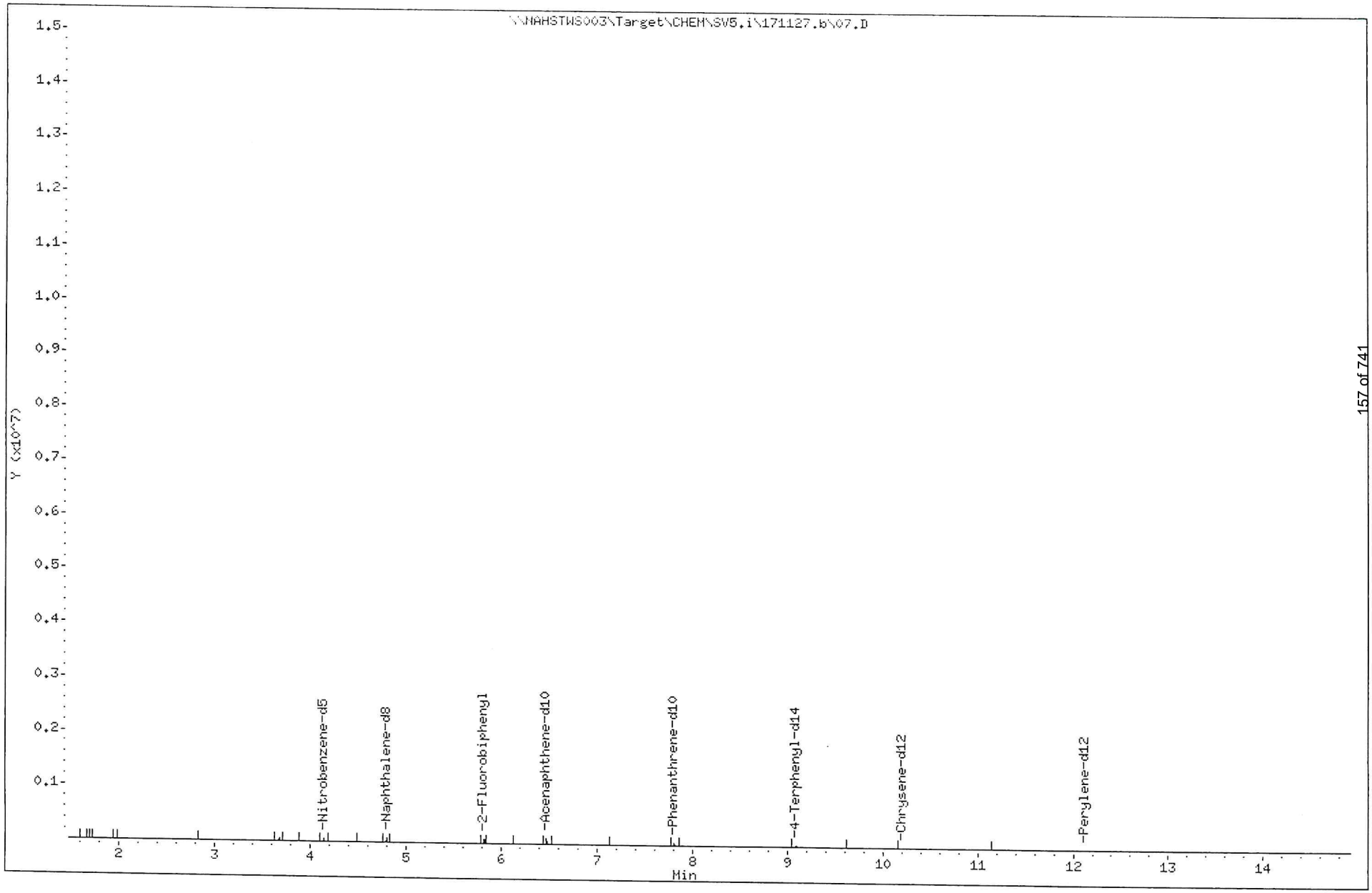
QC Flag Legend

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\SV5.i\171127.b\07.D
Date : 27-NOV-2017 18:41
Client ID: DX-0.15
Sample Info: DX-0.15;DX-0.15
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV5.i

Operator: GY
Column diameter: 0.28



Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\08.D Page 1
Report Date: 08-Feb-2018 09:59

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\08.D
Lab Smp Id: DX-0.2 Client Smp ID: DX-0.2
Inj Date : 27-NOV-2017 19:01 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : DX-0.2;DX-0.2
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\DXSIM.m
Meth Date : 11-Jan-2018 15:47 aneir Quant Type: ISTD
Cal Date : 20-NOV-2017 15:12 Cal File: 010.D
Als bottle: 8 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 45 Naphthalene-d8	136	4.800	4.800	(1.000)	52772	0.10000	
$ 33 Nitrobenzene-d5	82	4.146	4.147	(0.864)	45367	0.20000	0.2121 (AM)
* 86 Acenaphthene-d10	164	6.480	6.479	(1.000)	34095	0.10000	
$ 69 2-Fluorobiphenyl	172	5.821	5.825	(0.898)	62591	0.20000	0.2071 (A)
* 126 Phenanthrene-d10	188	7.806	7.811	(1.000)	44633	0.10000	
* 182 Chrysene-d12	240	10.184	10.198	(1.000)	15430	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.086	9.097	(0.892)	28702	0.20000	0.2247 (AM)
* 198 Perylene-d12	264	12.093	12.120	(1.000)	7217	0.10000	(M)
1 1,4-Dioxane	58	1.960	2.032	(0.408)	9096	0.20000	0.2080 (M)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\08.D

Date : 27-NOV-2017 19:01

Client ID: DX-0.2

Sample Info: DX-0.2;DX-0.2

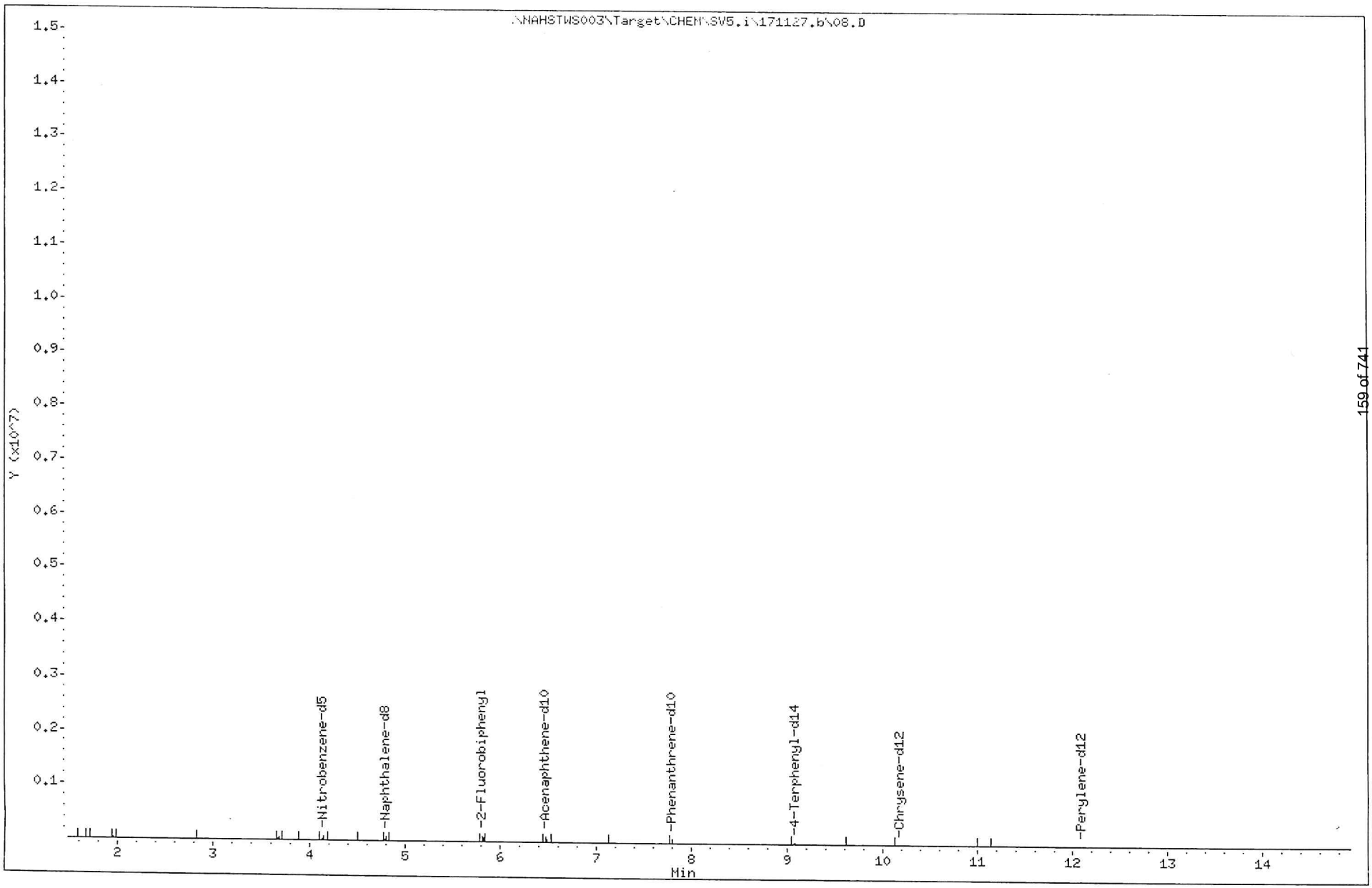
Purge Volume: 1000.0

Column phase: RTX-5SIL MS

Instrument: SV5.i

Operator: CY

Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\09.D
Lab Smp Id: DX-0.5 Client Smp ID: DX-0.5
Inj Date : 27-NOV-2017 19:22 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : DX-0.5;DX-0.5
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\DXSIM.m
Meth Date : 11-Jan-2018 15:47 aneir Quant Type: ISTD
Cal Date : 20-NOV-2017 15:12 Cal File: 010.D
Als bottle: 9 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL AMT (NG)	ON CO (NG)
* 45 Naphthalene-d8	136	4.800	4.800	(1.000)	81886	0.10000	
$ 33 Nitrobenzene-d5	82	4.146	4.147	(0.864)	167850	0.50000	0.5057(AM)
* 86 Acenaphthene-d10	164	6.479	6.479	(1.000)	49217	0.10000	
$ 69 2-Fluorobiphenyl	172	5.821	5.825	(0.898)	229568	0.50000	0.5263(A)
* 126 Phenanthrene-d10	188	7.806	7.811	(1.000)	62795	0.10000	
* 182 Chrysene-d12	240	10.191	10.198	(1.000)	23734	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.097	9.097	(0.893)	135623	0.50000	0.6803(AM)
* 198 Perylene-d12	264	12.114	12.120	(1.000)	11478	0.10000	
1 1,4-Dioxane	58	2.006	2.032	(0.418)	37264	0.50000	0.5492(M)

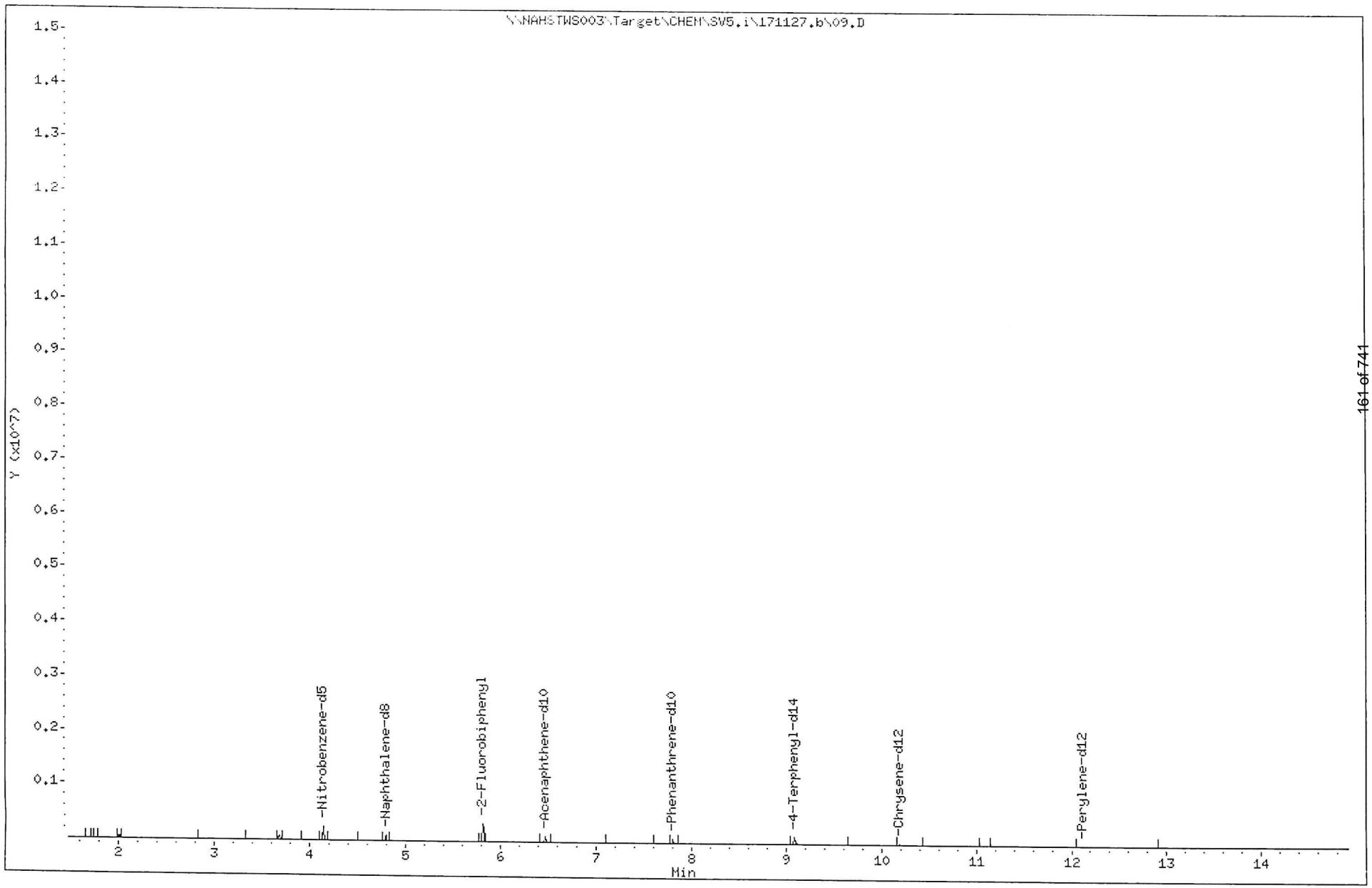
QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\09.D
Date : 27-NOV-2017 19:22
Client ID: DX-0.5
Sample Info: DX-0.5;DX-0.5
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV5.i

Operator: GY
Column diameter: 0.28



Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\10.D Page 1
Report Date: 08-Feb-2018 09:59

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\10.D
Lab Smp Id: DX-ICV Client Smp ID: DX-ICV
Inj Date : 27-NOV-2017 19:42 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : DX-ICV;DX-ICV
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\DXSIM.m
Meth Date : 11-Jan-2018 15:47 aneir Quant Type: ISTD
Cal Date : 20-NOV-2017 15:12 Cal File: 010.D
Als bottle: 10 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)
* 45 Naphthalene-d8	136	4.800	4.800	(1.000)	39413	0.10000	
$ 33 Nitrobenzene-d5	82	4.146	4.147	(0.864)	13722	0.07304	0.07304 (M)
* 86 Acenaphthene-d10	164	6.480	6.479	(1.000)	18308	0.10000	
$ 69 2-Fluorobiphenyl	172	5.825	5.825	(0.899)	19682	0.12130	0.12130 (R)
* 126 Phenanthrene-d10	188	7.806	7.811	(1.000)	25287	0.10000	
* 182 Chrysene-d12	240	10.184	10.198	(1.000)	7225	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.086	9.097	(0.892)	5850	0.09553	0.09553 (M)
* 198 Perylene-d12	264	12.098	12.120	(1.000)	3902	0.10000	
1 1,4-Dioxane	58	1.946	2.032	(0.406)	2746	0.08409	0.08408 (aM)

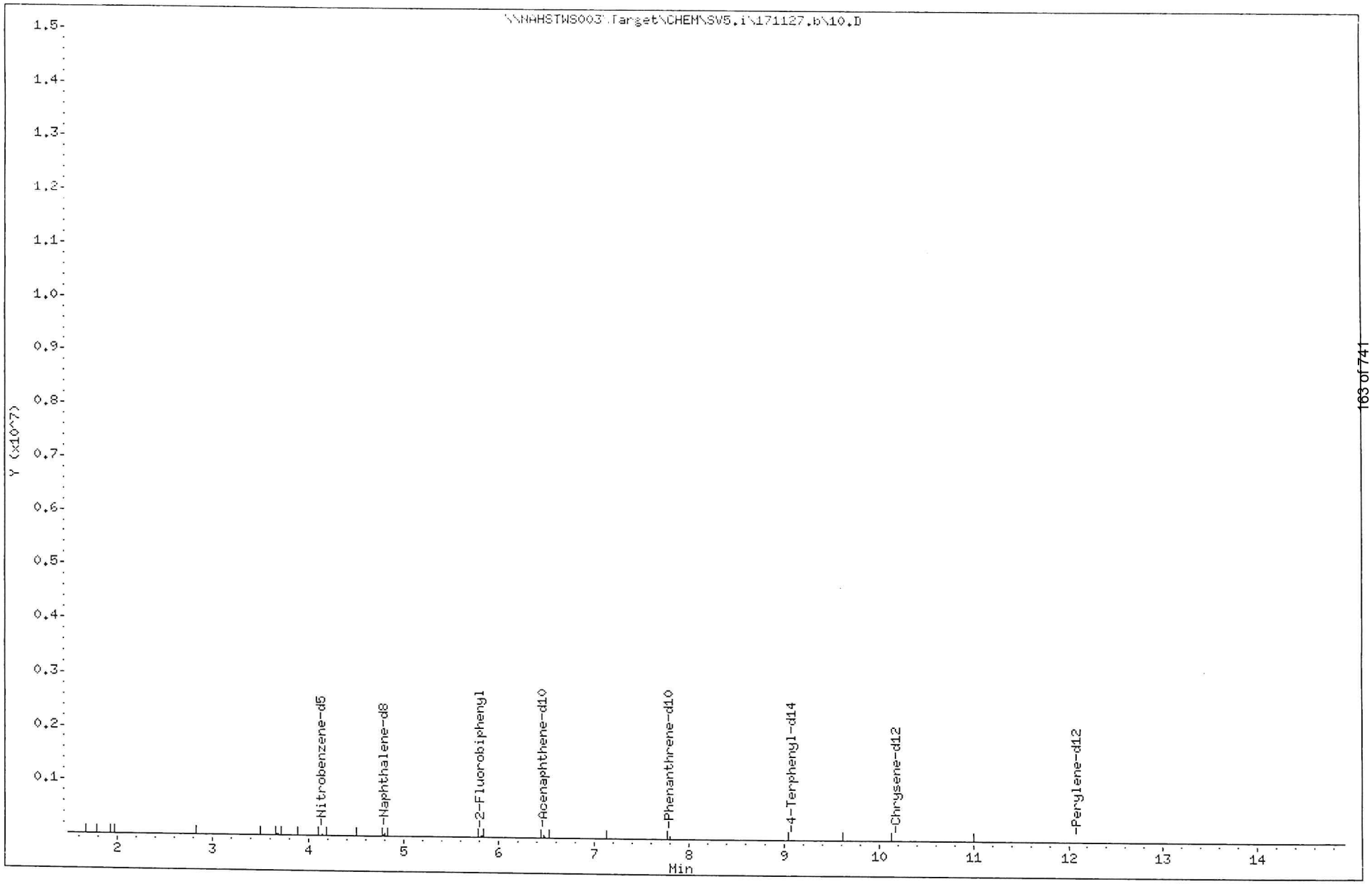
QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\10.D
Date : 27-NOV-2017 19:42
Client ID: DX-ICV
Sample Info: DX-ICV;DX-ICV
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV5.i

Operator: GY
Column diameter: 0.28



SV05 -Logbook

Batch: 30768
Date: 01-09-2018
Method: 8270(SIM)
Comments: mssv-003(SIM)

Analyst: Andrew Neir
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	DFTPP	TUNE	01-09-2018 12:45 pm	1.00			01.D		Y	NA
2	DX-0.08	SAMP	01-09-2018 01:00 pm	1.00			02.D		Y	NA
3	CCB	SAMP	01-09-2018 01:41 pm	1.00			03.D		Y	NA
4	MBLK-123757	MBLK	01-09-2018 02:01 pm	1.00	1000.00 mL	1.00 mL	04.D	Liquid	Y	NA
5	LCS-123757	LCS	01-09-2018 02:22 pm	1.00	1000.00 mL	1.00 mL	05.D	Liquid	Y	NA
6	LCSD-123757	LCSD	01-09-2018 02:43 pm	1.00	1000.00 mL	1.00 mL	06.D	Liquid	Y	NA
7	HS17121168-01	SAMP	01-09-2018 03:03 pm	1.00	1000.00 mL	1.00 mL	07.D	Liquid	Y	NA
8	HS17121169-01	SAMP	01-09-2018 04:20 pm	1.00	1000.00 mL	1.00 mL	08.D	Liquid	Y	NA
9	HS17121168-01	SAMP	01-09-2018 04:40 pm	10.00	1000.00 mL	1.00 mL	09.D	Liquid	Y	NA
10	HS17121169-01	SAMP	01-09-2018 05:01 pm	100.0(	1000.00 mL	1.00 mL	10.D	Liquid	Y	NA
11	LCS-123757	LCS	01-09-2018 06:13 pm	1.00	1000.00 mL	1.00 mL	11.D	Liquid	Y	NA
12	DX-0.08	SAMP	01-09-2018 06:54 pm	1.00			12.D		Y	NA

Chemical	Value
IS ID	30411-18-01
CAL STD ID	30411-17-04
DFTPP ID	30411-19-01
PCP Tailing	1.24
Benz. Tailing	1.02

FORM 3
WATER SEMIVOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121168

Matrix Spike - Sample No.: DX-0.08

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	% REC #	QC. LIMITS REC.
1,4-Dioxane	0.08000	0.08460	106	40-140

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

COMMENTS: _____

FORM III SV

FORM 5
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121168

Lab File ID: 01 DFTPP Injection Date: 01/09/18

Instrument ID: SV5 DFTPP Injection Time: 1245

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	50.0
68	Less than 2.0% of mass 69	0.9 (1.7)1
69	Mass 69 relative abundance	53.5
70	Less than 2.0% of mass 69	0.4 (0.8)1
127	10.0 - 80.0% of mass 198	57.7
197	Less than 2.0% of mass 198	0.5
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.8
275	10.0 - 60.0% of mass 198	24.8
365	1.0 - 100.0% of mass 198	3.2
441	Present, but less than mass 443	12.3
442	50.0 - 150.0% of mass 198	72.0
443	15.0 - 24.0% of mass 442	15.1 (20.9)2

1-Value is % mass 69 2-Value is % mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	DX-0.08	DX-0.08	02	01/09/18	1300
02	MBLK-123757	MBLK-123757	04	01/09/18	1401
03	LCSD-123757	LCSD-123757	06	01/09/18	1443
04	HS17121168-0	HS17121168-01	09	01/09/18	1640
05	LCS-123757	LCS-123757	11	01/09/18	1813
06	DX-0.08	DX-0.08	12	01/09/18	1854
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7B
SEMIVOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121168

Instrument ID: SV5 Calibration Date: 01/09/18 Time: 1300

Lab File ID: 02 Init. Calib. Date(s): 11/27/17 11/27/17

Init. Calib. Times: 1647 1922

GC Column: RTX-5SIL MS ID: 0.28 (mm)

COMPOUND	RRF OR AMOUNT	RRF8e-002 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
1,4-Dioxane	8.3e-002	8.46e-002	0.01	1.93	20.00	AVRG
Nitrobenzene-d5	0.4770000	0.4488066	0.01	-5.91	20.00	AVRG
4-Terphenyl-d14	0.8680000	0.8846107	0.01	1.91	20.00	AVRG
2-Fluorobiphenyl	0.8860000	0.8978096	0.01	1.33	20.00	AVRG

FORM VII SV

FORM 8
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121168

Lab File ID (Standard): 02 Date Analyzed: 01/09/18

Instrument ID: SV5 Time Analyzed: 1300

		IS1(NPT) AREA #	RT #	IS2(ANT) AREA #	RT #	IS3(PHN) AREA #	RT #
	12 HOUR STD	76294	4.73	49398	6.41	61758	7.76
	UPPER LIMIT	152588	5.23	98796	6.91	123516	8.26
	LOWER LIMIT	38147	4.23	24699	5.91	30879	7.26
	CLIENT SAMPLE NO.						
01	MBLK-123757	74254	4.73	34125	6.41	45500	7.76
02	LCSD-123757	63169	4.73	29769	6.41	38129	7.76
03	HS17121168-01	55904	4.73	24802	6.41	35846	7.76
04	LCS-123757	39542	4.73	20170*	6.42	28286*	7.76
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (NPT) = Naphthalene-d8
IS2 (ANT) = Acenaphthene-d10
IS3 (PHN) = Phenanthrene-d10

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

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

FORM VIII SV

FORM 8
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121168

Lab File ID (Standard): 02 Date Analyzed: 01/09/18

Instrument ID: SV5 Time Analyzed: 1300

		IS4 (CRY) AREA #	RT #	IS5 (PRY) AREA #	RT #	AREA #	RT #
	12 HOUR STD	12343	10.11	7368	12.01		
	UPPER LIMIT	24686	10.61	14736	12.51		
	LOWER LIMIT	6172	9.61	3684	11.51		
	CLIENT SAMPLE NO.						
01	MBLK-123757	11178	10.11	6200	12.01		
02	LCSD-123757	10244	10.13	5421	12.02		
03	HS17121168-01	12067	10.11	6327	12.01		
04	LCS-123757	7552	10.11	4864	12.01		
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS4 (CRY) = Chrysene-d12
IS5 (PRY) = Perylene-d12

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

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

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\01.D

Date : 09-JAN-2018 12:45

Client ID: DFTPP

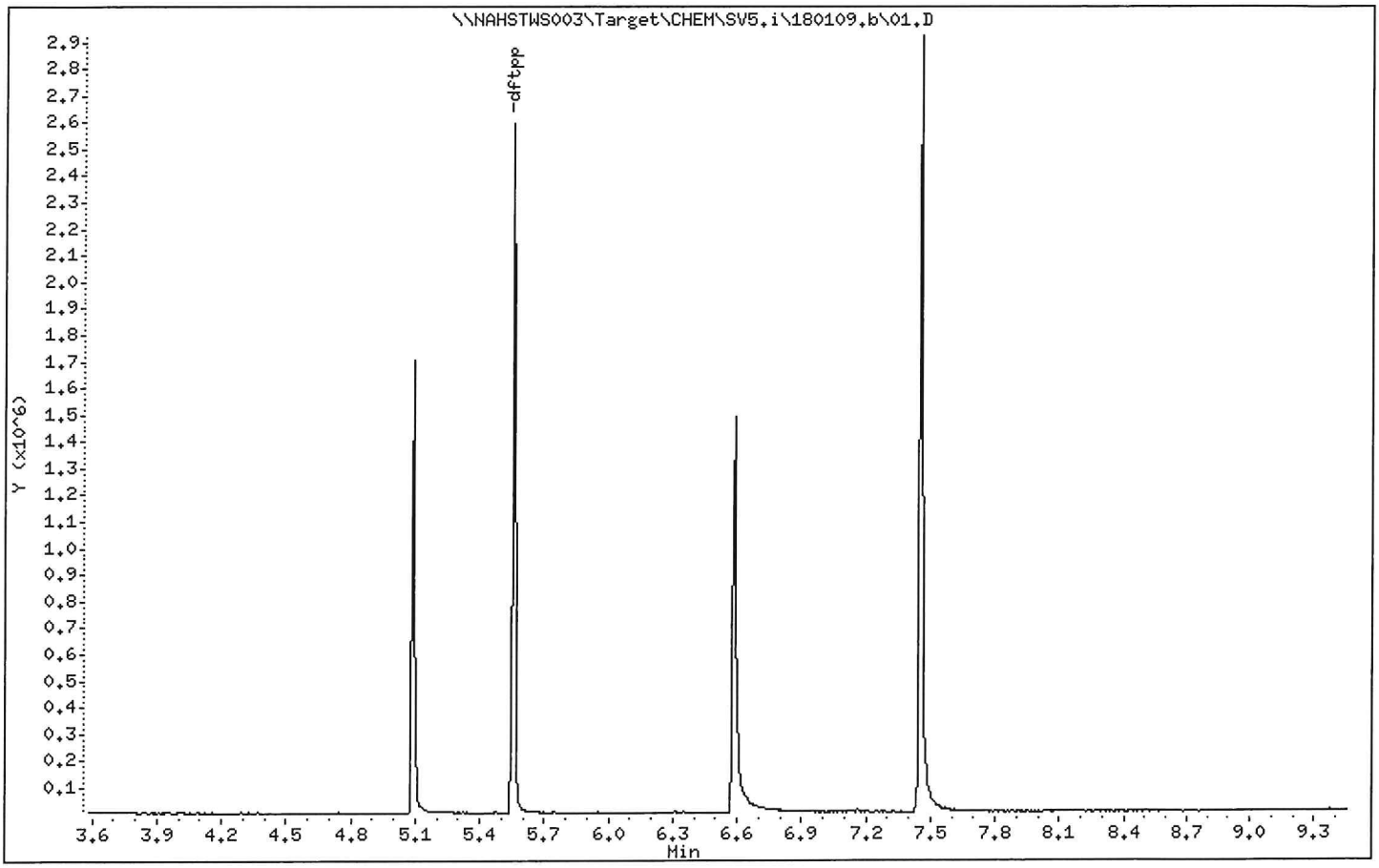
Instrument: SV5.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: GY

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\01.D

Date : 09-JAN-2018 12:45

Client ID: DFTPP

Instrument: SV5.i

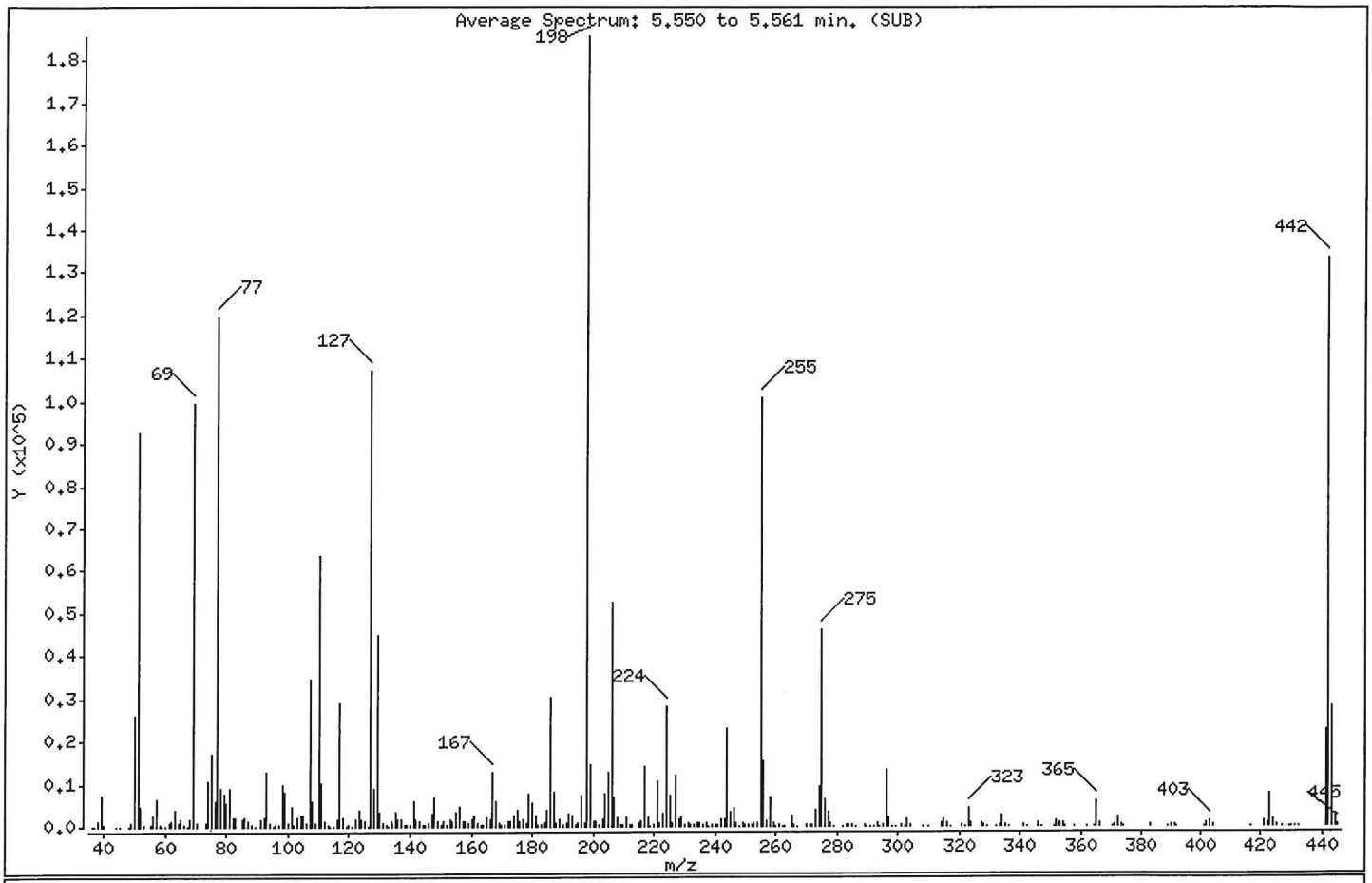
Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: GY

Column phase: DB-5MS

Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	49.95
68	Less than 2.00% of mass 69	0.91 (1.71)
69	Mass 69 relative abundance	53.51
70	Less than 2.00% of mass 69	0.41 (0.77)
127	10.00 - 80.00% of mass 198	57.74
197	Less than 2.00% of mass 198	0.54
199	5.00 - 9.00% of mass 198	7.84
275	10.00 - 60.00% of mass 198	24.77
365	1.00 - 100.00% of mass 198	3.17
441	Present, but less than mass 443	12.26
442	50.00 - 150.00% of mass 198	72.04
443	15.00 - 24.00% of mass 442	15.07 (20.92)

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\01.D

Date : 09-JAN-2018 12:45

Client ID: DFTPP

Instrument: SV5.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: GY

Column phase: DB-5MS

Column diameter: 0.25

Data File: 01.D
Spectrum: Average Spectrum: 5.550 to 5.561 min. (SUB)
Location of Maximum: 198.00
Number of points: 312

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	205	125.00	1440	204.00	7737	291.00	142
37.00	143	126.00	204	205.00	12612	292.00	174
38.00	1309	127.00	107208	206.00	52688	293.00	951
39.00	7360	128.00	9147	207.00	6876	294.00	202
40.00	249	129.00	44960	208.00	1946	295.00	249
44.00	179	130.00	3622	209.00	585	296.00	13099
45.00	96	131.00	743	210.00	331	297.00	1988
48.00	135	132.00	437	211.00	1977	298.00	100
49.00	911	133.00	149	212.00	230	299.00	65
50.00	26192	134.00	1357	213.00	226	301.00	245
51.00	92752	135.00	3554	215.00	653	302.00	134
52.00	4819	136.00	1813	216.00	1286	303.00	1776
53.00	351	137.00	1856	217.00	13881	304.00	539
55.00	340	138.00	440	218.00	2029	308.00	103
56.00	2573	139.00	296	219.00	187	310.00	194
57.00	6231	140.00	592	220.00	279	314.00	731
58.00	346	141.00	5968	221.00	10628	315.00	1517
59.00	82	142.00	1643	222.00	946	316.00	905
60.00	53	143.00	1215	223.00	3147	317.00	129
61.00	1001	144.00	440	224.00	27968	321.00	402
62.00	1377	145.00	339	225.00	7353	322.00	203
63.00	3837	146.00	876	226.00	907	323.00	4452
64.00	691	147.00	3005	227.00	11848	324.00	669
65.00	1916	148.00	7030	228.00	1768	327.00	899
66.00	228	149.00	1339	229.00	2251	328.00	440
67.00	141	150.00	342	230.00	419	329.00	79
68.00	1697	151.00	1127	231.00	969	332.00	184
69.00	99352	152.00	226	232.00	241	333.00	408
70.00	763	153.00	1896	233.00	279	334.00	2466
73.00	782	154.00	1360	234.00	726	335.00	617
74.00	10777	155.00	3295	235.00	984	336.00	50
75.00	16936	156.00	4765	236.00	541	341.00	353
76.00	6164	157.00	1164	237.00	795	342.00	165
77.00	119496	158.00	1197	238.00	110	346.00	747
78.00	8890	159.00	730	239.00	408	347.00	126

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\01.D

Date : 09-JAN-2018 12:45

Client ID: DFTPP

Instrument: SV5.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: GY

Column phase: DB-5MS

Column diameter: 0.25

Data File: 01.D
Spectrum: Average Spectrum: 5.550 to 5.561 min. (SUB)
Location of Maximum: 198.00
Number of points: 312

m/z	Y	m/z	Y	m/z	Y	m/z	Y
79.00	7857	160.00	1727	240.00	243	351.00	138
80.00	5451	161.00	2628	241.00	588	352.00	1222
81.00	8788	162.00	963	242.00	1797	353.00	863
82.00	2110	163.00	306	243.00	1590	354.00	996
83.00	1976	164.00	338	244.00	23200	355.00	107
85.00	1559	165.00	2339	245.00	3325	358.00	55
86.00	2278	166.00	1574	246.00	4419	362.00	67
87.00	1346	167.00	12620	247.00	839	364.00	64
88.00	488	168.00	6106	248.00	194	365.00	5885
89.00	199	169.00	664	249.00	725	366.00	860
91.00	1675	170.00	568	250.00	217	370.00	132
92.00	2018	171.00	613	251.00	251	371.00	387
93.00	12596	172.00	1085	252.00	405	372.00	2119
94.00	999	173.00	1220	253.00	690	373.00	610
95.00	130	174.00	2395	254.00	849	374.00	63
96.00	636	175.00	3880	255.00	100784	383.00	513
97.00	339	176.00	1425	256.00	15512	389.00	57
98.00	9837	177.00	1792	257.00	1395	390.00	220
99.00	8167	178.00	876	258.00	6652	391.00	242
100.00	666	179.00	7787	259.00	919	392.00	146
101.00	4891	180.00	5713	260.00	119	401.00	174
102.00	434	181.00	2683	261.00	226	402.00	794
103.00	2019	182.00	531	262.00	64	403.00	1211
104.00	2743	183.00	461	263.00	56	404.00	470
105.00	2528	184.00	712	265.00	2350	417.00	52
106.00	1056	185.00	3768	266.00	321	421.00	1098
107.00	34528	186.00	30336	267.00	124	422.00	881
108.00	5984	187.00	8292	270.00	216	423.00	7678
109.00	1032	188.00	942	271.00	350	424.00	1775
110.00	63584	189.00	1721	272.00	503	425.00	238
111.00	10161	190.00	422	273.00	3759	427.00	72
112.00	1205	191.00	908	274.00	9494	429.00	117
113.00	378	192.00	2890	275.00	46000	430.00	178
114.00	72	193.00	2364	276.00	6206	431.00	161
115.00	140	194.00	601	277.00	3370	432.00	107

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\01.D

Date : 09-JAN-2018 12:45

Client ID: DFTPP

Instrument: SV5.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: GY

Column phase: DB-5MS

Column diameter: 0.25

Data File: 01.D
Spectrum: Average Spectrum: 5.550 to 5.561 min. (SUB)
Location of Maximum: 198.00
Number of points: 312

m/z	Y	m/z	Y	m/z	Y	m/z	Y
116.00	1698	195.00	682	278.00	677	441.00	22768
117.00	28848	196.00	7368	279.00	51	442.00	133760
118.00	2073	197.00	1011	282.00	62	443.00	27976
119.00	185	198.00	185664	283.00	416	444.00	2514
120.00	454	199.00	14565	284.00	247	445.00	240
121.00	59	200.00	1191	285.00	467		
122.00	1837	201.00	1434	286.00	57		
123.00	3673	202.00	310	289.00	282		
124.00	1920	203.00	1686	290.00	198		

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\02.D
Lab Smp Id: DX-0.08 Client Smp ID: DX-0.08
Inj Date : 09-JAN-2018 13:00 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : DX-0.08;DX-0.08
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\DXSIM.m
Meth Date : 08-Feb-2018 10:30 SV5.i Quant Type: ISTD
Cal Date : 27-NOV-2017 19:22 Cal File: 09.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

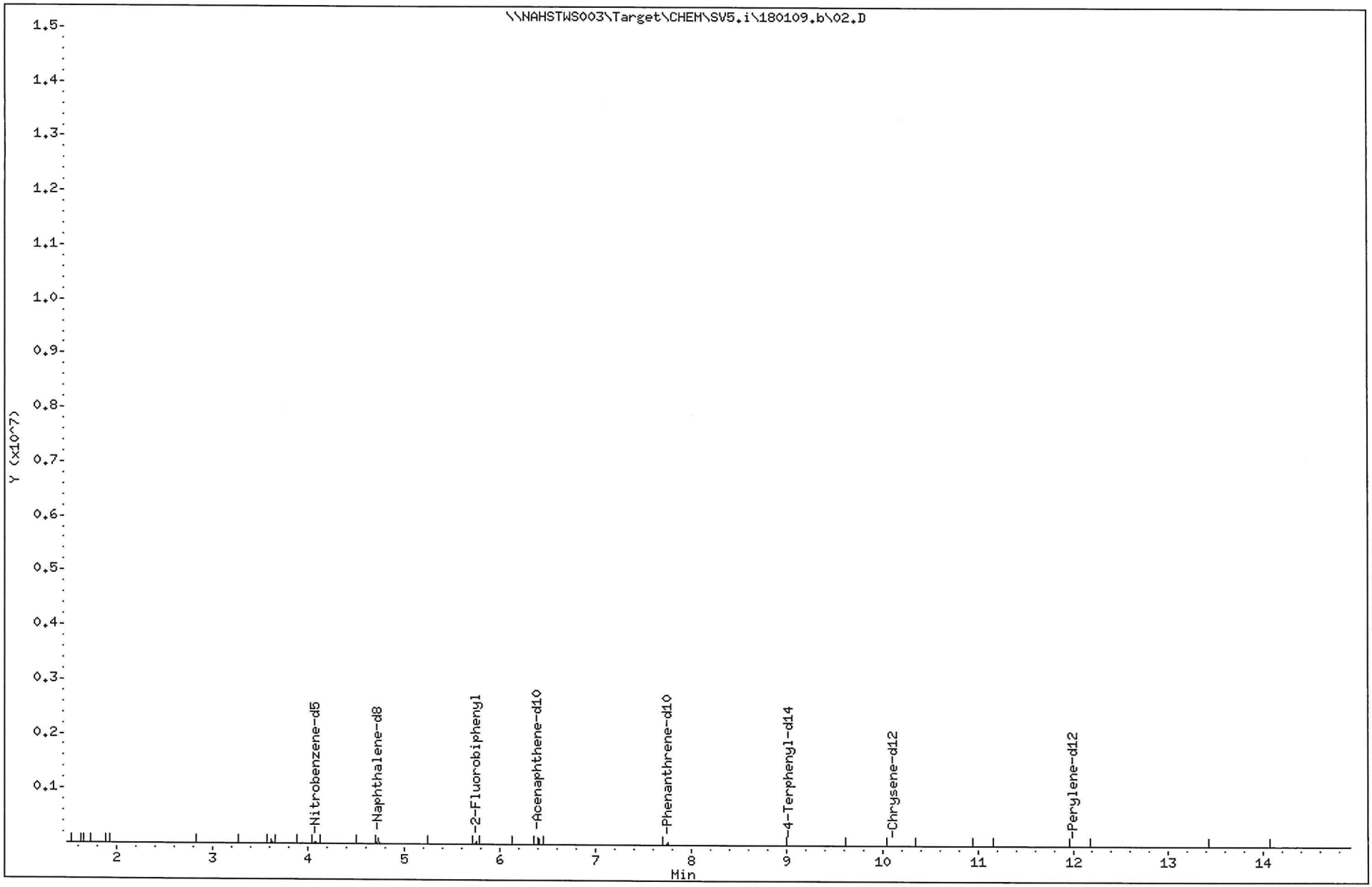
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
* 45 Naphthalene-d8	136	4.733	4.733	(1.000)	76294	0.10000	
$ 33 Nitrobenzene-d5	82	4.082	4.082	(0.862)	27393	0.08000	0.07525(M)
* 86 Acenaphthene-d10	164	6.410	6.410	(1.000)	49398	0.10000	
$ 69 2-Fluorobiphenyl	172	5.755	5.755	(0.898)	35480	0.08000	0.08104
* 126 Phenanthrene-d10	188	7.757	7.757	(1.000)	61758	0.10000	
* 182 Chrysene-d12	240	10.114	10.114	(1.000)	12343	0.10000	
$ 158 4-Terphenyl-d14	244	9.032	9.032	(0.893)	8735	0.08000	0.08151(M)
* 198 Perylene-d12	264	12.007	12.007	(1.000)	7368	0.10000	
1 1,4-Dioxane	58	1.908	1.908	(0.403)	5161	0.08000	0.08164(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\SV5.i\180109.b\02.D
Date : 09-JAN-2018 13:00
Client ID: DX-0.08
Sample Info: DX-0.08;DX-0.08
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV5.i
Operator: GY
Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\04.D
Lab Smp Id: MBLK-123757 Client Smp ID: MBLK-123757
Inj Date : 09-JAN-2018 14:01 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : MBLK-123756;MBLK-12356;3;;BLANK
Misc Info : HS17121168;1;0;1
Comment :
Method : \\nahstws003\Target\chem\SV5.i\180109.b\DXSIM.m
Meth Date : 08-Feb-2018 10:19 aneir Quant Type: ISTD
Cal Date : 27-NOV-2017 19:22 Cal File: 09.D
Als bottle: 4 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14
Processing Host: NAHSTWS003

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/L)
* 45 Naphthalene-d8	136	4.733	4.733	(1.000)	74254	0.10000	
$ 33 Nitrobenzene-d5	82	4.082	4.082	(0.862)	23826	0.06725	0.06725
* 86 Acenaphthene-d10	164	6.410	6.410	(1.000)	34125	0.10000	
$ 69 2-Fluorobiphenyl	172	5.755	5.755	(0.898)	29488	0.09750	0.09750
* 126 Phenanthrene-d10	188	7.757	7.757	(1.000)	45500	0.10000	
* 182 Chrysene-d12	240	10.114	10.114	(1.000)	11178	0.10000	
$ 158 4-Terphenyl-d14	244	9.032	9.032	(0.893)	8433	0.08689	0.08689(M)
* 198 Perylene-d12	264	12.007	12.007	(1.000)	6200	0.10000	

QC Flag Legend

M - Compound response manually integrated.

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\04.D

Date : 09-JAN-2018 14:01

Client ID: MBLK-123757

Instrument: SV5.i

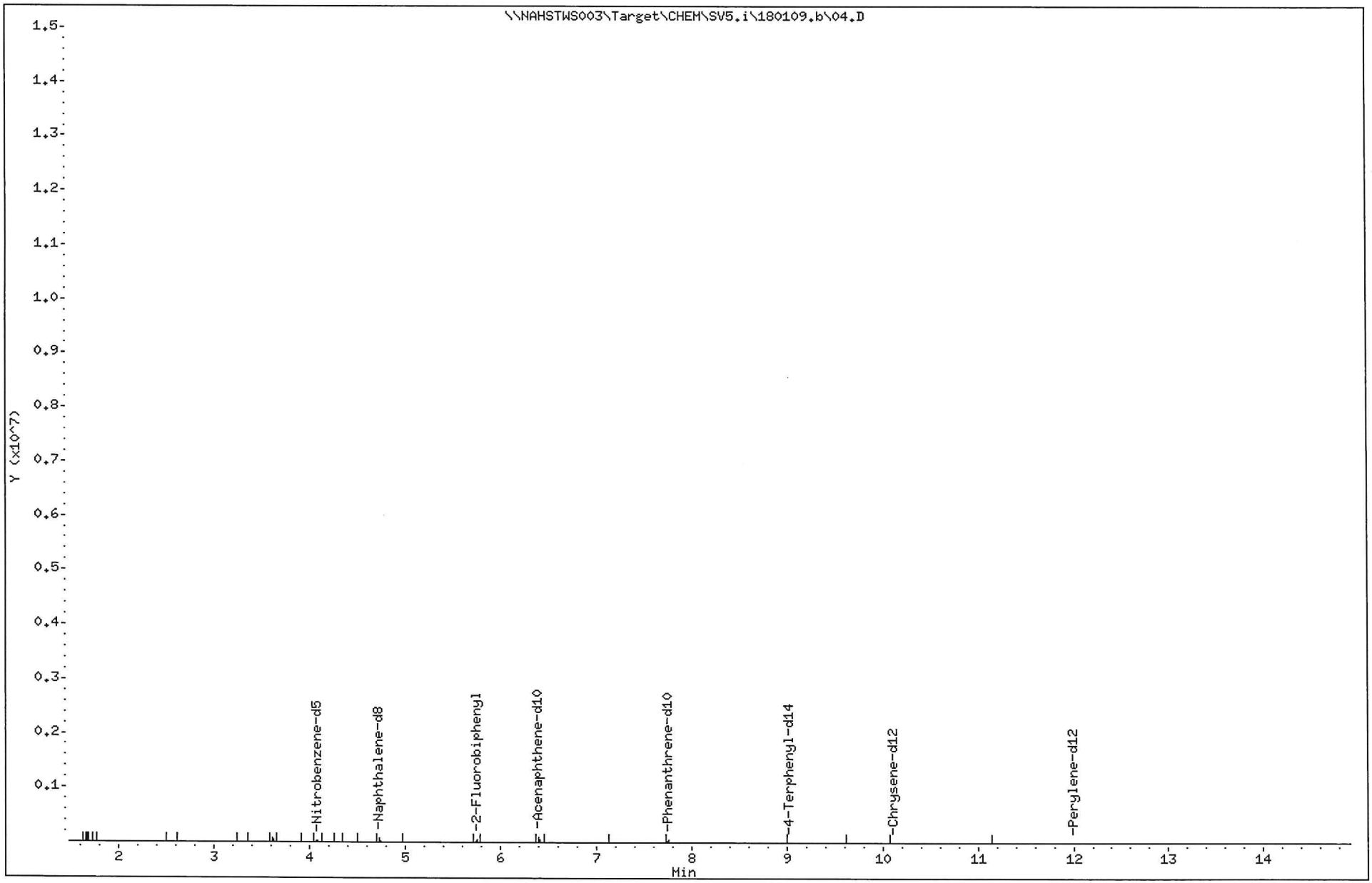
Sample Info: MBLK-123756;MBLK-12356;3;;BLANK

Purge Volume: 1000.0

Operator: GY

Column phase: RTX-5SIL MS

Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\06.D
Lab Smp Id: LCSD-123757 Client Smp ID: LCSD-123757
Inj Date : 09-JAN-2018 14:43 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : LCSD-123756;LCSD-12356;3;;LCSD
Misc Info : HS17121168;1;0;1
Comment :
Method : \\nahstws003\Target\chem\SV5.i\180109.b\DXSIM.m
Meth Date : 08-Feb-2018 10:19 aneir Quant Type: ISTD
Cal Date : 27-NOV-2017 19:22 Cal File: 09.D
Als bottle: 6 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14
Processing Host: NAHSTWS003

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/L)
* 45 Naphthalene-d8	136	4.734	4.733	(1.000)	63169	0.10000	
$ 33 Nitrobenzene-d5	82	4.082	4.082	(0.862)	24777	0.08220	0.08220
* 86 Acenaphthene-d10	164	6.410	6.410	(1.000)	29769	0.10000	
$ 69 2-Fluorobiphenyl	172	5.759	5.755	(0.898)	23878	0.09050	0.09050(M)
* 126 Phenanthrene-d10	188	7.758	7.757	(1.000)	38129	0.10000	
* 182 Chrysene-d12	240	10.128	10.114	(1.000)	10244	0.10000	
$ 158 4-Terphenyl-d14	244	9.043	9.032	(0.893)	7504	0.08437	0.08437(M)
* 198 Perylene-d12	264	12.023	12.007	(1.000)	5421	0.10000	
1 1,4-Dioxane	58	1.906	1.909	(0.403)	3596	0.06870	0.06870(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\SV5.i\180109.b\06.D

Date : 09-JAN-2018 14:43

Client ID: LCSD-123757

Instrument: SV5.i

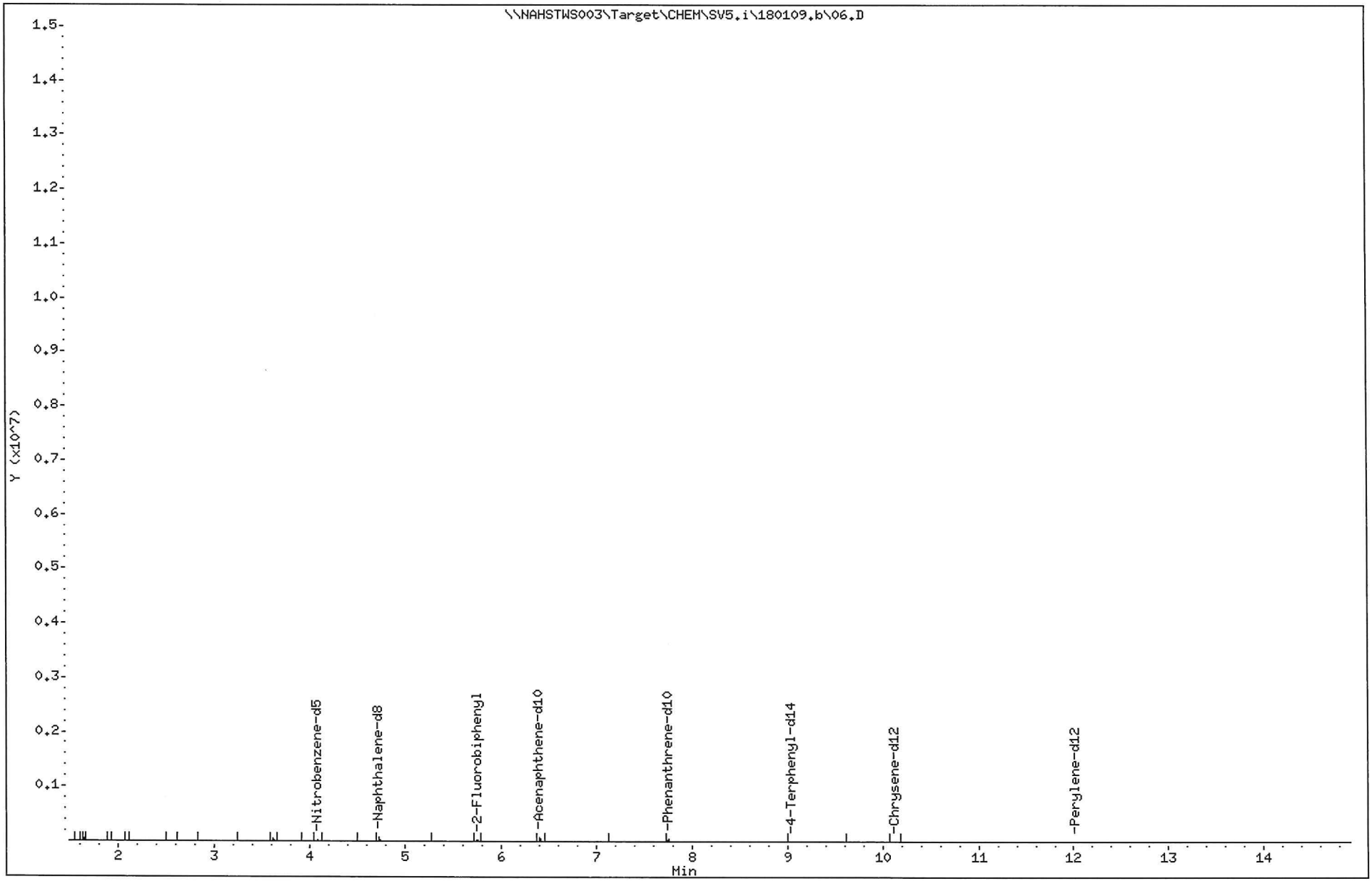
Sample Info: LCSD-123756;LCSD-12356;3;;LCSD

Purge Volume: 1000.0

Operator: GY

Column phase: RTX-5SIL MS

Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\09.D
Lab Smp Id: HS17121168-01 Client Smp ID: HS17121168-01
Inj Date : 09-JAN-2018 16:40 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : HS17121168-01;HS17121168-01
Misc Info : HS17121168;1;0;10
Comment :
Method : \\nahstws003\Target\chem\SV5.i\180109.b\DXSIM.m
Meth Date : 08-Feb-2018 10:19 aneir Quant Type: ISTD
Cal Date : 27-NOV-2017 19:22 Cal File: 09.D
Als bottle: 9
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14
Processing Host: NAHSTWS003

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	10.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

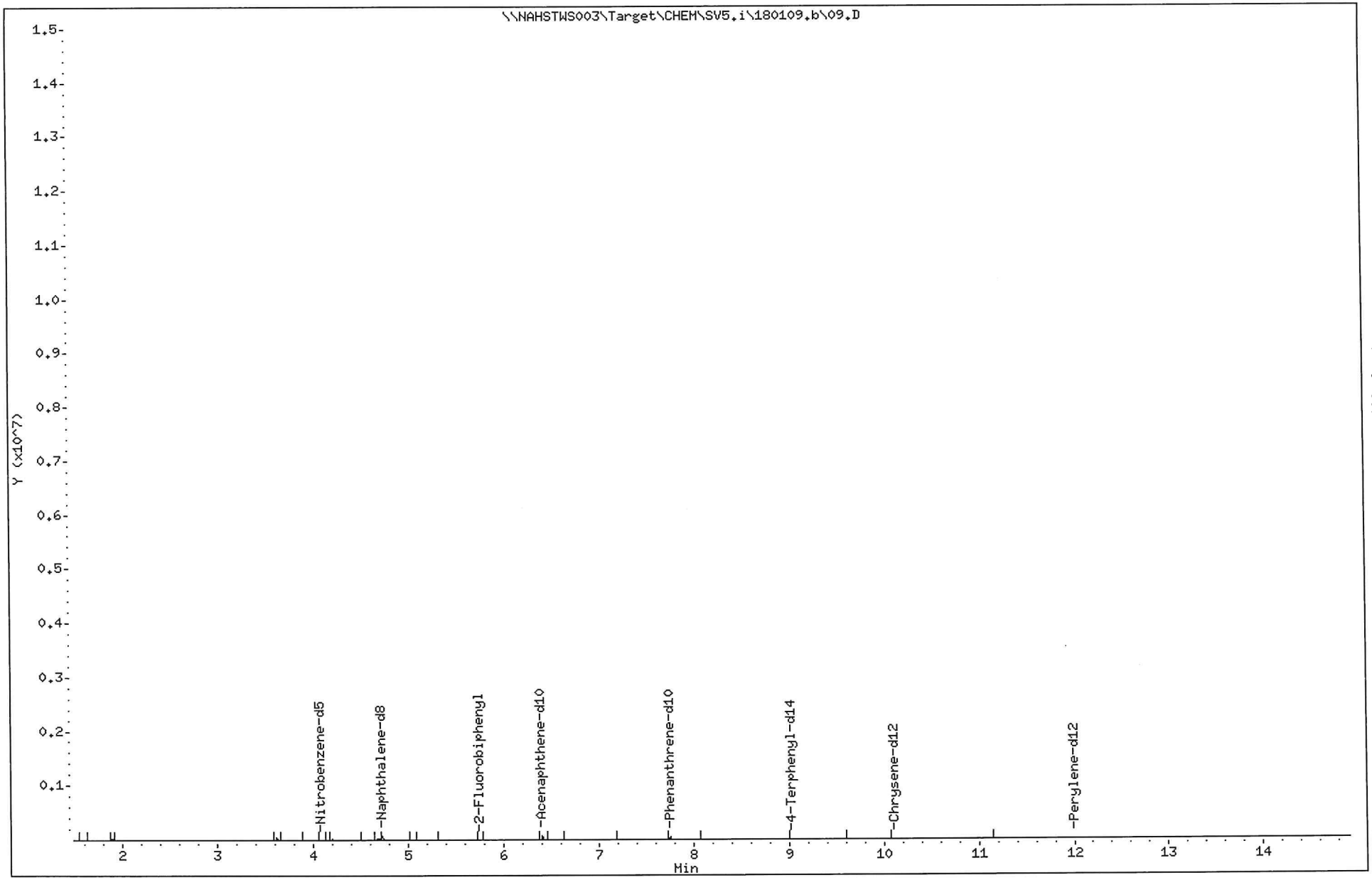
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/L)
* 45 Naphthalene-d8	136	4.733	4.733	(1.000)	55904	0.10000	
$ 33 Nitrobenzene-d5	82	4.082	4.082	(0.862)	1219	0.00457	0.04570(M)
* 86 Acenaphthene-d10	164	6.410	6.410	(1.000)	24802	0.10000	
$ 69 2-Fluorobiphenyl	172	5.755	5.755	(0.898)	3052	0.01388	0.1388(RM)
* 126 Phenanthrene-d10	188	7.757	7.757	(1.000)	35846	0.10000	
* 182 Chrysene-d12	240	10.114	10.114	(1.000)	12067	0.10000	
$ 158 4-Terphenyl-d14	244	9.032	9.032	(0.893)	1076	0.01027	0.1027(M)
* 198 Perylene-d12	264	12.007	12.007	(1.000)	6327	0.10000	
1 1,4-Dioxane	58	1.890	1.909	(0.399)	13012	0.28091	2.809

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\09.D
Date : 09-JAN-2018 16:40
Client ID: HS17121168-01
Sample Info: HS17121168-01;HS17121168-01
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV5.i
Operator: GY
Column diameter: 0.28



Data File: \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\09.D

Date : 09-JAN-2018 16:40

Client ID: HS17121168-01

Instrument: SV5.i

Sample Info: HS17121168-01;HS17121168-01

Purge Volume: 1000.0

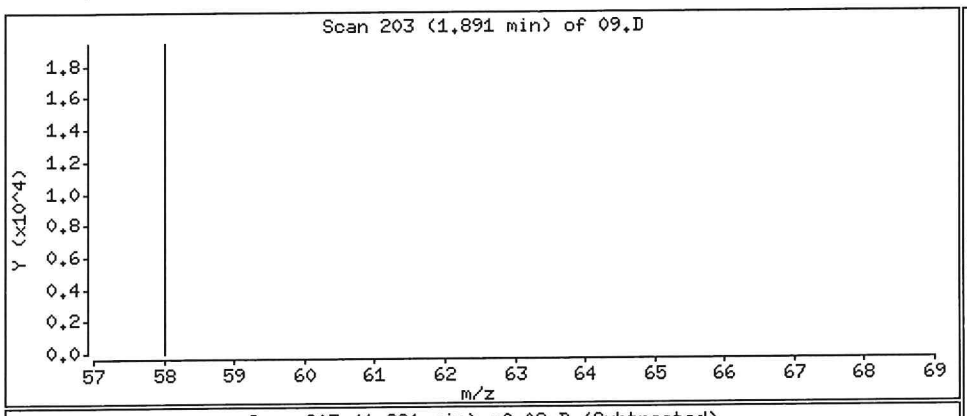
Operator: GY

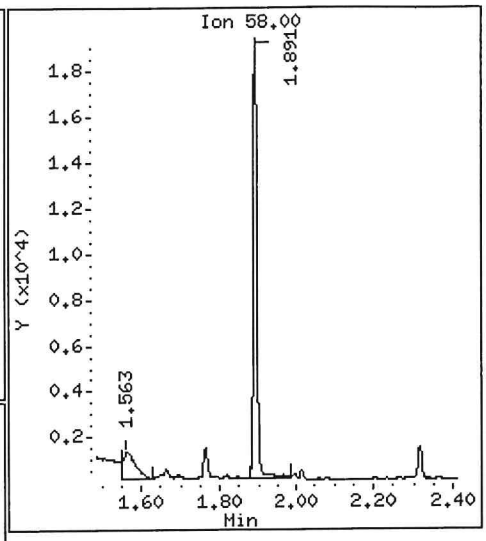
Column phase: RTX-5SIL MS

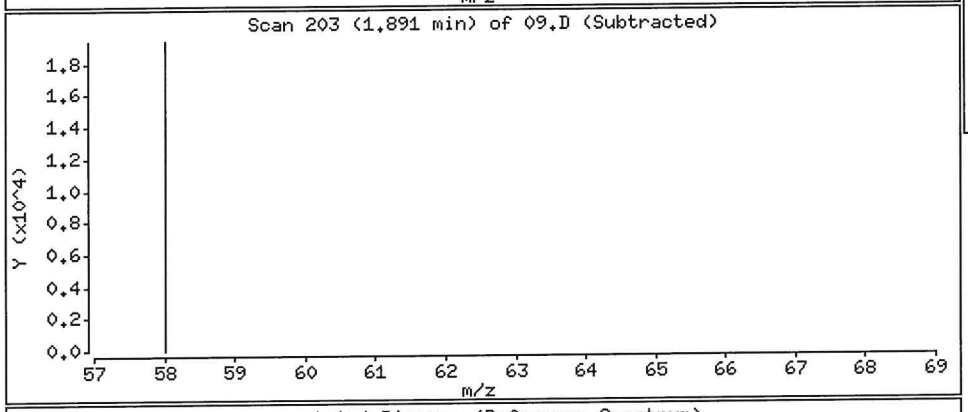
Column diameter: 0.28

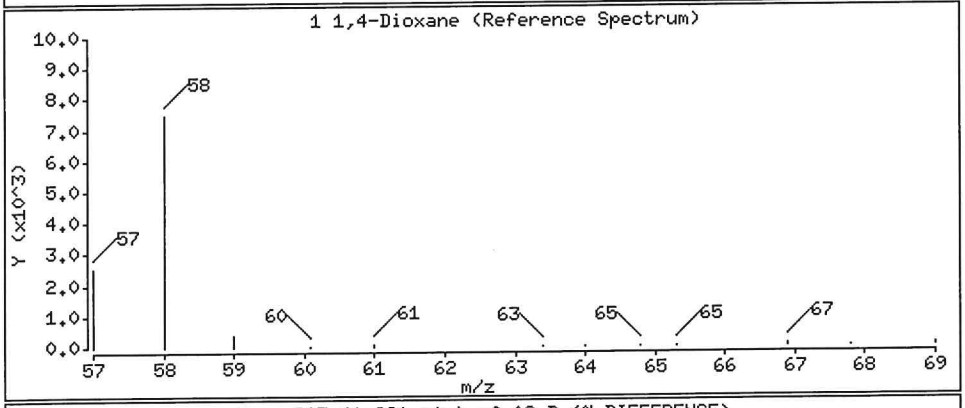
1 1,4-Dioxane

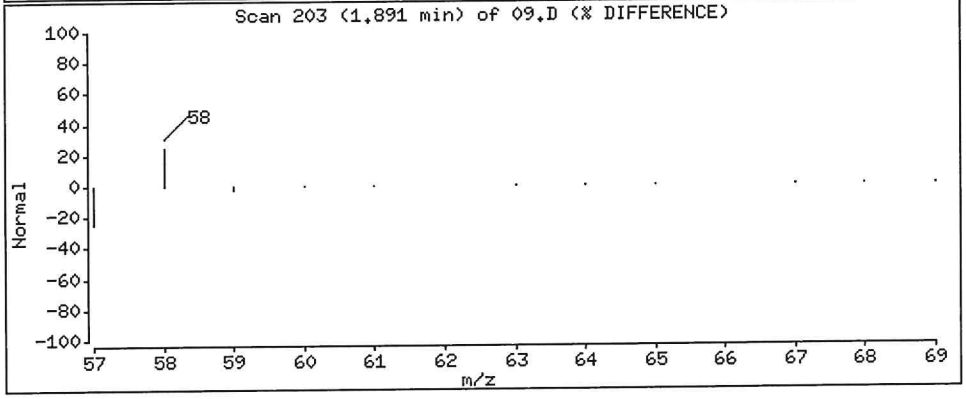
Concentration: 2.809 ug/L











ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\11.D
Lab Smp Id: LCS-123757 Client Smp ID: LCS-123757
Inj Date : 09-JAN-2018 18:13 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : LCS-123756;LCS-12356;3;;LCS
Misc Info : HS17121168;1;0;1
Comment :
Method : \\nahstws003\Target\chem\SV5.i\180109.b\DXSIM.m
Meth Date : 08-Feb-2018 10:19 aneir Quant Type: ISTD
Cal Date : 27-NOV-2017 19:22 Cal File: 09.D
Als bottle: 11 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14
Processing Host: NAHSTWS003

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/L)
* 45 Naphthalene-d8	136	4.733	4.733	(1.000)	39542	0.10000	
$ 33 Nitrobenzene-d5	82	4.082	4.082	(0.862)	12186	0.06459	0.06459 (M)
* 86 Acenaphthene-d10	164	6.415	6.410	(1.000)	20170	0.10000	(M)
$ 69 2-Fluorobiphenyl	172	5.758	5.755	(0.898)	14709	0.08228	0.08228 (M)
* 126 Phenanthrene-d10	188	7.757	7.757	(1.000)	28286	0.10000	(M)
* 182 Chrysene-d12	240	10.114	10.114	(1.000)	7552	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.032	9.032	(0.893)	4790	0.07305	0.07305 (M)
* 198 Perylene-d12	264	12.007	12.007	(1.000)	4864	0.10000	(M)
1 1,4-Dioxane	58	1.878	1.909	(0.397)	2062	0.06293	0.06293 (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\SV5.i\180109.b\11.D

Date : 09-JAN-2018 18:13

Client ID: LCS-123757

Instrument: SV5.i

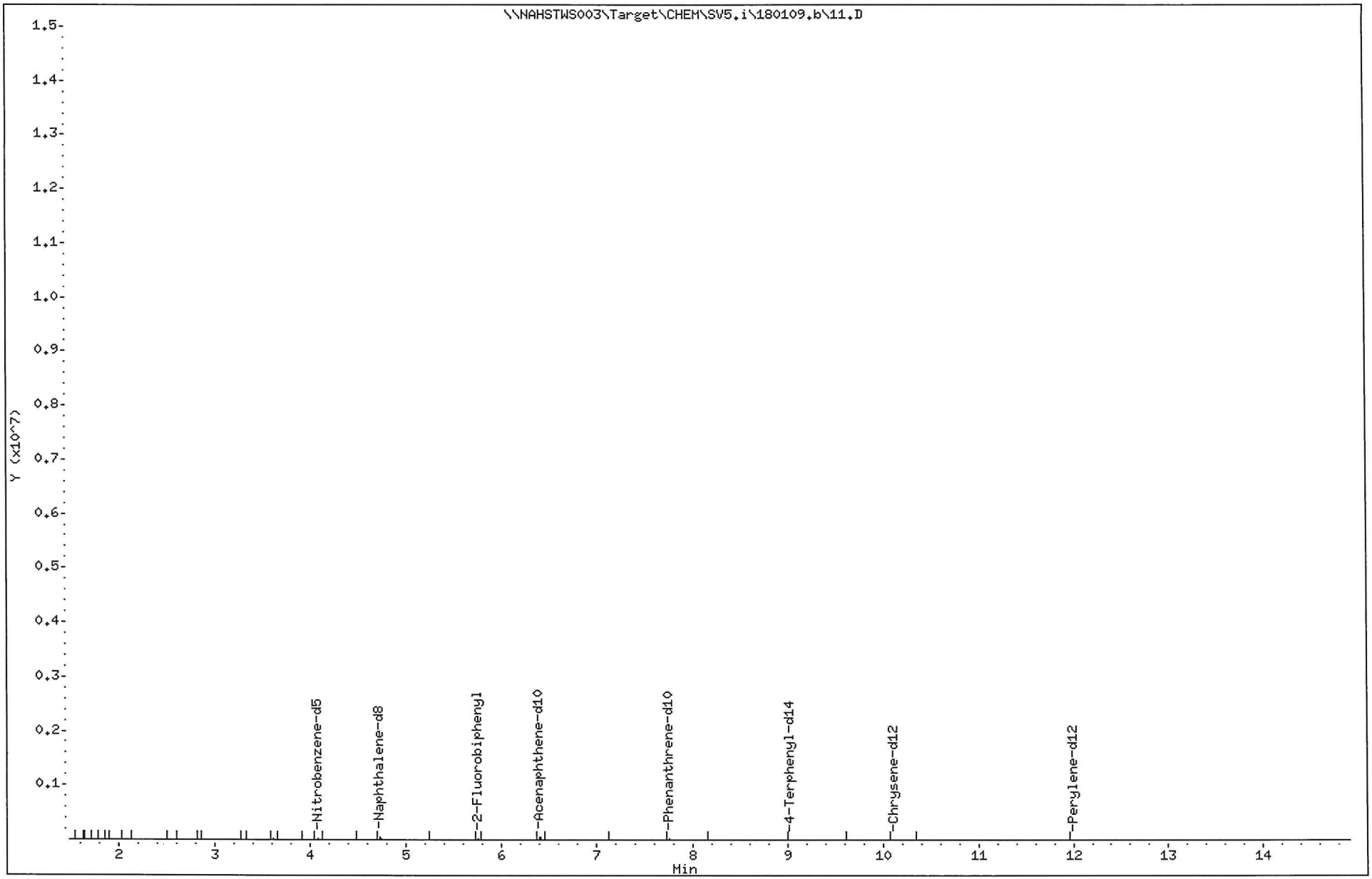
Sample Info: LCS-123756;LCS-12356;3;;LCS

Purge Volume: 1000.0

Operator: GY

Column phase: RTX-5SIL MS

Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\12.D
Lab Smp Id: DX-0.08 Client Smp ID: DX-0.08
Inj Date : 09-JAN-2018 18:54 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : DX-0.08;DX-0.08
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\DXSIM.m
Meth Date : 08-Feb-2018 10:30 SV5.i Quant Type: ISTD
Cal Date : 27-NOV-2017 19:22 Cal File: 09.D
Als bottle: 12 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

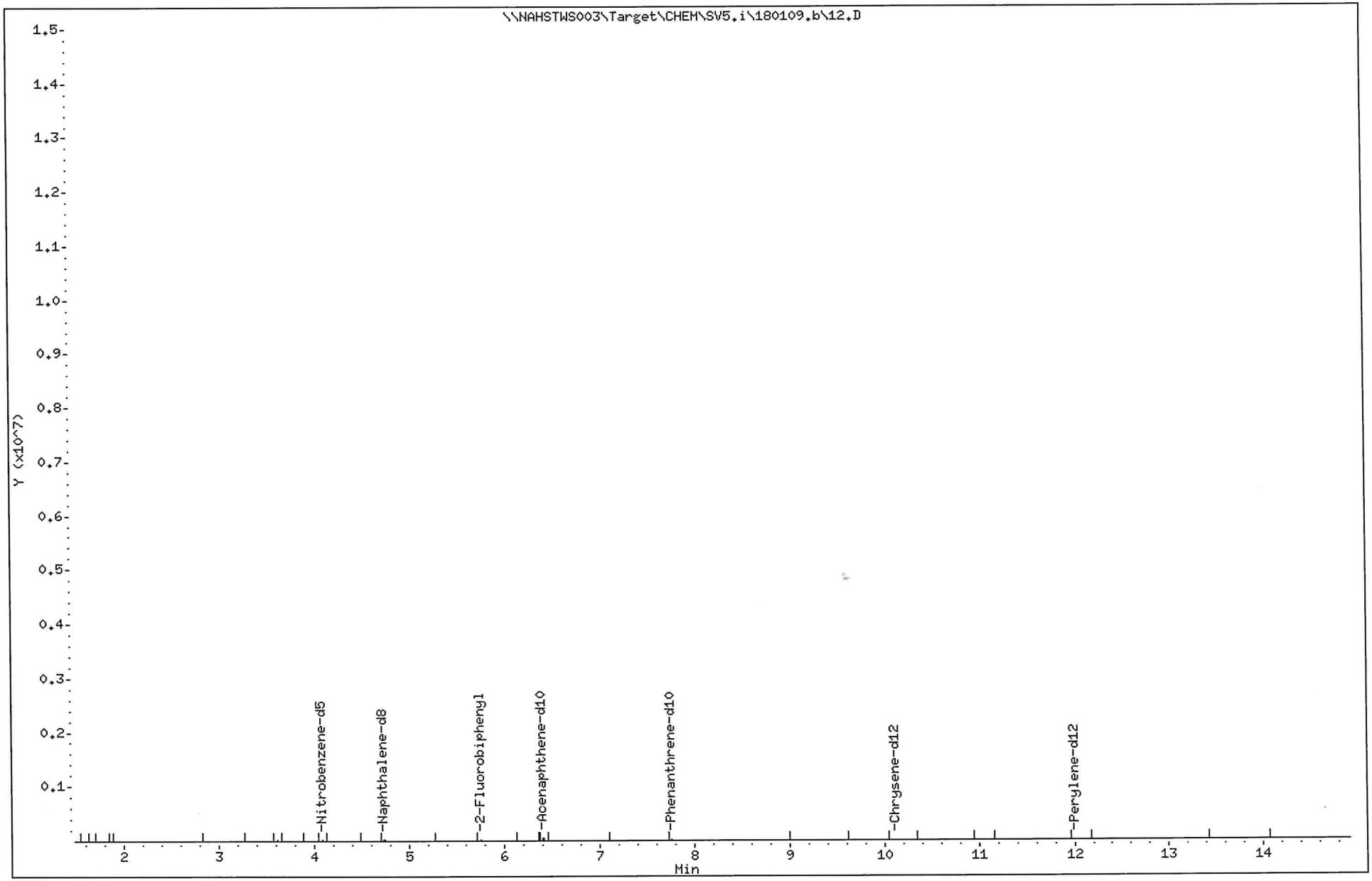
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/L)
* 45 Naphthalene-d8	136	4.733	4.733	(1.000)	33267	0.10000	
$ 33 Nitrobenzene-d5	82	4.082	4.082	(0.862)	22626	0.14254	0.1425(R)
* 86 Acenaphthene-d10	164	6.410	6.410	(1.000)	21988	0.10000	
$ 69 2-Fluorobiphenyl	172	5.758	5.755	(0.898)	17362	0.08909	0.08909
* 126 Phenanthrene-d10	188	7.757	7.757	(1.000)	27048	0.10000	
* 182 Chrysene-d12	240	10.114	10.114	(1.000)	8477	0.10000	
* 198 Perylene-d12	264	12.012	12.007	(1.000)	4295	0.10000	
1 1,4-Dioxane	58	1.864	1.908	(0.394)	2332	0.08460	0.08460(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\12.D
Date : 09-JAN-2018 18:54
Client ID: DX-0.08
Sample Info: DX-0.08;DX-0.08
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV5.i
Operator: GY
Column diameter: 0.28



PREP BATCH REPORT

Batch ID: **123757**

Prep Code: **3510_B_SIM**

InitSampWt/Vol 0

FinSampVol: 1

Start Date: **22-Dec-17 01:30 am**

End Date: **22-Dec-17 07:53 pm**

OriginalFac: 0.001

Technician: **Todi Lala**

PrepUnitFac: 1

SampID	Frac	Matrix	pH	Init Wt/Vol	FinalVol (mL)	PrepFac	SpkFac	Failsafe	TestDueDate	Comments
HS17121168-01	G	Water	7	980	1	0.00102	1.02	01-04-18	01-09-18	ph adj 1/13
HS17121169-01	G	Water	7	990	1	0.00101	1.01	01-04-18	01-09-18	ph adj 1/13
MBLK-123757	A		5	1000	1	0.001	1			ph adj 1/13
LCS-123757	A		5	1000	1	0.001	1			ph adj 1/13
LCSD-123757	A		5	1000	1	0.001	1			ph adj 1/13

00879778

Mercury Raw Data

Bhate Environmental Associates, Inc.
Project: GROUNDWATER TREATMENT PLANT
QUARTERLY EFFLUENT SAMPLES
ALS WO# HS17121168

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Run ID: HG03_308532
Instrument: HG03
Method: SW7470

ICV	Date: 05-Jan-2018 11:38		Seq: 4382786	ICV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	4.84	97	90-110	

CCV1	Date: 05-Jan-2018 12:07		Seq: 4382799	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	4.99	100	90-110	

CCV2	Date: 05-Jan-2018 12:53		Seq: 4382811	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	4.98	100	90-110	

CCV3	Date: 05-Jan-2018 14:10		Seq: 4382983	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.14	103	90-110	

CCV4	Date: 05-Jan-2018 14:34		Seq: 4382994	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.08	102	90-110	

CCV5	Date: 05-Jan-2018 15:02		Seq: 4383031	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.25	105	90-110	

CCV6	Date: 05-Jan-2018 15:23		Seq: 4383043	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.22	104	90-110	

CCV7	Date: 05-Jan-2018 16:12		Seq: 4383107	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.23	105	90-110	

CCV8	Date: 05-Jan-2018 16:33		Seq: 4383119	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.24	105	90-110	

CCV9	Date: 05-Jan-2018 16:56		Seq: 4383128	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.23	105	90-110	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Run ID: HG03_308532
Instrument: HG03
Method: SW7470

ICB	Date: 05-Jan-2018 11:40		Seq: 4382787	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB1	Date: 05-Jan-2018 12:09		Seq: 4382800	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB2	Date: 05-Jan-2018 12:55		Seq: 4382812	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

MBLK-124068	Date: 05-Jan-2018 14:06		Seq: 4382981	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB3	Date: 05-Jan-2018 14:11		Seq: 4382984	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB4	Date: 05-Jan-2018 14:35		Seq: 4382995	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB5	Date: 05-Jan-2018 15:04		Seq: 4383032	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB6	Date: 05-Jan-2018 15:24		Seq: 4383044	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB7	Date: 05-Jan-2018 16:14		Seq: 4383108	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB8	Date: 05-Jan-2018 16:35		Seq: 4383120	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB9	Date: 05-Jan-2018 16:58		Seq: 4383129	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

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

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Date Analyzed: 05-Jan-2018 14:25
Date Extracted: 05-Jan-2018 11:12
Units: ug/L

Matrix Spike: HS17121224-05MS
Client Sample ID:

Analysis Method: SW7470

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Mercury	0.2000	5.030	5.000	100	4.970	5.000	99.2	75-125	1.20	20

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

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Date Analyzed: 05-Jan-2018 14:08
Date Extracted: 05-Jan-2018 11:12
Units: ug/L

Lab Sample ID: LCS-124068 Analysis Method: SW7470

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Mercury	5	5.18	104	80-120

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

Form 11 - INTERNAL STANDARD ASSOCIATION

Client: Bhate Environmental Associates, Inc. Instrument:ICPMS04
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Mass	Analyte	Assoc Int Standard 1	Assoc Int Standard 2	Mode
9	Beryllium	Lithium		Ar
11	Boron	Lithium		Ar
23	Sodium	Germanium		Ar
24	Magnesium	Germanium		Ar
27	Aluminum	Germanium		Ar
39	Potassium	Germanium		Ar
44	Calcium	Germanium		ArHe
47	Titanium	Germanium		Ar
51	Vanadium	Germanium		ArHe
52	Chromium	Germanium		ArHe
55	Manganese	Germanium		ArHe
56	Iron	Germanium		ArHe
59	Cobalt	Germanium		ArHe
60	Nickel	Germanium		ArHe
63	Copper	Germanium		ArHe
66	Zinc	Germanium		ArHe
75	Arsenic	Germanium		ArHe
78	Selenium	Germanium		ArHe
88	Strontium	Germanium		Ar
95	Molybdenum	Germanium		Ar
105	Palladium	Germanium		Ar
107	Silver	Germanium		Ar
111	Cadmium	Indium		Ar
118	Tin	Germanium		Ar
121	Antimony	Germanium		ArHe
135	Barium	Indium		Ar
203	Thallium	Bismuth		Ar
208	Lead	Bismuth		Ar

ALS Group USA, Corp

Date: 18-Jan-18

FORM 12 - PREPARATION LOG

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168
Start Date: 05-Jan-2018 11:12 End Date: 05-Jan-2018 13:30

Batch ID: 124068
Prep Code: Hg_WPr
Method: SW7470
Technician:

SampID	ClientID	Matrix	Init Wt	Init Vol	FinalVol (mL)	PrepFac
HS17121168-01	LH18/24-SP650_122017	Water		10	10	1
HS17121224-05MS				10	10	1
HS17121224-05MSD				10	10	1
LCS-124068				10	10	1
MBLK-124068				10	10	1

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

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168
Start Date: 05-Jan-2018 End Date: 05-Jan-2018

Run ID:HG03_308532
Instrument:HG03
Method:SW7470

Sample No.	D/F	Time	FileID	Analytes
ICV	1	05-Jan-2018 11:38	HG03_308532 Raw Data_4382786	HG
ICB	1	05-Jan-2018 11:40		HG
CRA	1	05-Jan-2018 11:41		HG
CCV 1	1	05-Jan-2018 12:07		HG
CCB 1	1	05-Jan-2018 12:09		HG
CCV 2	1	05-Jan-2018 12:53		HG
CCB 2	1	05-Jan-2018 12:55		HG
MBLK-124068	1	05-Jan-2018 14:06		HG
LCS-124068	1	05-Jan-2018 14:08		HG
CCV 3	1	05-Jan-2018 14:10		HG
CCB 3	1	05-Jan-2018 14:11		HG
LH18/24-SP650_122017	1	05-Jan-2018 14:13		HG
ZZZZZZMS	1	05-Jan-2018 14:23		HG
ZZZZZZMSD	1	05-Jan-2018 14:25		HG
CCV 4	1	05-Jan-2018 14:34		HG
CCB 4	1	05-Jan-2018 14:35		HG
CCV 5	1	05-Jan-2018 15:02		HG
CCB 5	1	05-Jan-2018 15:04		HG
CCV 6	1	05-Jan-2018 15:23		HG
CCB 6	1	05-Jan-2018 15:24		HG
CCV 7	1	05-Jan-2018 16:12		HG
CCB 7	1	05-Jan-2018 16:14		HG
CCV 8	1	05-Jan-2018 16:33		HG
CCB 8	1	05-Jan-2018 16:35		HG
CCV 9	1	05-Jan-2018 16:56		HG
CCB 9	1	05-Jan-2018 16:58		HG

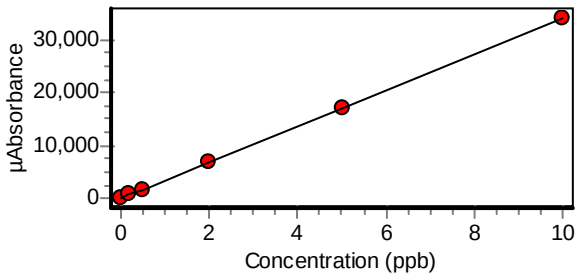
Report Generated By CETAC QuickTrace
Analyst: ALSHS.NoUser
Worksheet file: C:\Program Files (x86)\QuickTrace\Worksheets\010518AW.wsz
Date Started: 1/5/2018 11:05:47 AM
Comment:

Results

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
Calibration Blank					STD	01/05/18 11:24:52 am	0.000	90	2.88	
Replicates	92.7	90.5	89.2	86.5						
Standard #1 (0.2 ppb)					STD	01/05/18 11:26:34 am	0.200	688	1.76	
Replicates	696.5	696.7	670.9	688.2						
Standard #2 (0.5 ppb)					STD	01/05/18 11:28:16 am	0.500	1705	1.15	
Replicates	1701.7	1715.8	1678.3	1722.8						
Standard #3 (2.0 ppb)					STD	01/05/18 11:29:59 am	2.000	6904	0.60	
Replicates	6853.9	6896.8	6910.3	6954.1						
Standard #4 (5.0 ppb)					STD	01/05/18 11:31:42 am	5.000	17104	0.50	
Replicates	17003.5	17070.2	17144.5	17199.2						
Standard #5 (10.0 ppb)					STD	01/05/18 11:33:26 am	10.000	34066	0.42	
Replicates	33936.1	33993.9	34066.7	34266.9						

Calibration

Equation: A = 70.440 + 3400.529C
R2: 0.99999
SEE: 51.8469
Flags:



ICCV					UNK	01/05/18 11:36:45 am	5.070	17296	0.26	
Replicates	17246.0	17272.2	17326.2	17340.7						
ICV					UNK	01/05/18 11:38:26 am	4.840	16543	0.22	
Replicates	16512.5	16509.4	16581.4	16566.9						

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
ICB					UNK	01/05/18 11:40:08 am	-0.013	27	76.43	
Replicates	2.6	50.0	36.2	19.0						
CRA					UNK	01/05/18 11:41:49 am	0.180	682	3.71	
Replicates	703.3	696.6	646.6	681.4						
GBLKF-124054					UNK	01/05/18 11:45:39 am	0.037	197	9.83	s
Replicates	224.3	186.0	198.8	180.8						
MBLK-124054					UNK	01/05/18 11:47:22 am	0.039	203	14.76	s
Replicates	168.9	194.7	205.7	241.0						
LCS-124054					UNK	01/05/18 11:49:04 am	4.770	16292	0.94	
Replicates	16107.1	16245.9	16345.9	16470.2						
HS17121188-01					UNK	01/05/18 11:50:47 am	0.019	136	12.95	s
Replicates	161.4	123.4	125.1	133.4						
HS17121188-02					UNK	01/05/18 11:52:30 am	-0.016	15	67.93	
Replicates	13.4	30.3	6.3	11.3						
HS17121188-03					UNK	01/05/18 11:54:14 am	-0.016	16	47.67	
Replicates	20.6	9.5	24.3	9.5						
HS17121188-04					UNK	01/05/18 11:55:58 am	0.001	73	16.30	s
Replicates	56.4	79.0	71.5	83.3						
HS17121188-04MS					UNK	01/05/18 12:02:25 pm	2.570	8795	0.41	
Replicates	8741.7	8814.6	8803.6	8820.3						
HS17121188-04MSD					UNK	01/05/18 12:04:06 pm	2.740	9380	0.61	
Replicates	9314.2	9379.9	9372.2	9452.9						
HS17121188-05					UNK	01/05/18 12:05:47 pm	-0.043	-74	15.33	
Replicates	-65.5	-81.4	-86.1	-63.4						

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCV					UNK	01/05/18 12:07:31 pm	4.990	17026	0.65	
	Replicates	16884.9	17003.8	17069.5	17144.0					
CCB					UNK	01/05/18 12:09:17 pm	-0.009	40	32.84	
	Replicates	24.3	55.1	43.3	35.3					
HS17121188-06					UNK	01/05/18 12:10:58 pm	0.023	150	15.52	s
	Replicates	157.0	156.4	170.6	116.6					
HS17121188-07					UNK	01/05/18 12:12:39 pm	0.055	259	1.16	
	Replicates	255.6	261.9	261.1	257.4					
HS17121188-08					UNK	01/05/18 12:14:21 pm	0.030	174	5.41	s
	Replicates	179.1	184.4	163.4	169.6					
HS17121188-09					UNK	01/05/18 12:16:03 pm	0.032	180	8.33	s
	Replicates	166.1	201.5	179.0	175.2					
HS17121188-10					UNK	01/05/18 12:17:45 pm	0.043	216	7.70	s
	Replicates	191.0	226.1	221.1	224.6					
HS17121188-11					UNK	01/05/18 12:19:28 pm	0.032	180	11.26	s
	Replicates	190.3	195.4	150.4	182.9					
HS17121188-12					UNK	01/05/18 12:21:11 pm	0.029	171	5.46	s
	Replicates	162.5	179.5	178.0	162.7					
HS17121188-13					UNK	01/05/18 12:22:54 pm	0.026	160	11.95	s
	Replicates	166.6	182.4	137.6	152.9					
HS17121188-14					UNK	01/05/18 12:24:38 pm	0.037	195	6.46	s
	Replicates	195.7	213.0	186.7	185.7					
HS17121188-15					UNK	01/05/18 12:26:21 pm	0.040	205	8.68	s
	Replicates	212.1	226.3	185.1	197.8					

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCV					UNK	01/05/18 12:53:16 pm	4.980	16989	0.70	
	Replicates	16844.4	16943.7	17060.7	17108.2					
CCB					UNK	01/05/18 12:55:01 pm	-0.006	52	45.46	s
	Replicates	72.1	69.8	23.3	41.5					
GBLKT1-124067					UNK	01/05/18 01:49:48 pm	0.015	121	9.27	s
	Replicates	120.2	129.0	129.0	105.3					
MBLK-124067					UNK	01/05/18 01:51:29 pm	0.003	82	37.30	s
	Replicates	104.7	39.1	81.3	103.3					
LCS-124067					UNK	01/05/18 01:53:11 pm	4.990	17052	0.97	
	Replicates	16820.9	17049.1	17137.9	17199.9					
HS18010058-01					UNK	01/05/18 01:54:52 pm	0.003	81	20.14	s
	Replicates	64.5	69.7	97.9	91.4					
HS18010058-01MS					UNK	01/05/18 01:56:34 pm	5.130	17516	0.65	
	Replicates	17354.3	17537.2	17623.2	17550.4					
HS18010058-01MSD					UNK	01/05/18 01:58:16 pm	5.070	17308	0.39	
	Replicates	17305.0	17236.5	17291.5	17399.8					
HS18010101-01					UNK	01/05/18 01:59:58 pm	0.003	82	23.34	s
	Replicates	57.3	82.3	85.0	104.0					
HS18010103-01					UNK	01/05/18 02:01:41 pm	0.007	93	26.66	s
	Replicates	106.6	59.6	115.9	89.1					
MBLK-124068					UNK	01/05/18 02:06:44 pm	0.006	91	15.21	s
	Replicates	86.3	92.9	108.6	75.6					
LCS-124068					UNK	01/05/18 02:08:28 pm	5.180	17684	1.33	
	Replicates	17398.4	17606.8	17790.5	17940.8					

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCV					UNK	01/05/18 02:10:12 pm	5.140	17548	0.83	
	Replicates	17371.2	17498.9	17614.2	17705.9					
CCB					UNK	01/05/18 02:11:57 pm	0.000	71	42.45	s
	Replicates	91.1	63.0	99.0	32.3					
HS17121168-01					UNK	01/05/18 02:13:41 pm	0.014	118	8.02	s
	Replicates	124.2	128.1	107.8	112.8					
HS17121169-01					UNK	01/05/18 02:15:24 pm	0.012	111	22.47	s
	Replicates	135.7	94.1	128.1	85.1					
HS17121224-01					UNK	01/05/18 02:17:06 pm	0.003	82	29.54	s
	Replicates	68.7	109.5	56.0	94.7					
HS17121224-03					UNK	01/05/18 02:18:48 pm	0.028	167	10.32	s
	Replicates	160.3	171.8	187.6	147.1					
HS17121224-04					UNK	01/05/18 02:20:29 pm	0.003	81	9.40	s
	Replicates	83.8	81.9	87.9	70.2					
HS17121224-05					UNK	01/05/18 02:22:10 pm	0.009	101	8.88	s
	Replicates	105.2	110.9	90.4	97.4					
HS17121224-05MS					UNK	01/05/18 02:23:52 pm	5.030	17165	0.81	
	Replicates	16980.5	17135.7	17270.2	17274.7					
HS17121224-05MSD					UNK	01/05/18 02:25:34 pm	4.970	16978	0.78	
	Replicates	16836.7	16912.3	17025.3	17137.6					
HS17121224-06					UNK	01/05/18 02:27:17 pm	-0.007	47	61.41	
	Replicates	23.3	39.7	88.7	35.7					
CCV					UNK	01/05/18 02:34:06 pm	5.080	17336	0.67	
	Replicates	17205.0	17286.3	17381.1	17472.6					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCB				UNK	01/05/18 02:35:51 pm	0.009	100	20.77	s
Replicates	104.8	123.2	101.4	72.7					
GBLKF1-124071				UNK	01/05/18 02:37:34 pm	0.012	111	21.10	s
Replicates	114.6	134.4	78.6	118.1					
GBLKF2-124071				UNK	01/05/18 02:39:17 pm	0.007	96	24.46	s
Replicates	79.9	119.8	72.0	111.8					
MBLK-124071				UNK	01/05/18 02:41:00 pm	0.009	100	19.01	s
Replicates	74.3	119.2	98.0	106.5					
LCS-124071				UNK	01/05/18 02:42:44 pm	4.950	16917	4.17	
Replicates	16142.1	16585.5	17178.0	17764.0					
HS17120668-01				UNK	01/05/18 02:44:27 pm	0.003	81	25.56	s
Replicates	80.6	95.9	94.1	51.4					
HS17121060-01				UNK	01/05/18 02:46:09 pm	0.006	93	21.41	s
Replicates	65.5	112.0	92.0	100.7					
HS17121060-01MS				UNK	01/05/18 02:47:50 pm	4.250	14536	0.66	
Replicates	14409.7	14526.5	14568.5	14638.0					
HS17121060-01MSD				UNK	01/05/18 02:49:32 pm	4.180	14299	0.72	
Replicates	14186.8	14255.8	14321.1	14430.3					
MBLK-124069				UNK	01/05/18 02:58:58 pm	0.003	79	17.71	s
Replicates	77.7	72.2	99.2	67.4					
LCS-124069				UNK	01/05/18 03:00:40 pm	5.150	17598	0.47	
Replicates	17529.4	17543.7	17607.9	17710.4					
CCV				UNK	01/05/18 03:02:25 pm	5.250	17911	0.43	
Replicates	17805.2	17904.3	17951.3	17983.3					

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCB					UNK	01/05/18 03:04:10 pm	0.006	91	20.84	s
Replicates	83.6	81.7	80.4	119.9						
HS17121060-01					UNK	01/05/18 03:05:53 pm	0.009	101	14.36	s
Replicates	82.1	114.6	98.6	110.4						
HS17121172-01					UNK	01/05/18 03:07:35 pm	0.019	136	7.84	s
Replicates	149.4	129.2	139.0	125.7						
HS17121226-01					UNK	01/05/18 03:09:18 pm	0.011	107	8.47	s
Replicates	104.7	96.0	112.7	116.5						
HS17121286-01					UNK	01/05/18 03:11:02 pm	0.045	225	8.56	s
Replicates	204.4	245.0	212.5	236.3						
HS17121287-01					UNK	01/05/18 03:12:45 pm	0.110	443	3.28	
Replicates	455.0	443.6	422.8	452.1						
HS17121326-01					UNK	01/05/18 03:14:29 pm	0.014	117	15.48	s
Replicates	95.3	120.6	138.8	112.3						
HS17121326-01MS					UNK	01/05/18 03:16:13 pm	4.840	16538	0.82	
Replicates	16378.1	16491.1	16586.8	16697.6						
HS17121326-01MSD					UNK	01/05/18 03:17:56 pm	4.940	16871	0.53	
Replicates	16756.6	16893.3	16858.3	16974.3						
HS17121339-01					UNK	01/05/18 03:19:38 pm	0.009	101	14.16	s
Replicates	79.7	106.7	109.7	108.4						
HS18010135-01					UNK	01/05/18 03:21:21 pm	0.010	103	19.67	s
Replicates	111.7	74.9	103.2	122.2						
CCV					UNK	01/05/18 03:23:05 pm	5.220	17811	1.03	
Replicates	17588.6	17764.9	17863.9	18024.9						

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCB				UNK	01/05/18 03:24:51 pm	0.009	101	11.83	s
Replicates	115.0	106.1	97.6	86.9					
HS18010135-02				UNK	01/05/18 03:26:33 pm	0.006	91	12.14	s
Replicates	96.0	99.9	74.9	91.9					
HS18010135-03				UNK	01/05/18 03:28:16 pm	0.001	75	26.75	s
Replicates	72.1	66.2	103.2	57.2					
MBLK-124089				UNK	01/05/18 03:55:42 pm	-0.004	57	25.50	s
Replicates	40.0	49.9	72.4	63.9					
LCS-124089				UNK	01/05/18 03:57:25 pm	5.410	18453	1.12	
Replicates	18194.9	18406.3	18527.8	18683.1					
LCSD-124089				UNK	01/05/18 04:02:27 pm	5.180	17698	1.16	
Replicates	17438.8	17653.5	17780.3	17920.5					
HS17121188-01				UNK	01/05/18 04:04:10 pm	-0.008	43	43.27	
Replicates	20.9	41.8	66.1	42.1					
HS17121188-02				UNK	01/05/18 04:05:53 pm	-0.028	-24	59.83	
Replicates	-7.6	-34.3	-38.3	-16.8					
HS17121188-02MS				UNK	01/05/18 04:07:36 pm	1.610	5551	0.49	
Replicates	5576.3	5563.6	5513.6	5551.1					
HS17121188-02MSD				UNK	01/05/18 04:09:20 pm	1.560	5378	0.54	
Replicates	5350.1	5364.4	5381.1	5417.9					
HS17121188-03				UNK	01/05/18 04:11:02 pm	-0.126	-357	6.97	
Replicates	-364.0	-320.4	-368.2	-375.7					
CCV				UNK	01/05/18 04:12:47 pm	5.230	17861	0.90	
Replicates	17659.3	17827.5	17912.5	18044.7					

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCB					UNK	01/05/18 04:14:32 pm	0.008	97	18.07	s
Replicates	103.6	96.6	73.6	115.4						
HS17121188-04					UNK	01/05/18 04:16:14 pm	-0.018	9	209.11	
Replicates	-16.6	26.1	19.4	7.1						
HS17121188-05					UNK	01/05/18 04:17:56 pm	-0.001	67	41.46	s
Replicates	55.1	41.3	67.0	106.3						
HS17121188-06					UNK	01/05/18 04:19:38 pm	-0.010	37	32.64	
Replicates	53.9	27.9	39.6	28.4						
HS17121188-07					UNK	01/05/18 04:21:20 pm	0.975	3385	1.01	
Replicates	3371.5	3343.7	3404.4	3420.7						
HS17121188-08					UNK	01/05/18 04:23:03 pm	-0.010	36	60.49	
Replicates	35.6	12.1	30.9	64.4						
HS17121188-09					UNK	01/05/18 04:24:45 pm	0.009	102	17.83	s
Replicates	98.5	128.7	91.2	89.7						
HS17121188-10					UNK	01/05/18 04:26:28 pm	0.054	253	5.50	s
Replicates	238.4	259.3	245.5	269.5						
HS17121188-11					UNK	01/05/18 04:28:11 pm	-0.010	37	36.93	
Replicates	22.3	37.0	32.3	54.5						
HS17121188-12					UNK	01/05/18 04:29:54 pm	-0.014	22	120.77	
Replicates	61.9	10.7	4.4	11.4						
HS17121188-13					UNK	01/05/18 04:31:38 pm	-0.009	39	65.42	
Replicates	75.3	17.5	34.5	27.7						
CCV					UNK	01/05/18 04:33:22 pm	5.240	17896	0.77	
Replicates	17721.6	17865.3	17950.8	18044.8						

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCB					UNK	01/05/18 04:35:07 pm	0.001	74	25.26	s
Replicates	90.8	82.7	75.7	47.7						
HS17121188-14					UNK	01/05/18 04:36:51 pm	-0.005	54	29.59	s
Replicates	60.5	30.3	63.6	63.1						
HS17121188-15					UNK	01/05/18 04:38:34 pm	-0.007	45	46.52	
Replicates	28.0	31.4	46.6	73.9						
HS18010067-01					UNK	01/05/18 04:40:17 pm	0.221	822	3.45	
Replicates	806.0	816.1	801.8	863.3						
HS18010085-01					UNK	01/05/18 04:41:59 pm	-0.004	56	25.94	s
Replicates	49.3	55.5	76.7	43.2						
HS18010085-02					UNK	01/05/18 04:43:42 pm	-0.012	30	81.44	
Replicates	-0.3	58.9	28.6	31.6						
HS18010095-01					UNK	01/05/18 04:45:25 pm	0.003	79	29.28	s
Replicates	52.5	94.4	67.4	102.1						
HS17121188-03 RR					UNK	01/05/18 04:53:42 pm	-0.022	-5	256.50	
Replicates	13.3	-5.3	-11.0	-18.0						
CCV					UNK	01/05/18 04:56:34 pm	5.230	17863	0.79	
Replicates	17687.8	17818.2	17928.2	18016.0						
CCB					UNK	01/05/18 04:58:19 pm	0.009	102	8.29	s
Replicates	113.4	94.9	96.2	102.4						

Metals Raw Data

Bhate Environmental Associates, Inc.
Project: GROUNDWATER TREATMENT PLANT
QUARTERLY EFFLUENT SAMPLES
ALS WO# HS17121168

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc. Run ID: ICPMS04_308513
Project: Groundwater Treatment Plant Quarterly Effluent Samples Instrument: ICPMS04
WorkOrder: HS17121168 Method: SW6020

ICV Date: 05-Jan-2018 11:35 Seq: 4382238 ICV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	100	100	90-110	
Antimony	100	96.88	97	90-110	
Arsenic	100	102.393	102	90-110	
Barium	100	99.986	100	90-110	
Beryllium	100	101.418	101	90-110	
Cadmium	100	101.077	101	90-110	
Calcium	10000	10260.289	103	90-110	
Chromium	100	103.616	104	90-110	
Cobalt	100	101.899	102	90-110	
Iron	10000	10372.519	104	90-110	
Lead	100	101.149	101	90-110	
Magnesium	10000	9959.045	100	90-110	
Manganese	100	102.439	102	90-110	
Nickel	100	99.904	100	90-110	
Potassium	10000	9929.376	99	90-110	
Selenium	100	97.226	97	90-110	
Silver	100	99.71	100	90-110	
Sodium	10000	10506.407	105	90-110	
Thallium	100	100.5	100	90-110	
Vanadium	100	100.987	101	90-110	
Zinc	100	100.09	100	90-110	

CCV1 Date: 05-Jan-2018 12:19 Seq: 4382295 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	101.165	101	90-110	
Antimony	100	97.814	98	90-110	
Arsenic	100	101.973	102	90-110	
Barium	100	97.308	97	90-110	
Beryllium	100	99.326	99	90-110	
Cadmium	100	100.064	100	90-110	
Calcium	10000	10057.882	101	90-110	
Chromium	100	100.918	101	90-110	
Cobalt	100	100.483	100	90-110	
Iron	10000	9971.057	100	90-110	
Lead	100	98.993	99	90-110	
Magnesium	10000	9934.165	99	90-110	
Manganese	100	99.935	100	90-110	
Nickel	100	101.652	102	90-110	
Potassium	10000	10033.483	100	90-110	
Selenium	100	103.313	103	90-110	
Silver	100	100.385	100	90-110	
Sodium	10000	10220.969	102	90-110	
Thallium	100	98.034	98	90-110	
Vanadium	100	97.774	98	90-110	
Zinc	100	101.429	101	90-110	

CCV2 Date: 05-Jan-2018 12:47 Seq: 4382329 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	101.441	101	90-110	
Antimony	100	97.038	97	90-110	
Arsenic	100	98.666	99	90-110	
Barium	100	98.266	98	90-110	
Beryllium	100	99.193	99	90-110	
Cadmium	100	101.395	101	90-110	
Calcium	10000	9930.428	99	90-110	
Chromium	100	102.103	102	90-110	
Cobalt	100	99.073	100	90-110	

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc. Run ID: ICPMS04_308513
Project: Groundwater Treatment Plant Quarterly Effluent Samples Instrument: ICPMS04
WorkOrder: HS17121168 Method: SW6020

CCV2 Date: 05-Jan-2018 12:47 Seq: 4382329 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Iron	10000	10059.279	101	90-110	
Lead	100	99.4	99	90-110	
Magnesium	10000	10076.912	101	90-110	
Manganese	100	103.137	103	90-110	
Nickel	100	101.986	102	90-110	
Potassium	10000	10099.724	101	90-110	
Selenium	100	101.469	101	90-110	
Silver	100	100.417	100	90-110	
Sodium	10000	10182.492	102	90-110	
Thallium	100	99.412	99	90-110	
Vanadium	100	99.795	100	90-110	
Zinc	100	102.174	102	90-110	

CCV3 Date: 05-Jan-2018 13:14 Seq: 4382589 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	101.2	101	90-110	
Antimony	100	96.873	97	90-110	
Arsenic	100	96.019	96	90-110	
Barium	100	97.718	98	90-110	
Beryllium	100	98.723	99	90-110	
Cadmium	100	98.287	98	90-110	
Calcium	10000	9974.591	100	90-110	
Chromium	100	98.395	98	90-110	
Cobalt	100	97.612	98	90-110	
Iron	10000	10095.91	101	90-110	
Lead	100	97.293	97	90-110	
Magnesium	10000	10130.007	101	90-110	
Manganese	100	103.432	103	90-110	
Nickel	100	99.71	100	90-110	
Potassium	10000	10170.413	102	90-110	
Selenium	100	93.04	93	90-110	
Silver	100	99.485	100	90-110	
Sodium	10000	10516.626	105	90-110	
Thallium	100	99.112	99	90-110	
Vanadium	100	97.126	97	90-110	
Zinc	100	101.146	101	90-110	

CCV4 Date: 05-Jan-2018 13:40 Seq: 4382601 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	100.199	100	90-110	
Antimony	100	95.132	95	90-110	
Arsenic	100	101.375	101	90-110	
Barium	100	98.651	99	90-110	
Beryllium	100	97.745	98	90-110	
Cadmium	100	96.961	97	90-110	
Calcium	10000	10204.423	102	90-110	
Chromium	100	103.889	104	90-110	
Cobalt	100	101.799	102	90-110	
Iron	10000	10301.194	103	90-110	
Lead	100	97.204	97	90-110	
Magnesium	10000	9989.957	100	90-110	
Manganese	100	101.567	102	90-110	
Nickel	100	99.058	99	90-110	
Potassium	10000	9968.579	100	90-110	
Selenium	100	100.432	100	90-110	
Silver	100	97.717	98	90-110	
[illegible]dium	10000	10929.741	110	90-110	

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc. Run ID: ICPMS04_308513
Project: Groundwater Treatment Plant Quarterly Effluent Samples Instrument: ICPMS04
WorkOrder: HS17121168 Method: SW6020

CCV4 Date: 05-Jan-2018 13:40 Seq: 4382601 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Thallium	100	98.048	98	90-110	
Vanadium	100	101.357	101	90-110	
Zinc	100	98.907	99	90-110	

CCV5 Date: 05-Jan-2018 14:07 Seq: 4382613 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	99.916	100	90-110	
Antimony	100	97.339	97	90-110	
Arsenic	100	95.003	95	90-110	
Barium	100	96.665	97	90-110	
Beryllium	100	97.364	97	90-110	
Cadmium	100	99.745	100	90-110	
Calcium	10000	10172.57	102	90-110	
Chromium	100	100.847	101	90-110	
Cobalt	100	100.6	101	90-110	
Iron	10000	10167.037	102	90-110	
Lead	100	95.906	96	90-110	
Magnesium	10000	9993.583	100	90-110	
Manganese	100	101.3	101	90-110	
Nickel	100	97.906	98	90-110	
Potassium	10000	10242.865	102	90-110	
Selenium	100	96.679	97	90-110	
Silver	100	97.656	98	90-110	
Sodium	10000	10671.126	107	90-110	
Thallium	100	96.982	97	90-110	
Vanadium	100	98.685	99	90-110	
Zinc	100	98.78	99	90-110	

CCV6 Date: 05-Jan-2018 14:34 Seq: 4382625 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	104.129	104	90-110	
Antimony	100	98.49	99	90-110	
Arsenic	100	97.758	98	90-110	
Barium	100	97.887	98	90-110	
Beryllium	100	97.404	97	90-110	
Cadmium	100	98.244	98	90-110	
Calcium	10000	10382.911	104	90-110	
Chromium	100	102.669	103	90-110	
Cobalt	100	101.218	101	90-110	
Iron	10000	10549.114	105	90-110	
Lead	100	97.466	98	90-110	
Magnesium	10000	10391.503	104	90-110	
Manganese	100	99.164	99	90-110	
Nickel	100	103.099	103	90-110	
Potassium	10000	10576.736	106	90-110	
Selenium	100	108.246	108	90-110	
Silver	100	99.123	99	90-110	
Sodium	10000	11022.002	110	90-110	
Thallium	100	99.462	100	90-110	
Vanadium	100	102.347	102	90-110	
Zinc	100	100.529	101	90-110	

CCV7 Date: 05-Jan-2018 15:01 Seq: 4382937 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	102.862	103	90-110	
Antimony	100	97.421	97	90-110	
Arsenic	100	99.034	99	90-110	

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCV7	Date: 05-Jan-2018 15:01	Seq: 4382937	CCV	Units: ug/L	
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	97.949	98	90-110	
Beryllium	100	96.789	97	90-110	
Cadmium	100	99.646	100	90-110	
Calcium	10000	10347.384	103	90-110	
Chromium	100	101.457	101	90-110	
Cobalt	100	101.713	102	90-110	
Iron	10000	10502.339	105	90-110	
Lead	100	96.952	97	90-110	
Magnesium	10000	10232.973	102	90-110	
Manganese	100	106.824	107	90-110	
Nickel	100	100.094	100	90-110	
Potassium	10000	10399.486	104	90-110	
Selenium	100	96.842	97	90-110	
Silver	100	98.215	98	90-110	
Sodium	10000	11244.913	112	90-110	S
Thallium	100	98.353	98	90-110	
Vanadium	100	99.812	100	90-110	
Zinc	100	100.209	100	90-110	

CCV8	Date: 05-Jan-2018 15:27	Seq: 4382949	CCV	Units: ug/L	
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	105.869	106	90-110	
Antimony	100	100.008	100	90-110	
Arsenic	100	103.047	103	90-110	
Barium	100	101.009	101	90-110	
Beryllium	100	99.153	99	90-110	
Cadmium	100	102.631	103	90-110	
Calcium	10000	10597.284	106	90-110	
Chromium	100	103.266	103	90-110	
Cobalt	100	103.105	103	90-110	
Iron	10000	10624.484	106	90-110	
Lead	100	98.602	99	90-110	
Magnesium	10000	10945.497	109	90-110	
Manganese	100	104.244	104	90-110	
Nickel	100	101.198	101	90-110	
Potassium	10000	10441.341	104	90-110	
Selenium	100	91.464	92	90-110	
Silver	100	99.72	100	90-110	
Sodium	10000	11231.524	112	90-110	S
Thallium	100	100.309	100	90-110	
Vanadium	100	101.839	102	90-110	
Zinc	100	102.614	103	90-110	

CCV9	Date: 05-Jan-2018 15:54	Seq: 4382961	CCV	Units: ug/L	
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	102.806	103	90-110	
Antimony	100	100.346	100	90-110	
Arsenic	100	98.732	99	90-110	
Barium	100	98.744	99	90-110	
Beryllium	100	97.979	98	90-110	
Cadmium	100	100.507	101	90-110	
Calcium	10000	10463.494	105	90-110	
Chromium	100	105.404	105	90-110	
Cobalt	100	101.533	102	90-110	
Iron	10000	10409.532	104	90-110	
Lead	100	97.664	98	90-110	
Magnesium	10000	10351.741	103	90-110	

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc. Run ID: ICPMS04_308513
Project: Groundwater Treatment Plant Quarterly Effluent Samples Instrument: ICPMS04
WorkOrder: HS17121168 Method: SW6020

CCV9 Date: 05-Jan-2018 15:54 Seq: 4382961 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Manganese	100	104.52	105	90-110	
Nickel	100	100.557	101	90-110	
Potassium	10000	10369.879	104	90-110	
Selenium	100	97.089	97	90-110	
Silver	100	98.718	99	90-110	
Sodium	10000	11014.829	110	90-110	
Thallium	100	98.776	99	90-110	
Vanadium	100	100.845	101	90-110	
Zinc	100	101.855	102	90-110	

CCV10 Date: 05-Jan-2018 16:21 Seq: 4383069 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	103.768	104	90-110	
Antimony	100	93.947	94	90-110	
Arsenic	100	93.986	94	90-110	
Barium	100	98.685	99	90-110	
Beryllium	100	93.945	94	90-110	
Cadmium	100	98.734	99	90-110	
Calcium	10000	9996.897	100	90-110	
Chromium	100	100.173	100	90-110	
Cobalt	100	98.572	99	90-110	
Iron	10000	10125.595	101	90-110	
Lead	100	96.185	96	90-110	
Magnesium	10000	10616.553	106	90-110	
Manganese	100	98.883	99	90-110	
Nickel	100	100.639	101	90-110	
Potassium	10000	10357.985	104	90-110	
Selenium	100	87.124	87	90-110	S
Silver	100	95.755	96	90-110	
Sodium	10000	11199.181	112	90-110	S
Thallium	100	98.649	99	90-110	
Vanadium	100	99.08	99	90-110	
Zinc	100	99.812	100	90-110	

CCV11 Date: 05-Jan-2018 16:49 Seq: 4383097 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	101.651	102	90-110	
Antimony	100	95.66	96	90-110	
Arsenic	100	97.996	98	90-110	
Barium	100	93.347	93	90-110	
Beryllium	100	92.338	92	90-110	
Cadmium	100	97.374	97	90-110	
Calcium	10000	10182.366	102	90-110	
Chromium	100	101.058	101	90-110	
Cobalt	100	97.54	98	90-110	
Iron	10000	10069.125	101	90-110	
Lead	100	95.004	95	90-110	
Magnesium	10000	10245.713	102	90-110	
Manganese	100	98.735	99	90-110	
Nickel	100	98.866	99	90-110	
Potassium	10000	10144.948	101	90-110	
Selenium	100	97.144	97	90-110	
Silver	100	96.837	97	90-110	
Sodium	10000	10797.402	108	90-110	
Thallium	100	95.808	96	90-110	
Vanadium	100	98.66	99	90-110	
Zinc	100	98.826	99	90-110	

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc. Run ID: ICPMS04_308513
Project: Groundwater Treatment Plant Quarterly Effluent Samples Instrument: ICPMS04
WorkOrder: HS17121168 Method: SW6020

CCV12 Date: 05-Jan-2018 17:16 Seq: 4383201 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	100.996	101	90-110	
Antimony	100	96.223	96	90-110	
Arsenic	100	92.128	92	90-110	
Barium	100	96.951	97	90-110	
Beryllium	100	95.411	95	90-110	
Cadmium	100	98.395	98	90-110	
Calcium	10000	9773.033	98	90-110	
Chromium	100	100.418	100	90-110	
Cobalt	100	99.165	99	90-110	
Iron	10000	10238.878	102	90-110	
Lead	100	95.332	95	90-110	
Magnesium	10000	10358.101	104	90-110	
Manganese	100	98.745	99	90-110	
Nickel	100	99.438	99	90-110	
Potassium	10000	10196.575	102	90-110	
Selenium	100	98.398	98	90-110	
Silver	100	96.067	96	90-110	
Sodium	10000	10548.989	105	90-110	
Thallium	100	96.49	97	90-110	
Vanadium	100	97.871	98	90-110	
Zinc	100	99.646	100	90-110	

CCV13 Date: 05-Jan-2018 17:47 Seq: 4383215 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	103.148	103	90-110	
Antimony	100	100.807	101	90-110	
Arsenic	100	100.715	101	90-110	
Barium	100	100.711	101	90-110	
Beryllium	100	99.303	99	90-110	
Cadmium	100	101.506	102	90-110	
Calcium	10000	10435.548	104	90-110	
Chromium	100	104.066	104	90-110	
Cobalt	100	103.239	103	90-110	
Iron	10000	10669.926	107	90-110	
Lead	100	99.012	99	90-110	
Magnesium	10000	10731.846	107	90-110	
Manganese	100	103.527	104	90-110	
Nickel	100	102.224	102	90-110	
Potassium	10000	10681.35	107	90-110	
Selenium	100	101.265	101	90-110	
Silver	100	100.598	101	90-110	
Sodium	10000	11762.624	118	90-110	S
Thallium	100	101.517	102	90-110	
Vanadium	100	101.077	101	90-110	
Zinc	100	102.726	103	90-110	

CCV14 Date: 05-Jan-2018 18:12 Seq: 4383253 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	104.34	104	90-110	
Antimony	100	100.927	101	90-110	
Arsenic	100	106.895	107	90-110	
Barium	100	103.99	104	90-110	
Beryllium	100	99.072	99	90-110	
Cadmium	100	101.334	101	90-110	
Calcium	10000	10811.421	108	90-110	
Chromium	100	103.095	103	90-110	
Cobalt	100	101.328	101	90-110	

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc. Run ID: ICPMS04_308513
Project: Groundwater Treatment Plant Quarterly Effluent Samples Instrument: ICPMS04
WorkOrder: HS17121168 Method: SW6020

CCV14 Date: 05-Jan-2018 18:12 Seq: 4383253 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Iron	10000	10397.072	104	90-110	
Lead	100	97.972	98	90-110	
Magnesium	10000	10841.3	108	90-110	
Manganese	100	102.563	103	90-110	
Nickel	100	102.589	103	90-110	
Potassium	10000	10558.851	106	90-110	
Selenium	100	98.123	98	90-110	
Silver	100	99.337	99	90-110	
Sodium	10000	11643.42	116	90-110	S
Thallium	100	101.082	101	90-110	
Vanadium	100	102.199	102	90-110	
Zinc	100	104.748	105	90-110	

CCV15 Date: 05-Jan-2018 18:39 Seq: 4383265 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	103.583	104	90-110	
Antimony	100	99.665	100	90-110	
Arsenic	100	104.531	105	90-110	
Barium	100	101.488	101	90-110	
Beryllium	100	97.749	98	90-110	
Cadmium	100	102.943	103	90-110	
Calcium	10000	10598.491	106	90-110	
Chromium	100	103.156	103	90-110	
Cobalt	100	101.957	102	90-110	
Iron	10000	10471.991	105	90-110	
Lead	100	98.74	99	90-110	
Magnesium	10000	10593.9	106	90-110	
Manganese	100	104.176	104	90-110	
Nickel	100	99.475	100	90-110	
Potassium	10000	10480.893	105	90-110	
Selenium	100	99.727	100	90-110	
Silver	100	97.791	98	90-110	
Sodium	10000	11733.432	117	90-110	S
Thallium	100	99.684	100	90-110	
Vanadium	100	101.833	102	90-110	
Zinc	100	103.217	103	90-110	

CCV16 Date: 05-Jan-2018 19:05 Seq: 4383297 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	104.025	104	90-110	
Antimony	100	101.598	102	90-110	
Arsenic	100	104.62	105	90-110	
Barium	100	105.068	105	90-110	
Beryllium	100	100.64	101	90-110	
Cadmium	100	102.666	103	90-110	
Calcium	10000	10877.775	109	90-110	
Chromium	100	102.814	103	90-110	
Cobalt	100	101.905	102	90-110	
Iron	10000	10237.277	102	90-110	
Lead	100	99.819	100	90-110	
Magnesium	10000	10653.01	107	90-110	
Manganese	100	102.73	103	90-110	
Nickel	100	101.806	102	90-110	
Potassium	10000	10558.573	106	90-110	
Selenium	100	107.812	108	90-110	
Silver	100	99.345	99	90-110	
[illegible]dium	10000	11[illegible]1741	118	90-110	S

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc. Run ID: ICPMS04_308513
Project: Groundwater Treatment Plant Quarterly Effluent Samples Instrument: ICPMS04
WorkOrder: HS17121168 Method: SW6020

CCV16 Date: 05-Jan-2018 19:05 Seq: 4383297 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Thallium	100	100.806	101	90-110	
Vanadium	100	101.44	101	90-110	
Zinc	100	103.934	104	90-110	

CCV17 Date: 05-Jan-2018 19:27 Seq: 4383304 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	109.481	109	90-110	
Antimony	100	96.502	97	90-110	
Arsenic	100	99.622	100	90-110	
Barium	100	103.651	104	90-110	
Beryllium	100	99.616	100	90-110	
Cadmium	100	102.598	103	90-110	
Calcium	10000	10670.851	107	90-110	
Chromium	100	104.07	104	90-110	
Cobalt	100	100.647	101	90-110	
Iron	10000	10271.54	103	90-110	
Lead	100	98.175	98	90-110	
Magnesium	10000	11125.407	111	90-110	S
Manganese	100	101.24	101	90-110	
Nickel	100	104.44	104	90-110	
Potassium	10000	11341.263	113	90-110	S
Selenium	100	105.514	106	90-110	
Silver	100	95.902	96	90-110	
Sodium	10000	12378.465	124	90-110	S
Thallium	100	100.848	101	90-110	
Vanadium	100	100.592	101	90-110	
Zinc	100	102.288	102	90-110	

ICCV18 Date: 05-Jan-2018 20:06 Seq: 4383314 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	76.834	77	90-110	S
Antimony	100	99.504	100	90-110	
Arsenic	100	93.176	93	90-110	
Barium	100	97.249	97	90-110	
Beryllium	100	104.798	105	90-110	
Cadmium	100	97.912	98	90-110	
Calcium	10000	9434.097	94	90-110	
Chromium	100	97.807	98	90-110	
Cobalt	100	97.501	98	90-110	
Iron	10000	9839.987	98	90-110	
Lead	100	95.195	95	90-110	
Magnesium	10000	9629.71	96	90-110	
Manganese	100	96.782	97	90-110	
Nickel	100	99.49	100	90-110	
Potassium	10000	9673.785	97	90-110	
Selenium	100	100.631	101	90-110	
Silver	100	96.057	96	90-110	
Sodium	10000	9613.333	96	90-110	
Thallium	100	99.226	99	90-110	
Vanadium	100	96.174	96	90-110	
Zinc	100	97.727	98	90-110	

CCV19 Date: 05-Jan-2018 20:26 Seq: 4383323 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	67.161	67	90-110	S
Antimony	100	95.733	96	90-110	
Arsenic	100	98.192	98	90-110	

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCV19	Date: 05-Jan-2018 20:26	Seq: 4383323	CCV	Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	99.517	100	90-110	
Beryllium	100	102.883	103	90-110	
Cadmium	100	98.44	98	90-110	
Calcium	10000	10142.291	101	90-110	
Chromium	100	96.405	96	90-110	
Cobalt	100	96.611	97	90-110	
Iron	10000	9782.249	98	90-110	
Lead	100	93.677	94	90-110	
Magnesium	10000	9670.954	97	90-110	
Manganese	100	98.224	98	90-110	
Nickel	100	97.096	97	90-110	
Potassium	10000	9682.437	97	90-110	
Selenium	100	97.109	97	90-110	
Silver	100	96.689	97	90-110	
Sodium	10000	10404.366	104	90-110	
Thallium	100	95.182	95	90-110	
Vanadium	100	97.295	97	90-110	
Zinc	100	96.327	96	90-110	

CCV20	Date: 05-Jan-2018 20:30	Seq: 4383325	CCV	Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	66.919	67	90-110	S
Antimony	100	96.105	96	90-110	
Arsenic	100	100.307	100	90-110	
Barium	100	102.37	102	90-110	
Beryllium	100	103.682	104	90-110	
Cadmium	100	96.552	97	90-110	
Calcium	10000	10151.506	102	90-110	
Chromium	100	100.881	101	90-110	
Cobalt	100	100.261	100	90-110	
Iron	10000	9906.62	99	90-110	
Lead	100	94.76	95	90-110	
Magnesium	10000	9846.158	99	90-110	
Manganese	100	99.553	100	90-110	
Nickel	100	97.895	98	90-110	
Potassium	10000	9624.877	96	90-110	
Selenium	100	93.047	93	90-110	
Silver	100	96.35	96	90-110	
Sodium	10000	10812.339	108	90-110	
Thallium	100	94.616	95	90-110	
Vanadium	100	98.11	98	90-110	
Zinc	100	98.723	99	90-110	

CCV21	Date: 05-Jan-2018 20:57	Seq: 4383337	CCV	Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	66.646	67	90-110	S
Antimony	100	98.133	98	90-110	
Arsenic	100	95.702	96	90-110	
Barium	100	102.358	102	90-110	
Beryllium	100	104.683	105	90-110	
Cadmium	100	98.064	98	90-110	
Calcium	10000	9831.269	98	90-110	
Chromium	100	95.404	95	90-110	
Cobalt	100	96.214	96	90-110	
Iron	10000	9642.43	96	90-110	
Lead	100	95.421	95	90-110	
Magnesium	10000	9816.385741	98	90-110	

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc. Run ID: ICPMS04_308513
Project: Groundwater Treatment Plant Quarterly Effluent Samples Instrument: ICPMS04
WorkOrder: HS17121168 Method: SW6020

CCV21 Date: 05-Jan-2018 20:57 Seq: 4383337 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Manganese	100	99.011	99	90-110	
Nickel	100	98.682	99	90-110	
Potassium	10000	9763.3	98	90-110	
Selenium	100	96.965	97	90-110	
Silver	100	96.257	96	90-110	
Sodium	10000	10284.97	103	90-110	
Thallium	100	95.667	96	90-110	
Vanadium	100	95.696	96	90-110	
Zinc	100	99.659	100	90-110	

CCV22 Date: 05-Jan-2018 21:30 Seq: 4383353 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	65.984	66	90-110	S
Antimony	100	97.955	98	90-110	
Arsenic	100	91.093	91	90-110	
Barium	100	101.095	101	90-110	
Beryllium	100	104.433	104	90-110	
Cadmium	100	97.823	98	90-110	
Calcium	10000	9716.871	97	90-110	
Chromium	100	94.845	95	90-110	
Cobalt	100	95.485	96	90-110	
Iron	10000	9410.771	94	90-110	
Lead	100	94.756	95	90-110	
Magnesium	10000	9631.992	96	90-110	
Manganese	100	93.884	94	90-110	
Nickel	100	98.457	99	90-110	
Potassium	10000	9772.772	98	90-110	
Selenium	100	96.093	96	90-110	
Silver	100	98.145	98	90-110	
Sodium	10000	10052.056	101	90-110	
Thallium	100	95.111	95	90-110	
Vanadium	100	94.075	94	90-110	
Zinc	100	100.777	101	90-110	

CCV23 Date: 05-Jan-2018 21:49 Seq: 4383362 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	65.751	66	90-110	S
Antimony	100	98.238	98	90-110	
Arsenic	100	96.078	96	90-110	
Barium	100	99.781	100	90-110	
Beryllium	100	104.438	104	90-110	
Cadmium	100	97.975	98	90-110	
Calcium	10000	9735.11	97	90-110	
Chromium	100	96.432	96	90-110	
Cobalt	100	95.035	95	90-110	
Iron	10000	9607.232	96	90-110	
Lead	100	95.523	96	90-110	
Magnesium	10000	9761.01	98	90-110	
Manganese	100	95.418	95	90-110	
Nickel	100	95.98	96	90-110	
Potassium	10000	9605.685	96	90-110	
Selenium	100	96.525	97	90-110	
Silver	100	97.473	98	90-110	
Sodium	10000	10223.357	102	90-110	
Thallium	100	96.124	96	90-110	
Vanadium	100	93.987	94	90-110	
Zinc	100	98.154	98	90-110	

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc. Run ID: ICPMS04_308513
Project: Groundwater Treatment Plant Quarterly Effluent Samples Instrument: ICPMS04
WorkOrder: HS17121168 Method: SW6020

ICCV24 Date: 05-Jan-2018 22:10 Seq: 4383371 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	75.427	75	90-110	S
Antimony	100	98.582	99	90-110	
Arsenic	100	98.592	99	90-110	
Barium	100	97.484	98	90-110	
Beryllium	100	106.675	107	90-110	
Cadmium	100	97.771	98	90-110	
Calcium	10000	9966.506	100	90-110	
Chromium	100	101.317	101	90-110	
Cobalt	100	101.13	101	90-110	
Iron	10000	9732.221	97	90-110	
Lead	100	98.283	98	90-110	
Magnesium	10000	9741.36	97	90-110	
Manganese	100	97.915	98	90-110	
Nickel	100	97.596	98	90-110	
Potassium	10000	9729.336	97	90-110	
Selenium	100	98.749	99	90-110	
Silver	100	96.829	97	90-110	
Sodium	10000	10416.544	104	90-110	
Thallium	100	100.779	101	90-110	
Vanadium	100	98.346	98	90-110	
Zinc	100	98.841	99	90-110	

CCV25 Date: 05-Jan-2018 22:33 Seq: 4383380 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	66.316	66	90-110	S
Antimony	100	97.095	97	90-110	
Arsenic	100	92.591	93	90-110	
Barium	100	99.986	100	90-110	
Beryllium	100	101.349	101	90-110	
Cadmium	100	96.877	97	90-110	
Calcium	10000	9971.09	100	90-110	
Chromium	100	95.085	95	90-110	
Cobalt	100	93.398	93	90-110	
Iron	10000	9470.205	95	90-110	
Lead	100	96.556	97	90-110	
Magnesium	10000	9544.164	95	90-110	
Manganese	100	93.44	93	90-110	
Nickel	100	95.258	95	90-110	
Potassium	10000	9831.398	98	90-110	
Selenium	100	95.196	95	90-110	
Silver	100	96.992	97	90-110	
Sodium	10000	10362.351	104	90-110	
Thallium	100	95.563	96	90-110	
Vanadium	100	93.3	93	90-110	
Zinc	100	98.034	98	90-110	

CCV26 Date: 05-Jan-2018 23:00 Seq: 4383757 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	70.001	70	90-110	S
Antimony	100	94.898	95	90-110	
Arsenic	100	91.448	91	90-110	
Barium	100	95.963	96	90-110	
Beryllium	100	101.761	102	90-110	
Cadmium	100	96.386	96	90-110	
Calcium	10000	9551.442	96	90-110	
Chromium	100	95.254	95	90-110	
Cobalt	100	96.741	96	90-110	

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc. Run ID: ICPMS04_308513
Project: Groundwater Treatment Plant Quarterly Effluent Samples Instrument: ICPMS04
WorkOrder: HS17121168 Method: SW6020

CCV26 Date: 05-Jan-2018 23:00 Seq: 4383757 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Iron	10000	9349.784	94	90-110	
Lead	100	96.685	97	90-110	
Magnesium	10000	9530.01	95	90-110	
Manganese	100	95.106	95	90-110	
Nickel	100	95.79	96	90-110	
Potassium	10000	9658.007	97	90-110	
Selenium	100	92.271	92	90-110	
Silver	100	95.101	95	90-110	
Sodium	10000	10025.318	100	90-110	
Thallium	100	96.233	96	90-110	
Vanadium	100	94.589	95	90-110	
Zinc	100	96.742	97	90-110	

CCV27 Date: 05-Jan-2018 23:27 Seq: 4383769 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	68.243	68	90-110	S
Antimony	100	95.913	96	90-110	
Arsenic	100	90.467	91	90-110	
Barium	100	93.125	93	90-110	
Beryllium	100	102.105	102	90-110	
Cadmium	100	93.67	94	90-110	
Calcium	10000	10090.798	101	90-110	
Chromium	100	96.281	96	90-110	
Cobalt	100	97.81	98	90-110	
Iron	10000	9557.749	96	90-110	
Lead	100	93.39	93	90-110	
Magnesium	10000	9287.741	93	90-110	
Manganese	100	94.206	94	90-110	
Nickel	100	93.005	93	90-110	
Potassium	10000	9324.111	93	90-110	
Selenium	100	93.875	94	90-110	
Silver	100	93.751	94	90-110	
Sodium	10000	10396.867	104	90-110	
Thallium	100	94.134	94	90-110	
Vanadium	100	95.376	95	90-110	
Zinc	100	94.411	94	90-110	

CCV28 Date: 05-Jan-2018 23:53 Seq: 4383781 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	69.433	69	90-110	S
Antimony	100	99.352	99	90-110	
Arsenic	100	97.303	97	90-110	
Barium	100	97.917	98	90-110	
Beryllium	100	102.603	103	90-110	
Cadmium	100	97.87	98	90-110	
Calcium	10000	9723.124	97	90-110	
Chromium	100	97.315	97	90-110	
Cobalt	100	96.769	97	90-110	
Iron	10000	9485.782	95	90-110	
Lead	100	96.849	97	90-110	
Magnesium	10000	9508.277	95	90-110	
Manganese	100	94.489	95	90-110	
Nickel	100	95.872	96	90-110	
Potassium	10000	9672.822	97	90-110	
Selenium	100	92.054	92	90-110	
Silver	100	96.935	97	90-110	
[illegible]dium	10000	10021970.741	100	90-110	

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc. Run ID: ICPMS04_308513
Project: Groundwater Treatment Plant Quarterly Effluent Samples Instrument: ICPMS04
WorkOrder: HS17121168 Method: SW6020

CCV28 Date: 05-Jan-2018 23:53 Seq: 4383781 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Thallium	100	96.951	97	90-110	
Vanadium	100	95.498	96	90-110	
Zinc	100	97.681	98	90-110	

CCV29 Date: 06-Jan-2018 00:20 Seq: 4383793 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	70.112	70	90-110	S
Antimony	100	98.821	99	90-110	
Arsenic	100	95.78	96	90-110	
Barium	100	100.039	100	90-110	
Beryllium	100	105.267	105	90-110	
Cadmium	100	98.622	99	90-110	
Calcium	10000	9667.76	97	90-110	
Chromium	100	95.949	96	90-110	
Cobalt	100	96.035	96	90-110	
Iron	10000	9341.565	93	90-110	
Lead	100	97.953	98	90-110	
Magnesium	10000	9581.005	96	90-110	
Manganese	100	95.83	96	90-110	
Nickel	100	97.087	97	90-110	
Potassium	10000	9765.855	98	90-110	
Selenium	100	101.785	102	90-110	
Silver	100	96.521	97	90-110	
Sodium	10000	9860.699	99	90-110	
Thallium	100	98.208	98	90-110	
Vanadium	100	95.295	95	90-110	
Zinc	100	96.583	97	90-110	

CCV30 Date: 06-Jan-2018 00:46 Seq: 4383805 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	69.524	70	90-110	S
Antimony	100	102.188	102	90-110	
Arsenic	100	97.876	98	90-110	
Barium	100	101.118	101	90-110	
Beryllium	100	105.865	106	90-110	
Cadmium	100	97.531	98	90-110	
Calcium	10000	9926.974	99	90-110	
Chromium	100	94.45	94	90-110	
Cobalt	100	94.808	95	90-110	
Iron	10000	9425.29	94	90-110	
Lead	100	97.945	98	90-110	
Magnesium	10000	9626.961	96	90-110	
Manganese	100	96.214	96	90-110	
Nickel	100	96.965	97	90-110	
Potassium	10000	9692.843	97	90-110	
Selenium	100	94.651	95	90-110	
Silver	100	96.693	97	90-110	
Sodium	10000	9851.638	99	90-110	
Thallium	100	98.229	98	90-110	
Vanadium	100	93.85	94	90-110	
Zinc	100	98.324	98	90-110	

CCV31 Date: 06-Jan-2018 00:57 Seq: 4383810 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	69.107	69	90-110	S
Antimony	100	101.38	101	90-110	
Arsenic	100	97.673	98	90-110	

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCV31 Date: 06-Jan-2018 00:57 Seq: 4383810 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	97.843	98	90-110	
Beryllium	100	105.593	106	90-110	
Cadmium	100	97.692	98	90-110	
Calcium	10000	9624.379	96	90-110	
Chromium	100	96.469	97	90-110	
Cobalt	100	98.169	98	90-110	
Iron	10000	9331.481	93	90-110	
Lead	100	98.373	98	90-110	
Magnesium	10000	9626.915	96	90-110	
Manganese	100	95.427	95	90-110	
Nickel	100	99.063	99	90-110	
Potassium	10000	9631.696	96	90-110	
Selenium	100	86.527	87	90-110	S
Silver	100	97.572	98	90-110	
Sodium	10000	9712.977	97	90-110	
Thallium	100	98.18	98	90-110	
Vanadium	100	94.01	94	90-110	
Zinc	100	97.757	98	90-110	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

ICB	Date: 05-Jan-2018 11:33		Seq: 4382237	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	5	0.4	5	U	
Arsenic	5	0.4	5	U	
Barium	5	1.9	5	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	5	0.4	5	U	
Cobalt	5	0.1	5	U	
Iron	200	12	200	U	
Lead	5	0.6	5	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	5	0.6	5	U	
Potassium	200	18	200	U	
Selenium	-1.196	1.1	5	J	
Silver	5	0.2	5	U	
Sodium	200	14	200	U	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	5	2	5	U	

CCB1	Date: 05-Jan-2018 12:15		Seq: 4382293	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.903	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	
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	26.13	18	200	J	
Selenium	-2.504	1.1	2		
Silver	2	0.2	2	U	
Sodium	35.57	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB2	Date: 05-Jan-2018 12:50		Seq: 4382330	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.7	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	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB2	Date: 05-Jan-2018 12:50		Seq: 4382330	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Cobalt	5	0.2	5	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	5	0.6	5	U	
Zinc	4	2	4	U	

MBLK-124039	Date: 05-Jan-2018 12:52		Seq: 4382579	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	3.836	1.8	10	J	
Antimony	0.414	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	
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	118.7	18	200	J	
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	

CCB3	Date: 05-Jan-2018 13:16		Seq: 4382590	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.879	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	
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	39.35	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB3	Date: 05-Jan-2018 13:16		Seq: 4382590	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Sodium	46.49	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB4	Date: 05-Jan-2018 13:42		Seq: 4382602	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.746	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	
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	29.96	18	200	J	
Selenium	-1.361	1.1	2	J	
Silver	2	0.2	2	U	
Sodium	59.68	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB5	Date: 05-Jan-2018 14:09		Seq: 4382614	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	
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	28.43	18	200	J	
Selenium	-1.527	1.1	2	J	
Silver	2	0.2	2	U	
Sodium	31.03	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB6	Date: 05-Jan-2018 14:36		Seq: 4382626	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: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB6	Date: 05-Jan-2018 14:36		Seq: 4382626	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Antimony	0.404	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	
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	40.33	18	200	J	
Selenium	1.255	1.1	2	J	
Silver	2	0.2	2	U	
Sodium	81.78	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB7	Date: 05-Jan-2018 15:03		Seq: 4382938	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.413	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	
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	34.7	18	200	J	
Selenium	2.288	1.1	2		
Silver	2	0.2	2	U	
Sodium	98.89	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB8	Date: 05-Jan-2018 15:29		Seq: 4382950	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	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB8 Date: 05-Jan-2018 15:29 Seq: 4382950 CCB Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Iron	200	12	200	U
Lead	2	0.6	2	U
Magnesium	200	10	200	U
Manganese	5	0.7	5	U
Nickel	2	0.6	2	U
Potassium	200	18	200	U
Selenium	2	1.1	2	U
Silver	2	0.2	2	U
Sodium	40.16	14	200	J
Thallium	2	0.2	2	U
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

CCB9 Date: 05-Jan-2018 15:56 Seq: 4382962 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
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	19.98	18	200	J
Selenium	-2.172	1.1	2	
Silver	2	0.2	2	U
Sodium	43.55	14	200	J
Thallium	2	0.2	2	U
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

CCB10 Date: 05-Jan-2018 16:23 Seq: 4383070 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
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	41.44	18	200	J
Selenium	2	1.1	2	U
Silver	2	0.2	2	U

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Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB10	Date: 05-Jan-2018 16:23		Seq: 4383070	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Sodium	163.3	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB11	Date: 05-Jan-2018 16:51		Seq: 4383098	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	
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	56.41	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB12	Date: 05-Jan-2018 17:18		Seq: 4383202	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	
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	-1.991	1.1	2	J	
Silver	2	0.2	2	U	
Sodium	51.99	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB13	Date: 05-Jan-2018 17:45		Seq: 4383214	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	

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Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB13	Date: 05-Jan-2018 17:45		Seq: 4383214	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	
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	53.33	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	106	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

MBLK-124039	Date: 05-Jan-2018 17:59		Seq: 4383227	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Zinc	2.768	2	4	J	

CCB14	Date: 05-Jan-2018 18:14		Seq: 4383254	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	
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	52.6	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	67.35	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB15	Date: 05-Jan-2018 18:41		Seq: 4383266	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	

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Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB15	Date: 05-Jan-2018 18:41		Seq: 4383266	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	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	58.09	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	52.89	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB16	Date: 05-Jan-2018 19:07		Seq: 4383298	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	
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	46.68	18	200	J	
Selenium	-1.404	1.1	2	J	
Silver	2	0.2	2	U	
Sodium	64.16	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB17	Date: 05-Jan-2018 19:29		Seq: 4383305	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	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	

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Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB17	Date: 05-Jan-2018 19:29		Seq: 4383305	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Nickel	0.986	0.6	2	J	
Potassium	122.7	18	200	J	
Selenium	1.129	1.1	2	J	
Silver	2	0.2	2	U	
Sodium	402.4	14	200		
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

ICCB18	Date: 05-Jan-2018 20:12		Seq: 4383317	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	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	-0.697	0.6	2	J	
Potassium	-33.04	18	200	J	
Selenium	1.308	1.1	2	J	
Silver	2	0.2	2	U	
Sodium	-82.04	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB19	Date: 05-Jan-2018 20:28		Seq: 4383324	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	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	-0.643	0.6	2	J	
Potassium	-21.45	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	-81.59	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: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB20	Date: 05-Jan-2018 20:32		Seq: 4383326	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	
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	-25.31	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	-88.93	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB21	Date: 05-Jan-2018 20:59		Seq: 4383338	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	
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	-23.24	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	-61.76	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB22	Date: 05-Jan-2018 21:32		Seq: 4383354	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: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB22	Date: 05-Jan-2018 21:32		Seq: 4383354	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Cobalt	5	0.2	5	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	-26.22	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	-99.99	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB23	Date: 05-Jan-2018 21:52		Seq: 4383363	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	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	-0.643	0.6	2	J	
Potassium	200	18	200	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	-94.35	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

ICCB24	Date: 05-Jan-2018 22:17		Seq: 4383374	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	
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	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

ICCB24	Date: 05-Jan-2018 22:17		Seq: 4383374	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Silver	2	0.2	2	U	
Sodium	-21.87	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB25	Date: 05-Jan-2018 22:36		Seq: 4383381	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	
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	-18.49	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB26	Date: 05-Jan-2018 23:02		Seq: 4383758	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	
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	22.75	18	200	J	
Selenium	-1.658	1.1	2	J	
Silver	2	0.2	2	U	
Sodium	56.29	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: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB27	Date: 05-Jan-2018 23:29		Seq: 4383770	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	
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	-1.374	1.1	2	J	
Silver	2	0.2	2	U	
Sodium	42.36	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB28	Date: 05-Jan-2018 23:55		Seq: 4383782	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	
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	-1.999	1.1	2	J	
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	

CCB29	Date: 06-Jan-2018 00:22		Seq: 4383794	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: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB29	Date: 06-Jan-2018 00:22		Seq: 4383794	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Cobalt	5	0.2	5	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	-1.652	1.1	2	J	
Silver	2	0.2	2	U	
Sodium	32.82	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB30	Date: 06-Jan-2018 00:48		Seq: 4383806	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.745	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	
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	20.49	18	200	J	
Selenium	-1.74	1.1	2	J	
Silver	2	0.2	2	U	
Sodium	21.9	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB31	Date: 06-Jan-2018 00:59		Seq: 4383811	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	1.227	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	
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	20.93	18	200	J	
Selenium	2	1.1	2	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB31 Date: 06-Jan-2018 00:59 Seq: 4383811 CCB Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
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

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

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc. Run ID:ICPMS04_308513

Project: Groundwater Treatment Plant Quarterly Effluent Samples Instrument:ICPMS04

WorkOrder: HS17121168 Method:SW6020

ICSA	Date: 05-Jan-2018 11:39	Seq: 4382240	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100000	96260	96.3	
Antimony		0.29	0	
Arsenic		-0.024	0	
Barium		-0.097	0	
Beryllium		0.01	0	
Cadmium		0.612	0	
Calcium	100000	97460	97.5	
Chromium		0.006	0	
Cobalt		0.013	0	
Iron	100000	98740	98.7	
Lead		0.104	0	
Magnesium	100000	99630	99.6	
Manganese		0.315	0	
Nickel		0.69	0	
Potassium	100000	103400	103	
Selenium		-0.306	0	
Silver		0.012	0	
Sodium	100000	98830	98.8	
Thallium		0.062	0	
Vanadium		-0.191	0	
Zinc		0.28	0	

ICSAB	Date: 05-Jan-2018 11:41	Seq: 4382241	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100500	97120	96.6	
Antimony	100	103.3	103	
Arsenic	100	93.73	93.7	
Barium	100	102.7	103	
Beryllium	100	100.9	101	
Cadmium	100	100.7	101	
Calcium	110000	105500	95.9	
Chromium	100	95.82	95.8	
Cobalt	100	96.91	96.9	
Iron	110000	104500	95.0	
Lead	100	101.6	102	
Magnesium	110000	108100	98.3	
Manganese	100	97.48	97.5	
Nickel	100	101.9	102	
Potassium	110000	113500	103	
Selenium	100	108.4	108	
Silver	100	98.65	98.7	
Sodium	110000	107600	97.9	
Thallium	100	98.86	98.9	
Vanadium	100	96.92	96.9	
Zinc	100	101.9	102	

ICSA	Date: 05-Jan-2018 22:19	Seq: 4383375	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100000	62610	62.6	
Antimony		0.012	0	
Arsenic		-0.048	0	
Barium		0.044	0	
Beryllium		0.002	0	
Cadmium		0.688	0	
Calcium	100000	96520	96.5	
Chromium		0.122	0	
ɔalt		0.028	0	

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc. Run ID:ICPMS04_308513

Project: Groundwater Treatment Plant Quarterly Effluent Samples Instrument:ICPMS04

WorkOrder: HS17121168 Method:SW6020

ICSA	Date: 05-Jan-2018 22:19	Seq: 4383375	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Iron	100000	93010	93.0	
Lead		0.08	0	
Magnesium	100000	95380	95.4	
Manganese		0.078	0	
Nickel		0.125	0	
Potassium	100000	97530	97.5	
Selenium		-2.298	0	
Silver		0.04	0	
Sodium	100000	96000	96.0	
Thallium		0.009	0	
Vanadium		-0.227	0	
Zinc		0.882	0	

ICSAB	Date: 05-Jan-2018 22:22	Seq: 4383376	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100500	61790	61.5	
Antimony	100	97.07	97.1	
Arsenic	100	97.22	97.2	
Barium	100	99.66	99.7	
Beryllium	100	104.9	105	
Cadmium	100	98.64	98.6	
Calcium	110000	104700	95.2	
Chromium	100	94.52	94.5	
Cobalt	100	94.81	94.8	
Iron	110000	101200	92.0	
Lead	100	98.32	98.3	
Magnesium	110000	102500	93.2	
Manganese	100	96.05	96.0	
Nickel	100	95.69	95.7	
Potassium	110000	106000	96.4	
Selenium	100	95.08	95.1	
Silver	100	92.8	92.8	
Sodium	110000	103800	94.4	
Thallium	100	96.48	96.5	
Vanadium	100	96.08	96.1	
Zinc	100	98.36	98.4	

ICSA	Date: 06-Jan-2018 01:06	Seq: 4383814	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100000	60960	61.0	
Antimony		0.582	0	
Arsenic		-0.205	0	
Barium		-0.004	0	
Beryllium		0.014	0	
Cadmium		0.716	0	
Calcium	100000	96530	96.5	
Chromium		0.239	0	
Cobalt		0.031	0	
Iron	100000	92210	92.2	
Lead		0.092	0	
Magnesium	100000	93080	93.1	
Manganese		0.234	0	
Nickel		0.506	0	
Potassium	100000	96310	96.3	
Selenium		-0.132	0	
Silver		0.035	0	
ıium	100000	94160	94.2	

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

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc. Run ID:ICPMS04_308513

Project: Groundwater Treatment Plant Quarterly Effluent Samples Instrument:ICPMS04

WorkOrder: HS17121168 Method:SW6020

ICSA	Date: 06-Jan-2018 01:06	Seq: 4383814	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Thallium		0.021	0	
Vanadium		-0.277	0	
Zinc		1.023	0	

ICSAB	Date: 06-Jan-2018 01:08	Seq: 4383815	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100500	61490	61.2	
Antimony	100	101.9	102	
Arsenic	100	101.9	102	
Barium	100	102.4	102	
Beryllium	100	108.1	108	
Cadmium	100	100.6	101	
Calcium	110000	109500	99.6	
Chromium	100	100.6	101	
Cobalt	100	100.7	101	
Iron	110000	104800	95.3	
Lead	100	99.98	100.0	
Magnesium	110000	102400	93.1	
Manganese	100	97.96	98.0	
Nickel	100	96.59	96.6	
Potassium	110000	106400	96.7	
Selenium	100	99.62	99.6	
Silver	100	96.37	96.4	
Sodium	110000	104900	95.4	
Thallium	100	98.17	98.2	
Vanadium	100	100.2	100	
Zinc	100	99.07	99.1	

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

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Date Analyzed: 05-Jan-2018 13:05
Date Extracted: 04-Jan-2018 12:18
Units: ug/L

Matrix Spike: HS17121169-01MS
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Aluminum	49.91	147.7	100.0	97.8	153.5	100.0	104	80-120	3.84	20
Antimony	0.8430	48.78	50.00	95.9	50.06	50.00	98.4	80-120	2.60	20
Arsenic	1.429	51.14	50.00	99.4	49.34	50.00	95.8	80-120	3.59	20
Barium	679.5	704.5	50.00	50.0	722.1	50.00	85.3	80-120	2.47	20
Beryllium	2.000	49.68	50.00	99.2	50.56	50.00	101	80-120	1.74	20
Cadmium	0.3260	47.33	50.00	94.0	47.05	50.00	93.4	80-120	0.593	20
Calcium	40330	45130	5000	96.1	45630	5000	106	80-120	1.11	20
Chromium	1.900	48.92	50.00	94.0	53.02	50.00	102	80-120	8.06	20
Cobalt	8.769	55.23	50.00	92.9	57.64	50.00	97.8	80-120	4.28	20
Iron	890.9	5774	5000	97.7	5944	5000	101	80-120	2.90	20
Lead	2.000	46.83	50.00	93.2	47.70	50.00	94.9	80-120	1.83	20
Magnesium	32370	35500	5000	62.6	37090	5000	94.3	80-120	4.37	20
Manganese	524.4	563.1	50.00	77.4	582.8	50.00	117	80-120	3.44	20
Nickel	13.95	59.84	50.00	91.8	62.42	50.00	97.0	80-120	4.22	20
Potassium	1644	6515	5000	97.4	6661	5000	100	80-120	2.23	20
Selenium	2.000	50.77	50.00	101	42.20	50.00	83.4	80-120	18.4	20
Silver	2.000	45.21	50.00	90.4	47.37	50.00	94.8	80-120	4.66	20
Sodium	240300	243600	5000	67.7	253400	5000	262	80-120	3.91	20
Thallium	2.000	45.48	50.00	91.0	45.80	50.00	91.6	80-120	0.703	20
Vanadium	0.6270	47.68	50.00	94.1	48.92	50.00	96.6	80-120	2.57	20
Zinc	120.7	168.3	50.00	95.2	173.4	50.00	106	80-120	3.02	20

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

Form 5B - Post Digest Sample Recovery

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Date Analyzed: 05-Jan-2018 13:07
Date Extracted: 04-Jan-2018 12:18
Units: ug/L

Lab Sample ID: HS17121169-01PDS
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	PDS Result	Spike Amount	% Rec	% Rec Limits
Aluminum	49.91	151.1	100	101	75-125
Antimony	0.843	95.14	100	94	75-125
Arsenic	1.429	100.2	100	99	75-125
Barium	679.5	760.5	100	81	75-125
Beryllium	0	113.2	100	113	75-125
Cadmium	0.326	97.41	100	97	75-125
Calcium	40330	51810	10000	115	75-125
Chromium	1.9	103.3	100	101	75-125
Cobalt	8.769	107.5	100	99	75-125
Iron	890.9	11070	10000	102	75-125
Lead	0	98.63	100	98	75-125
Magnesium	32370	41240	10000	89	75-125
Manganese	524.4	616.9	100	93	75-125
Nickel	13.95	111	100	97	75-125
Potassium	1644	12100	10000	105	75-125
Selenium	0	113.2	100	113	75-125
Silver	0	97.71	100	98	75-125
Thallium	0	99.34	100	99	75-125
Vanadium	0.627	102.2	100	102	75-125
Zinc	120.7	223	100	102	75-125
Sodium	240300	270200	50000	60	75-125

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

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Date Analyzed: 05-Jan-2018 12:54
Date Extracted: 04-Jan-2018 12:18
Units: ug/L

Lab Sample ID: LCS-124039 Analysis Method: SW6020

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Aluminum	100	105.4	105	80-120
Antimony	50	51.56	103	80-120
Arsenic	50	49.74	100	80-120
Barium	50	48.85	98	80-120
Beryllium	50	50.03	100	80-120
Cadmium	50	49.97	100	80-120
Calcium	5000	4952	99	80-120
Chromium	50	50.99	102	80-120
Cobalt	50	49.69	99	80-120
Iron	5000	5175	104	80-120
Lead	50	48.74	98	80-120
Magnesium	5000	5149	103	80-120
Manganese	50	49.27	99	80-120
Nickel	50	50.52	101	80-120
Potassium	5000	5156	103	80-120
Selenium	50	50.8	102	80-120
Silver	50	49.94	100	80-120
Sodium	5000	5110	102	80-120
Thallium	50	47.89	96	80-120
Vanadium	50	48.28	97	80-120
Zinc	50	51.56	103	80-120

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

Form 8 - ICP Serial Dilutions

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Date Analyzed: 05-Jan-2018 13:00
Date Extracted: 04-Jan-2018 12:18
Units: ug/L

Lab Sample ID: HS17121169-01SD
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	C	SD Result	C	RPD	Q
Aluminum	49.91		53.21		7	
Antimony	0.843	J	0	U	0	
Arsenic	1.429	J	0	U	0	
Barium	679.5		646.8		5	
Beryllium	0	U	0	U	0	
Cadmium	0.326	J	0	U	0	
Calcium	40330		38070		6	
Chromium	1.9	J	0	U	0	
Cobalt	8.769		8.292	J	5	
Iron	890.9		853.1	J	4	
Lead	0	U	0	U	0	
Magnesium	32370		32640		1	
Manganese	524.4		505.8		4	
Nickel	13.95		14.25		2	
Potassium	1644		1780		8	
Selenium	0	U	0	U	0	
Silver	0	U	0	U	0	
Thallium	0	U	0	U	0	
Vanadium	0.627	J	0	U	0	
Zinc	120.7		110.3		9	
Sodium	224000		220500		2	

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

Form 11 - INTERNAL STANDARD ASSOCIATION

Client: Bhate Environmental Associates, Inc. Instrument:ICPMS04
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168

Mass	Analyte	Assoc Int Standard 1	Assoc Int Standard 2	Mode
9	Beryllium	Lithium		Ar
11	Boron	Lithium		Ar
23	Sodium	Germanium		Ar
24	Magnesium	Germanium		Ar
27	Aluminum	Germanium		Ar
39	Potassium	Germanium		Ar
44	Calcium	Germanium		ArHe
47	Titanium	Germanium		Ar
51	Vanadium	Germanium		ArHe
52	Chromium	Germanium		ArHe
55	Manganese	Germanium		ArHe
56	Iron	Germanium		ArHe
59	Cobalt	Germanium		ArHe
60	Nickel	Germanium		ArHe
63	Copper	Germanium		ArHe
66	Zinc	Germanium		ArHe
75	Arsenic	Germanium		ArHe
78	Selenium	Germanium		ArHe
88	Strontium	Germanium		Ar
95	Molybdenum	Germanium		Ar
105	Palladium	Germanium		Ar
107	Silver	Germanium		Ar
111	Cadmium	Indium		Ar
118	Tin	Germanium		Ar
121	Antimony	Germanium		ArHe
135	Barium	Indium		Ar
203	Thallium	Bismuth		Ar
208	Lead	Bismuth		Ar

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

FORM 12 - PREPARATION LOG

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168
Start Date: 04-Jan-2018 09:00 End Date: 04-Jan-2018 13:00

Batch ID: 124039
Prep Code: 3010A
Method: SW3010A
Technician:

SampID	ClientID	Matrix	Init Wt	Init Vol	FinalVol (mL)	PrepFac
HS17121168-01	LH18/24-SP650_122017	Water		10	10	1
HS17121169-01MS				10	10	1
HS17121169-01MSD				10	10	1
HS17121169-01PDS				10	10	1
HS17121169-01SD				10	10	1
LCS-124039				10	10	1
MBLK-124039				10	10	1

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

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168
Start Date: 05-Jan-2018 End Date: 06-Jan-2018

Run ID:ICPMS04_308513
Instrument:ICPMS04
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS04_308513_Tune	1	05-Jan-2018 00:00	ICPMS04_308513_Tune_1	
CAL BLK	1	05-Jan-2018 11:13	020CALB.d_4382228	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
2/10/200	1	05-Jan-2018 11:15	021CALS.d_4382229	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
5/25/500	1	05-Jan-2018 11:17	022CALS.d_4382230	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
10/50/1000	1	05-Jan-2018 11:19	023CALS.d_4382231	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
100/500/10K	1	05-Jan-2018 11:22	024CALS.d_4382232	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
200/1000/20K	1	05-Jan-2018 11:24	025CALS.d_4382233	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LLICV2	1	05-Jan-2018 11:28	027SMPL.d_4382235	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LLICV5	1	05-Jan-2018 11:30	028LICV.d_4382236	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICB	1	05-Jan-2018 11:33	029_ICB.d_4382237	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICV	1	05-Jan-2018 11:35	030_ICV.d_4382238	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICSA	1	05-Jan-2018 11:39	032ICSA.d_4382240	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICSAB	1	05-Jan-2018 11:41	033ICSB.d_4382241	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 1	1	05-Jan-2018 12:15	042_CCB.d_4382293	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 1	1	05-Jan-2018 12:19	044_CCV.d_4382295	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 2	1	05-Jan-2018 12:47	054_CCV.d_4382329	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 2	1	05-Jan-2018 12:50	055_CCB.d_4382330	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
MBLK-124039	1	05-Jan-2018 12:52	056SMPL.d_4382579	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V
LCS-124039	1	05-Jan-2018 12:54	057SMPL.d_4382580	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LH18/24-SP650_122017	1	05-Jan-2018 12:56	058SMPL.d_4382581	AG AL AS BA BE CA CD CO CR FE K MG MN NI PB SB SE TL V ZN
ZZZZZZSD	5	05-Jan-2018 13:00	060SMPL.d_4382583	AG AL AS BA BE CA CD CO CR FE K MG MN NI PB SB SE TL V ZN
ZZZZZZMS	1	05-Jan-2018 13:03	061SMPL.d_4382584	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ZZZZZZMSD	1	05-Jan-2018 13:05	062SMPL.d_4382585	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ZZZZZZPDS	1	05-Jan-2018 13:07	063SMPL.d_4382586	AG AL AS BA BE CA CD CO CR FE K MG MN NI PB SB SE TL V ZN
CCV 3	1	05-Jan-2018 13:14	066_CCV.d_4382589	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 3	1	05-Jan-2018 13:16	067_CCB.d_4382590	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 4	1	05-Jan-2018 13:40	078_CCV.d_4382601	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 4	1	05-Jan-2018 13:42	079_CCB.d_4382602	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 5	1	05-Jan-2018 14:07	090_CCV.d_4382613	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 5	1	05-Jan-2018 14:09	091_CCB.d_4382614	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 6	1	05-Jan-2018 14:34	102_CCV.d_4382625	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 6	1	05-Jan-2018 14:36	103_CCB.d_4382626	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 7	1	05-Jan-2018 15:01	114_CCV.d_4382937	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 7	1	05-Jan-2018 15:03	115_CCB.d_4382938	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN

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

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168
Start Date: 05-Jan-2018 End Date: 06-Jan-2018

Run ID:ICPMS04_308513
Instrument:ICPMS04
Method:

Sample No.	D/F	Time	FileID	Analytes
CCV 8	1	05-Jan-2018 15:27	126_CCV.d_4382949	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 8	1	05-Jan-2018 15:29	127_CCB.d_4382950	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 9	1	05-Jan-2018 15:54	138_CCV.d_4382961	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 9	1	05-Jan-2018 15:56	139_CCB.d_4382962	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 10	1	05-Jan-2018 16:21	150_CCV.d_4383069	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 10	1	05-Jan-2018 16:23	151_CCB.d_4383070	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 11	1	05-Jan-2018 16:49	162_CCV.d_4383097	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 11	1	05-Jan-2018 16:51	163_CCB.d_4383098	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LH18/24-SP650_122017	5	05-Jan-2018 17:14	173SMPL.d_4383200	NA
CCV 12	1	05-Jan-2018 17:16	174_CCV.d_4383201	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 12	1	05-Jan-2018 17:18	175_CCB.d_4383202	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 13	1	05-Jan-2018 17:45	187_CCB.d_4383214	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 13	1	05-Jan-2018 17:47	188_CCV.d_4383215	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
MBLK-124039	1	05-Jan-2018 17:59	193SMPL.d_4383227	ZN
CCV 14	1	05-Jan-2018 18:12	199_CCV.d_4383253	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 14	1	05-Jan-2018 18:14	200_CCB.d_4383254	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 15	1	05-Jan-2018 18:39	211_CCV.d_4383265	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 15	1	05-Jan-2018 18:41	212_CCB.d_4383266	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 16	1	05-Jan-2018 19:05	223_CCV.d_4383297	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 16	1	05-Jan-2018 19:07	224_CCB.d_4383298	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 17	1	05-Jan-2018 19:27	230_CCV.d_4383304	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 17	1	05-Jan-2018 19:29	231_CCB.d_4383305	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CAL BLK	1	05-Jan-2018 19:52	236CALB.d_4383308	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
2/10/200	1	05-Jan-2018 19:55	237CALS.d_4383309	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
5/25/500	1	05-Jan-2018 19:57	238CALS.d_4383310	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
10/50/1000	1	05-Jan-2018 19:59	239CALS.d_4383311	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
100/500/10K	1	05-Jan-2018 20:01	240CALS.d_4383312	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
200/1000/20K	1	05-Jan-2018 20:03	241CALS.d_4383313	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICCV 18	1	05-Jan-2018 20:06	242_ICV.d_4383314	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LLCCV2	1	05-Jan-2018 20:08	243SMPL.d_4383315	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LLCCV5	1	05-Jan-2018 20:10	244LICV.d_4383316	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICCB 18	1	05-Jan-2018 20:12	245_ICB.d_4383317	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ZZZZZZSD	25	05-Jan-2018 20:17	247SMPL.d_4383319	NA
ZZZZZZPDS	5	05-Jan-2018 20:19	248SMPL.d_4383320	NA
CCV 19	1	05-Jan-2018 20:26	251_CCV.d_4383323	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN

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

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168
Start Date: 05-Jan-2018 End Date: 06-Jan-2018

Run ID:ICPMS04_308513
Instrument:ICPMS04
Method:

Sample No.	D/F	Time	FileID	Analytes
CCB 19	1	05-Jan-2018 20:28	252_CCB.d_4383324	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 20	1	05-Jan-2018 20:30	253_CCV.d_4383325	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 20	1	05-Jan-2018 20:32	254_CCB.d_4383326	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 21	1	05-Jan-2018 20:57	265_CCV.d_4383337	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 21	1	05-Jan-2018 20:59	266_CCB.d_4383338	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 22	1	05-Jan-2018 21:30	277_CCV.d_4383353	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 22	1	05-Jan-2018 21:32	278_CCB.d_4383354	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 23	1	05-Jan-2018 21:49	286_CCV.d_4383362	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 23	1	05-Jan-2018 21:52	287_CCB.d_4383363	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CAL BLK	1	05-Jan-2018 21:57	289CALB.d_4383365	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
2/10/200	1	05-Jan-2018 21:59	290CALS.d_4383366	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
5/25/500	1	05-Jan-2018 22:02	291CALS.d_4383367	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
10/50/1000	1	05-Jan-2018 22:04	292CALS.d_4383368	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
100/500/10K	1	05-Jan-2018 22:06	293CALS.d_4383369	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
200/1000/20K	1	05-Jan-2018 22:08	294CALS.d_4383370	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICCV 24	1	05-Jan-2018 22:10	295_ICV.d_4383371	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LLCCV2	1	05-Jan-2018 22:13	296SMPL.d_4383372	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LLCCV5	1	05-Jan-2018 22:15	297LICV.d_4383373	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICCB 24	1	05-Jan-2018 22:17	298_ICB.d_4383374	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICSA	1	05-Jan-2018 22:19	299ICSA.d_4383375	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICSAB	1	05-Jan-2018 22:22	300ICSB.d_4383376	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 25	1	05-Jan-2018 22:33	304_CCV.d_4383380	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 25	1	05-Jan-2018 22:36	305_CCB.d_4383381	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 26	1	05-Jan-2018 23:00	316_CCV.d_4383757	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 26	1	05-Jan-2018 23:02	317_CCB.d_4383758	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 27	1	05-Jan-2018 23:27	328_CCV.d_4383769	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 27	1	05-Jan-2018 23:29	329_CCB.d_4383770	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 28	1	05-Jan-2018 23:53	340_CCV.d_4383781	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 28	1	05-Jan-2018 23:55	341_CCB.d_4383782	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 29	1	06-Jan-2018 00:20	352_CCV.d_4383793	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 29	1	06-Jan-2018 00:22	353_CCB.d_4383794	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 30	1	06-Jan-2018 00:46	364_CCV.d_4383805	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 30	1	06-Jan-2018 00:48	365_CCB.d_4383806	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN

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

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS17121168
Start Date: 05-Jan-2018 End Date: 06-Jan-2018

Run ID:ICPMS04_308513
Instrument:ICPMS04
Method:

Sample No.	D/F	Time	FileID	Analytes
CCV 31	1	06-Jan-2018 00:57	369_CCV.d_4383810	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 31	1	06-Jan-2018 00:59	370_CCB.d_4383811	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LLICV2	1	06-Jan-2018 01:02	371SMPL.d_4383812	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LLICV5	1	06-Jan-2018 01:04	372LICV.d_4383813	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICSA	1	06-Jan-2018 01:06	373ICSA.d_4383814	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICSAB	1	06-Jan-2018 01:08	374ICSB.d_4383815	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	020CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T11:13:19-06:00
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
B	11	1	nogas	10213	0.06
Na	23	1	nogas	64799	0.00
Mg	24	1	nogas	2101	3.34
Al	27	1	nogas	8436	0.04
P	31	1	nogas	6968	0.09
K	39	1	nogas	867943	0.00
Ca	43	1	nogas	93	65.28
Ca	44	1	nogas	11938	0.01
Ti	47	1	nogas	27	324.76
V	51	1	nogas	57975	0.01
Cr	52	1	nogas	3594	0.13
Mn	55	1	nogas	3847	0.03
Fe	56	1	nogas	198495	0.00
Co	59	1	nogas	83	22.00
Ni	60	1	nogas	117	18.49
Cu	63	1	nogas	3234	0.24
Zn	66	1	nogas	347	14.08
As	75	1	nogas	9506	0.04
Se	77	1	nogas	3174	0.10
Se	82	1	nogas	203	22.47
Sr	88	1	nogas	227	5.95
Ag	107	1	nogas	83	92.58
Sn	118	1	nogas	497	2.04
Sb	121	1	nogas	173	6.93
Ba	137	1	nogas	183	11.26
Tl	205	1	nogas	97	32.69
Pb	208	1	nogas	137	30.45
Li	7	1	nogas	17395	0.02
Si	28	1	nogas	566648	0.00
La	139	1	nogas	67	149.81
Na	23	2	He	3467	0.20
Mg	24	2	He	37	227.24
Al	27	2	He	90	42.77
K	39	2	He	5361	0.10
Ca	44	2	He	43	110.86
V	51	2	He	108	13.39
Cr	52	2	He	173	22.66
Mn	55	2	He	17	749.40
Fe	56	2	He	690	2.13
Co	59	2	He	13	649.52
Ni	60	2	He	17	749.40

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Cu	63	2	He	483	3.86
Zn	66	2	He	3	5196.15
As	75	2	He	4	3898.09
Sb	121	2	He	17	207.85
Se	78	2	He	3	3747.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Ge	72	1	nogas	522917	0.49
In	115	1	nogas	627838	0.42
Li	6	1	nogas	211473	1.24
Bi	209	1	nogas	915562	0.63
Ge	72	2	He	29526	0.50

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	021CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T11:15:31-06:00
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	2967	0.27
B	11	1	nogas	15320	0.01
Na	23	1	nogas	985288	0.00
Mg	24	1	nogas	645769	0.00
Al	27	1	nogas	15070	0.03
P	31	1	nogas	8576	0.08
K	39	1	nogas	1569294	0.00
Ca	43	1	nogas	1520	0.55
Ca	44	1	nogas	33262	0.00
Ti	47	1	nogas	657	2.71
V	51	1	nogas	92866	0.00
Cr	52	1	nogas	13465	0.04
Mn	55	1	nogas	15227	0.02
Fe	56	1	nogas	1135214	0.00
Co	59	1	nogas	9176	0.06
Ni	60	1	nogas	2037	0.22
Cu	63	1	nogas	7905	0.04
Zn	66	1	nogas	2224	0.13
As	75	1	nogas	14520	0.01
Se	77	1	nogas	4254	0.15
Se	82	1	nogas	203	6.09
Sr	88	1	nogas	13235	0.03
Mo	95	1	nogas	2757	0.29
Ag	107	1	nogas	7532	0.02
Cd	111	1	nogas	1703	0.68
Sn	118	1	nogas	5124	0.17
Sb	121	1	nogas	7115	0.07
Ba	137	1	nogas	2334	0.43
Tl	205	1	nogas	19606	0.02
Pb	208	1	nogas	15645	0.02
Si	28	1	nogas	742259	0.00
La	139	1	nogas	60	55.56
Na	23	2	He	36885	0.00
Mg	24	2	He	15067	0.02
Al	27	2	He	153	31.35
K	39	2	He	12788	0.02
Ca	43	2	He	23	106.04
Ca	44	2	He	400	1.65
V	51	2	He	727	1.06
Cr	52	2	He	833	1.96

Calibration Standard Report

Mn	55	2	He	463	6.20
Fe	56	2	He	61887	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	1297	0.80
Ni	60	2	He	320	3.52
Cu	63	2	He	1417	0.22
Zn	66	2	He	183	19.81
As	75	2	He	97	14.27
Sb	121	2	He	923	0.41
Se	78	2	He	13	190.41

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	526041	0.75	522917	100.60	70	125	
In	115	1	nogas	633423	1.11	627838	100.89	70	125	
Li	6	1	nogas	213697	1.27	211473	101.05	70	125	
Bi	209	1	nogas	923824	1.44	915562	100.90	70	125	
Ge	72	2	He	28845	3.02	29526	97.69	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\010
Acq Date Time	2018-01-05T11:17:43-06:00
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	7952	0.06
B	11	1	nogas	26550	0.01
Na	23	1	nogas	2361000	0.00
Mg	24	1	nogas	1636029	0.00
Al	27	1	nogas	28216	0.00
P	31	1	nogas	12198	0.03
K	39	1	nogas	2610671	0.00
Ca	43	1	nogas	3517	0.06
Ca	44	1	nogas	65907	0.00
Ti	47	1	nogas	1697	0.41
V	51	1	nogas	100143	0.00
Cr	52	1	nogas	26090	0.01
Mn	55	1	nogas	31890	0.01
Fe	56	1	nogas	2584526	0.00
Co	59	1	nogas	22769	0.01
Ni	60	1	nogas	4984	0.05
Cu	63	1	nogas	15497	0.04
Zn	66	1	nogas	4741	0.06
As	75	1	nogas	16638	0.00
Se	77	1	nogas	4167	0.09
Se	82	1	nogas	387	3.43
Sr	88	1	nogas	31099	0.01
Mo	95	1	nogas	6735	0.05
Ag	107	1	nogas	19268	0.02
Cd	111	1	nogas	3707	0.16
Sn	118	1	nogas	12352	0.04
Sb	121	1	nogas	17510	0.02
Ba	137	1	nogas	5728	0.01
Tl	205	1	nogas	49062	0.00
Pb	208	1	nogas	38756	0.00
Si	28	1	nogas	1022196	0.00
La	139	1	nogas	50	40.00
Na	23	2	He	87424	0.00
Mg	24	2	He	38743	0.01
Al	27	2	He	263	9.82
K	39	2	He	24878	0.01
Ca	43	2	He	70	81.63
Ca	44	2	He	903	1.58
V	51	2	He	1667	0.12
Cr	52	2	He	2074	0.27

Calibration Standard Report

Mn	55	2	He	1170	0.13
Fe	56	2	He	156205	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	2944	0.19
Ni	60	2	He	820	0.54
Cu	63	2	He	2587	0.19
Zn	66	2	He	450	3.08
As	75	2	He	242	3.42
Sb	121	2	He	1913	0.72
Se	78	2	He	32	58.59

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	533572	0.70	522917	102.04	70	125	
In	115	1	nogas	633287	1.62	627838	100.87	70	125	
Li	6	1	nogas	206728	1.20	211473	97.76	70	125	
Bi	209	1	nogas	919580	0.98	915562	100.44	70	125	
Ge	72	2	He	29753	0.69	29526	100.77	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\010
Acq Date Time	2018-01-05T11:19:54-06:00
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	15550	0.03
B	11	1	nogas	44201	0.01
Na	23	1	nogas	4522233	0.00
Mg	24	1	nogas	3179377	0.00
Al	27	1	nogas	51041	0.00
P	31	1	nogas	17519	0.02
K	39	1	nogas	4246746	0.00
Ca	43	1	nogas	6571	0.08
Ca	44	1	nogas	121231	0.00
Ti	47	1	nogas	3417	0.26
V	51	1	nogas	118725	0.00
Cr	52	1	nogas	45667	0.01
Mn	55	1	nogas	59108	0.00
Fe	56	1	nogas	4900069	0.00
Co	59	1	nogas	45701	0.01
Ni	60	1	nogas	9940	0.04
Cu	63	1	nogas	27653	0.01
Zn	66	1	nogas	8806	0.01
As	75	1	nogas	18894	0.03
Se	77	1	nogas	3821	0.17
Se	82	1	nogas	543	8.13
Sr	88	1	nogas	63597	0.00
Mo	95	1	nogas	13569	0.03
Ag	107	1	nogas	37533	0.00
Cd	111	1	nogas	8279	0.01
Sn	118	1	nogas	23958	0.02
Sb	121	1	nogas	34256	0.01
Ba	137	1	nogas	11471	0.04
Tl	205	1	nogas	97345	0.00
Pb	208	1	nogas	77116	0.00
Si	28	1	nogas	1596541	0.00
La	139	1	nogas	103	23.57
Na	23	2	He	174307	0.00
Mg	24	2	He	77941	0.00
Al	27	2	He	420	7.88
K	39	2	He	45887	0.00
Ca	43	2	He	157	32.93
Ca	44	2	He	1890	0.85
V	51	2	He	3266	0.06
Cr	52	2	He	4141	0.17

Calibration Standard Report

Mn	55	2	He	2003	0.43
Fe	56	2	He	314350	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	5698	0.08
Ni	60	2	He	1653	0.40
Cu	63	2	He	5011	0.12
Zn	66	2	He	843	1.00
As	75	2	He	446	0.95
Sb	121	2	He	3764	0.03
Se	78	2	He	25	230.88

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	532193	0.63	522917	101.77	70	125	
In	115	1	nogas	647527	1.19	627838	103.14	70	125	
Li	6	1	nogas	208601	1.24	211473	98.64	70	125	
Bi	209	1	nogas	922495	0.97	915562	100.76	70	125	
Ge	72	2	He	30013	2.19	29526	101.65	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\010
Acq Date Time	2018-01-05T11:22:05-06:00
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	154115	0.00
B	11	1	nogas	360267	0.00
Na	23	1	nogas	42045199	0.00
Mg	24	1	nogas	29561656	0.00
Al	27	1	nogas	397459	0.00
P	31	1	nogas	110879	0.00
K	39	1	nogas	32361532	0.00
Ca	43	1	nogas	61612	0.00
Ca	44	1	nogas	1023330	0.00
Ti	47	1	nogas	31576	0.01
V	51	1	nogas	539563	0.00
Cr	52	1	nogas	412275	0.00
Mn	55	1	nogas	528318	0.00
Fe	56	1	nogas	43965426	0.00
Co	59	1	nogas	431318	0.00
Ni	60	1	nogas	95017	0.00
Cu	63	1	nogas	236590	0.00
Zn	66	1	nogas	80224	0.00
As	75	1	nogas	89035	0.00
Se	77	1	nogas	7392	0.14
Se	82	1	nogas	4294	0.18
Sr	88	1	nogas	598274	0.00
Mo	95	1	nogas	126094	0.00
Ag	107	1	nogas	351284	0.00
Cd	111	1	nogas	76865	0.00
Sn	118	1	nogas	221915	0.00
Sb	121	1	nogas	318275	0.00
Ba	137	1	nogas	110483	0.00
Tl	205	1	nogas	953657	0.00
Pb	208	1	nogas	740906	0.00
Si	28	1	nogas	8746590	0.00
La	139	1	nogas	240	7.57
Na	23	2	He	1610580	0.00
Mg	24	2	He	733773	0.00
Al	27	2	He	2867	0.38
K	39	2	He	379359	0.00
Ca	43	2	He	833	1.08
Ca	44	2	He	16154	0.01
V	51	2	He	29558	0.00
Cr	52	2	He	37498	0.01

Calibration Standard Report

Mn	55	2	He	19438	0.01
Fe	56	2	He	2926201	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	54603	0.01
Ni	60	2	He	15114	0.02
Cu	63	2	He	42446	0.00
Zn	66	2	He	7418	0.07
As	75	2	He	4289	0.05
Sb	121	2	He	34416	0.00
Se	78	2	He	290	2.18

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	527535	0.74	522917	100.88	70	125	
In	115	1	nogas	635889	1.67	627838	101.28	70	125	
Li	6	1	nogas	224973	0.66	211473	106.38	70	125	
Bi	209	1	nogas	905005	0.79	915562	98.85	70	125	
Ge	72	2	He	29476	1.70	29526	99.83	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\010
Acq Date Time	2018-01-05T11:24:17-06:00
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	302652	0.00
B	11	1	nogas	738369	0.00
Na	23	1	nogas	85407744	0.00
Mg	24	1	nogas	59159562	0.00
Al	27	1	nogas	758099	0.00
P	31	1	nogas	215034	0.00
K	39	1	nogas	63469379	0.00
Ca	43	1	nogas	125990	0.00
Ca	44	1	nogas	2092637	0.00
Ti	47	1	nogas	63044	0.00
V	51	1	nogas	987042	0.00
Cr	52	1	nogas	807025	0.00
Mn	55	1	nogas	1059870	0.00
Fe	56	1	nogas	90013012	0.00
Co	59	1	nogas	867238	0.00
Ni	60	1	nogas	190102	0.00
Cu	63	1	nogas	472440	0.00
Zn	66	1	nogas	155592	0.00
As	75	1	nogas	161437	0.00
Se	77	1	nogas	9456	0.01
Se	82	1	nogas	8519	0.03
Sr	88	1	nogas	1212949	0.00
Mo	95	1	nogas	257786	0.00
Ag	107	1	nogas	697919	0.00
Cd	111	1	nogas	153471	0.00
Sn	118	1	nogas	451638	0.00
Sb	121	1	nogas	654400	0.00
Ba	137	1	nogas	220817	0.00
Tl	205	1	nogas	1940365	0.00
Pb	208	1	nogas	1486562	0.00
Si	28	1	nogas	16246759	0.00
La	139	1	nogas	237	13.16
Na	23	2	He	3148099	0.00
Mg	24	2	He	1508187	0.00
Al	27	2	He	5344	0.10
K	39	2	He	767878	0.00
Ca	43	2	He	1833	0.41
Ca	44	2	He	32010	0.01
V	51	2	He	59178	0.00
Cr	52	2	He	74272	0.00

Calibration Standard Report

Mn	55	2	He	38283	0.01
Fe	56	2	He	5662791	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	106969	0.00
Ni	60	2	He	29516	0.01
Cu	63	2	He	83117	0.00
Zn	66	2	He	14049	0.04
As	75	2	He	8933	0.04
Sb	121	2	He	70264	0.00
Se	78	2	He	607	0.59

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	524852	1.19	522917	100.37	70	125	
In	115	1	nogas	629999	1.27	627838	100.34	70	125	
Li	6	1	nogas	237496	1.77	211473	112.31	70	125	
Bi	209	1	nogas	902243	0.57	915562	98.55	70	125	
Ge	72	2	He	29132	1.46	29526	98.67	70	125	

Sample Report

Sample Table

Sample Name	LLICV2
Data File Name	027SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T11:28:41-06:00
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	2.162	2.162	4.57	3177	0.07	2000	
B	11	1	nogas	76.262	76.262	7.40	60961	0.13	2000	
Na	23	1	nogas	221.226	221.226	2.49	1000927	0.02	200000	
Mg	24	1	nogas	220.383	220.383	4.18	650406	0.03	200000	
Al	27	1	nogas	1.837	1.837	6.21	15527	0.01	2000	
K	39	1	nogas	239.686	239.686	6.86	1635308	0.01	200000	
Ca	43	1	nogas	224.777	224.777	6.69	1513	14.85	200000	
Ca	44	1	nogas	195.777	195.777	4.17	32484	0.60	200000	
Ti	47	1	nogas	1.801	1.801	26.43	600	0.30	2000	
V	51	1	nogas	3.453	3.453	22.88	74942	0.00	2000	
Cr	52	1	nogas	2.174	2.174	2.52	12468	0.02	2000	
Mn	55	1	nogas	2.038	2.038	7.13	14720	0.01	2000	
Fe	56	1	nogas	203.307	203.307	4.21	1115757	0.02	200000	
Co	59	1	nogas	2.038	2.038	2.79	8976	0.02	2000	
Ni	60	1	nogas	2.035	2.035	10.60	2070	0.10	2000	
Cu	63	1	nogas	1.943	1.943	4.79	7859	0.02	2000	
Zn	66	1	nogas	1.597	1.597	3.56	2094	0.08	2000	
As	75	1	nogas	0.477	0.477	121.40	12215	0.00	2000	
Se	77	1	nogas	14.324	14.324	28.34	3697	0.39	2000	
Se	82	1	nogas	2.414	2.414	32.27	307	0.79	2000	
Sr	88	1	nogas	2.140	2.140	3.98	13266	0.02	2000	
Mo	95	1	nogas	2.088	2.088	0.76	2700	0.08	2000	
Ag	107	1	nogas	2.177	2.177	5.29	7749	0.03	2000	
Cd	111	1	nogas	2.168	2.168	5.05	1677	0.13	2000	
Sn	118	1	nogas	2.038	2.038	3.55	5118	0.04	2000	
Sb	121	1	nogas	2.829	2.829	2.58	9450	0.03	2000	
Ba	137	1	nogas	1.807	1.807	3.12	2194	0.08	2000	
Tl	205	1	nogas	2.152	2.152	2.02	21462	0.01	2000	
Pb	208	1	nogas	2.100	2.100	5.10	16155	0.01	2000	
U	238	1	nogas	2.033	2.033	1.28	38797	0.01	2000	
Si	28	1	nogas	151.035	151.035	7.31	814161	0.02	2000	
La	139	1	nogas	28.103	28.103	226.36	97	29.07	2000	
Au	197	1	nogas	-522.367	-522.367	-87.52	13	-3917.75	2000	
Na	23	2	He	216.490	216.490	5.91	37467	0.58	200000	
Mg	24	2	He	205.593	205.593	0.95	15397	1.34	200000	
Al	27	2	He	1.207	1.207	148.00	157	0.77	2000	
K	39	2	He	208.144	208.144	5.85	13155	1.58	200000	
Ca	43	2	He	186.257	186.257	125.07	17	1117.54	200000	
Ca	44	2	He	226.126	226.126	3.28	403	56.06	200000	
V	51	2	He	2.362	2.362	7.84	809	0.29	2000	
Cr	52	2	He	1.648	1.648	2.00	780	0.21	2000	
Mn	55	2	He	2.444	2.444	37.29	483	0.51	2000	
Fe	56	2	He	214.826	214.826	0.97	61673	0.35	200000	
Co	59	2	He	2.102	2.102	25.50	1137	0.18	2000	

Sample Report

Ni	60	2	He	2.156	2.156	27.79	390	0.55	2000	
Cu	63	2	He	1.829	1.829	31.13	1333	0.14	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Zn	66	2	He	1.943	1.943	44.16	227	0.86	2000	
As	75	2	He	2.420	2.420	7.99	111	2.18	2000	
Sb	121	2	He	2.498	2.498	11.85	887	0.28	2000	
Se	78	2	He	2.488	2.488	159.19	11	23.32	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	529246	1.06	522917	101.21	70	125	
In	115	1	nogas	635852	0.79	627838	101.28	70	125	
Li	6	1	nogas	213529	1.69	211473	100.97	70	125	
Bi	209	1	nogas	926905	0.28	915562	101.24	70	125	
Ge	72	2	He	29082	0.41	29526	98.50	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	LLICV5
Data File Name	028LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T11:30:52-06:00
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	5.486	1.600	8025	1.35	5	109.7	70	130	
B	11	1	nogas	53.421	4.087	45655	2.80	25	213.7	70	130	LLICV Main CR1 Failed
Na	23	1	nogas	535.304	2.963	2376224	1.86	500	107.1	70	130	
Mg	24	1	nogas	544.963	2.369	1637600	1.33	500	109.0	70	130	
Al	27	1	nogas	5.243	4.132	29054	3.10	5	104.9	70	130	
P	31	1	nogas	22.877	11.536	12078	4.35	25	91.5	70	130	
K	39	1	nogas	533.017	0.978	2612215	0.85	500	106.6	70	130	
Ca	43	1	nogas	528.194	9.805	3497	9.64	500	105.6	70	130	
Ca	44	1	nogas	498.674	3.504	65319	2.83	500	99.7	70	130	
Ti	47	1	nogas	4.393	1.204	1450	1.38	5	87.9	70	130	
V	51	1	nogas	5.826	5.405	87871	1.95	5	116.5	70	130	
Cr	52	1	nogas	5.094	3.305	24808	3.10	5	101.9	70	130	
Mn	55	1	nogas	5.050	1.392	31329	1.54	5	101.0	70	130	
Fe	56	1	nogas	530.134	1.840	2638193	1.51	500	106.0	70	130	
Co	59	1	nogas	5.148	1.508	22992	1.26	5	103.0	70	130	
Ni	60	1	nogas	4.957	6.069	4961	5.74	5	99.1	70	130	
Cu	63	1	nogas	4.997	4.248	15367	3.01	5	99.9	70	130	
Zn	66	1	nogas	5.105	2.849	4937	2.05	5	102.1	70	130	
As	75	1	nogas	3.507	8.822	14803	1.94	5	70.1	70	130	
Se	77	1	nogas	9.671	165.207	3610	15.54	5	193.4	70	130	LLICV Main CR1 Failed
Se	82	1	nogas	4.695	44.393	410	21.95	5	93.9	70	130	
Sr	88	1	nogas	5.070	3.819	31734	4.12	5	101.4	70	130	
Mo	95	1	nogas	5.100	2.639	6725	2.53	5	102.0	70	130	
Ag	107	1	nogas	5.260	1.585	18968	1.27	5	105.2	70	130	
Cd	111	1	nogas	5.450	7.622	4331	7.60	5	109.0	70	130	
Sn	118	1	nogas	5.094	5.125	12368	4.89	5	101.9	70	130	
Sb	121	1	nogas	5.557	2.185	18751	2.19	5	111.1	70	130	
Ba	137	1	nogas	4.799	5.808	5671	5.69	5	96.0	70	130	
Tl	205	1	nogas	4.932	0.758	50242	0.65	5	98.6	70	130	
Pb	208	1	nogas	5.112	3.521	40072	3.62	5	102.2	70	130	
U	238	1	nogas	4.904	0.422	95601	0.26	5	98.1	70	130	
Li	7	1	nogas	5.962	2.927	37686	1.82	5	119.2	70	130	
Si	28	1	nogas	284.944	1.269	1047995	0.70	25	1139.8	70	130	LLICV Main CR1 Failed
La	139	1	nogas	-21.258	-51.209	47	24.74	5	-425.2	70	130	LLICV Main CR1 Failed
Au	197	1	nogas	-238.416	-560.177	10	173.21	5	-4768.3	70	130	LLICV Main CR1 Failed
Na	23	2	He	504.080	2.945	86580	0.86	500	100.8	70	130	
Mg	24	2	He	498.913	0.245	39073	2.20	500	99.8	70	130	
Al	27	2	He	5.186	29.504	273	14.79	5	103.7	70	130	
K	39	2	He	497.005	5.357	25208	2.19	500	99.4	70	130	
Ca	43	2	He	463.775	49.040	43	48.04	500	92.8	70	130	
Ca	44	2	He	459.552	20.304	810	17.29	500	91.9	70	130	
V	51	2	He	4.804	3.195	1598	1.87	5	96.1	70	130	
Cr	52	2	He	5.352	12.134	2247	9.15	5	107.0	70	130	
Mn	55	2	He	4.878	20.353	993	19.56	5	97.6	70	130	
Fe	56	2	He	521.986	2.875	155842	0.83	500	104.4	70	130	
Co	59	2	He	5.306	5.473	2987	6.58	5	106.1	70	130	
Ni	60	2	He	5.012	12.446	850	13.10	5	100.2	70	130	
Cu	63	2	He	4.624	12.346	2600	8.44	5	92.5	70	130	
Zn	66	2	He	3.901	27.099	380	18.42	5	78.0	70	130	
As	75	2	He	5.297	12.958	249	10.91	5	105.9	70	130	
Sb	121	2	He	5.193	10.709	1913	11.69	5	103.9	70	130	
Se	78	2	He	6.793	25.824	25	23.41	5	135.9	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
Ge	72	1	nogas	539708	0.33	522917	103.21	70	125	
In	115	1	nogas	653310	0.08	627838	104.06	70	125	
Li	6	1	nogas	213042	0.41	211473	100.74	70	125	
Bi	209	1	nogas	949450	0.16	915562	103.70	70	125	
Ge	72	2	He	30454	2.16	29526	103.14	70	125	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	029_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T11:33:05-06:00
Sample Type	ICB
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	210.9	20	100.0	1	
B	11	1	nogas	15.765	3.2	21276	1.9	10	ICB Main CR1 Failed
Na	23	1	nogas	1.555	46.0	72798	3.9	100	
Mg	24	1	nogas	-0.256	-14.9	1367	8.4	100	
Al	27	1	nogas	-1.150	-7.1	4174	6.9	5	
P	31	1	nogas	-3.492	-19.3	6341	2.1	10	
K	39	1	nogas	6.379	67.7	901605	1.7	100	
Ca	43	1	nogas	12.954	57.9	177	26.8	100	
Ca	44	1	nogas	-11.499	-26.8	10920	3.1	100	
Ti	47	1	nogas	0.009	589.9	30	57.7	2.5	
V	51	1	nogas	3.290	16.0	74448	3.4	2.5	ICB Main CR1 Failed
Cr	52	1	nogas	0.253	24.6	4681	5.3	2.5	
Mn	55	1	nogas	-0.024	-70.0	3780	2.4	2.5	
Fe	56	1	nogas	-1.315	-124.8	195627	3.6	100	
Co	59	1	nogas	0.019	56.0	167	27.1	2.5	
Ni	60	1	nogas	-0.083	-26.4	43	48.0	2.5	
Cu	63	1	nogas	-0.196	-60.6	2820	10.5	2.5	
Zn	66	1	nogas	-0.977	-8.3	77	82.8	2.5	
As	75	1	nogas	0.780	61.7	12488	2.8	2.5	
Se	77	1	nogas	25.732	28.3	4097	6.1	2.5	ICB Main CR1 Failed
Se	82	1	nogas	-1.196	-80.4	157	25.8	2.5	
Sr	88	1	nogas	-0.013	-34.1	150	17.6	2.5	
Mo	95	1	nogas	0.021	57.0	27	57.3	2.5	
Ag	107	1	nogas	0.002	9.6	90	0.0	2.5	
Cd	111	1	nogas	0.008	173.2	7	173.2	1	
Sn	118	1	nogas	0.017	206.3	553	16.4	5	
Sb	121	1	nogas	0.202	9.0	840	7.4	2.5	
Ba	137	1	nogas	-0.155	-12.9	13	173.2	2.5	
Tl	205	1	nogas	0.048	3.6	597	2.6	1	
Pb	208	1	nogas	0.010	51.1	227	18.4	2.5	
U	238	1	nogas	0.005	98.3	297	34.6	2.5	
Si	28	1	nogas	4.003	129.3	581782	0.9	5	
La	139	1	nogas	-55.869	-29.1	10	173.2	2.5	
Au	197	1	nogas	277.401	159.4	3	173.2	2.5	ICB Main CR1 Failed
Na	23	2	He	-0.865	-261.1	3340	11.1	100	
Mg	24	2	He	0.436	78.7	70	37.8	100	
Al	27	2	He	-2.642	-36.4	57	44.4	5	
K	39	2	He	-6.551	-40.4	5128	2.4	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-22.613	-31.7	7	173.2	100	
V	51	2	He	0.086	64.0	142	12.0	2.5	
Cr	52	2	He	-0.188	-83.0	103	56.7	2.5	
Mn	55	2	He	0.137	79.1	43	48.0	2.5	
Fe	56	2	He	-0.080	-248.6	670	9.3	100	

Initial Calibration Blank (ICB) Report

Co	59	2	He	-0.012	-85.6	7	86.6	2.5	
Ni	60	2	He	-0.404	-9.5	13	43.3	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Cu	63	2	He	-0.158	-90.1	523	11.7	2.5	
Zn	66	2	He	-1.189	-13.7	7	173.2	2.5	
As	75	2	He	0.050	396.1	7	132.3	2.5	
Sb	121	2	He	0.169	20.4	77	15.1	2.5	
Se	78	2	He	0.214	814.8	4	132.3	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	531007	0.57	522917	101.55	70	125	
In	115	1	nogas	647797	1.38	627838	103.18	70	125	
Li	6	1	nogas	218673	1.78	211473	103.40	70	125	
Bi	209	1	nogas	963875	0.56	915562	105.28	70	125	
Ge	72	2	He	29629	1.02	29526	100.35	70	125	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	030_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T11:35:20-06:00
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	101.418	1.798	156810	0.37	100	101.4	90	110	
B	11	1	nogas	532.281	3.827	383696	2.24	500	106.5	90	110	
Na	23	1	nogas	9893.712	0.801	43254474	0.36	10000	98.9	90	110	
Mg	24	1	nogas	9959.045	1.409	30233806	1.87	10000	99.6	90	110	
Al	27	1	nogas	100.000	1.105	399697	1.46	100	100.0	90	110	
P	31	1	nogas	502.413	1.324	115368	1.35	500	100.5	90	110	
K	39	1	nogas	9929.376	1.273	33109339	0.30	10000	99.3	90	110	
Ca	43	1	nogas	9877.731	1.639	64158	1.50	10000	98.8	90	110	
Ca	44	1	nogas	9747.552	1.625	1055897	0.71	10000	97.5	90	110	
Ti	47	1	nogas	96.605	1.602	31539	0.49	100	96.6	90	110	
V	51	1	nogas	97.540	0.962	532976	0.65	100	97.5	90	110	
Cr	52	1	nogas	99.138	1.278	417294	0.31	100	99.1	90	110	
Mn	55	1	nogas	98.211	1.451	539943	1.02	100	98.2	90	110	
Fe	56	1	nogas	9763.376	0.830	45351599	1.14	10000	97.6	90	110	
Co	59	1	nogas	98.453	0.507	441422	1.36	100	98.5	90	110	
Ni	60	1	nogas	99.904	1.608	98302	1.27	100	99.9	90	110	
Cu	63	1	nogas	100.128	1.333	246189	0.87	100	100.1	90	110	
Zn	66	1	nogas	100.090	0.930	81429	0.88	100	100.1	90	110	
As	75	1	nogas	100.104	2.092	90194	0.71	100	100.1	90	110	
Se	77	1	nogas	100.058	5.952	6781	3.14	100	100.1	90	110	
Se	82	1	nogas	97.226	5.803	4377	4.64	100	97.2	90	110	
Sr	88	1	nogas	98.255	1.288	615140	0.66	100	98.3	90	110	
Mo	95	1	nogas	99.069	2.773	131569	1.67	100	99.1	90	110	
Ag	107	1	nogas	99.710	1.025	360628	0.24	100	99.7	90	110	
Cd	111	1	nogas	101.077	1.942	79453	1.51	100	101.1	90	110	
Sn	118	1	nogas	98.444	0.047	227078	0.39	100	98.4	90	110	
Sb	121	1	nogas	96.880	1.883	326356	1.69	100	96.9	90	110	
Ba	137	1	nogas	101.769	0.952	115149	1.29	100	101.8	90	110	
Tl	205	1	nogas	100.698	1.581	1001844	0.32	100	100.7	90	110	
Pb	208	1	nogas	101.149	2.051	773232	0.97	100	101.1	90	110	
U	238	1	nogas	100.153	2.765	1907008	2.68	100	100.2	90	110	
Li	7	1	nogas	102.201	1.613	384242	0.27	100	102.2	90	110	
Si	28	1	nogas	5224.128	1.126	9142606	0.45	5000	104.5	90	110	
Ba	135	1	nogas	99.986	1.579	67540	1.21	100	100.0	90	110	
La	139	1	nogas	74.616	58.351	147	30.75	100	74.6	90	110	ICV Main CR1 Failed
Au	197	1	nogas	-260.030	-303.541	10	100.00	100	-260.0	90	110	ICV Main CR1 Failed
Tl	203	1	nogas	100.500	0.354	412814	1.62	100	100.5	90	110	
Na	23	2	He	10506.407	1.694	1648640	1.20	10000	105.1	90	110	
Mg	24	2	He	9943.286	1.435	739601	1.44	10000	99.4	90	110	
Al	27	2	He	103.439	2.853	2827	3.61	100	103.4	90	110	
K	39	2	He	10132.716	2.571	386859	0.85	10000	101.3	90	110	
Ca	43	2	He	11399.898	15.562	1020	16.32	10000	114.0	90	110	ICV Main CR1 Failed
Ca	44	2	He	10260.289	3.309	16345	5.51	10000	102.6	90	110	
V	51	2	He	100.987	0.426	29679	3.02	100	101.0	90	110	
Cr	52	2	He	103.616	2.101	38296	2.28	100	103.6	90	110	
Mn	55	2	He	102.439	2.764	19521	4.02	100	102.4	90	110	
Fe	56	2	He	10372.519	3.634	2931236	1.48	10000	103.7	90	110	
Co	59	2	He	101.899	4.773	54239	2.08	100	101.9	90	110	
Ni	60	2	He	99.005	4.336	14583	2.88	100	99.0	90	110	
Cu	63	2	He	103.760	1.260	43161	1.82	100	103.8	90	110	
Zn	66	2	He	105.200	2.157	7445	4.80	100	105.2	90	110	
As	75	2	He	102.393	4.014	4498	1.26	100	102.4	90	110	
Sn	118	2	He	98.480	4.106	24455	2.07	100	98.5	90	110	
Sb	121	2	He	97.921	1.484	33985	1.75	100	97.9	90	110	
Se	78	2	He	101.667	4.062	305	6.83	100	101.7	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	543699	1.20	522917	103.97	70	125	
In	115	1	nogas	646270	0.43	627838	102.94	70	125	
Li	6	1	nogas	225478	1.54	211473	106.62	70	125	

Initial Calibration Verification (ICV) Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Bi	209	1	nogas	929117	1.27	915562	101.48	70	125	
Ge	72	2	He	28958	2.84	29526	98.08	70	125	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	032ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T11:39:42-06:00
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	85.9	23	49.5	0	ICSA Main CR1 Failed
B	11	1	nogas	20.844	18.7	23262	10.4	0	
Na	23	1	nogas	100266.206	0.7	428473693	0.9	0	
Mg	24	1	nogas	99629.762	0.6	296013015	0.9	0	
Al	27	1	nogas	96258.681	3.5	354283195	1.8	0	
P	31	1	nogas	99461.566	1.4	20164979	1.2	0	
K	39	1	nogas	103422.090	1.5	316770357	0.3	0	
Ca	43	1	nogas	101631.562	0.7	620855	1.0	0	
Ca	44	1	nogas	100118.333	1.1	10105891	0.7	0	
Ti	47	1	nogas	2088.512	1.3	641646	1.1	0	
V	51	1	nogas	-7.528	-2.8	22420	5.4	0	ICSA Main CR1 Failed
Cr	52	1	nogas	0.249	8.1	4497	3.4	0	ICSA Main CR1 Failed
Mn	55	1	nogas	0.245	27.3	5024	5.1	0	ICSA Main CR1 Failed
Fe	56	1	nogas	99067.467	1.3	431582160	0.9	0	
Co	59	1	nogas	0.091	9.3	467	8.1	0	ICSA Main CR1 Failed
Ni	60	1	nogas	0.690	38.8	760	34.3	0	ICSA Main CR1 Failed
Cu	63	1	nogas	0.567	14.4	4461	3.2	0	ICSA Main CR1 Failed
Zn	66	1	nogas	0.280	33.0	1027	6.9	0	ICSA Main CR1 Failed
As	75	1	nogas	-6.019	-5.7	7052	3.9	0	ICSA Main CR1 Failed
Se	77	1	nogas	-20.775	-44.4	2427	12.6	0	ICSA Main CR1 Failed
Se	82	1	nogas	-0.306	-531.9	187	34.9	0	ICSA Main CR1 Failed
Sr	88	1	nogas	0.940	3.8	5764	2.9	0	ICSA Main CR1 Failed
Mo	95	1	nogas	2041.641	3.3	2553235	1.6	0	
Ag	107	1	nogas	0.012	116.0	123	38.3	0	ICSA Main CR1 Failed
Cd	111	1	nogas	0.612	22.9	450	21.9	0	ICSA Main CR1 Failed
Sn	118	1	nogas	0.104	8.9	703	3.3	0	ICSA Main CR1 Failed
Sb	121	1	nogas	0.290	7.2	1090	5.6	0	ICSA Main CR1 Failed
Ba	137	1	nogas	-0.013	-95.6	163	7.1	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.065	26.5	707	22.9	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.104	18.5	883	16.1	0	ICSA Main CR1 Failed
Si	28	1	nogas	64.573	11.9	654337	0.1	0	
La	139	1	nogas	120.860	23.8	183	16.7	0	
Na	23	2	He	98832.006	2.7	15560294	0.9	0	
Mg	24	2	He	98124.309	3.9	7334140	0.9	0	
Al	27	2	He	99611.142	2.9	2615299	1.1	0	
K	39	2	He	100526.284	2.7	3811905	2.2	0	
Ca	43	2	He	101302.229	4.2	9103	3.9	0	
Ca	44	2	He	97462.378	4.7	155521	1.0	0	
V	51	2	He	-0.191	-26.4	58	26.9	0	ICSA Main CR1 Failed
Cr	52	2	He	0.006	1101.8	173	14.5	0	ICSA Main CR1 Failed
Mn	55	2	He	0.315	73.3	77	58.8	0	ICSA Main CR1 Failed
Fe	56	2	He	98739.621	4.5	28040173	1.2	0	
Co	59	2	He	0.013	144.3	20	50.0	0	ICSA Main CR1 Failed
Ni	60	2	He	-0.244	-43.0	37	41.7	0	ICSA Main CR1 Failed
Cu	63	2	He	0.141	76.1	637	3.3	0	ICSA Main CR1 Failed
Zn	66	2	He	-0.269	-299.2	70	75.6	0	ICSA Main CR1 Failed
As	75	2	He	-0.024	-309.6	3	100.1	0	ICSA Main CR1 Failed
Sb	121	2	He	0.437	33.2	170	32.8	0	ICSA Main CR1 Failed
Se	78	2	He	1.145	122.9	7	62.4	0	ICSA Main CR1 Failed

Interference Check Solution A (ICS-A) Report

Interference Check Solution A (ICS-A) Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	512070	1.74	522917	97.93	70	125	
In	115	1	nogas	605770	1.43	627838	96.49	70	125	
Li	6	1	nogas	205765	1.07	211473	97.30	70	125	
Bi	209	1	nogas	880987	0.92	915562	96.22	70	125	
Ge	72	2	He	29118	3.56	29526	98.62	70	125	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	033ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T11:41:59-06:00
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	100.941	1.937	154802	0.78	100	100.9	80	120	
B	11	1	nogas	574.526	1.769	410038	1.62	100	574.5	80	120	
Na	23	1	nogas	109405.247	0.680	459968894	0.46	100	109405.2	80	120	
Mg	24	1	nogas	108092.567	1.391	315961824	1.07	100	108092.6	80	120	
Al	27	1	nogas	97117.298	1.380	350407795	1.21	100	97117.3	80	120	ICSB Main CR1 Failed
K	39	1	nogas	113548.150	1.635	340762524	0.72	100	113548.1	80	120	
Ca	43	1	nogas	111999.458	1.190	670490	0.67	100	111999.5	80	120	
Ca	44	1	nogas	110021.176	1.337	10882334	0.36	100	110021.2	80	120	
Ti	47	1	nogas	2215.556	1.291	667063	0.28	100	2215.6	80	120	ICSB Main CR1 Failed
V	51	1	nogas	96.393	6.007	486680	4.60	100	96.4	80	120	
Cr	52	1	nogas	103.044	1.421	400194	0.77	100	103.0	80	120	
Mn	55	1	nogas	102.510	1.423	520008	0.97	100	102.5	80	120	
Fe	56	1	nogas	108953.468	0.938	465161327	0.49	100	108953.5	80	120	
Co	59	1	nogas	102.235	1.154	423029	0.23	100	102.2	80	120	
Ni	60	1	nogas	101.944	1.285	92587	1.73	100	101.9	80	120	
Cu	63	1	nogas	101.161	1.147	229545	1.08	100	101.2	80	120	
Zn	66	1	nogas	101.902	1.482	76500	0.95	100	101.9	80	120	
As	75	1	nogas	98.608	2.254	82174	1.45	100	98.6	80	120	
Se	77	1	nogas	84.390	9.296	5754	3.48	100	84.4	80	120	
Se	82	1	nogas	108.398	1.891	4484	2.84	100	108.4	80	120	
Sr	88	1	nogas	105.193	1.471	607816	0.48	100	105.2	80	120	
Mo	95	1	nogas	2200.564	0.832	2697801	0.70	100	2200.6	80	120	ICSB Main CR1 Failed
Ag	107	1	nogas	98.654	0.569	329352	1.31	100	98.7	80	120	
Cd	111	1	nogas	100.689	1.193	74537	1.44	100	100.7	80	120	
Sn	118	1	nogas	101.397	0.576	220230	0.39	100	101.4	80	120	
Sb	121	1	nogas	103.264	0.339	321069	0.74	100	103.3	80	120	
Ba	137	1	nogas	103.904	2.106	110699	2.03	100	103.9	80	120	
Tl	205	1	nogas	98.358	1.252	913518	1.02	100	98.4	80	120	
Pb	208	1	nogas	101.593	0.480	725064	1.11	100	101.6	80	120	
U	238	1	nogas	104.361	1.574	1855057	2.01	100	104.4	80	120	
Si	28	1	nogas	5820.351	0.552	9339943	1.00	100	5820.4	80	120	ICSB Main CR1 Failed
La	139	1	nogas	211.297	11.845	273	9.21	100	211.3	80	120	
Na	23	2	He	107642.494	1.368	16983331	1.32	100	107642.5	80	120	
Mg	24	2	He	105186.269	0.685	7880791	0.91	100	105186.3	80	120	ICSB Main CR1 Failed
Al	27	2	He	96961.551	2.290	2551395	2.62	100	96961.6	80	120	ICSB Main CR1 Failed
K	39	2	He	106674.295	2.246	4052749	2.17	100	106674.3	80	120	ICSB Main CR1 Failed
Ca	43	2	He	109945.977	2.031	9900	2.41	100	109946.0	80	120	
Ca	44	2	He	105538.168	1.631	168846	1.86	100	105538.2	80	120	
V	51	2	He	96.916	2.215	28688	2.37	100	96.9	80	120	
Cr	52	2	He	95.824	2.572	35684	2.16	100	95.8	80	120	
Mn	55	2	He	97.479	2.704	18707	2.77	100	97.5	80	120	
Fe	56	2	He	104479.171	0.642	29746374	1.05	100	104479.2	80	120	ICSB Main CR1 Failed
Co	59	2	He	96.906	1.679	51989	1.41	100	96.9	80	120	
Ni	60	2	He	92.467	1.623	13729	1.61	100	92.5	80	120	
Cu	63	2	He	95.578	2.754	40090	2.61	100	95.6	80	120	
Zn	66	2	He	97.035	7.506	6922	7.81	100	97.0	80	120	
As	75	2	He	93.729	3.886	4151	4.18	100	93.7	80	120	
Sb	121	2	He	96.636	1.705	33782	1.39	100	96.6	80	120	
Se	78	2	He	101.723	14.780	307	14.37	100	101.7	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	501816	1.03	522917	95.96	70	125	
In	115	1	nogas	608574	0.25	627838	96.93	70	125	
Li	6	1	nogas	223639	1.37	211473	105.75	70	125	
Bi	209	1	nogas	867281	0.86	915562	94.73	70	125	
Ge	72	2	He	29162	0.41	29526	98.77	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	042_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T12:15:10-06:00
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	0.000	20736.3	10	100.0	1	
B	11	1	nogas	47.600	11.9	41305	9.9	10	CCB Main CR1 Failed
Na	23	1	nogas	38.573	4.6	227855	1.3	100	
Mg	24	1	nogas	2.350	2.8	9005	2.2	100	
Al	27	1	nogas	-1.047	-13.4	4481	11.2	5	
P	31	1	nogas	-4.529	-21.3	6008	2.8	10	
K	39	1	nogas	26.128	9.6	946016	0.2	100	
Ca	43	1	nogas	6.531	146.2	133	43.9	100	
Ca	44	1	nogas	-8.406	-22.1	11034	2.7	100	
Ti	47	1	nogas	0.011	286.8	30	33.3	2.5	
V	51	1	nogas	-4.329	-12.8	37648	6.0	2.5	
Cr	52	1	nogas	-0.170	-52.9	2900	12.1	2.5	
Mn	55	1	nogas	-0.006	-484.0	3804	4.6	2.5	
Fe	56	1	nogas	7.734	12.1	232044	1.3	100	
Co	59	1	nogas	0.020	37.9	167	18.3	2.5	
Ni	60	1	nogas	0.010	597.3	130	42.8	2.5	
Cu	63	1	nogas	-0.288	-17.8	2554	4.0	2.5	
Zn	66	1	nogas	-0.897	-4.6	137	22.4	2.5	
As	75	1	nogas	-5.629	-8.5	7465	4.4	2.5	
Se	77	1	nogas	-18.636	-15.7	2540	3.1	2.5	
Se	82	1	nogas	-2.504	-35.0	100	36.1	2.5	
Sr	88	1	nogas	0.044	24.7	490	12.4	2.5	
Mo	95	1	nogas	0.087	24.9	110	24.1	2.5	
Ag	107	1	nogas	0.020	55.2	153	26.4	2.5	
Cd	111	1	nogas	0.022	124.9	17	124.9	1	
Sn	118	1	nogas	0.047	85.8	603	14.9	5	
Sb	121	1	nogas	0.903	5.9	3087	6.3	2.5	
Ba	137	1	nogas	-0.070	-53.8	107	39.0	2.5	
Tl	205	1	nogas	0.082	23.5	910	21.2	1	
Pb	208	1	nogas	0.034	7.7	393	3.9	2.5	
U	238	1	nogas	0.022	23.7	590	15.1	2.5	
Si	28	1	nogas	30.946	1.4	613168	0.9	5	CCB Main CR1 Failed
La	139	1	nogas	-45.715	-21.3	20	50.0	2.5	
Au	197	1	nogas	532.665	0.0	0	#DIV/0!	2.5	CCB Main CR1 Failed
Na	23	2	He	35.569	14.2	9219	8.6	100	
Mg	24	2	He	2.050	33.1	193	26.0	100	
Al	27	2	He	-2.166	-44.6	70	37.8	5	
K	39	2	He	5.074	271.1	5601	9.7	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-2.227	-727.7	40	66.1	100	
V	51	2	He	-0.155	-11.7	70	7.6	2.5	
Cr	52	2	He	-0.180	-99.7	107	63.8	2.5	
Mn	55	2	He	0.152	83.5	47	53.9	2.5	
Fe	56	2	He	2.039	43.8	1287	19.2	100	
Co	59	2	He	-0.006	-287.4	10	100.0	2.5	
Ni	60	2	He	-0.360	-18.8	20	50.0	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.448	-32.0	403	15.1	2.5	
Zn	66	2	He	-1.099	-19.3	13	114.6	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	-0.001	-15415.0	4	114.6	2.5	
Sb	121	2	He	0.812	22.1	307	21.7	2.5	
Se	78	2	He	0.427	178.9	5	49.5	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	521040	1.00	522917	99.64	70	125	
In	115	1	nogas	630624	0.08	627838	100.44	70	125	
Li	6	1	nogas	210374	1.26	211473	99.48	70	125	
Bi	209	1	nogas	920905	1.17	915562	100.58	70	125	
Ge	72	2	He	29763	0.93	29526	100.80	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\010
Acq Date Time	2018-01-05T12:19:43-06:00
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	99.326	1.730	155593	0.68	100	99.3	90	110	
B	11	1	nogas	508.997	3.489	372323	3.45	500	101.8	90	110	
Na	23	1	nogas	10039.257	1.807	43454802	0.37	10000	100.4	90	110	
Mg	24	1	nogas	9934.165	1.765	29857356	0.13	10000	99.3	90	110	
Al	27	1	nogas	101.165	1.144	392879	0.26	100	101.2	90	110	
P	31	1	nogas	518.414	1.320	115472	0.78	500	103.7	90	110	
K	39	1	nogas	10033.483	1.820	32506513	0.42	10000	100.3	90	110	
Ca	43	1	nogas	9958.949	0.602	62873	1.47	10000	99.6	90	110	
Ca	44	1	nogas	9886.898	0.231	1040903	1.48	10000	98.9	90	110	
Ti	47	1	nogas	99.716	3.148	31642	3.12	100	99.7	90	110	
V	51	1	nogas	91.071	2.856	487535	2.34	100	91.1	90	110	
Cr	52	1	nogas	100.811	0.619	412396	1.14	100	100.8	90	110	
Mn	55	1	nogas	100.818	0.591	538644	0.99	100	100.8	90	110	
Fe	56	1	nogas	9785.521	1.787	44173623	0.85	10000	97.9	90	110	
Co	59	1	nogas	100.398	0.358	437495	1.05	100	100.4	90	110	
Ni	60	1	nogas	101.652	1.373	97208	0.27	100	101.7	90	110	
Cu	63	1	nogas	100.191	1.085	239443	1.42	100	100.2	90	110	
Zn	66	1	nogas	101.429	0.418	80193	0.98	100	101.4	90	110	
As	75	1	nogas	96.311	1.877	84810	2.67	100	96.3	90	110	
Se	77	1	nogas	76.776	9.442	5804	4.73	100	76.8	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	103.313	5.565	4507	3.97	100	103.3	90	110	
Sr	88	1	nogas	99.281	1.404	604106	0.74	100	99.3	90	110	
Mo	95	1	nogas	99.325	1.394	128219	0.25	100	99.3	90	110	
Ag	107	1	nogas	100.385	0.781	352889	0.77	100	100.4	90	110	
Cd	111	1	nogas	100.064	1.737	78776	1.21	100	100.1	90	110	
Sn	118	1	nogas	96.448	0.086	222823	0.52	100	96.4	90	110	
Sb	121	1	nogas	97.814	0.594	320261	0.80	100	97.8	90	110	
Ba	137	1	nogas	97.959	0.866	111007	0.31	100	98.0	90	110	
Tl	205	1	nogas	98.432	1.795	969177	1.55	100	98.4	90	110	
Pb	208	1	nogas	98.993	0.527	748986	0.77	100	99.0	90	110	
U	238	1	nogas	100.084	3.686	1885899	3.63	100	100.1	90	110	
Li	7	1	nogas	100.627	1.811	383570	0.62	100	100.6	90	110	
Si	28	1	nogas	5373.457	2.464	9122523	0.94	5000	107.5	90	110	
Ba	135	1	nogas	97.308	2.755	65833	2.49	100	97.3	90	110	
La	139	1	nogas	213.847	16.931	293	12.91	100	213.8	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	532.665	0.000	0	#DIV/0!	100	532.7	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	98.034	1.037	398474	1.13	100	98.0	90	110	
Na	23	2	He	10220.969	2.096	1655011	1.77	10000	102.2	90	110	
Mg	24	2	He	9783.109	2.414	750781	1.73	10000	97.8	90	110	
Al	27	2	He	100.008	4.790	2824	4.27	100	100.0	90	110	
K	39	2	He	9917.944	1.571	390890	1.17	10000	99.2	90	110	
Ca	43	2	He	10768.423	4.419	993	5.07	10000	107.7	90	110	
Ca	44	2	He	10057.882	4.722	16518	3.82	10000	100.6	90	110	
V	51	2	He	97.774	0.409	29645	0.83	100	97.8	90	110	
Cr	52	2	He	100.918	1.726	38486	0.74	100	100.9	90	110	
Mn	55	2	He	99.935	4.340	19641	3.69	100	99.9	90	110	
Fe	56	2	He	9971.057	1.469	2908446	0.80	10000	99.7	90	110	
Co	59	2	He	100.483	3.163	55229	3.66	100	100.5	90	110	
Ni	60	2	He	98.731	2.193	15013	3.04	100	98.7	90	110	
Cu	63	2	He	102.111	1.089	43833	0.27	100	102.1	90	110	
Zn	66	2	He	104.673	5.590	7639	5.19	100	104.7	90	110	
As	75	2	He	101.973	2.046	4625	2.38	100	102.0	90	110	
Sb	121	2	He	94.862	1.451	33975	2.41	100	94.9	90	110	
Se	78	2	He	97.056	3.972	300	4.37	100	97.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	528446	1.39	522917	101.06	70	125	
In	115	1	nogas	647255	0.60	627838	103.09	70	125	
Li	6	1	nogas	228427	1.11	211473	108.02	70	125	
Bi	209	1	nogas	919420	0.30	915562	100.42	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	29873	0.97	29526	101.18	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	054_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T12:47:48-06:00
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	99.193	2.008	155490	2.14	100	99.2	90	110	
B	11	1	nogas	536.333	3.006	391931	2.73	500	107.3	90	110	
Na	23	1	nogas	10254.638	1.301	44237549	1.60	10000	102.5	90	110	
Mg	24	1	nogas	10076.912	1.098	30184735	1.24	10000	100.8	90	110	
Al	27	1	nogas	101.441	2.244	395420	1.06	100	101.4	90	110	
P	31	1	nogas	519.765	2.599	116197	1.84	500	104.0	90	110	
K	39	1	nogas	10099.724	2.185	32843019	1.55	10000	101.0	90	110	
Ca	43	1	nogas	9919.416	1.471	62873	2.63	10000	99.2	90	110	
Ca	44	1	nogas	9880.955	0.564	1044303	1.47	10000	98.8	90	110	
Ti	47	1	nogas	100.159	0.962	31910	2.11	100	100.2	90	110	
V	51	1	nogas	95.130	3.354	508556	2.18	100	95.1	90	110	
Cr	52	1	nogas	101.408	0.751	416407	0.49	100	101.4	90	110	
Mn	55	1	nogas	100.756	1.486	540406	1.84	100	100.8	90	110	
Fe	56	1	nogas	9838.917	1.115	44588420	0.84	10000	98.4	90	110	
Co	59	1	nogas	101.660	1.337	444671	0.47	100	101.7	90	110	
Ni	60	1	nogas	101.986	2.210	97903	1.58	100	102.0	90	110	
Cu	63	1	nogas	101.444	1.655	243308	0.44	100	101.4	90	110	
Zn	66	1	nogas	102.174	3.582	81068	2.36	100	102.2	90	110	
As	75	1	nogas	98.067	0.619	86462	0.87	100	98.1	90	110	
Se	77	1	nogas	92.816	12.176	6371	6.27	100	92.8	90	110	
Se	82	1	nogas	101.469	2.552	4451	3.62	100	101.5	90	110	
Sr	88	1	nogas	99.126	1.029	605507	0.23	100	99.1	90	110	
Mo	95	1	nogas	99.627	1.442	129119	1.68	100	99.6	90	110	
Ag	107	1	nogas	100.417	0.817	354368	0.81	100	100.4	90	110	
Cd	111	1	nogas	101.395	2.161	79014	1.39	100	101.4	90	110	
Sn	118	1	nogas	98.360	0.875	224928	0.41	100	98.4	90	110	
Sb	121	1	nogas	97.038	1.144	318935	0.05	100	97.0	90	110	
Ba	137	1	nogas	100.395	1.808	112608	1.02	100	100.4	90	110	
Tl	205	1	nogas	98.982	1.347	967981	0.72	100	99.0	90	110	
Pb	208	1	nogas	99.400	2.182	746910	1.65	100	99.4	90	110	
U	238	1	nogas	100.958	2.387	1889829	3.27	100	101.0	90	110	
Li	7	1	nogas	99.818	0.753	380892	0.88	100	99.8	90	110	
Si	28	1	nogas	5400.485	2.511	9201179	1.23	5000	108.0	90	110	
Ba	135	1	nogas	98.266	2.309	65806	1.67	100	98.3	90	110	
La	139	1	nogas	251.586	33.769	330	27.27	100	251.6	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-1073.757	-3.103	20	0.00	100	-1073.8	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	99.412	1.123	401392	2.38	100	99.4	90	110	
Na	23	2	He	10182.492	2.223	1656673	3.14	10000	101.8	90	110	
Mg	24	2	He	9900.128	1.191	763292	0.98	10000	99.0	90	110	
Al	27	2	He	102.636	5.903	2907	4.70	100	102.6	90	110	
K	39	2	He	10072.972	1.461	398733	1.20	10000	100.7	90	110	
Ca	43	2	He	10430.596	5.545	967	6.32	10000	104.3	90	110	
Ca	44	2	He	9930.428	5.968	16381	4.83	10000	99.3	90	110	
V	51	2	He	99.795	1.279	30392	0.60	100	99.8	90	110	
Cr	52	2	He	102.103	2.679	39114	2.14	100	102.1	90	110	
Mn	55	2	He	103.137	4.065	20369	4.45	100	103.1	90	110	
Fe	56	2	He	10059.279	1.133	2948132	2.33	10000	100.6	90	110	
Co	59	2	He	99.730	1.354	55061	1.76	100	99.7	90	110	
Ni	60	2	He	101.570	6.565	15504	5.36	100	101.6	90	110	
Cu	63	2	He	99.814	1.452	43058	1.54	100	99.8	90	110	
Zn	66	2	He	100.010	3.423	7335	2.29	100	100.0	90	110	
As	75	2	He	98.666	2.136	4496	3.03	100	98.7	90	110	
Sb	121	2	He	96.714	2.904	34794	3.15	100	96.7	90	110	
Se	78	2	He	102.206	13.092	317	13.55	100	102.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	530484	1.19	522917	101.45	70	125	
In	115	1	nogas	640720	0.81	627838	102.05	70	125	
Li	6	1	nogas	228549	0.21	211473	108.07	70	125	
Bi	209	1	nogas	913324	2.05	915562	99.76	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	30010	1.22	29526	101.64	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	055_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T12:50:00-06:00
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	0.024	40.1	47	32.7	1	
B	11	1	nogas	59.111	10.6	50649	10.0	10	CCB Main CR1 Failed
Na	23	1	nogas	7.550	9.4	98588	2.7	100	
Mg	24	1	nogas	1.186	37.3	5702	24.6	100	
Al	27	1	nogas	-1.252	-5.6	3790	7.6	5	
P	31	1	nogas	-3.422	-71.9	6361	8.3	10	
K	39	1	nogas	16.732	24.0	935044	0.9	100	
Ca	43	1	nogas	-0.745	-560.7	90	29.4	100	
Ca	44	1	nogas	-18.779	-3.3	10166	1.1	100	
Ti	47	1	nogas	0.124	95.1	67	56.8	2.5	
V	51	1	nogas	-4.871	-10.3	35847	6.6	2.5	
Cr	52	1	nogas	-0.207	-24.2	2810	7.5	2.5	
Mn	55	1	nogas	-0.035	-163.5	3721	8.0	2.5	
Fe	56	1	nogas	4.387	26.0	221543	2.2	100	
Co	59	1	nogas	0.011	30.5	133	11.5	2.5	
Ni	60	1	nogas	0.060	145.0	180	45.5	2.5	
Cu	63	1	nogas	-0.586	-3.2	1897	2.1	2.5	
Zn	66	1	nogas	-0.926	-4.9	117	30.1	2.5	
As	75	1	nogas	-4.561	-2.2	8429	1.3	2.5	
Se	77	1	nogas	-12.991	-61.3	2784	10.0	2.5	
Se	82	1	nogas	-0.243	-461.2	197	24.0	2.5	
Sr	88	1	nogas	-0.003	-319.3	213	25.8	2.5	
Mo	95	1	nogas	0.067	28.9	87	29.0	2.5	
Ag	107	1	nogas	0.021	36.0	160	16.5	2.5	
Cd	111	1	nogas	0.017	173.2	13	173.2	1	
Sn	118	1	nogas	0.055	10.3	637	1.8	5	
Sb	121	1	nogas	0.700	6.9	2480	5.9	2.5	
Ba	137	1	nogas	-0.111	-62.1	63	122.6	2.5	
Tl	205	1	nogas	0.063	23.4	743	21.5	1	
Pb	208	1	nogas	0.024	34.6	330	21.0	2.5	
U	238	1	nogas	0.022	14.9	617	10.3	2.5	
Si	28	1	nogas	21.093	6.2	609587	0.2	5	CCB Main CR1 Failed
La	139	1	nogas	-49.273	-29.8	17	91.7	2.5	
Au	197	1	nogas	-250.491	-541.5	10	173.2	2.5	
Na	23	2	He	4.820	30.4	4367	3.6	100	
Mg	24	2	He	1.528	55.5	157	40.5	100	
Al	27	2	He	-2.951	-37.3	50	60.0	5	
K	39	2	He	3.479	246.9	5664	3.9	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-14.854	-38.6	20	50.0	100	
V	51	2	He	-0.184	-12.9	63	9.8	2.5	
Cr	52	2	He	-0.205	-9.9	100	10.0	2.5	
Mn	55	2	He	0.083	186.5	33	91.7	2.5	
Fe	56	2	He	1.426	63.9	1133	22.4	100	
Co	59	2	He	-0.019	-56.5	3	173.2	2.5	
Ni	60	2	He	-0.406	-24.9	13	114.6	2.5	
Cu	63	2	He	-0.817	-8.6	253	9.9	2.5	
Zn	66	2	He	-1.151	-19.9	10	173.2	2.5	

Continuing Calibration Blank (CCB) Report

As	75	2	He	0.089	297.9	9	142.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.758	13.4	293	10.4	2.5	
Se	78	2	He	0.157	795.1	4	100.0	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	531399	0.55	522917	101.62	70	125	
In	115	1	nogas	645885	0.82	627838	102.87	70	125	
Li	6	1	nogas	218124	2.07	211473	103.15	70	125	
Bi	209	1	nogas	949288	1.34	915562	103.68	70	125	
Ge	72	2	He	30464	2.34	29526	103.18	70	125	

Sample Report

Sample Table

Sample Name	MBLK-124039
Data File Name	056SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T12:52:12-06:00
Sample Type	Sample
Dilution	1
Comment	TW B124039
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	-0.001	-0.001	-1107.57	10	-0.01	2000	
B	11	1	nogas	28.789	28.789	6.72	31428	0.09	2000	
Na	23	1	nogas	8.756	8.756	23.35	110092	0.01	200000	
Mg	24	1	nogas	9.852	9.852	7.87	33607	0.03	200000	
Al	27	1	nogas	3.836	3.836	7.83	23900	0.02	2000	
K	39	1	nogas	118.678	118.678	4.52	1294546	0.01	200000	
Ca	43	1	nogas	8.546	8.546	126.02	153	5.57	200000	
Ca	44	1	nogas	-23.178	-23.178	-20.23	9983	-0.23	200000	
Ti	47	1	nogas	0.037	0.037	82.76	40	0.09	2000	
V	51	1	nogas	-4.384	-4.384	-14.71	39254	-0.01	2000	
Cr	52	1	nogas	-0.248	-0.248	-18.29	2717	-0.01	2000	
Mn	55	1	nogas	-0.113	-0.113	-19.67	3400	0.00	2000	
Fe	56	1	nogas	3.551	3.551	15.83	224040	0.00	200000	
Co	59	1	nogas	0.004	0.004	195.95	103	0.00	2000	
Ni	60	1	nogas	-0.078	-0.078	-0.40	50	-0.16	2000	
Cu	63	1	nogas	-0.613	-0.613	-3.98	1887	-0.03	2000	
Zn	66	1	nogas	5.572	5.572	9.95	5378	0.10	2000	
As	75	1	nogas	-4.466	-4.466	-9.57	8746	-0.05	2000	
Se	77	1	nogas	-7.651	-7.651	-24.07	3050	-0.25	2000	
Se	82	1	nogas	-0.521	-0.521	-359.30	190	-0.27	2000	
Sr	88	1	nogas	-0.004	-0.004	-195.39	210	0.00	2000	
Mo	95	1	nogas	0.055	0.055	31.38	73	0.07	2000	
Ag	107	1	nogas	0.000	0.000	-5846.89	87	0.00	2000	
Cd	111	1	nogas	0.020	0.020	91.69	17	0.12	2000	
Sn	118	1	nogas	-0.010	-0.010	-456.65	520	0.00	2000	
Sb	121	1	nogas	0.414	0.414	10.30	1583	0.03	2000	
Ba	137	1	nogas	-0.112	-0.112	-11.33	67	-0.17	2000	
Tl	205	1	nogas	0.009	0.009	78.84	203	0.00	2000	
Pb	208	1	nogas	0.006	0.006	49.58	203	0.00	2000	
U	238	1	nogas	0.001	0.001	174.47	223	0.00	2000	
Si	28	1	nogas	64.283	64.283	6.73	698210	0.01	2000	
La	139	1	nogas	-50.302	-50.302	-27.21	17	-301.81	2000	
Au	197	1	nogas	52.286	52.286	795.97	7	784.28	2000	
Na	23	2	He	7.575	7.575	40.95	4834	0.16	200000	
Mg	24	2	He	10.234	10.234	20.11	840	1.22	200000	
Al	27	2	He	1.804	1.804	171.82	180	1.00	2000	
K	39	2	He	87.162	87.162	25.44	9006	0.97	200000	
Ca	43	2	He	0.000	0.000	#DIV/0!	0	#DIV/0!	200000	
Ca	44	2	He	-10.865	-10.865	-31.66	27	-40.74	200000	
V	51	2	He	-0.110	-0.110	-13.94	86	-0.13	2000	

Sample Report

Cr	52	2	He	-0.273	-0.273	-21.32	73	-0.37	2000	
Mn	55	2	He	0.208	0.208	90.24	60	0.35	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Fe	56	2	He	1.193	1.193	34.48	1070	0.11	200000	
Co	59	2	He	-0.025	-0.025	0.00	0	#DIV/0!	2000	
Ni	60	2	He	-0.383	-0.383	-26.52	17	-2.30	2000	
Cu	63	2	He	-0.874	-0.874	-9.53	230	-0.38	2000	
Zn	66	2	He	4.612	4.612	14.65	437	1.06	2000	
As	75	2	He	0.143	0.143	83.01	11	1.29	2000	
Sb	121	2	He	0.363	0.363	52.87	150	0.24	2000	
Se	78	2	He	1.897	1.897	104.48	9	20.33	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	546680	0.61	522917	104.54	70	125	
In	115	1	nogas	688158	0.36	627838	109.61	70	125	
Li	6	1	nogas	228139	0.42	211473	107.88	70	125	
Bi	209	1	nogas	1012889	1.82	915562	110.63	70	125	
Ge	72	2	He	30601	3.71	29526	103.64	70	125	

Sample Report

Sample Table

Sample Name	LCS-124039
Data File Name	057SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T12:54:24-06:00
Sample Type	Sample
Dilution	1
Comment	TW B124039
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	50.032	50.032	0.82	79087	0.06	2000	
B	11	1	nogas	549.121	549.121	2.52	404262	0.14	2000	
Na	23	1	nogas	5025.394	5025.394	1.08	22497365	0.02	200000	
Mg	24	1	nogas	5149.120	5149.120	1.00	15982032	0.03	200000	
Al	27	1	nogas	105.446	105.446	0.76	421682	0.03	2000	
K	39	1	nogas	5156.212	5156.212	1.20	17657821	0.03	200000	
Ca	43	1	nogas	4965.071	4965.071	2.17	32354	15.35	200000	
Ca	44	1	nogas	4999.709	4999.709	0.18	548599	0.91	200000	
Ti	47	1	nogas	149.490	149.490	2.02	48875	0.31	2000	
V	51	1	nogas	45.415	45.415	2.90	280855	0.02	2000	
Cr	52	1	nogas	50.563	50.563	1.32	215043	0.02	2000	
Mn	55	1	nogas	50.011	50.011	0.91	277394	0.02	2000	
Fe	56	1	nogas	5048.985	5048.985	1.25	23591946	0.02	200000	
Co	59	1	nogas	50.770	50.770	0.98	228051	0.02	2000	
Ni	60	1	nogas	50.517	50.517	2.07	49856	0.10	2000	
Cu	63	1	nogas	50.712	50.712	0.98	126564	0.04	2000	
Zn	66	1	nogas	51.557	51.557	0.71	42436	0.12	2000	
As	75	1	nogas	45.157	45.157	1.06	47456	0.10	2000	
Se	77	1	nogas	40.993	40.993	8.85	4734	0.87	2000	
Se	82	1	nogas	50.797	50.797	16.25	2394	2.12	2000	
Sr	88	1	nogas	99.118	99.118	0.67	621607	0.02	2000	
Mo	95	1	nogas	50.217	50.217	1.70	66816	0.08	2000	
Ag	107	1	nogas	49.937	49.937	1.91	180974	0.03	2000	
Cd	111	1	nogas	49.969	49.969	1.45	40386	0.12	2000	
Sn	118	1	nogas	97.846	97.846	0.43	232040	0.04	2000	
Sb	121	1	nogas	51.564	51.564	0.21	174084	0.03	2000	
Ba	137	1	nogas	48.774	48.774	1.67	56826	0.09	2000	
Tl	205	1	nogas	48.029	48.029	2.00	491255	0.01	2000	
Pb	208	1	nogas	48.735	48.735	1.12	383038	0.01	2000	
U	238	1	nogas	95.355	95.355	0.48	1866421	0.01	2000	
Si	28	1	nogas	5458.889	5458.889	1.82	9543687	0.06	2000	>LDR
La	139	1	nogas	-9.730	-9.730	-338.15	60	-16.22	2000	
Au	197	1	nogas	278.056	278.056	158.60	3	8341.69	2000	
Na	23	2	He	5109.535	5109.535	6.82	834569	0.61	200000	
Mg	24	2	He	5034.698	5034.698	7.36	388874	1.29	200000	
Al	27	2	He	107.538	107.538	18.61	3034	3.54	2000	
K	39	2	He	5071.247	5071.247	7.27	203842	2.49	200000	
Ca	43	2	He	5082.428	5082.428	19.80	477	1066.21	200000	
Ca	44	2	He	4951.904	4951.904	7.70	8209	60.32	200000	
V	51	2	He	48.279	48.279	6.95	14794	0.33	2000	
Cr	52	2	He	50.987	50.987	7.67	19655	0.26	2000	
Mn	55	2	He	49.273	49.273	4.88	9776	0.50	2000	
Fe	56	2	He	5175.027	5175.027	5.21	1521303	0.34	200000	
Co	59	2	He	49.686	49.686	3.59	27526	0.18	2000	

Sample Report

Ni	60	2	He	49.011	49.011	4.74	7552	0.65	2000	
Cu	63	2	He	48.692	48.692	3.94	21380	0.23	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Zn	66	2	He	48.305	48.305	3.26	3604	1.34	2000	
As	75	2	He	49.736	49.736	8.75	2271	2.19	2000	
Sb	121	2	He	50.081	50.081	7.07	18064	0.28	2000	
Se	78	2	He	52.063	52.063	2.73	164	31.75	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	544593	0.35	522917	104.15	70	125	
In	115	1	nogas	664415	1.52	627838	105.83	70	125	
Li	6	1	nogas	230459	2.07	211473	108.98	70	125	
Bi	209	1	nogas	955016	1.34	915562	104.31	70	125	
Ge	72	2	He	30147	5.81	29526	102.10	70	125	

Sample Report

Sample Table

Sample Name	HS17121168-01
Data File Name	058SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T12:56:34-06:00
Sample Type	Sample
Dilution	1
Comment	TW B124039
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	0.014	0.014	92.45	33	0.04	2000	
B	11	1	nogas	80.066	80.066	4.16	67871	0.12	2000	
Na	23	1	nogas	503587.012	503587.012	1.19	2482920722	0.02	200000	>LDR
Mg	24	1	nogas	23624.362	23624.362	1.11	80997139	0.03	200000	
Al	27	1	nogas	5.328	5.328	1.87	31679	0.02	2000	
K	39	1	nogas	2004.077	2004.077	0.84	7922867	0.03	200000	
Ca	43	1	nogas	13193.017	13193.017	1.79	91670	14.39	200000	
Ca	44	1	nogas	13432.082	13432.082	1.64	1552244	0.87	200000	
Ti	47	1	nogas	1.566	1.566	17.30	577	0.27	2000	
V	51	1	nogas	-6.635	-6.635	-5.46	30098	-0.02	2000	
Cr	52	1	nogas	0.008	0.008	596.72	4037	0.00	2000	
Mn	55	1	nogas	52.017	52.017	1.22	308070	0.02	2000	
Fe	56	1	nogas	27.251	27.251	8.14	355749	0.01	200000	
Co	59	1	nogas	0.209	0.209	7.84	1097	0.02	2000	
Ni	60	1	nogas	1.840	1.840	10.36	2070	0.09	2000	
Cu	63	1	nogas	0.387	0.387	36.49	4604	0.01	2000	
Zn	66	1	nogas	3.852	3.852	2.68	4244	0.09	2000	
As	75	1	nogas	-1.969	-1.969	-12.44	11391	-0.02	2000	
Se	77	1	nogas	6.895	6.895	125.09	3787	0.18	2000	
Se	82	1	nogas	0.438	0.438	183.52	247	0.18	2000	
Sr	88	1	nogas	348.075	348.075	2.10	2331504	0.01	2000	
Mo	95	1	nogas	0.080	0.080	50.82	113	0.07	2000	
Ag	107	1	nogas	0.016	0.016	77.13	153	0.01	2000	
Cd	111	1	nogas	0.025	0.025	99.96	20	0.12	2000	
Sn	118	1	nogas	0.063	0.063	28.28	680	0.01	2000	
Sb	121	1	nogas	0.288	0.288	10.48	1230	0.02	2000	
Ba	137	1	nogas	204.753	204.753	0.30	240219	0.09	2000	
Tl	205	1	nogas	0.064	0.064	25.25	727	0.01	2000	
Pb	208	1	nogas	0.053	0.053	16.86	537	0.01	2000	
U	238	1	nogas	0.112	0.112	9.43	2287	0.00	2000	
Si	28	1	nogas	16561.668	16561.668	1.22	29650813	0.06	2000	>LDR
La	139	1	nogas	-16.231	-16.231	-182.54	53	-30.43	2000	
Au	197	1	nogas	532.665	532.665	0.00	0	#DIV/0!	2000	
Na	23	2	He	523262.944	523262.944	2.93	94725109	0.55	200000	>LDR
Mg	24	2	He	24358.373	24358.373	3.98	2093928	1.16	200000	
Al	27	2	He	2.833	2.833	82.89	230	1.23	2000	
K	39	2	He	1943.173	1943.173	2.06	90700	2.14	200000	
Ca	43	2	He	13651.787	13651.787	16.02	1410	968.15	200000	
Ca	44	2	He	13265.251	13265.251	6.05	24384	54.40	200000	
V	51	2	He	-0.042	-0.042	-136.24	117	-0.04	2000	
Cr	52	2	He	-0.017	-0.017	-410.30	190	-0.01	2000	
Mn	55	2	He	53.057	53.057	5.52	11708	0.45	2000	
Fe	56	2	He	17.407	17.407	4.75	6468	0.27	200000	
Co	59	2	He	0.171	0.171	45.83	120	0.14	2000	

Sample Report

Ni	60	2	He	0.177	0.177	111.51	113	0.16	2000	
Cu	63	2	He	-0.652	-0.652	-13.08	357	-0.18	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Zn	66	2	He	3.090	3.090	28.80	353	0.87	2000	
As	75	2	He	0.623	0.623	11.55	37	1.70	2000	
Sb	121	2	He	0.443	0.443	31.98	197	0.23	2000	
Se	78	2	He	0.272	0.272	451.67	5	5.83	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	581848	0.47	522917	111.27	70	125	
In	115	1	nogas	670677	0.43	627838	106.82	70	125	
Li	6	1	nogas	228396	0.74	211473	108.00	70	125	
Bi	209	1	nogas	914809	1.37	915562	99.92	70	125	
Ge	72	2	He	33480	2.39	29526	113.39	70	125	

Sample Report

Sample Table

Sample Name	HS17121169-01SD
Data File Name	060SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T13:00:59-06:00
Sample Type	Sample
Dilution	5
Comment	TW B124039
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	0.022	0.108	87.82	40	0.05	2000	
B	11	1	nogas	28.975	144.877	0.77	28343	0.10	2000	
Na	23	1	nogas	47004.324	235021.619	0.75	197535538	0.02	200000	
Mg	24	1	nogas	6527.989	32639.946	2.74	19073615	0.03	200000	
Al	27	1	nogas	10.641	53.207	2.62	47650	0.02	2000	
K	39	1	nogas	355.998	1779.991	4.11	1946105	0.02	200000	
Ca	43	1	nogas	7678.784	38393.921	1.53	47201	16.27	200000	
Ca	44	1	nogas	7680.971	38404.857	0.89	789565	0.97	200000	
Ti	47	1	nogas	0.358	1.790	13.77	137	0.26	2000	
V	51	1	nogas	16.269	81.344	6.90	131596	0.01	2000	
Cr	52	1	nogas	0.482	2.411	10.95	5438	0.01	2000	
Mn	55	1	nogas	101.891	509.454	0.75	529725	0.02	2000	
Fe	56	1	nogas	188.953	944.764	2.39	1021697	0.02	200000	
Co	59	1	nogas	1.734	8.671	3.35	7435	0.02	2000	
Ni	60	1	nogas	2.849	14.247	6.04	2767	0.10	2000	
Cu	63	1	nogas	-0.064	-0.322	-97.64	3034	0.00	2000	
Zn	66	1	nogas	22.063	110.317	1.53	17616	0.13	2000	
As	75	1	nogas	6.642	33.209	6.93	16415	0.04	2000	
Se	77	1	nogas	57.459	287.293	22.12	5014	1.15	2000	
Se	82	1	nogas	-0.818	-4.091	-215.82	167	-0.49	2000	
Sr	88	1	nogas	145.382	726.912	0.78	860844	0.02	2000	
Mo	95	1	nogas	0.175	0.875	13.16	220	0.08	2000	
Ag	107	1	nogas	0.000	0.002	453.12	83	0.00	2000	
Cd	111	1	nogas	0.040	0.198	0.40	30	0.13	2000	
Sn	118	1	nogas	0.043	0.215	34.56	587	0.01	2000	
Sb	121	1	nogas	0.308	1.539	11.55	1150	0.03	2000	
Ba	137	1	nogas	130.937	654.686	0.94	142384	0.09	2000	
Tl	205	1	nogas	0.007	0.037	57.43	163	0.00	2000	
Pb	208	1	nogas	0.058	0.289	9.48	550	0.01	2000	
U	238	1	nogas	0.106	0.531	8.04	2090	0.01	2000	
Si	28	1	nogas	4117.978	20589.890	0.49	6934932	0.06	2000	>LDR
La	139	1	nogas	264.863	1324.315	47.65	333	79.46	2000	
Au	197	1	nogas	-22.270	-111.349	-2158.19	7	-334.05	2000	
Na	23	2	He	45521.026	227605.131	1.38	7218407	0.63	200000	
Mg	24	2	He	6276.450	31382.252	0.85	472507	1.33	200000	
Al	27	2	He	8.607	43.034	23.13	353	2.44	2000	
K	39	2	He	290.257	1451.286	1.73	16385	1.77	200000	
Ca	43	2	He	7519.829	37599.146	9.64	680	1105.81	200000	
Ca	44	2	He	7614.256	38071.279	2.54	12278	62.02	200000	
V	51	2	He	0.400	2.001	26.75	233	0.17	2000	
Cr	52	2	He	0.256	1.278	116.84	267	0.10	2000	
Mn	55	2	He	101.161	505.806	0.64	19505	0.52	2000	
Fe	56	2	He	170.620	853.101	2.97	49478	0.34	200000	
Co	59	2	He	1.658	8.292	16.48	907	0.18	2000	

Sample Report

Ni	60	2	He	2.499	12.493	27.83	443	0.56	2000	
Cu	63	2	He	-0.538	-2.690	-23.83	360	-0.15	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Zn	66	2	He	22.187	110.936	2.96	1660	1.34	2000	
As	75	2	He	0.175	0.876	148.90	12	1.43	2000	
Sb	121	2	He	0.276	1.378	10.80	113	0.24	2000	
Se	78	2	He	-0.439	-2.193	-152.01	2	-21.93	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	514261	0.74	522917	98.34	70	125	
In	115	1	nogas	621341	0.40	627838	98.97	70	125	
Li	6	1	nogas	204864	1.16	211473	96.87	70	125	
Bi	209	1	nogas	879787	0.78	915562	96.09	70	125	
Ge	72	2	He	29299	1.17	29526	99.23	70	125	

Sample Report

Sample Table

Sample Name	HS17121169-01MS
Data File Name	061SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T13:03:11-06:00
Sample Type	Sample
Dilution	1
Comment	TW B124039
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	49.685	49.685	2.90	72402	0.07	2000	
B	11	1	nogas	585.699	585.699	3.13	396934	0.15	2000	
Na	23	1	nogas	230233.547	230233.547	0.50	1026614856	0.02	200000	>LDR
Mg	24	1	nogas	35501.166	35501.166	1.46	110057290	0.03	200000	
Al	27	1	nogas	147.725	147.725	1.31	563332	0.03	2000	
K	39	1	nogas	6514.675	6514.675	1.06	21174781	0.03	200000	
Ca	43	1	nogas	44783.849	44783.849	0.78	279201	16.04	200000	
Ca	44	1	nogas	43490.181	43490.181	0.66	4486223	0.97	200000	
Ti	47	1	nogas	150.657	150.657	0.61	47254	0.32	2000	
V	51	1	nogas	53.838	53.838	4.84	308639	0.02	2000	
Cr	52	1	nogas	50.983	50.983	0.44	207977	0.02	2000	
Mn	55	1	nogas	555.722	555.722	0.83	2918036	0.02	2000	
Fe	56	1	nogas	5530.777	5530.777	1.39	24772326	0.02	200000	
Co	59	1	nogas	55.204	55.204	1.24	237873	0.02	2000	
Ni	60	1	nogas	59.843	59.843	1.81	56637	0.11	2000	
Cu	63	1	nogas	49.322	49.322	2.11	118170	0.04	2000	
Zn	66	1	nogas	168.256	168.256	1.12	130979	0.13	2000	
As	75	1	nogas	54.560	54.560	1.71	52568	0.10	2000	
Se	77	1	nogas	88.443	88.443	7.05	6128	1.44	2000	
Se	82	1	nogas	50.766	50.766	8.49	2294	2.21	2000	
Sr	88	1	nogas	820.229	820.229	0.59	4933182	0.02	2000	
Mo	95	1	nogas	49.145	49.145	2.13	62724	0.08	2000	
Ag	107	1	nogas	45.213	45.213	0.50	157189	0.03	2000	
Cd	111	1	nogas	47.330	47.330	2.71	35839	0.13	2000	
Sn	118	1	nogas	93.721	93.721	1.53	208290	0.04	2000	
Sb	121	1	nogas	48.776	48.776	0.27	157984	0.03	2000	
Ba	137	1	nogas	711.457	711.457	0.39	774359	0.09	2000	
Tl	205	1	nogas	45.136	45.136	1.25	414540	0.01	2000	
Pb	208	1	nogas	46.833	46.833	1.36	330531	0.01	2000	
U	238	1	nogas	96.955	96.955	1.65	1703894	0.01	2000	
Si	28	1	nogas	25144.081	25144.081	0.90	40129549	0.06	2000	>LDR
La	139	1	nogas	1201.103	1201.103	5.09	1280	93.83	2000	
Au	197	1	nogas	532.665	532.665	0.00	0	#DIV/0!	2000	
Na	23	2	He	243644.666	243644.666	4.01	38137865	0.64	200000	>LDR
Mg	24	2	He	37028.099	37028.099	3.32	2752807	1.35	200000	
Al	27	2	He	161.195	161.195	6.48	4337	3.72	2000	
K	39	2	He	6474.330	6474.330	3.88	249006	2.60	200000	
Ca	43	2	He	47258.892	47258.892	5.34	4224	1118.84	200000	
Ca	44	2	He	45130.360	45130.360	3.92	71673	62.97	200000	
V	51	2	He	47.679	47.679	3.20	14065	0.34	2000	
Cr	52	2	He	48.917	48.917	4.98	18153	0.27	2000	
Mn	55	2	He	563.113	563.113	4.11	107169	0.53	2000	
Fe	56	2	He	5774.374	5774.374	3.79	1632052	0.35	200000	
Co	59	2	He	55.228	55.228	7.20	29395	0.19	2000	

Sample Report

Ni	60	2	He	56.896	56.896	6.27	8406	0.68	2000	
Cu	63	2	He	48.567	48.567	5.34	20489	0.24	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Zn	66	2	He	164.456	164.456	5.49	11571	1.42	2000	
As	75	2	He	51.145	51.145	7.56	2248	2.28	2000	
Sb	121	2	He	48.564	48.564	5.12	16849	0.29	2000	
Se	78	2	He	52.779	52.779	15.87	160	32.99	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	522444	0.56	522917	99.91	70	125	
In	115	1	nogas	622575	0.83	627838	99.16	70	125	
Li	6	1	nogas	212533	1.97	211473	100.50	70	125	
Bi	209	1	nogas	857482	0.07	915562	93.66	70	125	
Ge	72	2	He	28955	3.12	29526	98.07	70	125	

Sample Report

Sample Table

Sample Name	HS17121169-01MSD
Data File Name	062SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T13:05:23-06:00
Sample Type	Sample
Dilution	1
Comment	TW B124039
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	50.555	50.555	1.52	73212	0.07	2000	
B	11	1	nogas	602.543	602.543	1.22	405465	0.15	2000	
Na	23	1	nogas	240379.037	240379.037	1.38	1020064989	0.02	200000	>LDR
Mg	24	1	nogas	37087.192	37087.192	1.54	109429523	0.03	200000	
Al	27	1	nogas	153.504	153.504	3.85	553193	0.03	2000	
K	39	1	nogas	6661.492	6661.492	1.20	20462879	0.03	200000	
Ca	43	1	nogas	46034.009	46034.009	0.92	271533	16.95	200000	
Ca	44	1	nogas	45224.472	45224.472	0.99	4412819	1.02	200000	
Ti	47	1	nogas	154.119	154.119	0.70	45734	0.34	2000	
V	51	1	nogas	52.431	52.431	0.96	285825	0.02	2000	
Cr	52	1	nogas	52.028	52.028	1.48	200679	0.03	2000	
Mn	55	1	nogas	581.645	581.645	0.24	2889232	0.02	2000	
Fe	56	1	nogas	5699.825	5699.825	1.07	24150299	0.02	200000	
Co	59	1	nogas	56.797	56.797	0.47	231539	0.02	2000	
Ni	60	1	nogas	62.422	62.422	2.30	55877	0.11	2000	
Cu	63	1	nogas	49.777	49.777	2.28	112835	0.04	2000	
Zn	66	1	nogas	173.414	173.414	2.12	127644	0.14	2000	
As	75	1	nogas	55.237	55.237	3.44	50191	0.11	2000	
Se	77	1	nogas	86.859	86.859	1.09	5748	1.51	2000	
Se	82	1	nogas	42.205	42.205	1.80	1837	2.30	2000	
Sr	88	1	nogas	853.650	853.650	0.68	4857046	0.02	2000	
Mo	95	1	nogas	50.526	50.526	0.85	61014	0.08	2000	
Ag	107	1	nogas	47.369	47.369	0.38	155796	0.03	2000	
Cd	111	1	nogas	47.050	47.050	4.23	34172	0.14	2000	
Sn	118	1	nogas	94.705	94.705	1.12	201912	0.05	2000	
Sb	121	1	nogas	50.060	50.060	0.92	153372	0.03	2000	
Ba	137	1	nogas	734.140	734.140	2.25	766500	0.10	2000	
Tl	205	1	nogas	45.665	45.665	1.01	400387	0.01	2000	
Pb	208	1	nogas	47.698	47.698	0.73	321311	0.01	2000	
U	238	1	nogas	98.777	98.777	1.75	1657387	0.01	2000	
Si	28	1	nogas	26646.068	26646.068	1.05	40204758	0.07	2000	>LDR
La	139	1	nogas	1287.397	1287.397	18.24	1310	98.27	2000	
Au	197	1	nogas	532.665	532.665	0.00	0	#DIV/0!	2000	
Na	23	2	He	253365.285	253365.285	2.57	39018270	0.65	200000	>LDR
Mg	24	2	He	38711.212	38711.212	1.68	2831327	1.37	200000	
Al	27	2	He	161.239	161.239	7.09	4264	3.78	2000	
K	39	2	He	6510.033	6510.033	2.14	246305	2.64	200000	
Ca	43	2	He	46128.606	46128.606	8.51	4054	1137.89	200000	
Ca	44	2	He	45633.183	45633.183	3.71	71292	64.01	200000	
V	51	2	He	48.919	48.919	2.74	14190	0.34	2000	
Cr	52	2	He	53.024	53.024	6.18	19348	0.27	2000	
Mn	55	2	He	582.802	582.802	1.14	109112	0.53	2000	
Fe	56	2	He	5944.260	5944.260	2.12	1652821	0.36	200000	
Co	59	2	He	57.645	57.645	1.63	30200	0.19	2000	

Sample Report

Ni	60	2	He	61.810	61.810	13.26	8979	0.69	2000	
Cu	63	2	He	50.536	50.536	5.52	20957	0.24	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Zn	66	2	He	172.051	172.051	1.10	11911	1.44	2000	
As	75	2	He	49.340	49.340	3.31	2135	2.31	2000	
Sb	121	2	He	48.528	48.528	2.46	16569	0.29	2000	
Se	78	2	He	47.175	47.175	7.30	141	33.54	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	494250	2.27	522917	94.52	70	125	
In	115	1	nogas	597340	1.75	627838	95.14	70	125	
Li	6	1	nogas	211122	1.75	211473	99.83	70	125	
Bi	209	1	nogas	818498	2.04	915562	89.40	70	125	
Ge	72	2	He	28471	0.85	29526	96.43	70	125	

Sample Report

Sample Table

Sample Name	HS17121169-01PDS
Data File Name	063SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T13:07:34-06:00
Sample Type	Sample
Dilution	1
Comment	TW B124039
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	113.153	113.153	1.02	154305	0.07	2000	
B	11	1	nogas	93.292	93.292	4.09	67233	0.14	2000	
Na	23	1	nogas	239408.723	239408.723	0.87	1040296690	0.02	200000	>LDR
Mg	24	1	nogas	41239.015	41239.015	1.70	124586686	0.03	200000	
Al	27	1	nogas	151.079	151.079	5.05	556574	0.03	2000	
K	39	1	nogas	12096.637	12096.637	1.32	37294782	0.03	200000	
Ca	43	1	nogas	50713.797	50713.797	1.01	305672	16.59	200000	
Ca	44	1	nogas	50060.766	50060.766	1.17	4991409	1.00	200000	
Ti	47	1	nogas	216.876	216.876	1.30	65761	0.33	2000	
V	51	1	nogas	100.165	100.165	2.16	507139	0.02	2000	
Cr	52	1	nogas	105.531	105.531	1.18	412523	0.03	2000	
Mn	55	1	nogas	622.020	622.020	2.63	3157385	0.02	2000	
Fe	56	1	nogas	10840.306	10840.306	1.35	46763158	0.02	200000	
Co	59	1	nogas	108.331	108.331	1.18	451298	0.02	2000	
Ni	60	1	nogas	110.996	110.996	2.40	101497	0.11	2000	
Cu	63	1	nogas	101.890	101.890	0.79	232749	0.04	2000	
Zn	66	1	nogas	223.000	223.000	1.02	167616	0.13	2000	
As	75	1	nogas	104.772	104.772	3.65	87175	0.12	2000	
Se	77	1	nogas	110.738	110.738	3.70	6648	1.67	2000	
Se	82	1	nogas	113.187	113.187	8.14	4704	2.41	2000	
Sr	88	1	nogas	853.496	853.496	0.56	4963437	0.02	2000	
Mo	95	1	nogas	103.923	103.923	3.24	128270	0.08	2000	
Ag	107	1	nogas	97.714	97.714	0.53	328398	0.03	2000	
Cd	111	1	nogas	97.406	97.406	0.26	72600	0.13	2000	
Sn	118	1	nogas	97.483	97.483	2.50	213201	0.05	2000	
Sb	121	1	nogas	95.143	95.143	2.49	297742	0.03	2000	
Ba	137	1	nogas	768.639	768.639	1.07	823403	0.09	2000	
Tl	205	1	nogas	98.817	98.817	1.22	884000	0.01	2000	
Pb	208	1	nogas	98.631	98.631	0.69	677969	0.01	2000	
U	238	1	nogas	0.544	0.544	4.81	9483	0.01	2000	
Si	28	1	nogas	21163.783	21163.783	0.82	32744036	0.06	2000	>LDR
La	139	1	nogas	1385.283	1385.283	3.70	1443	95.97	2000	
Au	197	1	nogas	-637.951	-637.951	-317.82	13	-4784.63	2000	
Na	23	2	He	254721.190	254721.190	3.13	41617349	0.61	200000	>LDR
Mg	24	2	He	43072.057	43072.057	3.98	3341032	1.29	200000	
Al	27	2	He	160.638	160.638	5.89	4504	3.57	2000	
K	39	2	He	11998.097	11998.097	2.23	476988	2.52	200000	
Ca	43	2	He	52500.632	52500.632	3.23	4897	1072.00	200000	
Ca	44	2	He	51812.248	51812.248	3.13	85850	60.35	200000	
V	51	2	He	102.213	102.213	2.31	31327	0.33	2000	
Cr	52	2	He	103.293	103.293	3.41	39816	0.26	2000	
Mn	55	2	He	616.892	616.892	3.13	122490	0.50	2000	
Fe	56	2	He	11074.751	11074.751	1.53	3266469	0.34	200000	
Co	59	2	He	107.542	107.542	2.06	59754	0.18	2000	
Ni	60	2	He	110.081	110.081	5.52	16909	0.65	2000	
Cu	63	2	He	99.900	99.900	0.98	43382	0.23	2000	

Sample Report

Zn	66	2	He	223.630	223.630	2.12	16395	1.36	2000	
As	75	2	He	100.212	100.212	2.45	4598	2.18	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Sb	121	2	He	92.868	92.868	5.94	33625	0.28	2000	
Se	78	2	He	98.718	98.718	6.87	309	31.98	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	505191	1.97	522917	96.61	70	125	
In	115	1	nogas	612746	0.28	627838	97.60	70	125	
Li	6	1	nogas	198844	1.25	211473	94.03	70	125	
Bi	209	1	nogas	835289	1.09	915562	91.23	70	125	
Ge	72	2	He	30214	2.98	29526	102.33	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	066_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T13:14:09-06:00
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	98.723	3.221	136502	3.17	100	98.7	90	110	
B	11	1	nogas	496.813	3.009	320959	2.68	500	99.4	90	110	
Na	23	1	nogas	10155.228	1.039	38634700	1.41	10000	101.6	90	110	
Mg	24	1	nogas	10130.007	1.788	26757735	1.19	10000	101.3	90	110	
Al	27	1	nogas	101.200	2.423	346877	1.35	100	101.2	90	110	
P	31	1	nogas	519.816	2.432	102181	1.71	500	104.0	90	110	
K	39	1	nogas	10170.413	0.683	29077927	1.03	10000	101.7	90	110	
Ca	43	1	nogas	9954.159	2.186	55475	2.92	10000	99.5	90	110	
Ca	44	1	nogas	9778.319	2.093	908658	0.86	10000	97.8	90	110	
Ti	47	1	nogas	97.363	4.639	27262	3.15	100	97.4	90	110	
V	51	1	nogas	93.471	0.648	440375	1.73	100	93.5	90	110	
Cr	52	1	nogas	100.505	0.994	362906	0.53	100	100.5	90	110	
Mn	55	1	nogas	100.583	2.351	474278	0.98	100	100.6	90	110	
Fe	56	1	nogas	9691.919	0.440	38625459	1.22	10000	96.9	90	110	
Co	59	1	nogas	99.082	0.725	381125	1.48	100	99.1	90	110	
Ni	60	1	nogas	99.710	1.997	84165	0.85	100	99.7	90	110	
Cu	63	1	nogas	99.314	1.608	209514	1.08	100	99.3	90	110	
Zn	66	1	nogas	101.146	1.844	70582	0.38	100	101.1	90	110	
As	75	1	nogas	96.113	1.097	74727	2.08	100	96.1	90	110	
Se	77	1	nogas	80.702	28.781	5234	12.02	100	80.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	93.040	2.811	3604	4.12	100	93.0	90	110	
Sr	88	1	nogas	98.107	2.065	526906	1.01	100	98.1	90	110	
Mo	95	1	nogas	99.534	1.067	113428	1.46	100	99.5	90	110	
Ag	107	1	nogas	99.485	1.338	308685	0.38	100	99.5	90	110	
Cd	111	1	nogas	98.287	3.354	67611	2.41	100	98.3	90	110	
Sn	118	1	nogas	96.429	0.693	194685	0.88	100	96.4	90	110	
Sb	121	1	nogas	96.873	2.611	279923	1.13	100	96.9	90	110	
Ba	137	1	nogas	98.518	0.927	97565	1.17	100	98.5	90	110	
Tl	205	1	nogas	98.743	1.279	851427	1.03	100	98.7	90	110	
Pb	208	1	nogas	97.293	0.277	644655	0.89	100	97.3	90	110	
U	238	1	nogas	98.863	0.493	1631463	1.05	100	98.9	90	110	
Li	7	1	nogas	99.835	1.636	336009	0.44	100	99.8	90	110	
Si	28	1	nogas	5526.916	0.865	8269351	1.10	5000	110.5	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	97.718	0.686	57776	0.79	100	97.7	90	110	
La	139	1	nogas	199.393	26.368	243	20.68	100	199.4	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-1593.902	-144.422	23	107.85	100	-1593.9	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	99.112	1.196	352788	1.17	100	99.1	90	110	
Na	23	2	He	10516.626	0.695	1538428	1.82	10000	105.2	90	110	
Mg	24	2	He	9889.463	0.400	685725	1.72	10000	98.9	90	110	
Al	27	2	He	95.745	4.997	2447	4.33	100	95.7	90	110	
K	39	2	He	9870.440	0.371	351513	2.23	10000	98.7	90	110	
Ca	43	2	He	9548.254	17.100	797	18.38	10000	95.5	90	110	
Ca	44	2	He	9974.591	1.786	14807	3.46	10000	99.7	90	110	
V	51	2	He	97.126	1.846	26602	1.59	100	97.1	90	110	
Cr	52	2	He	98.395	2.117	33900	0.77	100	98.4	90	110	
Mn	55	2	He	103.432	3.826	18370	4.41	100	103.4	90	110	
Fe	56	2	He	10095.910	1.943	2660252	1.49	10000	101.0	90	110	
Co	59	2	He	97.612	2.705	48468	3.48	100	97.6	90	110	
Ni	60	2	He	100.017	3.091	13736	2.90	100	100.0	90	110	
Cu	63	2	He	100.519	1.953	38991	2.34	100	100.5	90	110	
Zn	66	2	He	98.996	3.614	6535	5.31	100	99.0	90	110	
As	75	2	He	96.019	2.687	3934	2.04	100	96.0	90	110	
Sb	121	2	He	92.358	2.759	29891	4.54	100	92.4	90	110	
Se	78	2	He	106.097	17.718	295	15.89	100	106.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	466462	1.48	522917	89.20	70	125	
In	115	1	nogas	565663	1.41	627838	90.10	70	125	
Li	6	1	nogas	201610	1.13	211473	95.34	70	125	
Bi	209	1	nogas	805173	0.62	915562	87.94	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	26988	1.86	29526	91.41	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	067_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T13:16:21-06:00
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	0.018	98.0	33	69.3	1	
B	11	1	nogas	51.648	14.3	40804	12.2	10	CCB Main CR1 Failed
Na	23	1	nogas	48.786	2.6	248620	1.7	100	
Mg	24	1	nogas	2.849	12.9	9605	10.6	100	
Al	27	1	nogas	-1.280	-1.0	3264	2.6	5	
P	31	1	nogas	-0.389	-268.3	6205	3.8	10	
K	39	1	nogas	39.353	13.9	892391	1.7	100	
Ca	43	1	nogas	-1.306	-313.2	77	30.1	100	
Ca	44	1	nogas	-17.898	-10.1	9093	1.7	100	
Ti	47	1	nogas	-0.026	-206.2	17	91.7	2.5	
V	51	1	nogas	-3.341	-21.9	38183	7.3	2.5	
Cr	52	1	nogas	-0.093	-78.4	2900	8.5	2.5	
Mn	55	1	nogas	0.204	31.4	4434	8.2	2.5	
Fe	56	1	nogas	6.224	9.8	203760	2.4	100	
Co	59	1	nogas	0.018	104.5	147	52.1	2.5	
Ni	60	1	nogas	0.076	61.4	173	21.8	2.5	
Cu	63	1	nogas	-0.646	-5.3	1557	5.2	2.5	
Zn	66	1	nogas	-0.879	-8.3	137	37.6	2.5	
As	75	1	nogas	-4.183	-5.3	7725	0.8	2.5	
Se	77	1	nogas	-10.105	-137.9	2554	16.3	2.5	
Se	82	1	nogas	0.808	22.8	213	2.7	2.5	
Sr	88	1	nogas	0.051	26.5	483	15.8	2.5	
Mo	95	1	nogas	0.044	60.8	50	60.0	2.5	
Ag	107	1	nogas	0.002	706.0	80	43.3	2.5	
Cd	111	1	nogas	0.014	100.4	10	100.0	1	
Sn	118	1	nogas	0.114	10.0	693	4.2	5	
Sb	121	1	nogas	0.879	4.6	2720	5.0	2.5	
Ba	137	1	nogas	-0.016	-241.7	153	26.4	2.5	
Tl	205	1	nogas	0.072	9.6	750	9.3	1	
Pb	208	1	nogas	0.032	37.0	353	24.4	2.5	
U	238	1	nogas	0.027	50.6	647	38.2	2.5	
Si	28	1	nogas	83.921	4.2	629486	1.7	5	CCB Main CR1 Failed
La	139	1	nogas	-47.612	-46.0	17	124.9	2.5	
Au	197	1	nogas	-45.557	-2198.4	7	173.2	2.5	
Na	23	2	He	46.491	3.1	9883	0.8	100	
Mg	24	2	He	3.295	16.1	260	13.9	100	
Al	27	2	He	-3.386	-19.3	33	45.8	5	
K	39	2	He	13.894	2.9	5351	2.7	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-20.062	-32.9	10	100.0	100	
V	51	2	He	-0.102	-49.1	77	15.6	2.5	
Cr	52	2	He	-0.265	-53.4	67	70.9	2.5	
Mn	55	2	He	0.085	70.1	30	33.3	2.5	
Fe	56	2	He	2.426	18.5	1263	12.1	100	
Co	59	2	He	0.023	45.6	23	24.7	2.5	
Ni	60	2	He	-0.321	-13.9	23	24.7	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.887	-16.4	197	28.0	2.5	
Zn	66	2	He	-1.234	-7.0	3	173.2	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	0.092	227.0	8	107.8	2.5	
Sb	121	2	He	0.770	28.6	263	29.0	2.5	
Se	78	2	He	0.128	889.3	3	91.7	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	471037	1.33	522917	90.08	70	125	
In	115	1	nogas	580024	0.84	627838	92.38	70	125	
Li	6	1	nogas	195238	1.46	211473	92.32	70	125	
Bi	209	1	nogas	850702	0.88	915562	92.92	70	125	
Ge	72	2	He	26801	2.71	29526	90.77	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	078_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T13:40:41-06:00
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	97.745	1.199	145178	1.62	100	97.7	90	110	
B	11	1	nogas	506.861	3.437	351413	1.11	500	101.4	90	110	
Na	23	1	nogas	10195.627	0.458	41764936	1.45	10000	102.0	90	110	
Mg	24	1	nogas	9989.957	0.225	28414762	1.08	10000	99.9	90	110	
Al	27	1	nogas	100.199	0.839	369032	0.73	100	100.2	90	110	
P	31	1	nogas	502.739	1.464	106373	0.79	500	100.5	90	110	
K	39	1	nogas	9968.579	0.639	30631737	1.63	10000	99.7	90	110	
Ca	43	1	nogas	9672.872	2.226	57896	1.87	10000	96.7	90	110	
Ca	44	1	nogas	9727.953	0.790	971152	0.62	10000	97.3	90	110	
Ti	47	1	nogas	97.478	0.787	29332	2.03	100	97.5	90	110	
V	51	1	nogas	93.431	1.961	472840	2.41	100	93.4	90	110	
Cr	52	1	nogas	98.651	1.140	382748	2.41	100	98.7	90	110	
Mn	55	1	nogas	98.199	0.948	497551	1.65	100	98.2	90	110	
Fe	56	1	nogas	9582.090	1.619	41021800	2.16	10000	95.8	90	110	
Co	59	1	nogas	97.605	1.546	403235	1.09	100	97.6	90	110	
Ni	60	1	nogas	99.058	0.714	89823	0.68	100	99.1	90	110	
Cu	63	1	nogas	98.228	1.121	222625	0.79	100	98.2	90	110	
Zn	66	1	nogas	98.907	1.983	74157	1.44	100	98.9	90	110	
As	75	1	nogas	92.504	1.557	77660	0.23	100	92.5	90	110	
Se	77	1	nogas	76.301	16.271	5488	7.41	100	76.3	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	100.432	3.698	4161	2.32	100	100.4	90	110	
Sr	88	1	nogas	96.754	0.864	558294	2.12	100	96.8	90	110	
Mo	95	1	nogas	97.918	0.794	119869	2.04	100	97.9	90	110	
Ag	107	1	nogas	97.717	1.583	325668	0.37	100	97.7	90	110	
Cd	111	1	nogas	96.961	2.532	71457	1.94	100	97.0	90	110	
Sn	118	1	nogas	94.914	1.457	205279	1.07	100	94.9	90	110	
Sb	121	1	nogas	95.132	1.636	295300	0.40	100	95.1	90	110	
Ba	137	1	nogas	99.070	2.702	105095	2.42	100	99.1	90	110	
Tl	205	1	nogas	98.214	1.102	909207	0.43	100	98.2	90	110	
Pb	208	1	nogas	97.204	2.316	691404	1.59	100	97.2	90	110	
U	238	1	nogas	96.266	2.121	1705484	1.87	100	96.3	90	110	
Li	7	1	nogas	99.857	1.832	361015	1.59	100	99.9	90	110	
Si	28	1	nogas	5495.342	0.617	8835041	1.44	5000	109.9	90	110	
Ba	135	1	nogas	98.651	1.361	62487	2.01	100	98.7	90	110	
La	139	1	nogas	185.545	57.955	247	42.58	100	185.5	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	251.921	193.021	3	173.21	100	251.9	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	98.048	1.677	374681	1.13	100	98.0	90	110	
Na	23	2	He	10992.079	2.069	1575086	1.21	10000	109.9	90	110	
Mg	24	2	He	10208.736	2.577	693360	0.46	10000	102.1	90	110	
Al	27	2	He	99.416	13.547	2487	13.71	100	99.4	90	110	
K	39	2	He	10321.900	1.328	359880	0.79	10000	103.2	90	110	
Ca	43	2	He	11460.736	18.247	933	16.05	10000	114.6	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	10204.423	3.199	14833	1.74	10000	102.0	90	110	
V	51	2	He	101.357	1.777	27194	0.84	100	101.4	90	110	
Cr	52	2	He	103.889	3.855	35059	2.94	100	103.9	90	110	
Mn	55	2	He	101.567	2.228	17669	0.77	100	101.6	90	110	
Fe	56	2	He	10301.194	1.037	2659676	1.06	10000	103.0	90	110	
Co	59	2	He	101.799	3.149	49504	1.16	100	101.8	90	110	
Ni	60	2	He	100.638	1.503	13542	1.65	100	100.6	90	110	
Cu	63	2	He	101.950	2.052	38734	0.98	100	101.9	90	110	
Zn	66	2	He	104.706	4.353	6765	4.78	100	104.7	90	110	
As	75	2	He	101.375	3.110	4069	2.91	100	101.4	90	110	
Sb	121	2	He	95.337	3.462	30211	2.12	100	95.3	90	110	
Se	78	2	He	109.382	5.891	299	4.04	100	109.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	501031	1.28	522917	95.81	70	125	
In	115	1	nogas	605934	0.66	627838	96.51	70	125	
Li	6	1	nogas	216583	2.26	211473	102.42	70	125	
Bi	209	1	nogas	864465	0.75	915562	94.42	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	26444	2.09	29526	89.56	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	079_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T13:42:52-06:00
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	0.030	44.1	50	34.6	1	
B	11	1	nogas	54.593	10.8	42752	10.1	10	CCB Main CR1 Failed
Na	23	1	nogas	59.507	3.9	289574	3.8	100	
Mg	24	1	nogas	3.653	10.9	11740	8.6	100	
Al	27	1	nogas	-1.331	-5.1	3100	7.1	5	
P	31	1	nogas	-3.497	-63.1	5641	6.6	10	
K	39	1	nogas	29.963	11.4	868861	0.8	100	
Ca	43	1	nogas	-1.953	-374.6	73	56.8	100	
Ca	44	1	nogas	-19.233	-6.7	8999	1.8	100	
Ti	47	1	nogas	0.033	328.1	33	91.7	2.5	
V	51	1	nogas	-5.680	-5.9	28464	4.3	2.5	
Cr	52	1	nogas	-0.219	-10.8	2454	4.2	2.5	
Mn	55	1	nogas	0.083	63.8	3874	7.0	2.5	
Fe	56	1	nogas	14.011	12.2	235727	3.3	100	
Co	59	1	nogas	0.013	91.7	127	37.3	2.5	
Ni	60	1	nogas	0.168	40.0	253	23.1	2.5	
Cu	63	1	nogas	-0.840	-7.8	1153	12.6	2.5	
Zn	66	1	nogas	-0.913	-4.9	113	28.4	2.5	
As	75	1	nogas	-5.937	-7.6	6565	5.4	2.5	
Se	77	1	nogas	-20.139	-44.6	2260	12.7	2.5	
Se	82	1	nogas	-1.361	-62.2	133	24.1	2.5	
Sr	88	1	nogas	0.051	13.1	480	7.5	2.5	
Mo	95	1	nogas	0.055	56.1	63	55.5	2.5	
Ag	107	1	nogas	0.027	11.5	160	6.3	2.5	
Cd	111	1	nogas	0.005	173.2	3	173.2	1	
Sn	118	1	nogas	0.108	52.0	683	17.1	5	
Sb	121	1	nogas	0.746	6.3	2340	5.9	2.5	
Ba	137	1	nogas	-0.114	-30.3	53	65.8	2.5	
Tl	205	1	nogas	0.075	12.2	773	12.0	1	
Pb	208	1	nogas	0.029	30.3	333	20.0	2.5	
U	238	1	nogas	0.024	25.5	593	17.2	2.5	
Si	28	1	nogas	73.470	9.2	616677	1.8	5	CCB Main CR1 Failed
La	139	1	nogas	-51.091	-24.0	13	86.6	2.5	
Au	197	1	nogas	243.981	204.9	3	173.2	2.5	CCB Main CR1 Failed
Na	23	2	He	59.679	1.3	11367	4.2	100	
Mg	24	2	He	2.175	19.7	177	18.2	100	
Al	27	2	He	-1.751	-91.2	70	51.5	5	
K	39	2	He	10.191	45.7	5031	5.0	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-3.354	-227.6	33	34.6	100	
V	51	2	He	-0.124	-57.6	69	24.8	2.5	
Cr	52	2	He	-0.210	-62.2	83	54.1	2.5	
Mn	55	2	He	0.133	105.3	37	63.0	2.5	
Fe	56	2	He	1.586	37.4	1000	11.8	100	
Co	59	2	He	-0.025	0.0	0	#DIV/0!	2.5	
Ni	60	2	He	-0.416	-19.0	10	100.0	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.976	-34.8	157	79.3	2.5	
Zn	66	2	He	-1.232	-7.3	3	173.2	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	0.127	99.5	9	57.3	2.5	
Sb	121	2	He	0.575	34.1	193	33.3	2.5	
Se	78	2	He	0.710	355.0	5	137.8	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	472582	0.68	522917	90.37	70	125	
In	115	1	nogas	580820	0.20	627838	92.51	70	125	
Li	6	1	nogas	195971	1.77	211473	92.67	70	125	
Bi	209	1	nogas	854683	1.21	915562	93.35	70	125	
Ge	72	2	He	25817	3.32	29526	87.44	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	090_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T14:07:05-06:00
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	97.364	1.800	135383	1.58	100	97.4	90	110	
B	11	1	nogas	483.502	3.862	314360	3.19	500	96.7	90	110	
Na	23	1	nogas	10189.506	1.343	38854657	0.65	10000	101.9	90	110	
Mg	24	1	nogas	9993.583	1.616	26459992	0.48	10000	99.9	90	110	
Al	27	1	nogas	99.916	0.809	337450	0.68	100	99.9	90	110	
P	31	1	nogas	505.348	1.500	98018	1.47	500	101.1	90	110	
K	39	1	nogas	10242.865	1.000	28837178	0.79	10000	102.4	90	110	
Ca	43	1	nogas	9702.580	2.082	53252	1.86	10000	97.0	90	110	
Ca	44	1	nogas	9947.944	1.316	910401	1.23	10000	99.5	90	110	
Ti	47	1	nogas	99.010	0.294	27315	0.66	100	99.0	90	110	
V	51	1	nogas	100.878	3.672	464065	3.61	100	100.9	90	110	
Cr	52	1	nogas	99.883	0.847	355245	0.63	100	99.9	90	110	
Mn	55	1	nogas	98.917	0.905	459512	0.87	100	98.9	90	110	
Fe	56	1	nogas	9749.813	0.770	38267062	0.40	10000	97.5	90	110	
Co	59	1	nogas	98.355	0.797	372597	0.47	100	98.4	90	110	
Ni	60	1	nogas	97.906	1.101	81404	0.76	100	97.9	90	110	
Cu	63	1	nogas	98.729	1.079	205170	1.30	100	98.7	90	110	
Zn	66	1	nogas	98.780	1.709	67918	1.95	100	98.8	90	110	
As	75	1	nogas	98.365	0.486	75075	0.57	100	98.4	90	110	
Se	77	1	nogas	120.135	9.961	6321	5.94	100	120.1	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.679	5.249	3681	5.35	100	96.7	90	110	
Sr	88	1	nogas	99.329	1.766	525494	1.95	100	99.3	90	110	
Mo	95	1	nogas	96.662	0.522	108492	0.86	100	96.7	90	110	
Ag	107	1	nogas	97.656	0.544	298459	0.50	100	97.7	90	110	
Cd	111	1	nogas	99.745	1.459	68110	1.78	100	99.7	90	110	
Sn	118	1	nogas	97.530	0.149	195415	0.46	100	97.5	90	110	
Sb	121	1	nogas	97.339	1.107	277071	0.74	100	97.3	90	110	
Ba	137	1	nogas	97.612	2.795	95932	2.52	100	97.6	90	110	
Tl	205	1	nogas	96.743	0.345	849202	1.12	100	96.7	90	110	
Pb	208	1	nogas	95.906	1.112	646825	0.41	100	95.9	90	110	
U	238	1	nogas	95.647	0.508	1606839	1.85	100	95.6	90	110	
Li	7	1	nogas	100.652	0.207	340567	0.76	100	100.7	90	110	
Si	28	1	nogas	5605.436	1.686	8252873	1.23	5000	112.1	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	96.665	0.812	56722	0.49	100	96.7	90	110	
La	139	1	nogas	135.809	24.312	183	16.67	100	135.8	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	532.665	0.000	0	#DIV/0!	100	532.7	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	96.982	2.623	351345	1.43	100	97.0	90	110	
Na	23	2	He	10671.126	6.849	1476208	2.16	10000	106.7	90	110	
Mg	24	2	He	10121.038	6.097	663827	1.51	10000	101.2	90	110	
Al	27	2	He	105.506	19.050	2530	13.51	100	105.5	90	110	
K	39	2	He	9991.415	6.009	336514	1.29	10000	99.9	90	110	
Ca	43	2	He	10039.690	16.521	797	21.09	10000	100.4	90	110	
Ca	44	2	He	10172.570	3.284	14293	1.56	10000	101.7	90	110	
V	51	2	He	98.685	6.516	25565	1.82	100	98.7	90	110	
Cr	52	2	He	100.847	8.562	32845	3.85	100	100.8	90	110	
Mn	55	2	He	101.300	3.445	17032	1.76	100	101.3	90	110	
Fe	56	2	He	10167.037	4.241	2536095	1.59	10000	101.7	90	110	
Co	59	2	He	100.600	5.393	47265	2.39	100	100.6	90	110	
Ni	60	2	He	98.724	4.784	12835	2.42	100	98.7	90	110	
Cu	63	2	He	98.086	4.771	36018	0.20	100	98.1	90	110	
Zn	66	2	He	100.905	8.860	6291	4.33	100	100.9	90	110	
As	75	2	He	95.003	5.741	3686	5.29	100	95.0	90	110	
Sb	121	2	He	94.777	8.950	28979	4.47	100	94.8	90	110	
Se	78	2	He	97.421	5.209	258	8.74	100	97.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	459397	0.37	522917	87.85	70	125	
In	115	1	nogas	561354	0.33	627838	89.41	70	125	
Li	6	1	nogas	202741	0.57	211473	95.87	70	125	
Bi	209	1	nogas	819667	1.46	915562	89.53	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	25576	4.67	29526	86.62	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	091_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T14:09:16-06:00
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	0.006	207.2	17	91.7	1	
B	11	1	nogas	43.717	16.9	35736	12.1	10	CCB Main CR1 Failed
Na	23	1	nogas	29.858	6.5	170066	3.5	100	
Mg	24	1	nogas	1.807	22.7	6603	17.2	100	
Al	27	1	nogas	-1.256	-8.8	3240	9.5	5	
P	31	1	nogas	-2.765	-45.2	5584	2.8	10	
K	39	1	nogas	28.433	16.1	835588	1.4	100	
Ca	43	1	nogas	7.806	134.6	123	44.7	100	
Ca	44	1	nogas	-23.332	-16.4	8325	2.5	100	
Ti	47	1	nogas	0.085	177.1	47	89.2	2.5	
V	51	1	nogas	1.752	45.7	57742	4.0	2.5	
Cr	52	1	nogas	-0.102	-51.6	2784	7.7	2.5	
Mn	55	1	nogas	0.003	1335.3	3374	5.9	2.5	
Fe	56	1	nogas	11.229	9.1	217049	3.2	100	
Co	59	1	nogas	0.027	70.1	177	42.5	2.5	
Ni	60	1	nogas	0.045	118.3	143	31.5	2.5	
Cu	63	1	nogas	-0.788	-3.0	1220	3.6	2.5	
Zn	66	1	nogas	-0.888	-10.0	127	48.2	2.5	
As	75	1	nogas	-1.262	-35.7	9403	1.6	2.5	
Se	77	1	nogas	10.608	74.3	3080	6.3	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-1.527	-89.5	123	41.6	2.5	
Sr	88	1	nogas	0.014	31.5	273	7.6	2.5	
Mo	95	1	nogas	0.090	29.2	100	30.0	2.5	
Ag	107	1	nogas	0.005	305.9	90	57.7	2.5	
Cd	111	1	nogas	0.049	125.4	33	124.9	1	
Sn	118	1	nogas	0.079	92.5	607	23.3	5	
Sb	121	1	nogas	0.429	18.4	1367	17.5	2.5	
Ba	137	1	nogas	-0.117	-8.4	50	20.0	2.5	
Tl	205	1	nogas	0.097	31.5	967	29.7	1	
Pb	208	1	nogas	0.036	11.3	373	8.6	2.5	
U	238	1	nogas	0.023	36.8	570	26.0	2.5	
Si	28	1	nogas	88.157	12.2	616143	1.8	5	CCB Main CR1 Failed
La	139	1	nogas	-43.577	-24.6	20	50.0	2.5	
Au	197	1	nogas	-1505.659	-145.4	23	107.9	2.5	
Na	23	2	He	31.033	4.4	7155	2.4	100	
Mg	24	2	He	2.621	29.5	200	25.0	100	
Al	27	2	He	-2.411	-64.4	53	65.8	5	
K	39	2	He	15.408	45.9	5057	4.8	100	
Ca	43	2	He	86.308	173.2	7	173.2	100	
Ca	44	2	He	-19.469	-64.8	10	173.2	100	
V	51	2	He	0.122	15.6	129	3.9	2.5	
Cr	52	2	He	-0.264	-13.9	63	18.2	2.5	
Mn	55	2	He	0.197	46.8	47	32.7	2.5	
Fe	56	2	He	2.002	40.2	1077	18.3	100	
Co	59	2	He	-0.003	-734.7	10	100.0	2.5	
Ni	60	2	He	-0.441	-10.3	7	86.6	2.5	
Cu	63	2	He	-0.851	-7.0	197	10.6	2.5	
Zn	66	2	He	-0.953	-17.4	20	50.0	2.5	

Continuing Calibration Blank (CCB) Report

As	75	2	He	0.222	113.8	12	78.7	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.396	19.1	133	17.3	2.5	
Se	78	2	He	2.009	102.5	8	66.1	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	456782	1.67	522917	87.35	70	125	
In	115	1	nogas	567205	0.78	627838	90.34	70	125	
Li	6	1	nogas	194110	0.70	211473	91.79	70	125	
Bi	209	1	nogas	842015	1.20	915562	91.97	70	125	
Ge	72	2	He	25082	0.24	29526	84.95	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	102_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T14:34:35-06:00
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	97.404	0.632	135526	1.97	100	97.4	90	110	
B	11	1	nogas	494.040	2.078	321246	2.79	500	98.8	90	110	
Na	23	1	nogas	10462.560	0.763	39398060	0.67	10000	104.6	90	110	
Mg	24	1	nogas	10391.503	1.526	27172351	1.55	10000	103.9	90	110	
Al	27	1	nogas	104.129	1.350	345562	0.14	100	104.1	90	110	
P	31	1	nogas	513.760	1.948	97907	1.71	500	102.8	90	110	
K	39	1	nogas	10576.736	1.689	29263725	1.89	10000	105.8	90	110	
Ca	43	1	nogas	10098.895	2.272	54505	1.02	10000	101.0	90	110	
Ca	44	1	nogas	10189.631	1.128	916937	1.28	10000	101.9	90	110	
Ti	47	1	nogas	102.644	0.775	27853	1.72	100	102.6	90	110	
V	51	1	nogas	104.707	2.289	471764	1.09	100	104.7	90	110	
Cr	52	1	nogas	102.356	2.064	357938	0.95	100	102.4	90	110	
Mn	55	1	nogas	101.293	1.629	462692	0.62	100	101.3	90	110	
Fe	56	1	nogas	9990.803	1.792	38560908	0.96	10000	99.9	90	110	
Co	59	1	nogas	101.640	1.241	378706	1.19	100	101.6	90	110	
Ni	60	1	nogas	103.099	0.173	84312	1.23	100	103.1	90	110	
Cu	63	1	nogas	101.531	0.836	207435	0.73	100	101.5	90	110	
Zn	66	1	nogas	100.529	1.860	67961	0.72	100	100.5	90	110	
As	75	1	nogas	101.367	1.194	75781	0.57	100	101.4	90	110	
Se	77	1	nogas	104.239	14.814	5754	6.92	100	104.2	90	110	
Se	82	1	nogas	108.246	7.293	4031	6.45	100	108.2	90	110	
Sr	88	1	nogas	100.440	1.229	522589	0.43	100	100.4	90	110	
Mo	95	1	nogas	98.286	2.381	108485	1.48	100	98.3	90	110	
Ag	107	1	nogas	99.123	1.582	297935	0.63	100	99.1	90	110	
Cd	111	1	nogas	98.244	0.913	66296	1.38	100	98.2	90	110	
Sn	118	1	nogas	96.327	0.820	190738	0.69	100	96.3	90	110	
Sb	121	1	nogas	98.490	0.728	275744	1.05	100	98.5	90	110	
Ba	137	1	nogas	97.250	0.615	94460	1.06	100	97.2	90	110	
Tl	205	1	nogas	99.168	1.602	833380	0.55	100	99.2	90	110	
Pb	208	1	nogas	97.466	1.163	629390	0.29	100	97.5	90	110	
U	238	1	nogas	98.234	2.036	1579926	1.90	100	98.2	90	110	
Li	7	1	nogas	100.829	0.179	341338	1.72	100	100.8	90	110	
Si	28	1	nogas	5670.019	2.208	8204506	1.34	5000	113.4	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	97.887	1.680	56766	2.10	100	97.9	90	110	
La	139	1	nogas	79.136	134.036	130	73.38	100	79.1	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	216.937	252.081	3	173.21	100	216.9	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	99.462	1.761	345033	0.63	100	99.5	90	110	
Na	23	2	He	11022.002	3.854	1475131	2.11	10000	110.2	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	10300.885	3.529	653543	1.68	10000	103.0	90	110	
Al	27	2	He	104.358	7.789	2430	5.76	100	104.4	90	110	
K	39	2	He	10332.395	2.355	336506	0.44	10000	103.3	90	110	
Ca	43	2	He	10746.074	6.063	820	7.42	10000	107.5	90	110	
Ca	44	2	He	10382.911	3.034	14099	1.15	10000	103.8	90	110	
V	51	2	He	102.347	3.792	25647	1.96	100	102.3	90	110	
Cr	52	2	He	102.669	3.645	32367	1.87	100	102.7	90	110	
Mn	55	2	He	99.164	1.622	16121	2.36	100	99.2	90	110	
Fe	56	2	He	10549.114	1.768	2544301	0.29	10000	105.5	90	110	
Co	59	2	He	101.218	1.114	45998	1.22	100	101.2	90	110	
Ni	60	2	He	99.702	3.796	12532	2.72	100	99.7	90	110	
Cu	63	2	He	101.402	0.455	36001	1.56	100	101.4	90	110	
Zn	66	2	He	107.687	3.946	6495	2.33	100	107.7	90	110	
As	75	2	He	97.758	2.385	3667	3.31	100	97.8	90	110	
Sb	121	2	He	95.921	3.776	28395	1.96	100	95.9	90	110	
Se	78	2	He	98.380	9.883	251	9.43	100	98.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	451860	1.32	522917	86.41	70	125	
In	115	1	nogas	554753	0.46	627838	88.36	70	125	
Li	6	1	nogas	202866	1.82	211473	95.93	70	125	
Bi	209	1	nogas	784793	1.16	915562	85.72	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	24705	1.90	29526	83.67	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	103_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T14:36:46-06:00
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	0.023	116.5	40	90.1	1	
B	11	1	nogas	58.985	12.0	44496	9.8	10	CCB Main CR1 Failed
Na	23	1	nogas	83.026	2.3	361345	2.6	100	
Mg	24	1	nogas	1.989	16.7	6903	12.9	100	
Al	27	1	nogas	-1.242	-9.8	3240	12.0	5	
P	31	1	nogas	-0.708	-293.8	5864	5.0	10	
K	39	1	nogas	40.331	24.1	854653	1.9	100	
Ca	43	1	nogas	3.691	87.4	100	17.3	100	
Ca	44	1	nogas	-7.555	-60.9	9596	2.9	100	
Ti	47	1	nogas	-0.023	-239.6	17	91.7	2.5	
V	51	1	nogas	0.994	87.0	53828	5.1	2.5	
Cr	52	1	nogas	-0.058	-145.4	2894	11.4	2.5	
Mn	55	1	nogas	0.049	67.1	3530	5.5	2.5	
Fe	56	1	nogas	7.511	18.7	199465	2.3	100	
Co	59	1	nogas	0.023	47.5	157	25.8	2.5	
Ni	60	1	nogas	0.245	12.2	303	8.3	2.5	
Cu	63	1	nogas	-0.526	-7.1	1727	4.4	2.5	
Zn	66	1	nogas	-0.944	-4.2	87	29.0	2.5	
As	75	1	nogas	-1.246	-51.1	9276	5.7	2.5	
Se	77	1	nogas	17.146	33.3	3224	5.3	2.5	CCB Main CR1 Failed
Se	82	1	nogas	1.255	113.3	220	24.1	2.5	
Sr	88	1	nogas	0.006	150.0	227	19.9	2.5	
Mo	95	1	nogas	0.061	35.5	67	34.6	2.5	
Ag	107	1	nogas	0.012	56.1	107	19.5	2.5	
Cd	111	1	nogas	0.020	86.6	13	86.6	1	
Sn	118	1	nogas	0.071	50.9	570	12.3	5	
Sb	121	1	nogas	0.404	10.7	1273	8.7	2.5	
Ba	137	1	nogas	-0.122	-18.0	43	48.0	2.5	
Tl	205	1	nogas	0.091	23.2	863	20.9	1	
Pb	208	1	nogas	0.043	24.8	403	17.4	2.5	
U	238	1	nogas	0.029	12.7	633	9.0	2.5	
Si	28	1	nogas	97.266	11.6	619072	1.3	5	CCB Main CR1 Failed
La	139	1	nogas	-35.068	-49.7	27	57.3	2.5	
Au	197	1	nogas	532.665	0.0	0	#DIV/0!	2.5	CCB Main CR1 Failed
Na	23	2	He	81.780	7.6	13392	7.6	100	
Mg	24	2	He	1.253	26.5	107	19.5	100	
Al	27	2	He	-3.067	-43.7	37	78.7	5	
K	39	2	He	19.715	9.9	4957	4.5	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-16.581	-26.7	13	43.3	100	
V	51	2	He	0.007	847.0	95	12.8	2.5	
Cr	52	2	He	-0.207	-55.4	77	41.9	2.5	
Mn	55	2	He	0.045	390.1	20	132.3	2.5	
Fe	56	2	He	1.929	25.7	1013	15.8	100	
Co	59	2	He	-0.002	-2137.0	10	173.2	2.5	
Ni	60	2	He	-0.154	-247.3	40	109.0	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.943	-1.9	157	7.4	2.5	
Zn	66	2	He	-1.113	-14.9	10	100.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	0.079	291.0	7	132.3	2.5	
Sb	121	2	He	0.498	12.6	157	14.7	2.5	
Se	78	2	He	1.099	226.9	5	114.6	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	449822	1.37	522917	86.02	70	125	
In	115	1	nogas	545567	0.67	627838	86.90	70	125	
Li	6	1	nogas	192087	0.58	211473	90.83	70	125	
Bi	209	1	nogas	802543	0.55	915562	87.66	70	125	
Ge	72	2	He	23924	4.46	29526	81.03	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	114_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T15:01:05-06:00
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	96.789	2.674	131766	3.03	100	96.8	90	110	
B	11	1	nogas	477.603	2.656	304096	0.69	500	95.5	90	110	
Na	23	1	nogas	10624.456	2.156	38812697	0.44	10000	106.2	90	110	
Mg	24	1	nogas	10232.973	1.684	25965013	2.33	10000	102.3	90	110	
Al	27	1	nogas	102.862	0.692	333441	0.55	100	102.9	90	110	
P	31	1	nogas	510.514	4.606	95038	4.21	500	102.1	90	110	
K	39	1	nogas	10399.486	2.059	28106794	1.46	10000	104.0	90	110	
Ca	43	1	nogas	10274.462	2.778	54147	1.78	10000	102.7	90	110	
Ca	44	1	nogas	10142.912	0.839	891309	0.63	10000	101.4	90	110	
Ti	47	1	nogas	103.530	0.659	27432	1.39	100	103.5	90	110	
V	51	1	nogas	97.204	5.536	431066	3.73	100	97.2	90	110	
Cr	52	1	nogas	101.818	2.789	347740	2.69	100	101.8	90	110	
Mn	55	1	nogas	100.376	2.382	447807	2.58	100	100.4	90	110	
Fe	56	1	nogas	9929.010	2.008	37422948	1.36	10000	99.3	90	110	
Co	59	1	nogas	99.698	0.974	362741	0.88	100	99.7	90	110	
Ni	60	1	nogas	100.094	1.156	79931	1.39	100	100.1	90	110	
Cu	63	1	nogas	99.624	0.740	198808	0.80	100	99.6	90	110	
Zn	66	1	nogas	100.209	2.580	66164	2.77	100	100.2	90	110	
As	75	1	nogas	93.120	1.618	68796	2.52	100	93.1	90	110	
Se	77	1	nogas	71.667	11.621	4701	4.43	100	71.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.842	1.498	3540	2.31	100	96.8	90	110	
Sr	88	1	nogas	100.429	2.693	510209	1.83	100	100.4	90	110	
Mo	95	1	nogas	95.174	2.965	102575	1.84	100	95.2	90	110	
Ag	107	1	nogas	98.215	1.763	288271	1.19	100	98.2	90	110	
Cd	111	1	nogas	99.646	1.223	64690	1.01	100	99.6	90	110	
Sn	118	1	nogas	97.639	2.525	185994	2.26	100	97.6	90	110	
Sb	121	1	nogas	97.421	1.736	266326	1.33	100	97.4	90	110	
Ba	137	1	nogas	99.357	1.310	92841	1.18	100	99.4	90	110	
Tl	205	1	nogas	99.155	1.763	807391	0.23	100	99.2	90	110	
Pb	208	1	nogas	96.952	0.921	606688	1.21	100	97.0	90	110	
U	238	1	nogas	97.527	1.077	1520033	1.88	100	97.5	90	110	
Li	7	1	nogas	101.063	1.817	334683	1.17	100	101.1	90	110	
Si	28	1	nogas	5651.092	1.695	7987546	1.94	5000	113.0	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	97.949	1.669	54645	1.66	100	97.9	90	110	
La	139	1	nogas	134.688	12.408	173	8.81	100	134.7	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-124.810	-912.411	7	173.21	100	-124.8	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	98.353	1.144	330632	1.31	100	98.4	90	110	
Na	23	2	He	11244.913	3.730	1463717	1.56	10000	112.4	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	10309.240	2.149	636419	2.40	10000	103.1	90	110	
Al	27	2	He	101.292	7.608	2297	4.85	100	101.3	90	110	
K	39	2	He	10427.140	2.953	330282	2.14	10000	104.3	90	110	
Ca	43	2	He	10051.101	16.232	743	13.27	10000	100.5	90	110	
Ca	44	2	He	10347.384	5.754	13659	2.64	10000	103.5	90	110	
V	51	2	He	99.812	2.555	24338	2.35	100	99.8	90	110	
Cr	52	2	He	101.457	5.849	31102	3.81	100	101.5	90	110	
Mn	55	2	He	106.824	6.476	16869	2.17	100	106.8	90	110	
Fe	56	2	He	10502.339	2.518	2464171	2.86	10000	105.0	90	110	
Co	59	2	He	101.713	3.934	44942	2.00	100	101.7	90	110	
Ni	60	2	He	97.807	1.154	11964	3.06	100	97.8	90	110	
Cu	63	2	He	100.801	3.198	34806	2.47	100	100.8	90	110	
Zn	66	2	He	104.414	8.203	6131	8.80	100	104.4	90	110	
As	75	2	He	99.347	2.456	3626	4.63	100	99.3	90	110	
Sb	121	2	He	95.478	2.638	27497	1.61	100	95.5	90	110	
Se	78	2	He	101.621	5.831	253	7.48	100	101.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	441237	1.22	522917	84.38	70	125	
In	115	1	nogas	533720	0.45	627838	85.01	70	125	
Li	6	1	nogas	198504	1.87	211473	93.87	70	125	
Bi	209	1	nogas	760504	1.95	915562	83.06	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	24041	4.17	29526	81.42	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	126_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T15:27:34-06:00
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	99.153	2.086	153902	1.53	100	99.2	90	110	
B	11	1	nogas	480.622	2.351	349037	3.54	500	96.1	90	110	
Na	23	1	nogas	11068.340	1.174	44059451	0.97	10000	110.7	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	10945.497	1.062	30257206	0.57	10000	109.5	90	110	
Al	27	1	nogas	105.869	0.579	384198	0.67	100	105.9	90	110	
P	31	1	nogas	541.207	1.467	112467	1.49	500	108.2	90	110	
K	39	1	nogas	10441.341	0.334	31609733	0.36	10000	104.4	90	110	
Ca	43	1	nogas	10343.386	3.254	61070	3.29	10000	103.4	90	110	
Ca	44	1	nogas	10239.992	0.502	1007865	0.15	10000	102.4	90	110	
Ti	47	1	nogas	103.868	0.444	30828	0.93	100	103.9	90	110	
V	51	1	nogas	111.425	3.475	545635	2.66	100	111.4	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	103.291	1.684	395105	1.43	100	103.3	90	110	
Mn	55	1	nogas	101.588	2.541	507594	2.30	100	101.6	90	110	
Fe	56	1	nogas	9987.088	1.657	42165507	1.27	10000	99.9	90	110	
Co	59	1	nogas	101.808	0.840	414932	0.80	100	101.8	90	110	
Ni	60	1	nogas	101.198	1.659	90517	1.20	100	101.2	90	110	
Cu	63	1	nogas	101.255	2.383	226276	1.79	100	101.3	90	110	
Zn	66	1	nogas	102.614	2.650	75864	2.01	100	102.6	90	110	
As	75	1	nogas	102.709	1.935	83845	1.66	100	102.7	90	110	
Se	77	1	nogas	150.704	9.068	7765	5.01	100	150.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	91.464	8.386	3757	8.52	100	91.5	90	110	
Sr	88	1	nogas	101.094	0.996	575363	0.70	100	101.1	90	110	
Mo	95	1	nogas	99.424	1.378	120049	0.96	100	99.4	90	110	
Ag	107	1	nogas	99.720	1.739	327868	1.42	100	99.7	90	110	
Cd	111	1	nogas	102.631	2.514	73569	2.02	100	102.6	90	110	
Sn	118	1	nogas	100.950	0.484	212348	0.97	100	101.0	90	110	
Sb	121	1	nogas	100.008	1.238	306248	0.62	100	100.0	90	110	
Ba	137	1	nogas	103.326	1.010	106608	0.69	100	103.3	90	110	
Tl	205	1	nogas	99.899	0.320	929757	1.04	100	99.9	90	110	
Pb	208	1	nogas	98.602	0.814	705173	1.70	100	98.6	90	110	
U	238	1	nogas	100.899	2.302	1796918	1.77	100	100.9	90	110	
Li	7	1	nogas	104.175	0.616	392864	1.56	100	104.2	90	110	
Si	28	1	nogas	5774.229	1.153	9130171	0.89	5000	115.5	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	101.009	1.330	62222	1.09	100	101.0	90	110	
La	139	1	nogas	206.473	39.683	260	30.04	100	206.5	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	532.665	0.000	0	#DIV/0!	100	532.7	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	100.309	1.850	385333	1.00	100	100.3	90	110	
Na	23	2	He	11231.524	0.844	1663315	1.53	10000	112.3	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	10555.196	1.550	740935	0.57	10000	105.6	90	110	
Al	27	2	He	109.410	8.391	2817	9.33	100	109.4	90	110	
K	39	2	He	10593.048	0.947	381544	0.58	10000	105.9	90	110	
Ca	43	2	He	10992.063	7.571	927	6.14	10000	109.9	90	110	
Ca	44	2	He	10597.284	2.050	15924	3.20	10000	106.0	90	110	
V	51	2	He	101.839	1.021	28237	0.53	100	101.8	90	110	
Cr	52	2	He	103.266	2.940	36014	1.73	100	103.3	90	110	
Mn	55	2	He	104.244	4.389	18744	4.58	100	104.2	90	110	
Fe	56	2	He	10624.484	1.491	2834667	1.28	10000	106.2	90	110	
Co	59	2	He	103.105	2.718	51818	1.25	100	103.1	90	110	
Ni	60	2	He	98.913	1.763	13756	1.98	100	98.9	90	110	
Cu	63	2	He	105.406	0.917	41370	0.80	100	105.4	90	110	
Zn	66	2	He	104.532	3.238	6978	3.18	100	104.5	90	110	
As	75	2	He	103.047	2.733	4274	1.23	100	103.0	90	110	
Sb	121	2	He	98.729	0.664	32339	0.84	100	98.7	90	110	
Se	78	2	He	96.192	4.677	272	5.15	100	96.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	494241	0.63	522917	94.52	70	125	
In	115	1	nogas	589369	0.54	627838	93.87	70	125	
Li	6	1	nogas	226338	1.27	211473	107.03	70	125	
Bi	209	1	nogas	869041	0.91	915562	94.92	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	27325	1.50	29526	92.55	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	127_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T15:29:45-06:00
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	0.014	49.6	30	33.3	1	
B	11	1	nogas	39.255	15.9	35486	11.4	10	CCB Main CR1 Failed
Na	23	1	nogas	39.714	3.9	217084	3.5	100	
Mg	24	1	nogas	3.555	7.5	11707	6.8	100	
Al	27	1	nogas	-1.217	-1.6	3580	1.6	5	
P	31	1	nogas	-0.685	-220.7	6328	4.1	10	
K	39	1	nogas	16.920	13.4	853702	0.2	100	
Ca	43	1	nogas	9.805	88.9	143	35.8	100	
Ca	44	1	nogas	-19.585	-26.1	9199	5.4	100	
Ti	47	1	nogas	-0.051	-67.4	10	100.0	2.5	
V	51	1	nogas	10.614	12.8	99641	6.1	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.089	110.0	3664	10.3	2.5	
Mn	55	1	nogas	0.083	82.9	3971	8.9	2.5	
Fe	56	1	nogas	14.448	6.7	243642	2.0	100	
Co	59	1	nogas	0.021	13.1	160	6.3	2.5	
Ni	60	1	nogas	0.100	63.2	200	27.8	2.5	
Cu	63	1	nogas	-0.701	-8.8	1483	9.1	2.5	
Zn	66	1	nogas	-0.838	-7.4	170	25.6	2.5	
As	75	1	nogas	4.009	15.7	13649	3.7	2.5	CCB Main CR1 Failed
Se	77	1	nogas	50.955	7.5	4524	2.9	2.5	CCB Main CR1 Failed
Se	82	1	nogas	0.123	1311.7	193	31.6	2.5	
Sr	88	1	nogas	0.027	65.4	360	26.8	2.5	
Mo	95	1	nogas	0.090	42.5	107	42.3	2.5	
Ag	107	1	nogas	0.011	116.5	113	36.7	2.5	
Cd	111	1	nogas	0.032	108.5	23	107.9	1	
Sn	118	1	nogas	0.086	71.0	643	18.7	5	
Sb	121	1	nogas	0.392	20.5	1337	17.6	2.5	
Ba	137	1	nogas	-0.079	-34.5	90	29.4	2.5	
Tl	205	1	nogas	0.081	22.8	843	21.4	1	
Pb	208	1	nogas	0.035	29.4	377	18.1	2.5	
U	238	1	nogas	0.029	23.2	687	17.6	2.5	
Si	28	1	nogas	47.547	12.7	594805	1.1	5	CCB Main CR1 Failed
La	139	1	nogas	-44.215	-23.9	20	50.0	2.5	
Au	197	1	nogas	532.665	0.0	0	#DIV/0!	2.5	CCB Main CR1 Failed
Na	23	2	He	40.157	2.2	8836	1.4	100	
Mg	24	2	He	4.248	42.5	320	36.8	100	
Al	27	2	He	-2.109	-11.7	63	9.1	5	
K	39	2	He	6.576	81.8	5021	3.9	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	10.297	209.8	53	57.3	100	
V	51	2	He	0.371	15.8	203	8.5	2.5	
Cr	52	2	He	-0.223	-49.7	80	45.1	2.5	
Mn	55	2	He	0.088	176.5	30	88.2	2.5	
Fe	56	2	He	2.421	23.3	1240	10.1	100	
Co	59	2	He	0.003	896.3	13	86.6	2.5	
Ni	60	2	He	-0.143	-133.0	47	53.9	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.952	-26.7	170	56.7	2.5	
Zn	66	2	He	-1.284	0.0	0	#DIV/0!	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	0.067	121.4	7	50.0	2.5	
Sb	121	2	He	0.468	19.9	163	19.7	2.5	
Se	78	2	He	0.870	132.0	5	57.3	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	484855	0.56	522917	92.72	70	125	
In	115	1	nogas	587416	1.80	627838	93.56	70	125	
Li	6	1	nogas	208358	0.23	211473	98.53	70	125	
Bi	209	1	nogas	867390	1.65	915562	94.74	70	125	
Ge	72	2	He	26408	1.61	29526	89.44	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	138_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T15:54:09-06:00
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	97.979	2.465	169459	2.35	100	98.0	90	110	
B	11	1	nogas	579.304	1.367	466139	1.35	500	115.9	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	10487.841	1.326	48558700	0.52	10000	104.9	90	110	
Mg	24	1	nogas	10335.317	2.084	33228653	1.65	10000	103.4	90	110	
Al	27	1	nogas	102.806	1.312	422649	1.62	100	102.8	90	110	
P	31	1	nogas	520.875	2.809	122811	2.11	500	104.2	90	110	
K	39	1	nogas	10369.879	0.758	35546845	0.35	10000	103.7	90	110	
Ca	43	1	nogas	10220.228	3.492	68307	2.81	10000	102.2	90	110	
Ca	44	1	nogas	10114.979	1.063	1127235	0.74	10000	101.1	90	110	
Ti	47	1	nogas	102.909	0.414	34578	0.55	100	102.9	90	110	
V	51	1	nogas	94.595	1.277	533869	1.78	100	94.6	90	110	
Cr	52	1	nogas	101.759	1.577	440726	1.19	100	101.8	90	110	
Mn	55	1	nogas	100.073	0.749	566160	0.15	100	100.1	90	110	
Fe	56	1	nogas	9889.306	2.034	47268857	1.26	10000	98.9	90	110	
Co	59	1	nogas	99.938	0.545	461123	0.44	100	99.9	90	110	
Ni	60	1	nogas	100.557	0.976	101829	0.35	100	100.6	90	110	
Cu	63	1	nogas	99.588	0.939	252025	0.41	100	99.6	90	110	
Zn	66	1	nogas	101.855	1.156	85265	0.80	100	101.9	90	110	
As	75	1	nogas	95.479	0.858	89122	0.05	100	95.5	90	110	
Se	77	1	nogas	77.038	6.358	6155	2.73	100	77.0	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	97.089	7.266	4501	7.13	100	97.1	90	110	
Sr	88	1	nogas	100.172	2.160	645401	1.43	100	100.2	90	110	
Mo	95	1	nogas	98.052	2.514	134027	1.90	100	98.1	90	110	
Ag	107	1	nogas	98.718	1.295	367462	1.03	100	98.7	90	110	
Cd	111	1	nogas	100.507	0.648	83651	0.39	100	100.5	90	110	
Sn	118	1	nogas	97.952	0.456	239219	0.13	100	98.0	90	110	
Sb	121	1	nogas	100.346	0.806	347890	0.58	100	100.3	90	110	
Ba	137	1	nogas	100.456	2.912	120343	2.97	100	100.5	90	110	
Tl	205	1	nogas	98.899	0.860	1052987	0.89	100	98.9	90	110	
Pb	208	1	nogas	97.664	1.191	799007	1.23	100	97.7	90	110	
U	238	1	nogas	98.692	0.875	2010938	0.99	100	98.7	90	110	
Li	7	1	nogas	101.878	1.815	428509	1.63	100	101.9	90	110	
Si	28	1	nogas	5543.941	0.859	9948735	1.16	5000	110.9	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	98.744	1.192	70623	0.94	100	98.7	90	110	
La	139	1	nogas	186.801	21.286	280	15.57	100	186.8	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	40.073	2129.084	7	173.21	100	40.1	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	98.776	0.498	434153	1.25	100	98.8	90	110	
Na	23	2	He	11014.829	4.916	1828255	1.55	10000	110.1	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	10422.356	5.458	819937	2.04	10000	104.2	90	110	
Al	27	2	He	108.197	2.060	3124	2.40	100	108.2	90	110	
K	39	2	He	10301.704	3.426	416178	0.39	10000	103.0	90	110	
Ca	43	2	He	10248.954	30.559	963	27.16	10000	102.5	90	110	
Ca	44	2	He	10463.494	3.919	17636	4.63	10000	104.6	90	110	
V	51	2	He	100.845	3.617	31351	0.28	100	100.8	90	110	
Cr	52	2	He	105.404	3.350	41219	0.52	100	105.4	90	110	
Mn	55	2	He	104.520	4.777	21063	1.38	100	104.5	90	110	
Fe	56	2	He	10409.532	4.120	3113473	0.89	10000	104.1	90	110	
Co	59	2	He	101.533	4.498	57209	1.14	100	101.5	90	110	
Ni	60	2	He	101.309	3.381	15794	0.10	100	101.3	90	110	
Cu	63	2	He	102.317	5.090	45026	1.66	100	102.3	90	110	
Zn	66	2	He	101.105	6.570	7565	3.05	100	101.1	90	110	
As	75	2	He	98.732	6.327	4590	3.16	100	98.7	90	110	
Sb	121	2	He	98.175	2.294	36063	1.16	100	98.2	90	110	
Se	78	2	He	94.214	12.628	299	11.80	100	94.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	559543	0.76	522917	107.00	70	125	
In	115	1	nogas	684244	0.35	627838	108.98	70	125	
Li	6	1	nogas	252177	0.13	211473	119.25	70	125	
Bi	209	1	nogas	994200	0.76	915562	108.59	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	30658	3.42	29526	103.83	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	139_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T15:56:20-06:00
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	0.025	13.4	53	10.8	1	
B	11	1	nogas	97.987	10.0	85644	8.4	10	CCB Main CR1 Failed
Na	23	1	nogas	46.179	2.1	287789	3.5	100	
Mg	24	1	nogas	2.454	29.5	10306	23.1	100	
Al	27	1	nogas	-1.114	-6.8	4591	7.0	5	
P	31	1	nogas	-0.290	-875.5	7462	6.9	10	
K	39	1	nogas	19.975	27.6	1005169	1.1	100	
Ca	43	1	nogas	5.310	87.6	137	23.5	100	
Ca	44	1	nogas	-23.590	-11.0	10277	3.6	100	
Ti	47	1	nogas	0.004	831.6	30	33.3	2.5	
V	51	1	nogas	-3.619	-9.8	44432	4.7	2.5	
Cr	52	1	nogas	-0.178	-12.8	3110	3.1	2.5	
Mn	55	1	nogas	0.043	82.0	4401	3.8	2.5	
Fe	56	1	nogas	7.019	21.6	248206	2.4	100	
Co	59	1	nogas	0.023	45.3	197	24.0	2.5	
Ni	60	1	nogas	0.130	56.9	263	28.5	2.5	
Cu	63	1	nogas	-0.662	-18.1	1823	15.9	2.5	
Zn	66	1	nogas	-0.904	-13.2	143	70.2	2.5	
As	75	1	nogas	-4.376	-3.0	9113	1.0	2.5	
Se	77	1	nogas	-11.702	-60.2	3007	8.9	2.5	
Se	82	1	nogas	-2.172	-32.2	123	26.1	2.5	
Sr	88	1	nogas	0.032	48.1	453	22.2	2.5	
Mo	95	1	nogas	0.068	33.4	93	32.7	2.5	
Ag	107	1	nogas	0.007	105.5	117	24.7	2.5	
Cd	111	1	nogas	0.008	86.6	7	86.6	1	
Sn	118	1	nogas	0.053	132.2	670	24.9	5	
Sb	121	1	nogas	0.301	3.7	1240	2.9	2.5	
Ba	137	1	nogas	-0.058	-87.2	130	46.8	2.5	
Tl	205	1	nogas	0.095	33.4	1150	30.2	1	
Pb	208	1	nogas	0.025	28.4	360	16.7	2.5	
U	238	1	nogas	0.030	19.8	830	14.8	2.5	
Si	28	1	nogas	-5.674	-118.6	602633	1.6	5	
La	139	1	nogas	-44.233	-31.3	23	65.5	2.5	
Au	197	1	nogas	-187.309	-384.1	10	100.0	2.5	
Na	23	2	He	43.551	7.0	11184	1.7	100	
Mg	24	2	He	2.024	26.2	203	18.6	100	
Al	27	2	He	-2.671	-22.7	60	28.9	5	
K	39	2	He	-3.376	-209.1	5621	6.9	100	
Ca	43	2	He	68.269	173.2	7	173.2	100	
Ca	44	2	He	-15.240	-65.6	20	86.6	100	
V	51	2	He	-0.097	-77.1	93	27.1	2.5	
Cr	52	2	He	-0.140	-31.9	130	13.3	2.5	
Mn	55	2	He	0.205	65.4	60	44.1	2.5	
Fe	56	2	He	2.008	15.3	1363	7.8	100	
Co	59	2	He	0.026	125.1	30	66.7	2.5	
Ni	60	2	He	-0.179	-98.0	50	52.9	2.5	
Cu	63	2	He	-0.885	-19.1	233	32.5	2.5	
Zn	66	2	He	-0.854	-36.8	33	75.5	2.5	

Continuing Calibration Blank (CCB) Report

As	75	2	He	0.226	39.6	16	24.8	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.516	42.9	213	37.6	2.5	
Se	78	2	He	0.131	491.5	4	50.0	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	565066	0.75	522917	108.06	70	125	
In	115	1	nogas	684843	0.55	627838	109.08	70	125	
Li	6	1	nogas	242778	0.41	211473	114.80	70	125	
Bi	209	1	nogas	1020484	0.41	915562	111.46	70	125	
Ge	72	2	He	31713	2.99	29526	107.41	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	150_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T16:21:36-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	93.945	1.551	172475	1.87	100	93.9	90	110	
B	11	1	nogas	2061.296	1.450	1727330	0.20	500	412.3	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	10941.970	0.931	52259595	0.06	10000	109.4	90	110	
Mg	24	1	nogas	10616.553	1.033	35211758	0.19	10000	106.2	90	110	
Al	27	1	nogas	103.768	1.764	443731	1.00	100	103.8	90	110	
P	31	1	nogas	514.528	0.909	126328	0.79	500	102.9	90	110	
K	39	1	nogas	10357.985	2.500	36939926	1.54	10000	103.6	90	110	
Ca	43	1	nogas	10225.043	1.137	71111	0.28	10000	102.3	90	110	
Ca	44	1	nogas	10133.061	1.952	1174828	0.92	10000	101.3	90	110	
Ti	47	1	nogas	100.672	1.835	35193	0.98	100	100.7	90	110	
V	51	1	nogas	102.840	0.717	598286	1.90	100	102.8	90	110	
Cr	52	1	nogas	101.091	1.404	455562	0.22	100	101.1	90	110	
Mn	55	1	nogas	99.139	0.809	583618	0.78	100	99.1	90	110	
Fe	56	1	nogas	9895.416	0.759	49215688	0.71	10000	99.0	90	110	
Co	59	1	nogas	99.111	1.145	475794	0.31	100	99.1	90	110	
Ni	60	1	nogas	100.639	0.604	106051	1.94	100	100.6	90	110	
Cu	63	1	nogas	100.186	0.995	263775	0.43	100	100.2	90	110	
Zn	66	1	nogas	99.812	1.155	86952	0.45	100	99.8	90	110	
As	75	1	nogas	98.532	3.445	95261	1.86	100	98.5	90	110	
Se	77	1	nogas	115.626	5.069	7842	3.05	100	115.6	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	87.124	4.189	4224	2.77	100	87.1	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	98.142	1.316	657930	0.10	100	98.1	90	110	
Mo	95	1	nogas	94.472	1.271	134363	0.39	100	94.5	90	110	
Ag	107	1	nogas	95.755	3.291	370777	1.96	100	95.8	90	110	
Cd	111	1	nogas	98.734	2.708	81171	1.81	100	98.7	90	110	
Sn	118	1	nogas	97.424	1.444	235056	1.40	100	97.4	90	110	
Sb	121	1	nogas	93.947	1.265	338882	0.17	100	93.9	90	110	
Ba	137	1	nogas	98.894	1.982	117032	1.44	100	98.9	90	110	
Tl	205	1	nogas	98.662	1.112	1006723	0.82	100	98.7	90	110	
Pb	208	1	nogas	96.185	1.094	754166	1.28	100	96.2	90	110	
U	238	1	nogas	97.496	1.085	1903930	1.56	100	97.5	90	110	
Li	7	1	nogas	101.658	0.730	453901	0.58	100	101.7	90	110	
Si	28	1	nogas	5639.651	1.342	10518299	0.13	5000	112.8	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	98.685	1.999	69722	1.21	100	98.7	90	110	
La	139	1	nogas	135.108	30.403	220	20.83	100	135.1	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	532.665	0.000	0	#DIV/0!	100	532.7	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	98.649	1.028	415527	1.15	100	98.6	90	110	
Na	23	2	He	11199.181	4.728	1933133	2.07	10000	112.0	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	10153.350	3.505	831037	1.22	10000	101.5	90	110	
Al	27	2	He	107.243	6.499	3220	5.95	100	107.2	90	110	
K	39	2	He	10113.720	3.046	425028	1.04	10000	101.1	90	110	
Ca	43	2	He	11036.745	13.992	1083	11.47	10000	110.4	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9996.897	3.419	17526	4.69	10000	100.0	90	110	
V	51	2	He	99.080	3.510	32036	1.59	100	99.1	90	110	
Cr	52	2	He	100.173	2.637	40752	0.97	100	100.2	90	110	
Mn	55	2	He	98.883	1.558	20746	3.91	100	98.9	90	110	
Fe	56	2	He	10125.595	3.438	3149879	0.99	10000	101.3	90	110	
Co	59	2	He	98.572	3.967	57764	1.15	100	98.6	90	110	
Ni	60	2	He	98.918	3.962	16041	3.08	100	98.9	90	110	
Cu	63	2	He	98.037	3.976	44909	2.43	100	98.0	90	110	
Zn	66	2	He	98.869	4.824	7699	1.99	100	98.9	90	110	
As	75	2	He	93.986	6.378	4547	6.02	100	94.0	90	110	
Sb	121	2	He	92.425	2.867	35302	0.81	100	92.4	90	110	
Se	78	2	He	94.598	6.495	312	6.41	100	94.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	582209	1.38	522917	111.34	70	125	
In	115	1	nogas	675992	1.10	627838	107.67	70	125	
Li	6	1	nogas	267684	1.24	211473	126.58	70	125	ISTD Failed
Bi	209	1	nogas	952802	0.48	915562	104.07	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	31877	2.87	29526	107.96	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	151_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T16:23:47-06:00
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	0.027	46.5	57	36.7	1	
B	11	1	nogas	1449.427	5.8	1094056	5.5	10	CCB Main CR1 Failed
Na	23	1	nogas	182.826	1.7	903898	2.0	100	CCB Main CR1 Failed
Mg	24	1	nogas	2.483	23.9	10139	19.0	100	
Al	27	1	nogas	-1.127	-4.6	4441	3.9	5	
P	31	1	nogas	1.155	94.4	7625	2.4	10	
K	39	1	nogas	41.441	11.9	1055363	2.0	100	
Ca	43	1	nogas	81.487	4.4	637	4.5	100	
Ca	44	1	nogas	6.136	3.5	13302	1.2	100	
Ti	47	1	nogas	0.025	299.7	37	68.6	2.5	
V	51	1	nogas	6.146	21.8	91628	6.2	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.024	18.7	3904	1.3	2.5	
Mn	55	1	nogas	0.090	3.9	4574	1.4	2.5	
Fe	56	1	nogas	4.705	55.8	232152	4.7	100	
Co	59	1	nogas	0.019	46.4	173	23.3	2.5	
Ni	60	1	nogas	0.434	23.6	563	19.1	2.5	
Cu	63	1	nogas	-0.464	-13.7	2277	5.8	2.5	
Zn	66	1	nogas	-0.794	-7.7	230	22.6	2.5	
As	75	1	nogas	0.964	40.8	13159	1.4	2.5	
Se	77	1	nogas	30.565	42.1	4444	11.2	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.649	-222.0	187	32.7	2.5	
Sr	88	1	nogas	0.117	2.9	987	1.5	2.5	
Mo	95	1	nogas	0.049	57.8	67	56.8	2.5	
Ag	107	1	nogas	0.018	48.8	153	21.0	2.5	
Cd	111	1	nogas	0.037	87.5	30	88.2	1	
Sn	118	1	nogas	0.088	113.4	727	31.9	5	
Sb	121	1	nogas	0.275	10.8	1127	9.1	2.5	
Ba	137	1	nogas	-0.106	-28.0	70	49.5	2.5	
Tl	205	1	nogas	0.090	6.9	1020	7.8	1	
Pb	208	1	nogas	0.021	23.1	310	14.1	2.5	
U	238	1	nogas	0.028	13.6	750	10.6	2.5	
Si	28	1	nogas	48.453	4.4	680433	1.5	5	CCB Main CR1 Failed
La	139	1	nogas	-55.928	-16.7	10	100.0	2.5	
Au	197	1	nogas	532.665	0.0	0	#DIV/0!	2.5	CCB Main CR1 Failed
Na	23	2	He	163.337	4.9	30223	4.3	100	CCB Main CR1 Failed
Mg	24	2	He	2.349	40.8	220	34.3	100	
Al	27	2	He	-2.701	-46.7	57	62.0	5	
K	39	2	He	19.612	16.5	6255	3.4	100	
Ca	43	2	He	35.682	173.2	3	173.2	100	
Ca	44	2	He	-20.780	-28.7	10	100.0	100	
V	51	2	He	0.124	90.6	156	20.4	2.5	
Cr	52	2	He	-0.098	-64.7	140	18.9	2.5	
Mn	55	2	He	0.114	156.2	40	90.1	2.5	
Fe	56	2	He	1.839	25.5	1247	9.7	100	
Co	59	2	He	0.030	219.1	30	120.2	2.5	
Ni	60	2	He	-0.275	-27.6	33	34.6	2.5	
Cu	63	2	He	-0.609	-23.3	340	16.4	2.5	
Zn	66	2	He	-1.147	-20.7	10	173.2	2.5	

Continuing Calibration Blank (CCB) Report

As	75	2	He	-0.074	-57.4	1	173.2	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.230	33.8	100	26.5	2.5	
Se	78	2	He	0.179	722.3	4	100.0	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	553380	1.04	522917	105.83	70	125	
In	115	1	nogas	658811	0.81	627838	104.93	70	125	
Li	6	1	nogas	240350	0.35	211473	113.66	70	125	
Bi	209	1	nogas	956608	1.58	915562	104.48	70	125	
Ge	72	2	He	30197	1.54	29526	102.27	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	162_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T16:49:40-06:00
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	92.338	1.395	161810	0.22	100	92.3	90	110	
B	11	1	nogas	778.849	1.929	630687	0.96	500	155.8	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	10355.535	0.995	47055714	0.29	10000	103.6	90	110	
Mg	24	1	nogas	10245.713	0.711	32329471	0.74	10000	102.5	90	110	
Al	27	1	nogas	101.651	1.378	411445	0.94	100	101.7	90	110	
P	31	1	nogas	513.781	0.349	119356	0.42	500	102.8	90	110	
K	39	1	nogas	10144.948	0.595	34252916	0.58	10000	101.4	90	110	
Ca	43	1	nogas	10069.388	1.239	66255	0.62	10000	100.7	90	110	
Ca	44	1	nogas	9873.133	0.490	1083410	0.20	10000	98.7	90	110	
Ti	47	1	nogas	101.400	0.255	33539	0.49	100	101.4	90	110	
V	51	1	nogas	100.744	1.894	555735	2.29	100	100.7	90	110	
Cr	52	1	nogas	99.030	1.281	422310	0.84	100	99.0	90	110	
Mn	55	1	nogas	98.542	1.034	548849	0.68	100	98.5	90	110	
Fe	56	1	nogas	9626.250	0.795	45301833	0.66	10000	96.3	90	110	
Co	59	1	nogas	97.257	1.170	441734	0.79	100	97.3	90	110	
Ni	60	1	nogas	98.866	1.706	98563	2.14	100	98.9	90	110	
Cu	63	1	nogas	98.149	1.848	244556	1.75	100	98.1	90	110	
Zn	66	1	nogas	98.617	2.227	81295	2.27	100	98.6	90	110	
As	75	1	nogas	98.648	1.133	90231	0.37	100	98.6	90	110	
Se	77	1	nogas	118.413	9.341	7518	5.69	100	118.4	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	97.144	9.613	4434	9.70	100	97.1	90	110	
Sr	88	1	nogas	97.586	0.536	618973	0.22	100	97.6	90	110	
Mo	95	1	nogas	96.121	2.740	129334	2.15	100	96.1	90	110	
Ag	107	1	nogas	96.837	1.561	354825	1.17	100	96.8	90	110	
Cd	111	1	nogas	97.374	1.430	79715	1.67	100	97.4	90	110	
Sn	118	1	nogas	94.963	0.949	228130	1.04	100	95.0	90	110	
Sb	121	1	nogas	95.660	1.307	326467	1.03	100	95.7	90	110	
Ba	137	1	nogas	96.306	1.932	113480	1.81	100	96.3	90	110	
Tl	205	1	nogas	96.024	1.097	985943	1.28	100	96.0	90	110	
Pb	208	1	nogas	95.004	0.832	749519	0.12	100	95.0	90	110	
U	238	1	nogas	96.826	2.419	1902373	1.67	100	96.8	90	110	
Li	7	1	nogas	97.817	2.627	417654	1.46	100	97.8	90	110	
Si	28	1	nogas	5497.454	1.248	9715675	0.63	5000	109.9	90	110	
Ba	135	1	nogas	93.347	0.887	65675	0.71	100	93.3	90	110	
La	139	1	nogas	136.042	6.568	220	4.55	100	136.0	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-225.653	-582.063	10	173.21	100	-225.7	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	95.808	0.879	406090	1.24	100	95.8	90	110	
Na	23	2	He	10797.402	2.477	1753360	2.04	10000	108.0	90	110	
Mg	24	2	He	10117.329	2.754	778654	0.87	10000	101.2	90	110	
Al	27	2	He	108.621	5.265	3064	3.30	100	108.6	90	110	
K	39	2	He	9986.458	2.174	394694	0.77	10000	99.9	90	110	
Ca	43	2	He	11316.959	2.648	1047	1.46	10000	113.2	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	10182.366	2.425	16778	3.00	10000	101.8	90	110	
V	51	2	He	98.660	3.061	29993	0.77	100	98.7	90	110	
Cr	52	2	He	101.058	2.333	38660	2.58	100	101.1	90	110	
Mn	55	2	He	98.735	5.774	19451	2.97	100	98.7	90	110	
Fe	56	2	He	10069.125	3.159	2945034	0.49	10000	100.7	90	110	
Co	59	2	He	97.540	4.851	53730	2.06	100	97.5	90	110	
Ni	60	2	He	95.168	3.505	14510	0.69	100	95.2	90	110	
Cu	63	2	He	98.334	3.508	42349	1.73	100	98.3	90	110	
Zn	66	2	He	100.730	4.029	7378	4.54	100	100.7	90	110	
As	75	2	He	97.996	3.660	4456	1.18	100	98.0	90	110	
Sb	121	2	He	94.692	4.024	33999	2.13	100	94.7	90	110	
Se	78	2	He	90.002	1.981	279	3.67	100	90.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	550799	0.62	522917	105.33	70	125	
In	115	1	nogas	673000	0.24	627838	107.19	70	125	
Li	6	1	nogas	255526	1.22	211473	120.83	70	125	
Bi	209	1	nogas	958753	0.76	915562	104.72	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	29970	2.89	29526	101.50	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	163_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T16:51:49-06:00
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	0.030	41.4	60	33.3	1	
B	11	1	nogas	349.538	3.8	271319	3.7	10	CCB Main CR1 Failed
Na	23	1	nogas	51.919	1.3	317390	1.7	100	
Mg	24	1	nogas	2.340	27.3	10005	20.1	100	
Al	27	1	nogas	-1.167	-4.6	4437	4.6	5	
P	31	1	nogas	-1.280	-44.1	7348	2.0	10	
K	39	1	nogas	10.176	38.2	986363	1.7	100	
Ca	43	1	nogas	38.186	25.4	363	18.3	100	
Ca	44	1	nogas	-23.803	-4.1	10400	0.7	100	
Ti	47	1	nogas	0.002	2234.8	30	57.7	2.5	
V	51	1	nogas	4.799	15.9	88077	4.3	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.013	644.2	3997	9.2	2.5	
Mn	55	1	nogas	0.010	606.2	4274	8.1	2.5	
Fe	56	1	nogas	3.211	56.8	233255	3.5	100	
Co	59	1	nogas	0.026	69.7	213	39.9	2.5	
Ni	60	1	nogas	0.174	26.5	313	15.1	2.5	
Cu	63	1	nogas	-0.686	-2.3	1790	1.9	2.5	
Zn	66	1	nogas	-0.906	-8.9	143	47.5	2.5	
As	75	1	nogas	0.683	47.1	13402	1.8	2.5	
Se	77	1	nogas	22.045	38.4	4287	6.9	2.5	CCB Main CR1 Failed
Se	82	1	nogas	0.370	487.0	240	34.1	2.5	
Sr	88	1	nogas	0.042	35.8	523	19.1	2.5	
Mo	95	1	nogas	0.059	49.9	83	50.0	2.5	
Ag	107	1	nogas	0.012	51.7	137	16.9	2.5	
Cd	111	1	nogas	0.020	69.2	17	69.3	1	
Sn	118	1	nogas	0.067	122.9	720	27.7	5	
Sb	121	1	nogas	0.364	10.7	1483	9.4	2.5	
Ba	137	1	nogas	-0.110	-26.2	70	51.5	2.5	
Tl	205	1	nogas	0.098	10.2	1153	9.6	1	
Pb	208	1	nogas	0.028	42.7	377	26.2	2.5	
U	238	1	nogas	0.033	15.5	873	12.2	2.5	
Si	28	1	nogas	10.636	14.7	639571	0.7	5	CCB Main CR1 Failed
La	139	1	nogas	-39.053	-59.0	30	88.2	2.5	
Au	197	1	nogas	532.665	0.0	0	#DIV/0!	2.5	CCB Main CR1 Failed
Na	23	2	He	56.410	2.5	12855	3.9	100	
Mg	24	2	He	3.232	29.9	290	26.0	100	
Al	27	2	He	-2.074	-60.6	73	43.8	5	
K	39	2	He	7.419	127.8	5818	7.3	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-8.732	-180.8	30	88.2	100	
V	51	2	He	0.112	15.3	154	6.0	2.5	
Cr	52	2	He	-0.298	-25.8	63	45.6	2.5	
Mn	55	2	He	0.146	67.5	47	44.6	2.5	
Fe	56	2	He	3.388	32.3	1720	20.7	100	
Co	59	2	He	0.006	498.4	17	91.7	2.5	
Ni	60	2	He	-0.344	-46.5	23	107.9	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.864	-8.7	233	16.2	2.5	
Zn	66	2	He	-1.192	-6.6	7	86.6	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	0.144	81.9	11	45.8	2.5	
Sb	121	2	He	0.246	62.8	107	53.3	2.5	
Se	78	2	He	-0.263	-277.8	3	86.6	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	573266	0.37	522917	109.63	70	125	
In	115	1	nogas	700453	1.24	627838	111.57	70	125	
Li	6	1	nogas	239156	0.26	211473	113.09	70	125	
Bi	209	1	nogas	1002779	0.55	915562	109.53	70	125	
Ge	72	2	He	30417	2.57	29526	103.02	70	125	

Sample Report

Sample Table

Sample Name	HS17121168-01
Data File Name	173SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T17:14:07-06:00
Sample Type	Sample
Dilution	5
Comment	TW B124039
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	-0.003	-0.015	-119.61	7	-0.04	2000	
B	11	1	nogas	176.030	880.151	2.55	143541	0.12	2000	
Na	23	1	nogas	108862.772	544313.860	2.18	519483645	0.02	200000	
Mg	24	1	nogas	5010.595	25052.973	1.50	16626920	0.03	200000	
Al	27	1	nogas	1.272	6.361	3.21	14500	0.01	2000	
K	39	1	nogas	435.846	2179.232	2.59	2443302	0.02	200000	
Ca	43	1	nogas	2658.655	13293.274	2.79	18293	14.53	200000	
Ca	44	1	nogas	2633.972	13169.859	0.93	310586	0.85	200000	
Ti	47	1	nogas	0.263	1.317	37.55	120	0.22	2000	
V	51	1	nogas	8.468	42.341	10.81	106884	0.01	2000	
Cr	52	1	nogas	0.057	0.287	161.68	4194	0.00	2000	
Mn	55	1	nogas	11.062	55.311	1.77	67903	0.02	2000	
Fe	56	1	nogas	13.071	65.357	14.97	281505	0.00	200000	
Co	59	1	nogas	0.048	0.242	8.15	320	0.02	2000	
Ni	60	1	nogas	0.370	1.852	9.77	517	0.07	2000	
Cu	63	1	nogas	3.282	16.411	2.51	11944	0.03	2000	
Zn	66	1	nogas	0.335	1.673	45.11	1197	0.03	2000	
As	75	1	nogas	2.741	13.705	32.60	15100	0.02	2000	
Se	77	1	nogas	44.452	222.258	24.48	5114	0.87	2000	
Se	82	1	nogas	-0.665	-3.326	-218.43	193	-0.34	2000	
Sr	88	1	nogas	70.870	354.349	0.62	468143	0.02	2000	
Mo	95	1	nogas	0.021	0.107	58.41	30	0.07	2000	
Ag	107	1	nogas	0.003	0.016	207.73	103	0.00	2000	
Cd	111	1	nogas	0.004	0.020	173.21	3	0.12	2000	
Sn	118	1	nogas	0.038	0.191	279.31	633	0.01	2000	
Sb	121	1	nogas	0.139	0.693	40.96	683	0.02	2000	
Ba	137	1	nogas	39.925	199.626	1.78	48051	0.08	2000	
Tl	205	1	nogas	0.000	0.001	2732.68	103	0.00	2000	
Pb	208	1	nogas	0.013	0.063	58.59	243	0.01	2000	
U	238	1	nogas	0.015	0.077	13.74	497	0.00	2000	
Si	28	1	nogas	3415.999	17079.994	0.83	6521859	0.05	2000	>LDR
La	139	1	nogas	-14.461	-72.304	-65.77	57	-25.52	2000	
Au	197	1	nogas	281.350	1406.751	154.71	3	8440.51	2000	
Na	23	2	He	107687.017	538435.083	2.82	19166575	0.56	200000	
Mg	24	2	He	4860.832	24304.160	2.64	410887	1.18	200000	
Al	27	2	He	-0.828	-4.142	-94.12	117	-0.71	2000	
K	39	2	He	388.426	1942.131	5.02	22595	1.72	200000	
Ca	43	2	He	3219.029	16095.145	8.55	327	985.39	200000	
Ca	44	2	He	2630.148	13150.738	6.12	4791	54.90	200000	
V	51	2	He	0.260	1.299	73.81	215	0.12	2000	
Cr	52	2	He	-0.152	-0.759	-41.12	130	-0.12	2000	
Mn	55	2	He	10.020	50.099	10.75	2184	0.46	2000	
Fe	56	2	He	3.030	15.151	9.37	1743	0.17	200000	
Co	59	2	He	-0.008	-0.039	-376.13	10	-0.08	2000	

Sample Report

Ni	60	2	He	-0.237	-1.184	-76.91	43	-0.55	2000	
Cu	63	2	He	2.964	14.822	6.79	2040	0.15	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Zn	66	2	He	0.437	2.187	44.94	137	0.32	2000	
As	75	2	He	0.216	1.079	74.59	16	1.39	2000	
Sb	121	2	He	0.130	0.650	70.39	70	0.19	2000	
Se	78	2	He	1.260	6.301	80.10	8	15.75	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	573541	0.62	522917	109.68	70	125	
In	115	1	nogas	685832	1.59	627838	109.24	70	125	
Li	6	1	nogas	241126	0.27	211473	114.02	70	125	
Bi	209	1	nogas	962235	0.94	915562	105.10	70	125	
Ge	72	2	He	32916	3.03	29526	111.48	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	174_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T17:16:20-06:00
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	95.411	1.364	162871	0.97	100	95.4	90	110	
B	11	1	nogas	613.816	2.288	486737	1.67	500	122.8	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	10459.104	1.456	46811479	0.71	10000	104.6	90	110	
Mg	24	1	nogas	10358.101	1.032	32193858	1.13	10000	103.6	90	110	
Al	27	1	nogas	100.996	0.657	408275	0.20	100	101.0	90	110	
P	31	1	nogas	505.637	2.354	117410	2.10	500	101.1	90	110	
K	39	1	nogas	10196.575	0.756	34374271	1.17	10000	102.0	90	110	
Ca	43	1	nogas	9908.986	1.082	65111	1.15	10000	99.1	90	110	
Ca	44	1	nogas	9941.595	0.114	1089286	0.37	10000	99.4	90	110	
Ti	47	1	nogas	99.029	2.175	32711	2.63	100	99.0	90	110	
V	51	1	nogas	98.535	1.761	544068	1.68	100	98.5	90	110	
Cr	52	1	nogas	100.566	0.980	428191	0.70	100	100.6	90	110	
Mn	55	1	nogas	99.362	1.148	552616	1.42	100	99.4	90	110	
Fe	56	1	nogas	9735.953	0.966	45750203	0.87	10000	97.4	90	110	
Co	59	1	nogas	97.748	1.528	443364	1.93	100	97.7	90	110	
Ni	60	1	nogas	99.438	1.326	98982	0.91	100	99.4	90	110	
Cu	63	1	nogas	98.906	0.386	246070	0.84	100	98.9	90	110	
Zn	66	1	nogas	99.646	2.320	82012	1.94	100	99.6	90	110	
As	75	1	nogas	97.091	2.963	88871	2.11	100	97.1	90	110	
Se	77	1	nogas	101.154	8.885	6898	4.26	100	101.2	90	110	
Se	82	1	nogas	98.398	1.756	4481	2.13	100	98.4	90	110	
Sr	88	1	nogas	97.459	0.499	617281	0.38	100	97.5	90	110	
Mo	95	1	nogas	95.760	1.238	128673	0.79	100	95.8	90	110	
Ag	107	1	nogas	96.067	0.605	351511	0.55	100	96.1	90	110	
Cd	111	1	nogas	98.395	1.575	79353	2.24	100	98.4	90	110	
Sn	118	1	nogas	96.956	1.647	229415	0.93	100	97.0	90	110	
Sb	121	1	nogas	96.223	1.589	327911	1.12	100	96.2	90	110	
Ba	137	1	nogas	97.791	1.608	113510	1.72	100	97.8	90	110	
Tl	205	1	nogas	96.303	1.003	986122	1.21	100	96.3	90	110	
Pb	208	1	nogas	95.332	1.684	750037	0.97	100	95.3	90	110	
U	238	1	nogas	98.166	2.883	1923522	2.52	100	98.2	90	110	
Li	7	1	nogas	99.521	0.354	413644	0.96	100	99.5	90	110	
Si	28	1	nogas	5442.535	1.155	9611108	1.07	5000	108.9	90	110	
Ba	135	1	nogas	96.951	1.561	67192	2.07	100	97.0	90	110	
La	139	1	nogas	105.164	23.509	183	13.73	100	105.2	90	110	
Au	197	1	nogas	532.665	0.000	0	#DIV/0!	100	532.7	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	96.490	2.474	407815	1.76	100	96.5	90	110	
Na	23	2	He	10548.989	3.861	1725039	2.80	10000	105.5	90	110	
Mg	24	2	He	9973.330	3.027	773011	0.94	10000	99.7	90	110	
Al	27	2	He	99.650	11.392	2844	11.23	100	99.6	90	110	
K	39	2	He	10045.278	3.734	399702	0.89	10000	100.5	90	110	
Ca	43	2	He	10689.476	24.831	993	23.62	10000	106.9	90	110	
Ca	44	2	He	9773.033	2.120	16218	1.66	10000	97.7	90	110	
V	51	2	He	97.871	4.488	29959	1.89	100	97.9	90	110	
Cr	52	2	He	100.418	3.090	38690	3.28	100	100.4	90	110	
Mn	55	2	He	98.745	4.196	19608	4.12	100	98.7	90	110	
Fe	56	2	He	10238.878	3.609	3016182	2.12	10000	102.4	90	110	
Co	59	2	He	99.165	2.382	55052	2.46	100	99.2	90	110	
Ni	60	2	He	99.683	3.229	15304	0.36	100	99.7	90	110	
Cu	63	2	He	99.950	4.381	43332	1.51	100	100.0	90	110	
Zn	66	2	He	104.277	1.708	7689	2.04	100	104.3	90	110	
As	75	2	He	92.128	7.116	4216	3.78	100	92.1	90	110	
Sb	121	2	He	94.606	2.111	34226	2.56	100	94.6	90	110	
Se	78	2	He	95.221	5.923	297	5.72	100	95.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	550008	0.46	522917	105.18	70	125	
In	115	1	nogas	662968	0.77	627838	105.60	70	125	
Li	6	1	nogas	248906	0.88	211473	117.70	70	125	
Bi	209	1	nogas	956148	0.72	915562	104.43	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	30187	3.39	29526	102.24	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	175_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T17:18:32-06:00
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	0.046	30.1	87	26.6	1	
B	11	1	nogas	178.674	4.4	145177	4.5	10	CCB Main CR1 Failed
Na	23	1	nogas	48.908	2.2	310043	0.6	100	
Mg	24	1	nogas	2.356	23.3	10306	18.5	100	
Al	27	1	nogas	-1.154	-3.3	4511	4.0	5	
P	31	1	nogas	-0.491	-182.0	7555	2.6	10	
K	39	1	nogas	13.352	21.6	1000928	1.2	100	
Ca	43	1	nogas	35.529	27.3	347	19.6	100	
Ca	44	1	nogas	-22.244	-21.1	10617	5.3	100	
Ti	47	1	nogas	0.040	39.1	43	13.3	2.5	
V	51	1	nogas	1.580	15.4	71897	1.3	2.5	
Cr	52	1	nogas	-0.052	-87.5	3724	5.3	2.5	
Mn	55	1	nogas	0.030	44.0	4407	1.7	2.5	
Fe	56	1	nogas	2.625	36.9	231301	2.8	100	
Co	59	1	nogas	0.016	96.6	167	43.4	2.5	
Ni	60	1	nogas	0.029	249.6	163	46.0	2.5	
Cu	63	1	nogas	-0.709	-4.4	1740	4.9	2.5	
Zn	66	1	nogas	-0.926	-3.7	127	24.1	2.5	
As	75	1	nogas	-1.012	-20.8	12054	1.8	2.5	
Se	77	1	nogas	8.679	90.7	3811	6.9	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-1.991	-76.6	133	51.1	2.5	
Sr	88	1	nogas	0.042	23.4	530	13.1	2.5	
Mo	95	1	nogas	0.062	36.6	87	37.1	2.5	
Ag	107	1	nogas	0.018	68.3	160	28.6	2.5	
Cd	111	1	nogas	0.008	173.2	7	173.2	1	
Sn	118	1	nogas	0.066	61.3	723	12.8	5	
Sb	121	1	nogas	0.253	4.8	1093	3.2	2.5	
Ba	137	1	nogas	-0.089	-45.2	97	52.1	2.5	
Tl	205	1	nogas	0.095	31.1	1147	28.8	1	
Pb	208	1	nogas	0.038	11.0	473	8.0	2.5	
U	238	1	nogas	0.029	28.8	800	22.1	2.5	
Si	28	1	nogas	14.809	32.7	649171	1.1	5	CCB Main CR1 Failed
La	139	1	nogas	-44.761	-41.0	23	89.2	2.5	
Au	197	1	nogas	291.416	143.4	3	173.2	2.5	CCB Main CR1 Failed
Na	23	2	He	51.987	2.8	12278	3.6	100	
Mg	24	2	He	1.752	40.2	177	31.2	100	
Al	27	2	He	-2.959	-32.8	50	52.9	5	
K	39	2	He	3.693	171.2	5741	5.4	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-10.936	-63.7	27	43.3	100	
V	51	2	He	0.051	52.4	137	6.8	2.5	
Cr	52	2	He	-0.164	-79.7	117	43.1	2.5	
Mn	55	2	He	0.129	81.4	43	48.0	2.5	
Fe	56	2	He	2.436	21.2	1453	11.7	100	
Co	59	2	He	-0.013	-78.9	7	86.6	2.5	
Ni	60	2	He	-0.256	-77.5	37	83.3	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.909	-23.3	217	43.6	2.5	
Zn	66	2	He	-1.103	-18.8	13	114.6	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	0.044	165.3	7	50.0	2.5	
Sb	121	2	He	0.315	14.4	133	11.5	2.5	
Se	78	2	He	1.646	24.0	9	13.3	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	575411	0.75	522917	110.04	70	125	
In	115	1	nogas	705977	1.22	627838	112.45	70	125	
Li	6	1	nogas	240521	1.02	211473	113.74	70	125	
Bi	209	1	nogas	1018960	0.67	915562	111.29	70	125	
Ge	72	2	He	30795	1.56	29526	104.30	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	187_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T17:45:00-06:00
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	0.054	45.6	90	40.1	1	
B	11	1	nogas	122.108	5.4	92973	5.3	10	CCB Main CR1 Failed
Na	23	1	nogas	115.004	2.1	547778	2.9	100	CCB Main CR1 Failed
Mg	24	1	nogas	3.783	28.7	13141	24.6	100	
Al	27	1	nogas	-1.104	-9.3	4197	9.1	5	
P	31	1	nogas	4.185	4.1	7675	1.2	10	
K	39	1	nogas	53.330	8.8	1013308	0.8	100	
Ca	43	1	nogas	27.602	25.9	260	16.8	100	
Ca	44	1	nogas	-7.134	-70.4	10974	3.9	100	
Ti	47	1	nogas	-0.009	-837.5	23	99.0	2.5	
V	51	1	nogas	1.764	18.7	64864	3.0	2.5	
Cr	52	1	nogas	-0.046	-87.6	3340	5.4	2.5	
Mn	55	1	nogas	0.341	6.9	5521	2.0	2.5	
Fe	56	1	nogas	10.945	10.1	242151	1.6	100	
Co	59	1	nogas	0.028	34.4	200	20.0	2.5	
Ni	60	1	nogas	0.178	34.4	283	20.7	2.5	
Cu	63	1	nogas	-0.649	-12.3	1687	11.6	2.5	
Zn	66	1	nogas	-0.881	-6.2	147	27.6	2.5	
As	75	1	nogas	-0.720	-46.7	10947	2.4	2.5	
Se	77	1	nogas	15.651	76.7	3624	11.3	2.5	CCB Main CR1 Failed
Se	82	1	nogas	0.342	461.4	213	30.1	2.5	
Sr	88	1	nogas	0.051	22.1	520	12.0	2.5	
Mo	95	1	nogas	0.096	83.7	120	83.3	2.5	
Ag	107	1	nogas	0.024	47.3	163	23.2	2.5	
Cd	111	1	nogas	0.027	86.6	20	86.6	1	
Sn	118	1	nogas	0.116	119.8	747	41.2	5	
Sb	121	1	nogas	0.196	43.2	793	34.0	2.5	
Ba	137	1	nogas	-0.065	-51.3	110	32.8	2.5	
Tl	205	1	nogas	0.099	21.4	1047	21.0	1	
Pb	208	1	nogas	0.040	8.3	427	7.2	2.5	
U	238	1	nogas	0.029	9.3	703	6.7	2.5	
Si	28	1	nogas	88.360	11.5	691415	1.5	5	CCB Main CR1 Failed
La	139	1	nogas	-35.391	-48.9	30	57.7	2.5	
Au	197	1	nogas	-5.250	-17746.7	7	173.2	2.5	
Na	23	2	He	106.019	4.3	19945	2.3	100	CCB Main CR1 Failed
Mg	24	2	He	3.911	27.6	327	25.7	100	
Al	27	2	He	-2.857	-25.8	50	40.0	5	
K	39	2	He	7.805	25.8	5538	3.0	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-3.661	-260.2	37	41.7	100	
V	51	2	He	0.037	112.8	124	8.5	2.5	
Cr	52	2	He	-0.063	-40.2	147	7.9	2.5	
Mn	55	2	He	0.177	49.0	50	34.6	2.5	
Fe	56	2	He	2.324	7.4	1330	2.7	100	
Co	59	2	He	0.019	148.6	23	65.5	2.5	
Ni	60	2	He	-0.265	-39.3	33	45.8	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.925	-12.6	197	25.6	2.5	
Zn	66	2	He	-0.945	-38.8	23	107.9	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	0.028	419.4	6	91.6	2.5	
Sb	121	2	He	0.262	45.3	107	37.9	2.5	
Se	78	2	He	1.821	93.5	9	58.1	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	512315	0.73	522917	97.97	70	125	
In	115	1	nogas	620369	0.79	627838	98.81	70	125	
Li	6	1	nogas	217321	0.55	211473	102.77	70	125	
Bi	209	1	nogas	894954	1.44	915562	97.75	70	125	
Ge	72	2	He	28878	1.62	29526	97.81	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\010
Acq Date Time	2018-01-05T17:47:12-06:00
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	99.303	1.787	150964	1.71	100	99.3	90	110	
B	11	1	nogas	585.322	3.174	413779	1.77	500	117.1	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	11579.916	2.136	46967901	1.75	10000	115.8	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	10731.846	0.785	30231795	0.91	10000	107.3	90	110	
Al	27	1	nogas	103.148	1.055	377163	0.93	100	103.1	90	110	
P	31	1	nogas	533.916	1.676	111822	1.61	500	106.8	90	110	
K	39	1	nogas	10681.350	1.303	32545412	1.41	10000	106.8	90	110	
Ca	43	1	nogas	10699.052	3.006	63613	3.10	10000	107.0	90	110	
Ca	44	1	nogas	10597.302	0.405	1049984	0.19	10000	106.0	90	110	
Ti	47	1	nogas	103.929	2.688	31061	2.47	100	103.9	90	110	
V	51	1	nogas	100.004	2.099	498850	1.75	100	100.0	90	110	
Cr	52	1	nogas	103.051	1.211	396976	1.07	100	103.1	90	110	
Mn	55	1	nogas	101.468	0.894	510581	0.69	100	101.5	90	110	
Fe	56	1	nogas	10073.859	0.896	42830801	0.68	10000	100.7	90	110	
Co	59	1	nogas	100.683	0.611	413237	0.66	100	100.7	90	110	
Ni	60	1	nogas	102.224	1.783	92081	1.72	100	102.2	90	110	
Cu	63	1	nogas	101.316	1.047	228023	1.04	100	101.3	90	110	
Zn	66	1	nogas	102.726	2.642	76487	2.54	100	102.7	90	110	
As	75	1	nogas	101.268	2.260	83406	1.83	100	101.3	90	110	
Se	77	1	nogas	100.878	9.425	6235	5.06	100	100.9	90	110	
Se	82	1	nogas	101.265	5.111	4167	5.09	100	101.3	90	110	
Sr	88	1	nogas	107.813	0.112	617922	0.25	100	107.8	90	110	
Mo	95	1	nogas	98.254	1.083	119476	1.10	100	98.3	90	110	
Ag	107	1	nogas	100.598	0.467	333096	0.57	100	100.6	90	110	
Cd	111	1	nogas	101.506	1.714	74310	1.20	100	101.5	90	110	
Sn	118	1	nogas	100.113	1.516	215045	0.75	100	100.1	90	110	
Sb	121	1	nogas	100.807	1.599	310884	1.78	100	100.8	90	110	
Ba	137	1	nogas	104.644	0.992	110258	0.50	100	104.6	90	110	
Tl	205	1	nogas	100.855	0.347	922863	0.45	100	100.9	90	110	
Pb	208	1	nogas	99.012	0.100	696168	0.59	100	99.0	90	110	
U	238	1	nogas	101.048	0.997	1769434	0.48	100	101.0	90	110	
Li	7	1	nogas	102.940	1.758	380350	0.24	100	102.9	90	110	
Si	28	1	nogas	5792.933	0.541	9222680	0.69	5000	115.9	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	100.711	2.133	63350	0.87	100	100.7	90	110	
La	139	1	nogas	63.720	101.808	127	51.37	100	63.7	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-38.938	-1271.367	7	86.60	100	-38.9	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	101.517	0.761	383449	0.32	100	101.5	90	110	
Na	23	2	He	11762.624	3.539	1733754	0.93	10000	117.6	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	10625.408	2.885	742675	1.91	10000	106.3	90	110	
Al	27	2	He	110.600	12.282	2830	10.76	100	110.6	90	110	CCV Main CR1-2 Failed
K	39	2	He	10561.434	3.466	378708	1.35	10000	105.6	90	110	
Ca	43	2	He	10524.549	10.021	883	8.50	10000	105.2	90	110	
Ca	44	2	He	10435.548	4.875	15604	2.60	10000	104.4	90	110	
V	51	2	He	101.077	3.636	27900	1.35	100	101.1	90	110	
Cr	52	2	He	104.066	2.293	36145	1.82	100	104.1	90	110	
Mn	55	2	He	103.527	6.615	18520	4.34	100	103.5	90	110	
Fe	56	2	He	10669.926	4.520	2833461	2.29	10000	106.7	90	110	
Co	59	2	He	103.239	3.934	51654	1.32	100	103.2	90	110	
Ni	60	2	He	106.262	4.647	14706	3.55	100	106.3	90	110	
Cu	63	2	He	102.911	4.885	40211	2.24	100	102.9	90	110	
Zn	66	2	He	103.509	4.535	6885	5.68	100	103.5	90	110	
As	75	2	He	100.715	6.411	4157	3.98	100	100.7	90	110	
Sb	121	2	He	98.022	3.392	31965	2.09	100	98.0	90	110	
Se	78	2	He	87.725	20.151	247	20.09	100	87.7	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
Ge	72	1	nogas	497715	0.22	522917	95.18	70	125	
In	115	1	nogas	601920	1.45	627838	95.87	70	125	
Li	6	1	nogas	221671	1.43	211473	104.82	70	125	
Bi	209	1	nogas	854435	0.64	915562	93.32	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	27215	2.64	29526	92.17	70	125	

Sample Report

Sample Table

Sample Name	MBLK-124039
Data File Name	193SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T17:59:11-06:00
Sample Type	Sample
Dilution	1
Comment	TW B124039
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	0.008	0.008	49.77	23	0.04	2000	
B	11	1	nogas	68.335	68.335	1.77	58649	0.12	2000	
Na	23	1	nogas	69.558	69.558	2.13	361331	0.02	200000	
Mg	24	1	nogas	7.963	7.963	4.82	25690	0.03	200000	
Al	27	1	nogas	1.577	1.577	5.19	14189	0.01	2000	
K	39	1	nogas	92.371	92.371	4.24	1141923	0.01	200000	
Ca	43	1	nogas	44.594	44.594	14.64	367	12.16	200000	
Ca	44	1	nogas	-17.734	-17.734	-18.63	9986	-0.18	200000	
Ti	47	1	nogas	-0.032	-0.032	-153.84	17	-0.19	2000	
V	51	1	nogas	4.876	4.876	35.67	79633	0.01	2000	
Cr	52	1	nogas	0.019	0.019	142.60	3624	0.00	2000	
Mn	55	1	nogas	0.123	0.123	44.17	4441	0.00	2000	
Fe	56	1	nogas	20.382	20.382	7.45	285547	0.01	200000	
Co	59	1	nogas	0.001	0.001	282.97	87	0.00	2000	
Ni	60	1	nogas	0.015	0.015	140.75	133	0.01	2000	
Cu	63	1	nogas	-0.704	-0.704	-8.19	1573	-0.04	2000	
Zn	66	1	nogas	2.768	2.768	7.40	2937	0.09	2000	
As	75	1	nogas	-0.115	-0.115	-148.64	11484	0.00	2000	
Se	77	1	nogas	20.893	20.893	47.64	3824	0.55	2000	
Se	82	1	nogas	0.286	0.286	467.05	213	0.13	2000	
Sr	88	1	nogas	0.049	0.049	42.05	513	0.01	2000	
Mo	95	1	nogas	0.021	0.021	76.31	27	0.08	2000	
Ag	107	1	nogas	-0.004	-0.004	-10.15	70	-0.01	2000	
Cd	111	1	nogas	0.009	0.009	173.21	7	0.13	2000	
Sn	118	1	nogas	0.036	0.036	91.42	577	0.01	2000	
Sb	121	1	nogas	0.165	0.165	10.70	700	0.02	2000	
Ba	137	1	nogas	-0.043	-0.043	-103.81	137	-0.03	2000	
Tl	205	1	nogas	-0.001	-0.001	-321.52	90	0.00	2000	
Pb	208	1	nogas	0.006	0.006	69.38	183	0.00	2000	
U	238	1	nogas	0.005	0.005	127.38	273	0.00	2000	
Si	28	1	nogas	80.757	80.757	6.93	685277	0.01	2000	
La	139	1	nogas	-22.955	-22.955	-95.52	43	-52.97	2000	
Au	197	1	nogas	265.846	265.846	173.84	3	7975.39	2000	
Na	23	2	He	68.552	68.552	2.76	13949	0.49	200000	
Mg	24	2	He	8.611	8.611	15.52	667	1.29	200000	
Al	27	2	He	1.669	1.669	215.73	167	1.00	2000	
K	39	2	He	70.119	70.119	11.76	7795	0.90	200000	
Ca	43	2	He	112.720	112.720	173.21	10	1127.20	200000	
Ca	44	2	He	13.650	13.650	149.02	63	21.55	200000	
V	51	2	He	0.123	0.123	47.16	147	0.08	2000	

Sample Report

Cr	52	2	He	-0.224	-0.224	-37.65	87	-0.26	2000	
Mn	55	2	He	0.183	0.183	79.91	50	0.37	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Fe	56	2	He	1.589	1.589	26.88	1113	0.14	200000	
Co	59	2	He	-0.012	-0.012	-176.15	7	-0.18	2000	
Ni	60	2	He	-0.447	-0.447	-17.74	7	-6.71	2000	
Cu	63	2	He	-0.810	-0.810	-15.29	240	-0.34	2000	
Zn	66	2	He	2.833	2.833	26.13	283	1.00	2000	
As	75	2	He	0.104	0.104	220.11	9	1.17	2000	
Sb	121	2	He	0.117	0.117	77.77	57	0.21	2000	
Se	78	2	He	0.691	0.691	225.46	5	12.96	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	516547	1.80	522917	98.78	70	125	
In	115	1	nogas	628180	1.30	627838	100.05	70	125	
Li	6	1	nogas	225005	2.05	211473	106.40	70	125	
Bi	209	1	nogas	908310	1.30	915562	99.21	70	125	
Ge	72	2	He	28581	2.53	29526	96.80	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	199_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T18:12:36-06:00
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	99.072	1.270	170002	1.04	100	99.1	90	110	
B	11	1	nogas	552.681	1.597	441749	0.89	500	110.5	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	11493.191	1.562	51553956	1.38	10000	114.9	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	10841.300	2.051	33772372	1.81	10000	108.4	90	110	
Al	27	1	nogas	104.340	1.455	418303	0.34	100	104.3	90	110	
P	31	1	nogas	546.005	1.689	125241	0.36	500	109.2	90	110	
K	39	1	nogas	10558.851	1.098	35293160	0.32	10000	105.6	90	110	
Ca	43	1	nogas	10682.879	3.098	69659	3.05	10000	106.8	90	110	
Ca	44	1	nogas	10675.558	2.322	1159866	1.59	10000	106.8	90	110	
Ti	47	1	nogas	105.256	5.800	34488	4.62	100	105.3	90	110	
V	51	1	nogas	112.623	3.577	608413	2.31	100	112.6	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	104.817	2.021	442737	1.02	100	104.8	90	110	
Mn	55	1	nogas	103.270	1.601	569810	0.43	100	103.3	90	110	
Fe	56	1	nogas	10106.137	2.210	47118631	1.02	10000	101.1	90	110	
Co	59	1	nogas	101.076	2.298	454925	1.24	100	101.1	90	110	
Ni	60	1	nogas	102.589	1.405	101343	0.31	100	102.6	90	110	
Cu	63	1	nogas	101.825	1.581	251302	0.33	100	101.8	90	110	
Zn	66	1	nogas	104.748	0.563	85529	1.78	100	104.7	90	110	
As	75	1	nogas	109.595	2.317	97987	1.49	100	109.6	90	110	
Se	77	1	nogas	163.347	4.775	9019	2.74	100	163.3	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	98.123	3.230	4434	1.95	100	98.1	90	110	
Sr	88	1	nogas	107.789	1.281	677521	0.52	100	107.8	90	110	
Mo	95	1	nogas	99.171	1.682	132278	2.72	100	99.2	90	110	
Ag	107	1	nogas	99.337	1.612	360709	0.45	100	99.3	90	110	
Cd	111	1	nogas	101.334	0.597	80307	1.46	100	101.3	90	110	
Sn	118	1	nogas	101.170	1.505	235228	1.07	100	101.2	90	110	
Sb	121	1	nogas	100.927	1.115	341345	0.19	100	100.9	90	110	
Ba	137	1	nogas	105.098	2.551	119845	1.06	100	105.1	90	110	
Tl	205	1	nogas	100.395	0.980	1010824	1.38	100	100.4	90	110	
Pb	208	1	nogas	97.972	1.081	757911	0.45	100	98.0	90	110	
U	238	1	nogas	99.946	1.412	1925625	0.75	100	99.9	90	110	
Li	7	1	nogas	101.872	1.157	425112	0.96	100	101.9	90	110	
Si	28	1	nogas	5744.757	1.285	10035115	0.14	5000	114.9	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	103.990	0.648	70817	2.07	100	104.0	90	110	
La	139	1	nogas	73.378	26.878	147	14.20	100	73.4	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-1036.189	-200.869	20	132.29	100	-1036.2	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	101.082	1.453	420086	0.84	100	101.1	90	110	
Na	23	2	He	11643.420	2.807	1906287	2.25	10000	116.4	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	10453.511	0.979	811446	0.43	10000	104.5	90	110	
Al	27	2	He	97.444	6.626	2787	6.85	100	97.4	90	110	
K	39	2	He	10459.173	3.134	416602	2.53	10000	104.6	90	110	
Ca	43	2	He	10971.243	2.354	1023	2.03	10000	109.7	90	110	
Ca	44	2	He	10811.421	0.943	17959	0.58	10000	108.1	90	110	
V	51	2	He	102.199	2.591	31333	2.14	100	102.2	90	110	
Cr	52	2	He	103.095	2.498	39762	2.05	100	103.1	90	110	
Mn	55	2	He	102.563	2.465	20392	2.73	100	102.6	90	110	
Fe	56	2	He	10397.072	1.633	3067473	1.64	10000	104.0	90	110	
Co	59	2	He	101.239	1.004	56275	1.53	100	101.2	90	110	
Ni	60	2	He	102.254	2.488	15721	2.14	100	102.3	90	110	
Cu	63	2	He	102.149	0.802	44350	0.33	100	102.1	90	110	
Zn	66	2	He	103.687	1.570	7655	2.04	100	103.7	90	110	
As	75	2	He	106.895	2.398	4903	1.97	100	106.9	90	110	
Sb	121	2	He	99.263	3.111	35950	2.75	100	99.3	90	110	
Se	78	2	He	103.929	3.314	325	3.76	100	103.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	545890	1.23	522917	104.39	70	125	
In	115	1	nogas	651540	1.51	627838	103.78	70	125	
Li	6	1	nogas	250198	0.81	211473	118.31	70	125	
Bi	209	1	nogas	940130	0.66	915562	102.68	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	30214	0.55	29526	102.33	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	200_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T18:14:47-06:00
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	0.028	82.2	57	66.8	1	
B	11	1	nogas	80.864	9.1	70636	8.3	10	CCB Main CR1 Failed
Na	23	1	nogas	74.564	2.8	408908	1.9	100	
Mg	24	1	nogas	5.161	14.5	18581	12.8	100	
Al	27	1	nogas	-1.079	-0.5	4644	1.0	5	
P	31	1	nogas	5.270	56.5	8546	7.1	10	
K	39	1	nogas	52.596	21.0	1094602	2.9	100	
Ca	43	1	nogas	31.920	22.0	310	14.8	100	
Ca	44	1	nogas	-15.375	-37.2	10984	5.8	100	
Ti	47	1	nogas	-0.005	-1921.1	27	108.3	2.5	
V	51	1	nogas	12.500	4.7	123292	2.0	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.197	12.5	4651	2.6	2.5	
Mn	55	1	nogas	0.146	32.3	4891	5.0	2.5	
Fe	56	1	nogas	17.544	7.7	293293	1.7	100	
Co	59	1	nogas	0.038	12.3	263	7.9	2.5	
Ni	60	1	nogas	0.138	33.3	267	17.7	2.5	
Cu	63	1	nogas	-0.683	-13.2	1740	12.8	2.5	
Zn	66	1	nogas	-0.961	-6.6	93	55.0	2.5	
As	75	1	nogas	7.112	16.8	18077	4.8	2.5	CCB Main CR1 Failed
Se	77	1	nogas	81.203	12.5	6248	5.3	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.591	-271.6	190	36.8	2.5	
Sr	88	1	nogas	0.052	45.1	573	26.6	2.5	
Mo	95	1	nogas	0.076	14.6	103	14.8	2.5	
Ag	107	1	nogas	0.029	56.2	197	31.1	2.5	
Cd	111	1	nogas	0.046	31.6	37	31.5	1	
Sn	118	1	nogas	0.099	47.1	757	14.1	5	
Sb	121	1	nogas	0.177	25.4	793	19.6	2.5	
Ba	137	1	nogas	-0.043	-59.4	143	21.3	2.5	
Tl	205	1	nogas	0.120	32.7	1353	31.0	1	
Pb	208	1	nogas	0.032	33.1	403	21.1	2.5	
U	238	1	nogas	0.039	19.3	967	16.4	2.5	
Si	28	1	nogas	49.701	17.2	684076	2.2	5	CCB Main CR1 Failed
La	139	1	nogas	-43.382	-54.5	23	107.9	2.5	
Au	197	1	nogas	532.665	0.0	0	#DIV/0!	2.5	CCB Main CR1 Failed
Na	23	2	He	67.350	4.2	15010	3.6	100	
Mg	24	2	He	3.987	24.8	357	19.9	100	
Al	27	2	He	-2.989	-1.8	50	0.0	5	
K	39	2	He	12.199	99.0	6145	5.2	100	
Ca	43	2	He	70.048	86.7	7	86.6	100	
Ca	44	2	He	-22.921	-14.5	7	86.6	100	
V	51	2	He	0.326	16.7	225	4.9	2.5	
Cr	52	2	He	-0.268	-25.5	77	32.8	2.5	
Mn	55	2	He	0.253	86.1	70	65.5	2.5	
Fe	56	2	He	2.965	16.7	1630	9.0	100	
Co	59	2	He	0.028	166.5	30	88.2	2.5	
Ni	60	2	He	-0.261	-11.6	37	15.7	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.735	-25.9	297	30.6	2.5	
Zn	66	2	He	-0.931	-28.8	27	78.1	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	0.114	67.3	10	33.3	2.5	
Sb	121	2	He	0.130	128.8	67	96.4	2.5	
Se	78	2	He	1.188	58.5	7	31.5	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	554661	0.50	522917	106.07	70	125	
In	115	1	nogas	662464	1.12	627838	105.52	70	125	
Li	6	1	nogas	235695	0.92	211473	111.45	70	125	
Bi	209	1	nogas	973879	0.97	915562	106.37	70	125	
Ge	72	2	He	31165	2.94	29526	105.55	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	211_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T18:39:02-06:00
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	97.749	0.691	163910	1.28	100	97.7	90	110	
B	11	1	nogas	539.126	0.393	421387	0.45	500	107.8	90	110	
Na	23	1	nogas	11195.068	1.575	49688608	1.66	10000	112.0	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	10593.900	0.924	32653927	1.04	10000	105.9	90	110	
Al	27	1	nogas	103.583	0.386	411425	1.37	100	103.6	90	110	
P	31	1	nogas	530.400	1.915	120716	1.73	500	106.1	90	110	
K	39	1	nogas	10480.893	0.279	34708278	1.21	10000	104.8	90	110	
Ca	43	1	nogas	10443.731	1.959	67446	0.73	10000	104.4	90	110	
Ca	44	1	nogas	10476.541	1.135	1127690	0.27	10000	104.8	90	110	
Ti	47	1	nogas	103.295	3.579	33533	3.02	100	103.3	90	110	
V	51	1	nogas	111.329	0.846	596556	2.07	100	111.3	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	101.995	1.660	426823	0.53	100	102.0	90	110	
Mn	55	1	nogas	101.405	1.452	554265	0.17	100	101.4	90	110	
Fe	56	1	nogas	9952.086	1.421	45964331	0.29	10000	99.5	90	110	
Co	59	1	nogas	99.896	2.442	445320	1.17	100	99.9	90	110	
Ni	60	1	nogas	99.475	2.048	97343	2.21	100	99.5	90	110	
Cu	63	1	nogas	100.657	2.164	246121	2.48	100	100.7	90	110	
Zn	66	1	nogas	103.217	1.976	83472	0.61	100	103.2	90	110	
As	75	1	nogas	106.847	1.943	94923	0.85	100	106.8	90	110	
Se	77	1	nogas	160.557	17.250	8836	10.70	100	160.6	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	99.727	3.912	4461	3.48	100	99.7	90	110	
Sr	88	1	nogas	107.357	1.660	668345	0.35	100	107.4	90	110	
Mo	95	1	nogas	98.300	1.659	129835	0.52	100	98.3	90	110	
Ag	107	1	nogas	97.791	2.802	351681	1.58	100	97.8	90	110	
Cd	111	1	nogas	102.943	1.466	81593	1.65	100	102.9	90	110	
Sn	118	1	nogas	99.065	1.029	230386	0.38	100	99.1	90	110	
Sb	121	1	nogas	99.665	2.484	333843	1.66	100	99.7	90	110	
Ba	137	1	nogas	105.492	0.453	120335	0.27	100	105.5	90	110	
Tl	205	1	nogas	99.499	0.174	996300	0.96	100	99.5	90	110	
Pb	208	1	nogas	98.740	0.317	759714	1.02	100	98.7	90	110	
U	238	1	nogas	97.451	1.768	1867192	0.66	100	97.5	90	110	
Li	7	1	nogas	102.727	1.038	418715	0.34	100	102.7	90	110	
Si	28	1	nogas	5621.729	1.260	9740178	1.73	5000	112.4	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	101.488	2.940	69117	2.66	100	101.5	90	110	
La	139	1	nogas	73.405	37.691	147	19.68	100	73.4	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	532.665	0.000	0	#DIV/0!	100	532.7	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	99.684	1.093	412030	1.27	100	99.7	90	110	
Na	23	2	He	11733.432	1.644	1861002	0.50	10000	117.3	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	10515.827	2.296	790723	1.48	10000	105.2	90	110	
Al	27	2	He	99.991	12.764	2767	12.27	100	100.0	90	110	
K	39	2	He	10379.100	0.919	400580	0.95	10000	103.8	90	110	
Ca	43	2	He	12207.379	8.823	1103	9.08	10000	122.1	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	10598.491	2.044	17062	3.65	10000	106.0	90	110	
V	51	2	He	101.833	0.344	30250	1.66	100	101.8	90	110	
Cr	52	2	He	103.156	1.780	38557	3.44	100	103.2	90	110	
Mn	55	2	He	104.176	7.016	20055	5.90	100	104.2	90	110	
Fe	56	2	He	10471.991	1.411	2992917	0.79	10000	104.7	90	110	
Co	59	2	He	101.957	1.485	54897	0.40	100	102.0	90	110	
Ni	60	2	He	102.876	10.143	15307	8.54	100	102.9	90	110	
Cu	63	2	He	101.666	2.635	42760	1.75	100	101.7	90	110	
Zn	66	2	He	102.333	5.811	7318	5.08	100	102.3	90	110	
As	75	2	He	104.531	4.720	4645	4.66	100	104.5	90	110	
Sb	121	2	He	100.736	4.467	35338	3.69	100	100.7	90	110	
Se	78	2	He	92.930	8.692	281	7.12	100	92.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	540694	1.33	522917	103.40	70	125	
In	115	1	nogas	651609	0.68	627838	103.79	70	125	
Li	6	1	nogas	244483	0.69	211473	115.61	70	125	
Bi	209	1	nogas	934997	1.11	915562	102.12	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	29272	1.73	29526	99.14	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	212_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T18:41:14-06:00
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	0.014	66.6	33	45.8	1	
B	11	1	nogas	67.575	8.3	60004	8.4	10	CCB Main CR1 Failed
Na	23	1	nogas	53.391	4.1	302731	2.1	100	
Mg	24	1	nogas	3.905	9.7	14142	7.2	100	
Al	27	1	nogas	-1.083	-5.8	4427	6.5	5	
P	31	1	nogas	8.625	39.7	8872	7.6	10	
K	39	1	nogas	58.092	5.3	1063801	0.7	100	
Ca	43	1	nogas	15.102	11.7	190	5.3	100	
Ca	44	1	nogas	-12.502	-28.1	10797	2.5	100	
Ti	47	1	nogas	-0.012	-392.9	23	65.5	2.5	
V	51	1	nogas	11.921	9.1	115171	5.6	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.127	61.1	4161	7.3	2.5	
Mn	55	1	nogas	0.105	20.5	4461	3.0	2.5	
Fe	56	1	nogas	14.994	5.7	268916	2.4	100	
Co	59	1	nogas	0.027	24.9	203	15.0	2.5	
Ni	60	1	nogas	0.088	52.4	207	20.1	2.5	
Cu	63	1	nogas	-0.768	-6.1	1463	8.2	2.5	
Zn	66	1	nogas	-0.875	-1.8	157	7.4	2.5	
As	75	1	nogas	6.315	1.8	16678	1.8	2.5	CCB Main CR1 Failed
Se	77	1	nogas	75.288	12.5	5774	6.3	2.5	CCB Main CR1 Failed
Se	82	1	nogas	0.004	61236.2	207	46.5	2.5	
Sr	88	1	nogas	0.062	12.5	610	9.1	2.5	
Mo	95	1	nogas	0.090	12.4	117	13.1	2.5	
Ag	107	1	nogas	0.025	71.6	173	37.1	2.5	
Cd	111	1	nogas	0.025	132.5	20	132.3	1	
Sn	118	1	nogas	0.060	63.0	657	14.2	5	
Sb	121	1	nogas	0.146	11.9	657	9.3	2.5	
Ba	137	1	nogas	-0.030	-54.7	157	13.3	2.5	
Tl	205	1	nogas	0.097	20.4	1100	19.1	1	
Pb	208	1	nogas	0.030	18.2	383	10.5	2.5	
U	238	1	nogas	0.043	36.6	1043	30.7	2.5	
Si	28	1	nogas	52.411	22.0	658164	2.2	5	CCB Main CR1 Failed
La	139	1	nogas	-55.738	-17.0	10	100.0	2.5	
Au	197	1	nogas	532.665	0.0	0	#DIV/0!	2.5	CCB Main CR1 Failed
Na	23	2	He	52.887	10.2	11861	2.9	100	
Mg	24	2	He	4.298	18.0	360	12.1	100	
Al	27	2	He	-3.650	-17.3	30	57.7	5	
K	39	2	He	16.284	35.2	5971	4.6	100	
Ca	43	2	He	113.225	100.5	10	100.0	100	CCB Main CR1 Failed
Ca	44	2	He	10.488	124.9	60	33.3	100	
V	51	2	He	0.186	27.2	171	6.5	2.5	
Cr	52	2	He	-0.213	-1.9	93	6.2	2.5	
Mn	55	2	He	0.194	97.1	53	65.8	2.5	
Fe	56	2	He	3.339	31.3	1640	14.1	100	
Co	59	2	He	0.019	230.7	23	99.0	2.5	
Ni	60	2	He	-0.203	-12.1	43	13.3	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.875	-19.4	220	29.8	2.5	
Zn	66	2	He	-1.143	-12.6	10	100.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	0.130	175.3	10	100.0	2.5	
Sb	121	2	He	0.135	77.4	63	55.5	2.5	
Se	78	2	He	0.914	197.6	6	88.2	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	530231	1.34	522917	101.40	70	125	
In	115	1	nogas	652245	1.38	627838	103.89	70	125	
Li	6	1	nogas	232141	1.79	211473	109.77	70	125	
Bi	209	1	nogas	961777	1.01	915562	105.05	70	125	
Ge	72	2	He	29463	4.68	29526	99.79	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	223_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T19:05:47-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	100.640	2.068	204393	1.22	100	100.6	90	110	
B	11	1	nogas	585.874	1.069	553514	2.09	500	117.2	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	11680.304	0.479	62973953	0.11	10000	116.8	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	10653.010	1.286	39888010	0.82	10000	106.5	90	110	
Al	27	1	nogas	104.025	1.688	502306	0.85	100	104.0	90	110	
P	31	1	nogas	554.103	2.382	152941	1.38	500	110.8	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	10558.573	1.123	42505782	0.73	10000	105.6	90	110	
Ca	43	1	nogas	10634.905	0.211	83522	0.75	10000	106.3	90	110	
Ca	44	1	nogas	10612.989	2.475	1388830	1.85	10000	106.1	90	110	
Ti	47	1	nogas	103.119	1.515	40708	0.75	100	103.1	90	110	
V	51	1	nogas	117.457	2.721	761334	3.30	100	117.5	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	103.884	1.589	528538	0.81	100	103.9	90	110	
Mn	55	1	nogas	102.575	1.351	681699	0.51	100	102.6	90	110	
Fe	56	1	nogas	10083.003	0.916	56625928	0.73	10000	100.8	90	110	
Co	59	1	nogas	100.158	2.047	542955	1.46	100	100.2	90	110	
Ni	60	1	nogas	101.806	0.598	121135	0.90	100	101.8	90	110	
Cu	63	1	nogas	101.413	2.599	301444	1.84	100	101.4	90	110	
Zn	66	1	nogas	103.934	0.200	102209	0.72	100	103.9	90	110	
As	75	1	nogas	115.241	1.606	123336	0.59	100	115.2	90	110	CCV Main CR1-2 Failed
Se	77	1	nogas	194.047	4.358	12155	2.77	100	194.0	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	107.812	3.038	5844	3.72	100	107.8	90	110	
Sr	88	1	nogas	111.402	0.833	843363	0.66	100	111.4	90	110	CCV Main CR1-2 Failed
Mo	95	1	nogas	98.084	2.525	157522	1.67	100	98.1	90	110	
Ag	107	1	nogas	99.345	2.203	434466	1.55	100	99.3	90	110	
Cd	111	1	nogas	102.666	0.452	98625	1.08	100	102.7	90	110	
Sn	118	1	nogas	101.139	0.913	285077	1.40	100	101.1	90	110	
Sb	121	1	nogas	101.598	2.107	413818	1.27	100	101.6	90	110	
Ba	137	1	nogas	108.131	0.513	149497	1.44	100	108.1	90	110	
Tl	205	1	nogas	100.552	0.683	1212303	1.12	100	100.6	90	110	
Pb	208	1	nogas	99.819	0.524	924730	0.98	100	99.8	90	110	
U	238	1	nogas	97.436	1.378	2248200	1.88	100	97.4	90	110	
Li	7	1	nogas	103.471	0.976	510697	0.29	100	103.5	90	110	
Si	28	1	nogas	5663.102	1.108	11924808	0.79	5000	113.3	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	105.068	0.750	86727	1.61	100	105.1	90	110	
La	139	1	nogas	62.041	27.682	163	14.14	100	62.0	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	532.665	0.000	0	#DIV/0!	100	532.7	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	100.806	0.539	501687	0.75	100	100.8	90	110	
Na	23	2	He	11783.821	1.831	2360992	1.81	10000	117.8	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	10381.249	1.290	986090	0.85	10000	103.8	90	110	
Al	27	2	He	104.468	2.363	3644	2.22	100	104.5	90	110	
K	39	2	He	10401.690	3.307	506992	2.37	10000	104.0	90	110	
Ca	43	2	He	12772.928	17.799	1457	17.17	10000	127.7	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	10877.775	4.957	22104	3.81	10000	108.8	90	110	
V	51	2	He	101.440	2.731	38054	1.54	100	101.4	90	110	
Cr	52	2	He	102.814	2.276	48525	1.73	100	102.8	90	110	
Mn	55	2	He	102.730	1.545	24992	0.56	100	102.7	90	110	
Fe	56	2	He	10237.277	1.965	3695758	1.49	10000	102.4	90	110	
Co	59	2	He	101.905	3.301	69303	2.51	100	101.9	90	110	
Ni	60	2	He	102.441	2.895	19271	2.14	100	102.4	90	110	
Cu	63	2	He	102.381	2.143	54389	1.49	100	102.4	90	110	
Zn	66	2	He	104.059	5.873	9399	5.57	100	104.1	90	110	
As	75	2	He	104.620	2.586	5872	2.26	100	104.6	90	110	
Sb	121	2	He	102.074	3.537	45246	4.07	100	102.1	90	110	
Se	78	2	He	99.380	11.709	380	11.42	100	99.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	657442	0.86	522917	125.73	70	125	ISTD Failed
In	115	1	nogas	789755	1.00	627838	125.79	70	125	ISTD Failed
Li	6	1	nogas	296157	1.23	211473	140.05	70	125	ISTD Failed
Bi	209	1	nogas	1125758	0.52	915562	122.96	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	36974	1.21	29526	125.22	70	125	ISTD Failed

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	224_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T19:07:56-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.012	47.8	37	31.5	1	
B	11	1	nogas	73.803	8.3	79423	8.4	10	CCB Main CR1 Failed
Na	23	1	nogas	71.839	1.4	476668	1.5	100	
Mg	24	1	nogas	3.076	6.2	14409	5.7	100	
Al	27	1	nogas	-0.968	-4.3	6128	5.6	5	
P	31	1	nogas	2.913	93.7	9673	8.7	10	
K	39	1	nogas	46.675	11.1	1294103	1.6	100	
Ca	43	1	nogas	22.302	18.1	297	10.8	100	
Ca	44	1	nogas	-23.079	-12.3	12208	3.2	100	
Ti	47	1	nogas	-0.003	-2317.7	33	75.5	2.5	
V	51	1	nogas	18.768	8.6	185654	3.9	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.317	25.9	6218	9.0	2.5	
Mn	55	1	nogas	0.098	76.1	5564	6.8	2.5	
Fe	56	1	nogas	10.822	11.0	314871	1.6	100	
Co	59	1	nogas	0.022	4.8	230	0.0	2.5	
Ni	60	1	nogas	0.053	90.1	220	28.4	2.5	
Cu	63	1	nogas	-0.809	-1.6	1720	2.1	2.5	
Zn	66	1	nogas	-0.852	-5.2	220	18.2	2.5	
As	75	1	nogas	10.841	8.3	25323	0.8	2.5	CCB Main CR1 Failed
Se	77	1	nogas	103.099	13.3	8452	5.3	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-1.404	-57.1	187	25.3	2.5	
Sr	88	1	nogas	0.075	16.8	870	13.3	2.5	
Mo	95	1	nogas	0.053	32.6	87	35.3	2.5	
Ag	107	1	nogas	0.021	50.8	200	21.8	2.5	
Cd	111	1	nogas	0.010	98.8	10	100.0	1	
Sn	118	1	nogas	0.044	71.1	753	11.4	5	
Sb	121	1	nogas	0.106	18.2	660	12.0	2.5	
Ba	137	1	nogas	-0.098	-63.1	97	92.7	2.5	
Tl	205	1	nogas	0.088	20.7	1247	20.1	1	
Pb	208	1	nogas	0.028	43.7	450	27.3	2.5	
U	238	1	nogas	0.031	23.3	983	18.8	2.5	
Si	28	1	nogas	2.164	191.6	727877	1.9	5	
La	139	1	nogas	-44.805	-42.5	27	94.4	2.5	
Au	197	1	nogas	115.030	628.8	7	173.2	2.5	CCB Main CR1 Failed
Na	23	2	He	64.155	9.4	17549	4.3	100	
Mg	24	2	He	3.282	19.3	367	18.6	100	
Al	27	2	He	-2.222	-35.1	87	29.0	5	
K	39	2	He	3.124	191.5	7018	1.8	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-2.769	-279.2	50	34.6	100	
V	51	2	He	0.462	9.2	325	7.4	2.5	
Cr	52	2	He	-0.163	-37.1	143	17.6	2.5	
Mn	55	2	He	0.117	73.5	50	40.0	2.5	
Fe	56	2	He	1.695	13.2	1510	5.4	100	
Co	59	2	He	0.009	84.8	23	24.7	2.5	
Ni	60	2	He	-0.424	-7.1	13	43.3	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-1.076	-5.3	177	19.9	2.5	
Zn	66	2	He	-1.173	-9.3	10	100.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	0.098	186.2	11	91.7	2.5	
Sb	121	2	He	0.152	31.6	90	22.2	2.5	
Se	78	2	He	0.830	303.3	7	128.9	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	667791	2.61	522917	127.71	70	125	ISTD Failed
In	115	1	nogas	795715	2.24	627838	126.74	70	125	ISTD Failed
Li	6	1	nogas	285854	1.54	211473	135.17	70	125	ISTD Failed
Bi	209	1	nogas	1184819	1.72	915562	129.41	70	125	ISTD Failed
Ge	72	2	He	37832	2.64	29526	128.13	70	125	ISTD Failed

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	230_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T19:27:27-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	99.616	0.927	191174	0.58	100	99.6	90	110	
B	11	1	nogas	950.138	1.685	839793	2.69	500	190.0	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	12628.933	1.555	63939993	0.71	10000	126.3	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	11125.407	0.872	39125168	0.39	10000	111.3	90	110	CCV Main CR1-2 Failed
Al	27	1	nogas	109.481	2.417	490570	1.45	100	109.5	90	110	
P	31	1	nogas	580.891	1.724	148563	0.90	500	116.2	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	11341.263	3.718	42331854	2.65	10000	113.4	90	110	CCV Main CR1-2 Failed
Ca	43	1	nogas	11899.339	1.484	86805	1.73	10000	119.0	90	110	CCV Main CR1-2 Failed
Ca	44	1	nogas	11250.736	1.783	1366917	0.86	10000	112.5	90	110	CCV Main CR1-2 Failed
Ti	47	1	nogas	108.067	2.083	39629	1.08	100	108.1	90	110	
V	51	1	nogas	110.929	2.615	671580	1.92	100	110.9	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	105.643	1.768	499243	0.86	100	105.6	90	110	
Mn	55	1	nogas	104.291	1.586	643798	0.60	100	104.3	90	110	
Fe	56	1	nogas	10246.620	0.717	53455012	0.44	10000	102.5	90	110	
Co	59	1	nogas	102.360	2.364	515479	1.70	100	102.4	90	110	
Ni	60	1	nogas	104.440	2.114	115427	1.08	100	104.4	90	110	
Cu	63	1	nogas	103.652	2.120	286147	1.41	100	103.7	90	110	
Zn	66	1	nogas	102.288	1.592	93473	2.44	100	102.3	90	110	
As	75	1	nogas	109.367	0.726	109449	1.53	100	109.4	90	110	
Se	77	1	nogas	165.677	7.614	10187	5.85	100	165.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	105.514	3.327	5318	2.98	100	105.5	90	110	
Sr	88	1	nogas	109.679	1.096	771354	0.76	100	109.7	90	110	
Mo	95	1	nogas	96.357	1.795	143767	0.95	100	96.4	90	110	
Ag	107	1	nogas	95.902	1.859	389634	1.06	100	95.9	90	110	
Cd	111	1	nogas	102.598	2.575	86613	1.50	100	102.6	90	110	
Sn	118	1	nogas	102.275	0.828	253364	0.93	100	102.3	90	110	
Sb	121	1	nogas	96.502	1.247	365181	0.58	100	96.5	90	110	
Ba	137	1	nogas	107.423	1.789	130520	0.60	100	107.4	90	110	
Tl	205	1	nogas	100.942	4.313	1035131	2.62	100	100.9	90	110	
Pb	208	1	nogas	98.175	2.993	773705	1.21	100	98.2	90	110	
U	238	1	nogas	95.705	2.320	1878876	2.00	100	95.7	90	110	
Li	7	1	nogas	105.067	0.979	489632	0.65	100	105.1	90	110	
Si	28	1	nogas	6021.836	1.754	11737324	0.88	5000	120.4	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	103.651	3.360	75180	2.15	100	103.7	90	110	
La	139	1	nogas	46.984	45.475	127	19.87	100	47.0	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	532.665	0.000	0	#DIV/0!	100	532.7	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	100.848	3.978	426879	1.42	100	100.8	90	110	
Na	23	2	He	12378.465	1.148	2375960	4.20	10000	123.8	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	10668.984	2.531	970304	1.46	10000	106.7	90	110	
Al	27	2	He	111.631	5.036	3715	1.69	100	111.6	90	110	CCV Main CR1-2 Failed
K	39	2	He	10712.000	1.240	499953	2.73	10000	107.1	90	110	
Ca	43	2	He	11785.736	17.957	1290	19.38	10000	117.9	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	10670.851	1.587	20773	2.01	10000	106.7	90	110	
V	51	2	He	100.592	0.767	36151	2.82	100	100.6	90	110	
Cr	52	2	He	104.070	4.173	47007	0.73	100	104.1	90	110	
Mn	55	2	He	101.240	2.060	23586	2.25	100	101.2	90	110	
Fe	56	2	He	10271.540	1.620	3552220	3.63	10000	102.7	90	110	
Co	59	2	He	100.647	0.553	65571	2.97	100	100.6	90	110	
Ni	60	2	He	100.842	3.792	18163	2.33	100	100.8	90	110	
Cu	63	2	He	97.003	2.113	49385	1.80	100	97.0	90	110	
Zn	66	2	He	106.708	4.054	9229	4.66	100	106.7	90	110	
As	75	2	He	99.622	1.162	5358	4.05	100	99.6	90	110	
Sb	121	2	He	95.091	1.758	40367	3.16	100	95.1	90	110	
Se	78	2	He	108.965	6.352	399	6.55	100	109.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	610768	1.06	522917	116.80	70	125	
In	115	1	nogas	694159	1.23	627838	110.56	70	125	
Li	6	1	nogas	279826	1.11	211473	132.32	70	125	ISTD Failed
Bi	209	1	nogas	958140	2.59	915562	104.65	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	35417	3.51	29526	119.95	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	231_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T19:29:38-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.025	20.0	60	16.7	1	
B	11	1	nogas	314.866	4.6	277323	5.2	10	CCB Main CR1 Failed
Na	23	1	nogas	467.502	4.8	2520574	4.7	100	CCB Main CR1 Failed
Mg	24	1	nogas	6.228	2.6	25190	2.3	100	
Al	27	1	nogas	-0.823	-6.4	6338	3.6	5	
P	31	1	nogas	8.907	20.7	10457	4.0	10	
K	39	1	nogas	122.672	9.5	1484252	2.6	100	CCB Main CR1 Failed
Ca	43	1	nogas	320.919	6.5	2487	6.6	100	CCB Main CR1 Failed
Ca	44	1	nogas	81.074	6.0	24077	2.7	100	
Ti	47	1	nogas	0.004	1502.1	33	75.5	2.5	
V	51	1	nogas	5.228	19.1	97728	5.6	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.192	17.0	5181	3.2	2.5	
Mn	55	1	nogas	0.174	50.4	5648	9.7	2.5	
Fe	56	1	nogas	35.601	6.9	423539	3.5	100	
Co	59	1	nogas	0.027	28.8	237	17.1	2.5	
Ni	60	1	nogas	0.986	9.5	1250	8.5	2.5	
Cu	63	1	nogas	-0.401	-16.1	2727	6.6	2.5	
Zn	66	1	nogas	-0.813	-11.9	240	37.0	2.5	
As	75	1	nogas	4.257	10.8	17689	2.2	2.5	CCB Main CR1 Failed
Se	77	1	nogas	50.304	6.6	5764	2.0	2.5	CCB Main CR1 Failed
Se	82	1	nogas	1.129	164.1	297	30.4	2.5	
Sr	88	1	nogas	0.226	9.9	1880	8.3	2.5	
Mo	95	1	nogas	0.077	17.8	117	17.8	2.5	
Ag	107	1	nogas	0.029	39.0	217	20.8	2.5	
Cd	111	1	nogas	0.015	113.7	13	114.6	1	
Sn	118	1	nogas	0.099	31.9	823	9.1	5	
Sb	121	1	nogas	0.152	24.2	790	17.7	2.5	
Ba	137	1	nogas	-0.090	-27.6	97	31.6	2.5	
Tl	205	1	nogas	0.110	16.6	1283	16.5	1	
Pb	208	1	nogas	0.051	22.2	563	16.5	2.5	
U	238	1	nogas	0.031	14.2	827	12.1	2.5	
Si	28	1	nogas	112.950	8.3	883582	1.6	5	CCB Main CR1 Failed
La	139	1	nogas	-42.405	-12.2	27	21.7	2.5	
Au	197	1	nogas	-437.141	-253.4	13	114.6	2.5	
Na	23	2	He	402.407	4.1	83190	2.6	100	CCB Main CR1 Failed
Mg	24	2	He	4.896	29.0	503	28.3	100	
Al	27	2	He	-3.017	-42.6	57	71.3	5	
K	39	2	He	46.164	16.0	8762	2.7	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-5.010	-148.2	43	35.3	100	
V	51	2	He	0.091	33.5	176	8.0	2.5	
Cr	52	2	He	-0.158	-45.8	140	21.4	2.5	
Mn	55	2	He	0.055	123.3	33	45.8	2.5	
Fe	56	2	He	2.392	15.1	1693	5.2	100	
Co	59	2	He	-0.005	-710.9	13	173.2	2.5	
Ni	60	2	He	-0.366	-9.5	23	24.7	2.5	
Cu	63	2	He	-0.964	-0.2	227	2.5	2.5	
Zn	66	2	He	-1.208	-10.8	7	173.2	2.5	

Continuing Calibration Blank (CCB) Report

As	75	2	He	0.204	3.5	17	0.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.129	28.0	77	19.9	2.5	
Se	78	2	He	0.884	158.3	7	68.6	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	620615	0.43	522917	118.68	70	125	
In	115	1	nogas	720218	1.17	627838	114.71	70	125	
Li	6	1	nogas	270043	1.09	211473	127.70	70	125	ISTD Failed
Bi	209	1	nogas	997748	1.49	915562	108.98	70	125	
Ge	72	2	He	36279	2.35	29526	122.87	70	125	

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	236CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T19:52:52-06:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	17	549.91
B	11	1	nogas	92627	0.00
Na	23	1	nogas	1059452	0.00
Mg	24	1	nogas	4301	0.58
Al	27	1	nogas	11150	0.04
P	31	1	nogas	10247	0.01
K	39	1	nogas	1313118	0.00
Ca	43	1	nogas	997	1.19
Ca	44	1	nogas	15340	0.03
Ti	47	1	nogas	17	749.40
V	51	1	nogas	118456	0.00
Cr	52	1	nogas	5391	0.14
Mn	55	1	nogas	6255	0.10
Fe	56	1	nogas	399311	0.00
Co	59	1	nogas	80	31.25
Ni	60	1	nogas	910	1.51
Cu	63	1	nogas	3074	0.28
Zn	66	1	nogas	463	3.50
As	75	1	nogas	18083	0.02
Se	77	1	nogas	6115	0.06
Se	82	1	nogas	233	23.26
Sr	88	1	nogas	507	7.14
Mo	95	1	nogas	13	859.23
Ag	107	1	nogas	57	35.96
Cd	111	1	nogas	3	5196.15
Sn	118	1	nogas	590	2.28
Sb	121	1	nogas	433	4.07
Ba	137	1	nogas	233	4.24
Tl	205	1	nogas	63	28.79
Pb	208	1	nogas	230	3.27
Li	7	1	nogas	23576	0.02
Si	28	1	nogas	727910	0.00
La	139	1	nogas	60	0.00
Na	23	2	He	36952	0.00
Mg	24	2	He	80	27.06
Al	27	2	He	100	43.59
K	39	2	He	7182	0.04
Ca	43	2	He	7	2598.08
Ca	44	2	He	40	165.36
V	51	2	He	224	1.38
Cr	52	2	He	113	66.22
Mn	55	2	He	77	42.82

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	2	He	1137	1.13
Co	59	2	He	10	1000.00
Ni	60	2	He	67	25.98
Cu	63	2	He	400	2.25
Zn	66	2	He	53	113.01
As	75	2	He	12	643.78
Sb	121	2	He	70	53.99
Se	78	2	He	6	1469.86

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Ge	72	1	nogas	606326	0.56
In	115	1	nogas	717978	1.78
Li	6	1	nogas	264394	1.68
Bi	209	1	nogas	1029814	0.97
Ge	72	2	He	35160	3.05

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	237CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T19:55:04-06:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	3814	0.10
B	11	1	nogas	90313	0.00
Na	23	1	nogas	2017825	0.00
Mg	24	1	nogas	770534	0.00
Al	27	1	nogas	29896	0.00
P	31	1	nogas	13068	0.02
K	39	1	nogas	2031134	0.00
Ca	43	1	nogas	2574	0.10
Ca	44	1	nogas	40875	0.01
Ti	47	1	nogas	800	0.63
V	51	1	nogas	126651	0.00
Cr	52	1	nogas	14626	0.01
Mn	55	1	nogas	19291	0.01
Fe	56	1	nogas	1535235	0.00
Co	59	1	nogas	10644	0.04
Ni	60	1	nogas	2824	0.33
Cu	63	1	nogas	10237	0.02
Zn	66	1	nogas	2620	0.32
As	75	1	nogas	20706	0.01
Se	77	1	nogas	5891	0.18
Se	82	1	nogas	293	6.61
Sr	88	1	nogas	15607	0.00
Mo	95	1	nogas	2880	0.26
Ag	107	1	nogas	8599	0.01
Cd	111	1	nogas	1837	0.54
Sn	118	1	nogas	6088	0.11
Sb	121	1	nogas	8136	0.07
Ba	137	1	nogas	3080	0.11
Tl	205	1	nogas	22423	0.02
Pb	208	1	nogas	17934	0.01
Si	28	1	nogas	923220	0.00
La	139	1	nogas	100	10.00
Na	23	2	He	77649	0.01
Mg	24	2	He	19358	0.01
Al	27	2	He	270	5.98
K	39	2	He	17182	0.01
Ca	43	2	He	23	280.57
Ca	44	2	He	350	2.94
V	51	2	He	904	0.21
Cr	52	2	He	957	2.53

Calibration Standard Report

Mn	55	2	He	590	3.20
Fe	56	2	He	74205	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	1190	0.51
Ni	60	2	He	413	9.07
Cu	63	2	He	1763	0.58
Zn	66	2	He	243	7.03
As	75	2	He	120	13.89
Sb	121	2	He	853	1.47
Se	78	2	He	10	346.41

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	595421	0.69	606326	98.20	70	125	
In	115	1	nogas	705387	0.83	717978	98.25	70	125	
Li	6	1	nogas	255391	0.11	264394	96.59	70	125	
Bi	209	1	nogas	1012391	1.47	1029814	98.31	70	125	
Ge	72	2	He	33757	2.72	35160	96.01	70	125	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	238CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T19:57:17-06:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	9633	0.03
B	11	1	nogas	97741	0.00
Na	23	1	nogas	3518150	0.00
Mg	24	1	nogas	1932694	0.00
Al	27	1	nogas	49369	0.01
P	31	1	nogas	17295	0.02
K	39	1	nogas	3147266	0.00
Ca	43	1	nogas	4811	0.15
Ca	44	1	nogas	78097	0.00
Ti	47	1	nogas	1827	0.30
V	51	1	nogas	146170	0.00
Cr	52	1	nogas	29826	0.01
Mn	55	1	nogas	37017	0.01
Fe	56	1	nogas	3097710	0.00
Co	59	1	nogas	25940	0.01
Ni	60	1	nogas	6245	0.06
Cu	63	1	nogas	16495	0.00
Zn	66	1	nogas	5581	0.13
As	75	1	nogas	23477	0.01
Se	77	1	nogas	6118	0.07
Se	82	1	nogas	543	1.37
Sr	88	1	nogas	35712	0.00
Mo	95	1	nogas	7362	0.04
Ag	107	1	nogas	20730	0.03
Cd	111	1	nogas	4711	0.05
Sn	118	1	nogas	13683	0.02
Sb	121	1	nogas	19939	0.01
Ba	137	1	nogas	6832	0.06
Tl	205	1	nogas	56162	0.00
Pb	208	1	nogas	43181	0.00
Si	28	1	nogas	1386130	0.00
La	139	1	nogas	70	40.82
Na	23	2	He	130837	0.00
Mg	24	2	He	45763	0.01
Al	27	2	He	373	9.36
K	39	2	He	30146	0.01
Ca	43	2	He	43	122.99
Ca	44	2	He	1073	1.00
V	51	2	He	1942	0.14
Cr	52	2	He	2240	0.05

Calibration Standard Report

Mn	55	2	He	1100	0.93
Fe	56	2	He	177689	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	3304	0.08
Ni	60	2	He	1017	0.28
Cu	63	2	He	2734	0.11
Zn	66	2	He	617	4.53
As	75	2	He	291	8.27
Sb	121	2	He	2127	0.23
Se	78	2	He	30	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	587120	0.64	606326	96.83	70	125	
In	115	1	nogas	704286	1.12	717978	98.09	70	125	
Li	6	1	nogas	253821	1.20	264394	96.00	70	125	
Bi	209	1	nogas	1012410	0.68	1029814	98.31	70	125	
Ge	72	2	He	33203	4.33	35160	94.43	70	125	

Calibration Standard Report

Sample Table

Sample Name	10/50/1000
Data File Name	239CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T19:59:29-06:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	19398	0.01
B	11	1	nogas	112591	0.00
Na	23	1	nogas	6679776	0.00
Mg	24	1	nogas	3892181	0.00
Al	27	1	nogas	85523	0.00
P	31	1	nogas	25245	0.01
K	39	1	nogas	5049236	0.00
Ca	43	1	nogas	9052	0.04
Ca	44	1	nogas	140378	0.00
Ti	47	1	nogas	3567	0.04
V	51	1	nogas	173873	0.00
Cr	52	1	nogas	54138	0.00
Mn	55	1	nogas	69566	0.00
Fe	56	1	nogas	5813247	0.00
Co	59	1	nogas	51791	0.00
Ni	60	1	nogas	12682	0.05
Cu	63	1	nogas	32000	0.01
Zn	66	1	nogas	10327	0.06
As	75	1	nogas	28117	0.01
Se	77	1	nogas	6728	0.08
Se	82	1	nogas	743	2.57
Sr	88	1	nogas	72506	0.00
Mo	95	1	nogas	15264	0.03
Ag	107	1	nogas	41866	0.00
Cd	111	1	nogas	9173	0.02
Sn	118	1	nogas	27457	0.01
Sb	121	1	nogas	39087	0.00
Ba	137	1	nogas	13546	0.02
Tl	205	1	nogas	114578	0.00
Pb	208	1	nogas	86974	0.00
Si	28	1	nogas	1903847	0.00
La	139	1	nogas	33	207.85
Na	23	2	He	230772	0.00
Mg	24	2	He	93779	0.00
Al	27	2	He	567	1.47
K	39	2	He	53970	0.00
Ca	43	2	He	120	36.75
Ca	44	2	He	2157	0.20
V	51	2	He	3788	0.09
Cr	52	2	He	4824	0.08

Calibration Standard Report

Mn	55	2	He	2574	0.21
Fe	56	2	He	358177	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	6995	0.04
Ni	60	2	He	1737	0.38
Cu	63	2	He	5864	0.08
Zn	66	2	He	917	2.72
As	75	2	He	461	1.01
Sb	121	2	He	4627	0.03
Se	78	2	He	43	67.13

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	582546	1.58	606326	96.08	70	125	
In	115	1	nogas	695681	1.03	717978	96.89	70	125	
Li	6	1	nogas	245390	1.58	264394	92.81	70	125	
Bi	209	1	nogas	1009275	0.64	1029814	98.01	70	125	
Ge	72	2	He	33052	2.99	35160	94.01	70	125	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	240CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:01:41-06:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	178987	0.00
B	11	1	nogas	480446	0.00
Na	23	1	nogas	50189164	0.00
Mg	24	1	nogas	34863466	0.00
Al	27	1	nogas	647489	0.00
P	31	1	nogas	146569	0.00
K	39	1	nogas	37548695	0.00
Ca	43	1	nogas	73528	0.00
Ca	44	1	nogas	1195280	0.00
Ti	47	1	nogas	36732	0.01
V	51	1	nogas	609640	0.00
Cr	52	1	nogas	461587	0.00
Mn	55	1	nogas	594346	0.00
Fe	56	1	nogas	49613314	0.00
Co	59	1	nogas	475198	0.00
Ni	60	1	nogas	104803	0.00
Cu	63	1	nogas	262500	0.00
Zn	66	1	nogas	87134	0.00
As	75	1	nogas	101346	0.00
Se	77	1	nogas	9396	0.05
Se	82	1	nogas	4774	0.06
Sr	88	1	nogas	663481	0.00
Mo	95	1	nogas	137468	0.00
Ag	107	1	nogas	380505	0.00
Cd	111	1	nogas	84347	0.00
Sn	118	1	nogas	247318	0.00
Sb	121	1	nogas	364577	0.00
Ba	137	1	nogas	123583	0.00
Tl	205	1	nogas	1056259	0.00
Pb	208	1	nogas	810565	0.00
Si	28	1	nogas	10379635	0.00
La	139	1	nogas	113	50.05
Na	23	2	He	1833376	0.00
Mg	24	2	He	840700	0.00
Al	27	2	He	4737	0.13
K	39	2	He	436370	0.00
Ca	43	2	He	1063	1.57
Ca	44	2	He	17739	0.01
V	51	2	He	32347	0.00
Cr	52	2	He	41874	0.01

Calibration Standard Report

Mn	55	2	He	21137	0.01
Fe	56	2	He	3211258	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	59392	0.00
Ni	60	2	He	15637	0.01
Cu	63	2	He	46430	0.00
Zn	66	2	He	8319	0.03
As	75	2	He	5006	0.01
Sb	121	2	He	39448	0.01
Se	78	2	He	314	3.07

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	555224	0.31	606326	91.57	70	125	
In	115	1	nogas	665089	1.04	717978	92.63	70	125	
Li	6	1	nogas	259926	2.30	264394	98.31	70	125	
Bi	209	1	nogas	965320	1.59	1029814	93.74	70	125	
Ge	72	2	He	31042	3.69	35160	88.29	70	125	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	241CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:03:52-06:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	348739	0.00
B	11	1	nogas	898463	0.00
Na	23	1	nogas	97251981	0.00
Mg	24	1	nogas	67695233	0.00
Al	27	1	nogas	1226715	0.00
P	31	1	nogas	273397	0.00
K	39	1	nogas	70909958	0.00
Ca	43	1	nogas	137717	0.00
Ca	44	1	nogas	2257036	0.00
Ti	47	1	nogas	70707	0.00
V	51	1	nogas	1096875	0.00
Cr	52	1	nogas	888462	0.00
Mn	55	1	nogas	1146661	0.00
Fe	56	1	nogas	95461575	0.00
Co	59	1	nogas	922886	0.00
Ni	60	1	nogas	202446	0.00
Cu	63	1	nogas	507882	0.00
Zn	66	1	nogas	169117	0.00
As	75	1	nogas	180755	0.00
Se	77	1	nogas	12541	0.02
Se	82	1	nogas	9379	0.05
Sr	88	1	nogas	1313235	0.00
Mo	95	1	nogas	275400	0.00
Ag	107	1	nogas	743590	0.00
Cd	111	1	nogas	166289	0.00
Sn	118	1	nogas	481795	0.00
Sb	121	1	nogas	710133	0.00
Ba	137	1	nogas	242331	0.00
Tl	205	1	nogas	2124261	0.00
Pb	208	1	nogas	1623815	0.00
Si	28	1	nogas	18606204	0.00
La	139	1	nogas	220	9.01
Na	23	2	He	3537212	0.00
Mg	24	2	He	1666636	0.00
Al	27	2	He	8579	0.08
K	39	2	He	843437	0.00
Ca	43	2	He	2210	0.09
Ca	44	2	He	34955	0.00
V	51	2	He	62899	0.00
Cr	52	2	He	80670	0.00

Calibration Standard Report

Mn	55	2	He	41152	0.00
Fe	56	2	He	6151303	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	114612	0.00
Ni	60	2	He	32003	0.01
Cu	63	2	He	88614	0.00
Zn	66	2	He	15407	0.03
As	75	2	He	9814	0.02
Sb	121	2	He	76330	0.00
Se	78	2	He	654	1.44

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	535380	1.25	606326	88.30	70	125	
In	115	1	nogas	641953	1.35	717978	89.41	70	125	
Li	6	1	nogas	266400	1.51	264394	100.76	70	125	
Bi	209	1	nogas	915563	0.78	1029814	88.91	70	125	
Ge	72	2	He	29472	1.30	35160	83.82	70	125	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICCV
Data File Name	242_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:06:01-06:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	104.798	2.171	170473	0.83	100	104.8	90	110	
B	11	1	nogas	579.280	2.106	515554	0.78	500	115.9	90	110	ICV Main CR1 Failed
Na	23	1	nogas	9626.050	1.959	48288681	1.27	10000	96.3	90	110	
Mg	24	1	nogas	9629.710	2.250	33333579	0.31	10000	96.3	90	110	
Al	27	1	nogas	76.834	1.114	483087	0.96	100	76.8	90	110	ICV Main CR1 Failed
P	31	1	nogas	447.707	1.341	128662	1.13	500	89.5	90	110	ICV Main CR1 Failed
K	39	1	nogas	9673.785	0.576	35267425	0.57	10000	96.7	90	110	
Ca	43	1	nogas	9805.536	1.284	68952	1.07	10000	98.1	90	110	
Ca	44	1	nogas	9812.494	0.842	1128591	1.01	10000	98.1	90	110	
Ti	47	1	nogas	93.788	2.234	33489	2.00	100	93.8	90	110	
V	51	1	nogas	91.919	1.010	563762	0.79	100	91.9	90	110	
Cr	52	1	nogas	97.427	0.952	439192	0.95	100	97.4	90	110	
Mn	55	1	nogas	98.367	0.358	571683	0.14	100	98.4	90	110	
Fe	56	1	nogas	9647.497	1.091	46673077	1.16	10000	96.5	90	110	
Co	59	1	nogas	98.881	0.660	460145	0.66	100	98.9	90	110	
Ni	60	1	nogas	99.490	0.500	101997	0.75	100	99.5	90	110	
Cu	63	1	nogas	98.537	1.368	253638	1.48	100	98.5	90	110	
Zn	66	1	nogas	97.727	1.610	83613	1.34	100	97.7	90	110	
As	75	1	nogas	92.479	0.865	93355	0.45	100	92.5	90	110	
Se	77	1	nogas	58.051	8.311	7558	2.33	100	58.1	90	110	ICV Main CR1 Failed
Se	82	1	nogas	100.631	8.919	4831	8.61	100	100.6	90	110	
Sr	88	1	nogas	96.790	0.224	638573	0.27	100	96.8	90	110	
Mo	95	1	nogas	96.801	1.256	133584	1.08	100	96.8	90	110	
Ag	107	1	nogas	96.057	0.736	359697	0.94	100	96.1	90	110	
Cd	111	1	nogas	97.912	1.698	83656	1.20	100	97.9	90	110	
Sn	118	1	nogas	92.844	1.407	230645	1.71	100	92.8	90	110	
Sb	121	1	nogas	99.504	1.025	356186	1.17	100	99.5	90	110	
Ba	137	1	nogas	98.620	1.219	123012	1.11	100	98.6	90	110	
Tl	205	1	nogas	98.948	0.585	1083864	0.54	100	98.9	90	110	
Pb	208	1	nogas	95.195	0.465	797769	0.48	100	95.2	90	110	
U	238	1	nogas	96.026	2.111	1966364	2.03	100	96.0	90	110	
Li	7	1	nogas	110.746	2.216	456408	0.71	100	110.7	90	110	ICV Main CR1 Failed
Si	28	1	nogas	5125.112	1.482	10029731	1.61	5000	102.5	90	110	
Ba	135	1	nogas	97.249	1.039	70486	1.44	100	97.2	90	110	
La	139	1	nogas	202.307	16.219	217	11.61	100	202.3	90	110	ICV Main CR1 Failed
Au	197	1	nogas	0.000	#DIV/0!	0	#DIV/0!	100	0.0	90	110	ICV Main CR1 Failed
Tl	203	1	nogas	99.226	0.427	447970	0.35	100	99.2	90	110	
Na	23	2	He	9613.333	2.050	1769296	2.77	10000	96.1	90	110	
Mg	24	2	He	9537.736	0.830	816455	1.58	10000	95.4	90	110	
Al	27	2	He	73.139	8.089	3354	7.20	100	73.1	90	110	ICV Main CR1 Failed
K	39	2	He	9499.966	1.062	416231	1.13	10000	95.0	90	110	
Ca	43	2	He	7942.303	11.970	897	11.92	10000	79.4	90	110	ICV Main CR1 Failed
Ca	44	2	He	9434.097	2.731	16979	3.19	10000	94.3	90	110	
V	51	2	He	96.174	1.904	31237	1.88	100	96.2	90	110	
Cr	52	2	He	97.807	1.116	40785	1.86	100	97.8	90	110	
Mn	55	2	He	96.782	5.451	20563	6.17	100	96.8	90	110	
Fe	56	2	He	9839.987	1.691	3129519	1.49	10000	98.4	90	110	
Co	59	2	He	97.501	3.026	57700	2.67	100	97.5	90	110	
Ni	60	2	He	96.704	1.006	15767	1.74	100	96.7	90	110	
Cu	63	2	He	99.197	1.016	45684	0.92	100	99.2	90	110	
Zn	66	2	He	98.945	2.520	7975	3.23	100	98.9	90	110	
As	75	2	He	93.176	3.534	4708	2.81	100	93.2	90	110	
Sn	118	2	He	93.688	3.493	26021	3.15	100	93.7	90	110	
Sb	121	2	He	94.450	1.566	37226	1.99	100	94.5	90	110	
Se	78	2	He	94.657	5.248	317	4.73	100	94.7	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	540519	0.26	606326	89.15	70	125	
In	115	1	nogas	662371	0.50	717978	92.26	70	125	
Li	6	1	nogas	245884	2.05	264394	93.00	70	125	

Initial Calibration Verification (ICV) Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Bi	209	1	nogas	955080	0.10	1029814	92.74	70	125	
Ge	72	2	He	30521	0.76	35160	86.81	70	125	

Sample Report

Sample Table

Sample Name	LLCCV2
Data File Name	243SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:08:12-06:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	236CALB.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	2.372	2.372	6.20	3627	0.07	2000	
B	11	1	nogas	36.761	36.761	33.18	106180	0.03	2000	
Na	23	1	nogas	128.280	128.280	5.95	1547769	0.01	200000	
Mg	24	1	nogas	212.252	212.252	2.17	725027	0.03	200000	
Al	27	1	nogas	2.790	2.790	0.21	27184	0.01	2000	
K	39	1	nogas	195.622	195.622	6.35	1864169	0.01	200000	
Ca	43	1	nogas	179.615	179.615	8.47	2140	8.39	200000	
Ca	44	1	nogas	211.242	211.242	2.48	37761	0.56	200000	
Ti	47	1	nogas	1.887	1.887	16.86	690	0.27	2000	
V	51	1	nogas	-4.479	-4.479	-9.39	83451	-0.01	2000	
Cr	52	1	nogas	1.836	1.836	3.96	13022	0.01	2000	
Mn	55	1	nogas	2.082	2.082	9.18	17599	0.01	2000	
Fe	56	1	nogas	196.062	196.062	1.55	1300058	0.02	200000	
Co	59	1	nogas	2.023	2.023	4.38	9503	0.02	2000	
Ni	60	1	nogas	1.495	1.495	1.19	2357	0.06	2000	
Cu	63	1	nogas	2.536	2.536	12.89	9216	0.03	2000	
Zn	66	1	nogas	2.282	2.282	9.34	2617	0.09	2000	
As	75	1	nogas	-3.392	-3.392	-19.21	14253	-0.02	2000	
Se	77	1	nogas	-24.329	-24.329	-48.37	4577	-0.53	2000	
Se	82	1	nogas	3.217	3.217	45.67	357	0.90	2000	
Sr	88	1	nogas	2.144	2.144	1.69	14620	0.01	2000	
Mo	95	1	nogas	2.159	2.159	3.15	2997	0.07	2000	
Ag	107	1	nogas	2.026	2.026	2.46	7652	0.03	2000	
Cd	111	1	nogas	2.255	2.255	6.39	1903	0.12	2000	
Sn	118	1	nogas	2.170	2.170	5.85	5841	0.04	2000	
Sb	121	1	nogas	2.081	2.081	4.76	7842	0.03	2000	
Ba	137	1	nogas	2.109	2.109	13.31	2800	0.08	2000	
Tl	205	1	nogas	2.075	2.075	4.18	22904	0.01	2000	
Pb	208	1	nogas	2.112	2.112	3.26	17998	0.01	2000	
U	238	1	nogas	1.964	1.964	1.02	40592	0.00	2000	
Si	28	1	nogas	178.159	178.159	5.03	977181	0.02	2000	
La	139	1	nogas	32.404	32.404	71.00	80	40.50	2000	
Au	197	1	nogas	205.270	205.270	100.25	10	2052.70	2000	
Na	23	2	He	146.650	146.650	2.38	57674	0.25	200000	
Mg	24	2	He	197.398	197.398	0.52	16698	1.18	200000	
Al	27	2	He	2.836	2.836	20.75	250	1.13	2000	
K	39	2	He	212.697	212.697	3.81	15170	1.40	200000	
Ca	43	2	He	220.182	220.182	72.42	30	733.94	200000	
Ca	44	2	He	239.893	239.893	41.65	457	52.53	200000	
V	51	2	He	2.172	2.172	5.55	808	0.27	2000	

Sample Report

Cr	52	2	He	1.968	1.968	8.25	903	0.22	2000	
Mn	55	2	He	2.025	2.025	26.11	487	0.42	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Fe	56	2	He	213.204	213.204	1.85	67686	0.31	200000	
Co	59	2	He	2.062	2.062	3.54	1210	0.17	2000	
Ni	60	2	He	2.752	2.752	13.30	373	0.74	2000	
Cu	63	2	He	2.544	2.544	15.20	1620	0.16	2000	
Zn	66	2	He	1.406	1.406	54.33	207	0.68	2000	
As	75	2	He	1.988	1.988	38.41	109	1.83	2000	
Sb	121	2	He	2.240	2.240	15.23	927	0.24	2000	
Se	78	2	He	3.958	3.958	45.02	18	21.99	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	541711	0.28	606326	89.34	70	125	
In	115	1	nogas	653604	1.38	717978	91.03	70	125	
Li	6	1	nogas	230197	0.49	264394	87.07	70	125	
Bi	209	1	nogas	959742	0.42	1029814	93.20	70	125	
Ge	72	2	He	30040	1.24	35160	85.44	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	LLCCV5
Data File Name	244LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:10:26-06:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	5.585	1.400	8682	0.64	5	111.7	70	130	
B	11	1	nogas	9.632	33.965	88999	2.89	25	38.5	70	130	LLICV Main CR1 Failed
Na	23	1	nogas	443.831	0.556	3058014	1.35	500	88.8	70	130	
Mg	24	1	nogas	526.193	2.332	1784012	2.17	500	105.2	70	130	
Al	27	1	nogas	5.871	2.121	46107	1.26	5	117.4	70	130	
P	31	1	nogas	27.243	5.310	16411	1.42	25	109.0	70	130	
K	39	1	nogas	487.694	1.031	2890682	1.55	500	97.5	70	130	
Ca	43	1	nogas	457.862	6.306	4067	4.33	500	91.6	70	130	
Ca	44	1	nogas	512.626	1.175	71951	1.88	500	102.5	70	130	
Ti	47	1	nogas	4.675	10.807	1683	10.40	5	93.5	70	130	
V	51	1	nogas	-1.096	-97.738	100142	4.68	5	-21.9	70	130	LLICV Main CR1 Failed
Cr	52	1	nogas	4.870	2.716	26534	3.15	5	97.4	70	130	
Mn	55	1	nogas	5.037	3.920	34571	2.96	5	100.7	70	130	
Fe	56	1	nogas	504.318	1.891	2777930	1.45	500	100.9	70	130	
Co	59	1	nogas	5.122	0.430	23910	1.37	5	102.4	70	130	
Ni	60	1	nogas	4.643	5.262	5554	4.63	5	92.9	70	130	
Cu	63	1	nogas	4.774	7.313	14900	6.10	5	95.5	70	130	
Zn	66	1	nogas	5.077	6.485	4984	5.20	5	101.5	70	130	
As	75	1	nogas	0.856	177.537	17730	6.54	5	17.1	70	130	LLICV Main CR1 Failed
Se	77	1	nogas	-13.382	-93.807	4964	8.67	5	-267.6	70	130	LLICV Main CR1 Failed
Se	82	1	nogas	5.255	47.214	450	25.63	5	105.1	70	130	
Sr	88	1	nogas	5.207	4.887	34787	4.08	5	104.1	70	130	
Mo	95	1	nogas	4.727	3.868	6535	2.91	5	94.5	70	130	
Ag	107	1	nogas	5.050	2.089	18964	1.66	5	101.0	70	130	
Cd	111	1	nogas	5.233	8.753	4367	8.45	5	104.7	70	130	
Sn	118	1	nogas	5.214	1.818	13149	1.98	5	104.3	70	130	
Sb	121	1	nogas	5.271	1.466	19242	1.99	5	105.4	70	130	
Ba	137	1	nogas	5.080	4.252	6385	3.55	5	101.6	70	130	
Tl	205	1	nogas	4.871	1.040	53389	0.40	5	97.4	70	130	
Pb	208	1	nogas	4.831	0.715	40667	0.51	5	96.6	70	130	
U	238	1	nogas	4.828	2.247	98982	1.62	5	96.6	70	130	
Li	7	1	nogas	5.613	3.488	41939	2.25	5	112.3	70	130	
Si	28	1	nogas	397.717	4.774	1377549	3.48	25	1590.9	70	130	LLICV Main CR1 Failed
La	139	1	nogas	20.262	287.714	70	65.47	5	405.2	70	130	LLICV Main CR1 Failed
Au	197	1	nogas	0.000	#DIV/0!	0	#DIV/0!	5	0.0	70	130	LLICV Main CR1 Failed
Na	23	2	He	439.362	0.510	110569	1.66	500	87.9	70	130	
Mg	24	2	He	501.503	2.977	42628	1.86	500	100.3	70	130	
Al	27	2	He	4.707	18.179	333	9.64	5	94.1	70	130	
K	39	2	He	487.197	3.782	27038	3.41	500	97.4	70	130	
Ca	43	2	He	639.525	79.011	77	71.84	500	127.9	70	130	
Ca	44	2	He	571.880	5.212	1053	6.46	500	114.4	70	130	
V	51	2	He	5.007	3.842	1724	4.54	5	100.1	70	130	
Cr	52	2	He	4.843	2.490	2097	4.30	5	96.9	70	130	
Mn	55	2	He	5.194	2.968	1157	4.09	5	103.9	70	130	
Fe	56	2	He	523.991	2.042	166180	0.92	500	104.8	70	130	
Co	59	2	He	5.360	6.351	3157	8.27	5	107.2	70	130	
Ni	60	2	He	6.031	7.494	910	9.77	5	120.6	70	130	
Cu	63	2	He	4.655	12.937	2587	11.60	5	93.1	70	130	
Zn	66	2	He	4.195	28.850	430	24.17	5	83.9	70	130	
As	75	2	He	5.303	17.953	276	17.21	5	106.1	70	130	
Sb	121	2	He	4.846	5.222	1950	3.20	5	96.9	70	130	
Se	78	2	He	5.975	32.243	25	24.77	5	119.5	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	540701	0.96	606326	89.18	70	125	
In	115	1	nogas	646717	0.56	717978	90.07	70	125	
Li	6	1	nogas	234569	0.79	264394	88.72	70	125	
Bi	209	1	nogas	954677	0.69	1029814	92.70	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Ge	72	2	He	30271	1.93	35160	86.09	70	125	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICCB
Data File Name	245_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:12:37-06:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	0.008	213.3	27	94.4	1	
B	11	1	nogas	-29.453	-5.6	61181	2.5	10	
Na	23	1	nogas	-96.985	-1.8	462742	1.3	100	
Mg	24	1	nogas	-0.236	-76.3	3001	20.3	100	
Al	27	1	nogas	-0.916	-4.1	4327	5.0	5	
P	31	1	nogas	1.489	184.8	9596	8.7	10	
K	39	1	nogas	-33.041	-17.0	1060541	1.0	100	
Ca	43	1	nogas	-45.527	-34.5	577	19.9	100	
Ca	44	1	nogas	-16.898	-25.3	11828	3.5	100	
Ti	47	1	nogas	0.089	179.8	47	121.8	2.5	
V	51	1	nogas	-6.070	-10.2	75811	4.6	2.5	
Cr	52	1	nogas	-0.184	-38.6	4011	7.0	2.5	
Mn	55	1	nogas	-0.217	-28.4	4354	7.7	2.5	
Fe	56	1	nogas	-20.994	-10.4	256750	4.6	100	
Co	59	1	nogas	0.005	93.1	93	22.3	2.5	
Ni	60	1	nogas	-0.697	-3.5	123	20.4	2.5	
Cu	63	1	nogas	-0.512	-10.9	1447	10.8	2.5	
Zn	66	1	nogas	-0.657	-12.8	117	60.2	2.5	
As	75	1	nogas	-5.449	-11.1	12598	2.9	2.5	
Se	77	1	nogas	-28.966	-66.8	4421	14.9	2.5	
Se	82	1	nogas	1.308	58.5	270	13.4	2.5	
Sr	88	1	nogas	-0.039	-26.5	197	34.6	2.5	
Mo	95	1	nogas	-0.004	-216.6	7	173.2	2.5	
Ag	107	1	nogas	0.007	184.7	77	61.6	2.5	
Cd	111	1	nogas	0.000	2016.6	3	173.2	1	
Sn	118	1	nogas	0.074	76.0	723	18.3	5	
Sb	121	1	nogas	-0.025	-84.9	297	25.5	2.5	
Ba	137	1	nogas	-0.100	-21.7	90	29.4	2.5	
Tl	205	1	nogas	0.024	38.4	327	31.3	1	
Pb	208	1	nogas	-0.002	-467.6	203	31.6	2.5	
U	238	1	nogas	0.003	199.2	247	54.0	2.5	
Si	28	1	nogas	9.699	58.5	670697	0.6	5	ICB Main CR1 Failed
La	139	1	nogas	-48.314	-30.7	17	69.3	2.5	
Au	197	1	nogas	403.233	0.9	20	0.0	2.5	ICB Main CR1 Failed
Na	23	2	He	-82.045	-5.2	17402	3.8	100	
Mg	24	2	He	0.581	102.3	120	43.3	100	
Al	27	2	He	-2.247	-10.0	30	33.3	5	
K	39	2	He	-12.996	-122.9	5714	11.4	100	
Ca	43	2	He	-52.331	0.0	0	#DIV/0!	100	
Ca	44	2	He	-8.238	-1.3	20	0.0	100	
V	51	2	He	0.019	351.9	125	16.1	2.5	
Cr	52	2	He	0.032	157.7	113	18.4	2.5	
Mn	55	2	He	-0.095	-75.2	47	32.7	2.5	
Fe	56	2	He	-0.635	-69.4	793	18.0	100	

Initial Calibration Blank (ICB) Report

Co	59	2	He	0.002	1424.1	10	173.2	2.5	
Ni	60	2	He	0.514	13.6	13	86.6	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Cu	63	2	He	-0.587	-6.7	220	9.1	2.5	
Zn	66	2	He	-1.155	-12.4	7	173.2	2.5	
As	75	2	He	-0.054	-68.4	8	24.7	2.5	
Sb	121	2	He	-0.062	-123.7	37	83.3	2.5	
Se	78	2	He	0.231	517.6	6	66.7	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	543844	1.09	606326	89.70	70	125	
In	115	1	nogas	659228	1.37	717978	91.82	70	125	
Li	6	1	nogas	233907	0.87	264394	88.47	70	125	
Bi	209	1	nogas	974805	0.86	1029814	94.66	70	125	
Ge	72	2	He	30751	0.97	35160	87.46	70	125	

Sample Report

Sample Table

Sample Name	HS17121169-01SD
Data File Name	247SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:17:28-06:00
Sample Type	Sample
Dilution	25
Comment	TW B124039 Na
ISTD Ref FileName	236CALB.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	-0.001	-0.026	-1437.81	13	-0.01	2000	
B	11	1	nogas	-42.327	-1058.175	-2.24	52196	-0.08	2000	
Na	23	1	nogas	8706.397	217659.929	1.65	43761319	0.02	200000	
Mg	24	1	nogas	1218.213	30455.318	1.34	4220223	0.03	200000	
Al	27	1	nogas	1.026	25.649	11.64	16518	0.01	2000	
K	39	1	nogas	33.790	844.760	21.88	1310849	0.00	200000	
Ca	43	1	nogas	1356.275	33906.879	6.20	10483	12.94	200000	
Ca	44	1	nogas	1448.131	36203.283	3.45	181108	0.80	200000	
Ti	47	1	nogas	0.115	2.877	197.03	57	0.20	2000	
V	51	1	nogas	-4.047	-101.170	-24.12	86902	0.00	2000	
Cr	52	1	nogas	-0.058	-1.459	-66.88	4621	0.00	2000	
Mn	55	1	nogas	19.203	480.069	3.26	117968	0.02	2000	
Fe	56	1	nogas	12.512	312.792	17.37	422795	0.00	200000	
Co	59	1	nogas	0.321	8.016	3.51	1590	0.02	2000	
Ni	60	1	nogas	-0.166	-4.154	-31.94	673	-0.02	2000	
Cu	63	1	nogas	-0.460	-11.497	-9.02	1593	-0.03	2000	
Zn	66	1	nogas	3.694	92.340	5.40	3871	0.10	2000	
As	75	1	nogas	-2.809	-70.222	-18.79	14950	-0.02	2000	
Se	77	1	nogas	-6.521	-163.036	-149.67	5301	-0.12	2000	
Se	82	1	nogas	0.820	20.500	43.81	250	0.33	2000	
Sr	88	1	nogas	27.674	691.849	1.68	185907	0.01	2000	
Mo	95	1	nogas	0.041	1.035	19.24	70	0.06	2000	
Ag	107	1	nogas	0.000	-0.006	-2822.67	50	0.00	2000	
Cd	111	1	nogas	0.000	0.008	2168.91	3	0.01	2000	
Sn	118	1	nogas	-0.019	-0.484	-45.63	497	0.00	2000	
Sb	121	1	nogas	0.021	0.519	104.15	467	0.00	2000	
Ba	137	1	nogas	24.495	612.386	2.26	30766	0.08	2000	
Tl	205	1	nogas	0.013	0.315	33.18	200	0.01	2000	
Pb	208	1	nogas	-0.001	-0.021	-275.32	210	0.00	2000	
U	238	1	nogas	0.016	0.389	38.54	503	0.00	2000	
Si	28	1	nogas	807.994	20199.854	6.11	2161990	0.04	2000	
La	139	1	nogas	30.969	774.225	143.10	80	38.71	2000	
Au	197	1	nogas	135.150	3378.750	86.60	7	2027.25	2000	
Na	23	2	He	8821.487	220537.180	2.87	1624211	0.54	200000	
Mg	24	2	He	1199.298	29982.447	3.49	102591	1.17	200000	
Al	27	2	He	-0.280	-6.997	-586.10	117	-0.24	2000	
K	39	2	He	51.161	1279.037	7.97	8436	0.61	200000	
Ca	43	2	He	1366.614	34165.349	38.79	160	854.10	200000	
Ca	44	2	He	1387.439	34685.967	7.01	2527	54.91	200000	
V	51	2	He	0.117	2.913	48.50	155	0.08	2000	
Cr	52	2	He	0.036	0.897	302.49	113	0.03	2000	
Mn	55	2	He	19.654	491.348	6.24	4224	0.47	2000	
Fe	56	2	He	31.517	787.913	3.09	11007	0.29	200000	
Co	59	2	He	0.244	6.095	32.20	153	0.16	2000	

Sample Report

Ni	60	2	He	0.865	21.623	27.04	70	1.24	2000	
Cu	63	2	He	-0.603	-15.080	-15.27	210	-0.29	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Zn	66	2	He	4.421	110.534	8.73	450	0.98	2000	
As	75	2	He	0.020	0.499	1970.52	11	0.18	2000	
Sb	121	2	He	-0.069	-1.720	-24.89	33	-0.21	2000	
Se	78	2	He	-0.342	-8.544	-321.56	4	-8.54	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	549541	2.42	606326	90.63	70	125	
In	115	1	nogas	663326	1.37	717978	92.39	70	125	
Li	6	1	nogas	234351	0.23	264394	88.64	70	125	
Bi	209	1	nogas	971564	0.42	1029814	94.34	70	125	
Ge	72	2	He	30501	2.58	35160	86.75	70	125	

Sample Report

Sample Table

Sample Name	HS17121169-01PDS
Data File Name	248SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:19:40-06:00
Sample Type	Sample
Dilution	5
Comment	TW B124039 Na
ISTD Ref FileName	236CALB.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	108.192	540.958	2.13	167270	0.06	2000	
B	11	1	nogas	-39.896	-199.482	-4.00	53754	-0.07	2000	
Na	23	1	nogas	53979.562	269897.810	0.72	268182748	0.02	200000	
Mg	24	1	nogas	15158.377	75791.884	1.36	52818725	0.03	200000	
Al	27	1	nogas	68.045	340.227	1.78	438371	0.02	2000	
K	39	1	nogas	9471.533	47357.665	1.08	35313498	0.03	200000	
Ca	43	1	nogas	16604.218	83021.092	1.60	118693	13.99	200000	
Ca	44	1	nogas	16778.202	83891.008	0.80	1962271	0.86	200000	
Ti	47	1	nogas	91.273	456.363	3.69	33309	0.27	2000	
V	51	1	nogas	86.867	434.333	1.12	550401	0.02	2000	
Cr	52	1	nogas	92.499	462.495	1.21	426384	0.02	2000	
Mn	55	1	nogas	190.299	951.494	0.98	1124950	0.02	2000	
Fe	56	1	nogas	9346.665	46733.326	2.84	46219160	0.02	200000	
Co	59	1	nogas	94.397	471.986	1.64	448917	0.02	2000	
Ni	60	1	nogas	93.205	466.025	2.52	97712	0.10	2000	
Cu	63	1	nogas	91.815	459.075	1.96	241722	0.04	2000	
Zn	66	1	nogas	116.897	584.487	1.86	102075	0.11	2000	
As	75	1	nogas	90.996	454.981	2.19	94156	0.10	2000	
Se	77	1	nogas	58.324	291.619	7.15	7735	0.75	2000	
Se	82	1	nogas	94.806	474.030	8.14	4664	2.03	2000	
Sr	88	1	nogas	141.629	708.145	0.08	954730	0.01	2000	
Mo	95	1	nogas	93.047	465.236	1.54	131222	0.07	2000	
Ag	107	1	nogas	91.388	456.941	1.30	349721	0.03	2000	
Cd	111	1	nogas	93.614	468.070	0.25	78710	0.12	2000	
Sn	118	1	nogas	-0.013	-0.065	-127.28	503	0.00	2000	
Sb	121	1	nogas	88.240	441.198	2.07	322832	0.03	2000	
Ba	137	1	nogas	223.222	1116.112	0.89	273711	0.08	2000	
Tl	205	1	nogas	91.663	458.314	1.04	986170	0.01	2000	
Pb	208	1	nogas	90.960	454.802	1.25	748693	0.01	2000	
U	238	1	nogas	0.101	0.503	10.84	2197	0.00	2000	
Si	28	1	nogas	3780.899	18904.494	1.64	7735191	0.05	2000	>LDR
La	139	1	nogas	427.722	2138.610	23.04	390	109.67	2000	
Au	197	1	nogas	139.028	695.142	173.21	7	2085.42	2000	
Na	23	2	He	54048.945	270244.724	2.22	10015788	0.54	200000	
Mg	24	2	He	15604.868	78024.341	2.15	1365556	1.14	200000	
Al	27	2	He	64.384	321.920	3.66	3037	2.12	2000	
K	39	2	He	9451.881	47259.403	1.35	423426	2.23	200000	
Ca	43	2	He	15916.813	79584.063	9.37	1830	869.71	200000	
Ca	44	2	He	16050.483	80252.416	1.29	29505	54.40	200000	
V	51	2	He	91.753	458.766	2.91	30467	0.30	2000	
Cr	52	2	He	92.939	464.696	2.40	39619	0.23	2000	
Mn	55	2	He	191.029	955.143	3.13	41410	0.46	2000	
Fe	56	2	He	9372.524	46862.621	1.74	3047598	0.31	200000	
Co	59	2	He	91.257	456.284	2.71	55215	0.17	2000	

Sample Report

Ni	60	2	He	94.155	470.774	1.91	15698	0.60	2000	
Cu	63	2	He	93.419	467.094	0.94	44020	0.21	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Zn	66	2	He	110.973	554.864	5.99	9126	1.22	2000	
As	75	2	He	93.935	469.674	4.01	4852	1.94	2000	
Sb	121	2	He	85.343	426.717	1.47	34393	0.25	2000	
Se	78	2	He	98.056	490.278	8.19	336	29.18	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	552401	0.54	606326	91.11	70	125	
In	115	1	nogas	651779	0.52	717978	90.78	70	125	
Li	6	1	nogas	233647	0.40	264394	88.37	70	125	
Bi	209	1	nogas	938114	0.89	1029814	91.10	70	125	
Ge	72	2	He	31209	2.14	35160	88.76	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	251_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:26:17-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	102.883	1.976	179428	1.02	100	102.9	90	110	
B	11	1	nogas	460.654	4.844	458330	2.27	500	92.1	90	110	
Na	23	1	nogas	10358.052	1.160	55283799	0.72	10000	103.6	90	110	
Mg	24	1	nogas	9670.954	1.372	35669338	0.73	10000	96.7	90	110	
Al	27	1	nogas	67.161	0.279	455009	0.70	100	67.2	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	436.800	1.780	135109	2.27	500	87.4	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9682.437	1.390	37920021	0.76	10000	96.8	90	110	
Ca	43	1	nogas	10082.626	1.283	76142	0.56	10000	100.8	90	110	
Ca	44	1	nogas	10179.468	1.730	1257169	0.86	10000	101.8	90	110	
Ti	47	1	nogas	98.740	5.171	37868	4.33	100	98.7	90	110	
V	51	1	nogas	93.985	2.208	616697	1.27	100	94.0	90	110	
Cr	52	1	nogas	97.183	1.679	470638	0.87	100	97.2	90	110	
Mn	55	1	nogas	97.716	0.679	610152	0.64	100	97.7	90	110	
Fe	56	1	nogas	9632.736	1.285	50063308	0.30	10000	96.3	90	110	
Co	59	1	nogas	96.453	1.851	482181	1.32	100	96.5	90	110	
Ni	60	1	nogas	97.096	1.344	106957	0.59	100	97.1	90	110	
Cu	63	1	nogas	95.800	2.257	264973	1.36	100	95.8	90	110	
Zn	66	1	nogas	96.327	1.726	88547	0.75	100	96.3	90	110	
As	75	1	nogas	93.838	2.897	101494	2.03	100	93.8	90	110	
Se	77	1	nogas	66.143	6.839	8436	1.69	100	66.1	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	97.109	6.895	5014	5.81	100	97.1	90	110	
Sr	88	1	nogas	105.556	1.398	748087	0.52	100	105.6	90	110	
Mo	95	1	nogas	94.785	1.058	140526	0.90	100	94.8	90	110	
Ag	107	1	nogas	96.689	1.006	388976	1.22	100	96.7	90	110	
Cd	111	1	nogas	98.440	1.162	87909	1.49	100	98.4	90	110	
Sn	118	1	nogas	98.214	0.634	254954	0.73	100	98.2	90	110	
Sb	121	1	nogas	95.733	1.989	368136	1.07	100	95.7	90	110	
Ba	137	1	nogas	100.471	0.656	130973	0.75	100	100.5	90	110	
Tl	205	1	nogas	94.375	0.459	1074910	1.00	100	94.4	90	110	
Pb	208	1	nogas	93.677	0.728	816259	0.16	100	93.7	90	110	
U	238	1	nogas	95.788	0.508	2039634	1.28	100	95.8	90	110	
Li	7	1	nogas	103.508	1.619	458906	0.97	100	103.5	90	110	
Si	28	1	nogas	5049.785	0.600	10626850	0.51	5000	101.0	90	110	
Ba	135	1	nogas	99.517	1.921	75370	0.57	100	99.5	90	110	
La	139	1	nogas	202.404	29.782	227	22.20	100	202.4	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	264.296	115.078	13	114.56	100	264.3	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	95.182	0.696	446824	1.35	100	95.2	90	110	
Na	23	2	He	10404.366	0.767	2048553	1.35	10000	104.0	90	110	
Mg	24	2	He	9568.281	2.015	877363	0.60	10000	95.7	90	110	
Al	27	2	He	69.218	9.492	3407	8.31	100	69.2	90	110	CCV Main CR1-2 Failed
K	39	2	He	9585.939	2.808	449815	1.22	10000	95.9	90	110	
Ca	43	2	He	9795.257	6.516	1183	6.56	10000	98.0	90	110	
Ca	44	2	He	10142.291	3.006	19551	3.00	10000	101.4	90	110	
V	51	2	He	97.295	2.421	33850	1.07	100	97.3	90	110	
Cr	52	2	He	96.405	4.271	43061	3.61	100	96.4	90	110	
Mn	55	2	He	98.224	2.023	22355	2.96	100	98.2	90	110	
Fe	56	2	He	9782.249	2.230	3333258	2.20	10000	97.8	90	110	
Co	59	2	He	96.611	2.689	61252	2.04	100	96.6	90	110	
Ni	60	2	He	95.227	5.624	16628	4.89	100	95.2	90	110	
Cu	63	2	He	95.013	0.572	46904	1.14	100	95.0	90	110	
Zn	66	2	He	96.355	4.808	8319	3.09	100	96.4	90	110	
As	75	2	He	98.192	4.375	5314	2.83	100	98.2	90	110	
Sb	121	2	He	95.672	3.605	40390	2.90	100	95.7	90	110	
Se	78	2	He	97.719	6.801	351	5.48	100	97.7	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	580713	0.97	606326	95.78	70	125	
In	115	1	nogas	692294	1.36	717978	96.42	70	125	
Li	6	1	nogas	263608	2.01	264394	99.70	70	125	
Bi	209	1	nogas	993082	0.77	1029814	96.43	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	32702	1.71	35160	93.01	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	252_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:28:28-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	0.028	42.1	63	32.9	1	
B	11	1	nogas	-28.696	-22.1	67119	9.1	10	
Na	23	1	nogas	-102.318	-0.9	471713	1.3	100	
Mg	24	1	nogas	2.485	22.5	13308	17.3	100	
Al	27	1	nogas	-0.746	-5.3	5808	5.1	5	
P	31	1	nogas	1.280	76.6	10293	2.4	10	
K	39	1	nogas	-21.450	-63.3	1189678	4.9	100	
Ca	43	1	nogas	-53.778	-29.7	560	21.9	100	
Ca	44	1	nogas	-26.104	-19.2	11637	5.8	100	
Ti	47	1	nogas	0.165	16.0	80	12.5	2.5	
V	51	1	nogas	-3.711	-5.5	94610	0.7	2.5	
Cr	52	1	nogas	-0.070	-59.5	4881	4.1	2.5	
Mn	55	1	nogas	-0.096	-49.6	5454	5.0	2.5	
Fe	56	1	nogas	-22.343	-1.6	270122	0.6	100	
Co	59	1	nogas	0.027	61.8	213	39.3	2.5	
Ni	60	1	nogas	-0.643	-8.1	193	29.4	2.5	
Cu	63	1	nogas	-0.519	-6.8	1540	6.8	2.5	
Zn	66	1	nogas	-0.610	-9.5	170	31.1	2.5	
As	75	1	nogas	-2.292	-19.3	16435	2.2	2.5	
Se	77	1	nogas	-15.719	-28.4	5301	3.9	2.5	
Se	82	1	nogas	0.211	543.3	237	24.0	2.5	
Sr	88	1	nogas	0.003	614.8	510	22.6	2.5	
Mo	95	1	nogas	0.027	37.0	53	28.6	2.5	
Ag	107	1	nogas	0.029	51.7	173	35.3	2.5	
Cd	111	1	nogas	0.029	64.4	30	57.7	1	
Sn	118	1	nogas	0.032	146.3	667	18.1	5	
Sb	121	1	nogas	0.045	65.5	593	19.5	2.5	
Ba	137	1	nogas	-0.070	-69.4	137	47.6	2.5	
Tl	205	1	nogas	0.105	25.3	1327	23.5	1	
Pb	208	1	nogas	0.020	16.9	420	7.1	2.5	
U	238	1	nogas	0.027	28.0	810	21.6	2.5	
Si	28	1	nogas	2.399	154.2	709679	1.5	5	
La	139	1	nogas	-10.866	-190.7	50	34.6	2.5	
Au	197	1	nogas	124.660	173.2	7	173.2	2.5	CCB Main CR1 Failed
Na	23	2	He	-81.593	-6.7	18740	2.6	100	
Mg	24	2	He	1.823	4.1	243	2.4	100	
Al	27	2	He	-0.842	-133.3	100	55.7	5	
K	39	2	He	-9.069	-44.2	6315	2.3	100	
Ca	43	2	He	-25.298	-185.1	3	173.2	100	
Ca	44	2	He	-17.603	-16.6	3	173.2	100	
V	51	2	He	0.115	59.1	167	13.7	2.5	
Cr	52	2	He	0.064	214.8	137	47.0	2.5	
Mn	55	2	He	-0.110	-118.2	47	65.5	2.5	
Fe	56	2	He	1.079	21.8	1440	6.6	100	
Co	59	2	He	0.059	81.7	47	61.9	2.5	
Ni	60	2	He	0.587	25.1	27	94.4	2.5	
Cu	63	2	He	-0.715	-5.9	173	14.5	2.5	
Zn	66	2	He	-1.157	-12.1	7	173.2	2.5	

Continuing Calibration Blank (CCB) Report

As	75	2	He	-0.087	-137.2	7	100.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.026	417.4	77	61.6	2.5	
Se	78	2	He	-0.830	-37.0	3	43.3	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	587140	0.54	606326	96.84	70	125	
In	115	1	nogas	710381	0.77	717978	98.94	70	125	
Li	6	1	nogas	254189	2.26	264394	96.14	70	125	
Bi	209	1	nogas	1051317	0.58	1029814	102.09	70	125	
Ge	72	2	He	32992	3.29	35160	93.83	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	253_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:30:41-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	103.682	2.629	181183	0.61	100	103.7	90	110	
B	11	1	nogas	468.237	5.861	465240	2.47	500	93.6	90	110	
Na	23	1	nogas	10657.123	2.102	55292655	0.80	10000	106.6	90	110	
Mg	24	1	nogas	9846.158	1.835	35322363	1.06	10000	98.5	90	110	
Al	27	1	nogas	66.919	2.685	447571	2.17	100	66.9	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	432.371	1.351	132114	0.82	500	86.5	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9624.877	2.146	37220726	1.88	10000	96.2	90	110	
Ca	43	1	nogas	10125.859	1.907	75493	2.16	10000	101.3	90	110	
Ca	44	1	nogas	10124.316	0.988	1234519	0.57	10000	101.2	90	110	
Ti	47	1	nogas	97.783	1.129	37033	1.55	100	97.8	90	110	
V	51	1	nogas	92.170	1.171	599242	0.61	100	92.2	90	110	
Cr	52	1	nogas	97.746	1.050	467305	0.75	100	97.7	90	110	
Mn	55	1	nogas	98.077	1.212	604542	0.74	100	98.1	90	110	
Fe	56	1	nogas	9568.115	0.883	49096016	0.49	10000	95.7	90	110	
Co	59	1	nogas	97.476	0.625	481088	0.16	100	97.5	90	110	
Ni	60	1	nogas	97.895	0.898	106456	0.90	100	97.9	90	110	
Cu	63	1	nogas	98.134	1.005	267910	0.62	100	98.1	90	110	
Zn	66	1	nogas	98.723	1.000	89580	1.22	100	98.7	90	110	
As	75	1	nogas	93.552	2.032	99958	2.11	100	93.6	90	110	
Se	77	1	nogas	74.798	9.299	8662	3.56	100	74.8	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	93.047	4.807	4754	4.75	100	93.0	90	110	
Sr	88	1	nogas	105.531	1.504	738362	1.05	100	105.5	90	110	
Mo	95	1	nogas	96.524	1.185	141276	1.11	100	96.5	90	110	
Ag	107	1	nogas	96.350	1.207	382642	0.74	100	96.3	90	110	
Cd	111	1	nogas	96.552	0.943	85171	1.87	100	96.6	90	110	
Sn	118	1	nogas	99.348	1.737	254717	1.24	100	99.3	90	110	
Sb	121	1	nogas	96.105	1.028	364867	0.71	100	96.1	90	110	
Ba	137	1	nogas	100.531	2.738	129424	1.68	100	100.5	90	110	
Tl	205	1	nogas	94.353	0.809	1084750	0.89	100	94.4	90	110	
Pb	208	1	nogas	94.760	0.314	833485	0.81	100	94.8	90	110	
U	238	1	nogas	95.826	0.566	2059521	0.20	100	95.8	90	110	
Li	7	1	nogas	103.693	2.532	460645	1.90	100	103.7	90	110	
Si	28	1	nogas	5058.568	0.790	10507934	0.33	5000	101.2	90	110	
Ba	135	1	nogas	102.370	3.630	76573	2.88	100	102.4	90	110	
La	139	1	nogas	108.511	41.262	147	25.81	100	108.5	90	110	
Au	197	1	nogas	0.000	#DIV/0!	0	#DIV/0!	100	0.0	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	94.616	1.341	448339	1.58	100	94.6	90	110	
Na	23	2	He	10812.339	2.642	2079126	0.88	10000	108.1	90	110	
Mg	24	2	He	9807.306	1.313	879139	1.33	10000	98.1	90	110	
Al	27	2	He	67.246	2.451	3240	0.31	100	67.2	90	110	CCV Main CR1-2 Failed
K	39	2	He	9704.768	1.304	445135	0.86	10000	97.0	90	110	
Ca	43	2	He	9914.801	9.354	1170	8.42	10000	99.1	90	110	
Ca	44	2	He	10151.506	2.651	19124	0.64	10000	101.5	90	110	
V	51	2	He	98.110	2.160	33366	1.27	100	98.1	90	110	
Cr	52	2	He	100.881	2.329	44049	2.61	100	100.9	90	110	
Mn	55	2	He	99.553	3.905	22148	4.75	100	99.6	90	110	
Fe	56	2	He	9906.620	3.233	3298753	1.56	10000	99.1	90	110	
Co	59	2	He	100.261	3.251	62122	1.30	100	100.3	90	110	
Ni	60	2	He	99.191	4.092	16935	3.53	100	99.2	90	110	
Cu	63	2	He	96.384	1.234	46500	0.90	100	96.4	90	110	
Zn	66	2	He	97.735	5.160	8245	2.98	100	97.7	90	110	
As	75	2	He	100.307	2.118	5308	0.85	100	100.3	90	110	
Sb	121	2	He	98.449	1.822	40641	3.27	100	98.4	90	110	
Se	78	2	He	84.182	11.881	297	13.49	100	84.2	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
Ge	72	1	nogas	573277	0.47	606326	94.55	70	125	
In	115	1	nogas	683790	1.04	717978	95.24	70	125	
Li	6	1	nogas	264174	2.25	264394	99.92	70	125	
Bi	209	1	nogas	1002421	0.70	1029814	97.34	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	31967	2.07	35160	90.92	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	254_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:32:53-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	0.012	154.7	37	87.7	1	
B	11	1	nogas	-25.796	-32.4	67634	8.9	10	
Na	23	1	nogas	-108.656	-1.9	433170	3.2	100	
Mg	24	1	nogas	2.508	6.1	13208	5.0	100	
Al	27	1	nogas	-0.754	-4.2	5638	2.7	5	
P	31	1	nogas	2.669	65.1	10480	3.6	10	
K	39	1	nogas	-25.312	-16.6	1151197	0.4	100	
Ca	43	1	nogas	-62.959	-18.3	480	16.5	100	
Ca	44	1	nogas	-18.138	-27.3	12371	5.8	100	
Ti	47	1	nogas	0.054	227.0	37	128.9	2.5	
V	51	1	nogas	-4.129	-19.2	90485	3.9	2.5	
Cr	52	1	nogas	-0.140	-27.8	4454	5.1	2.5	
Mn	55	1	nogas	-0.088	-17.1	5398	1.5	2.5	
Fe	56	1	nogas	-24.244	-4.7	255069	3.3	100	
Co	59	1	nogas	0.024	54.9	193	33.7	2.5	
Ni	60	1	nogas	-0.584	-2.6	253	6.0	2.5	
Cu	63	1	nogas	-0.554	-26.2	1417	28.0	2.5	
Zn	66	1	nogas	-0.610	-2.7	167	9.2	2.5	
As	75	1	nogas	-4.154	-14.2	14470	3.1	2.5	
Se	77	1	nogas	-17.761	-36.5	5114	4.0	2.5	
Se	82	1	nogas	-0.924	-146.3	177	37.7	2.5	
Sr	88	1	nogas	0.003	236.4	503	9.4	2.5	
Mo	95	1	nogas	0.059	29.0	100	26.5	2.5	
Ag	107	1	nogas	0.034	50.0	190	36.8	2.5	
Cd	111	1	nogas	0.022	75.1	23	65.5	1	
Sn	118	1	nogas	0.057	68.5	727	14.7	5	
Sb	121	1	nogas	0.045	34.1	583	11.2	2.5	
Ba	137	1	nogas	-0.092	-16.5	107	19.5	2.5	
Tl	205	1	nogas	0.112	13.6	1403	14.3	1	
Pb	208	1	nogas	0.030	7.2	510	3.9	2.5	
U	238	1	nogas	0.030	28.6	870	23.6	2.5	
Si	28	1	nogas	14.503	36.2	719080	1.5	5	CCB Main CR1 Failed
La	139	1	nogas	-18.112	-211.8	43	74.2	2.5	
Au	197	1	nogas	64.087	173.2	3	173.2	2.5	CCB Main CR1 Failed
Na	23	2	He	-88.934	-7.0	17279	3.7	100	
Mg	24	2	He	2.438	10.9	300	8.8	100	
Al	27	2	He	-1.509	-25.4	67	22.9	5	
K	39	2	He	2.722	562.9	6848	8.5	100	
Ca	43	2	He	-52.331	0.0	0	#DIV/0!	100	
Ca	44	2	He	1.371	85.0	40	0.0	100	
V	51	2	He	0.029	71.0	137	2.2	2.5	
Cr	52	2	He	0.000	58183.0	107	27.1	2.5	
Mn	55	2	He	-0.107	-71.8	47	32.7	2.5	
Fe	56	2	He	2.007	38.2	1750	10.9	100	
Co	59	2	He	-0.010	-86.8	3	173.2	2.5	
Ni	60	2	He	0.576	34.6	27	142.0	2.5	
Cu	63	2	He	-0.721	-2.1	170	10.2	2.5	
Zn	66	2	He	-1.080	-17.3	13	114.6	2.5	

Continuing Calibration Blank (CCB) Report

As	75	2	He	-0.041	-322.6	9	78.1	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	-0.014	-294.2	60	33.3	2.5	
Se	78	2	He	2.671	65.6	15	45.8	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
Ge	72	1	nogas	575446	1.12	606326	94.91	70	125	
In	115	1	nogas	703318	0.74	717978	97.96	70	125	
Li	6	1	nogas	248221	2.32	264394	93.88	70	125	
Bi	209	1	nogas	1039247	1.45	1029814	100.92	70	125	
Ge	72	2	He	32972	5.80	35160	93.78	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	265_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:57:23-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	104.683	0.671	176491	1.24	100	104.7	90	110	
B	11	1	nogas	469.733	1.630	450117	0.78	500	93.9	90	110	
Na	23	1	nogas	10692.805	1.382	54583741	1.63	10000	106.9	90	110	
Mg	24	1	nogas	9818.385	1.416	34652435	0.27	10000	98.2	90	110	
Al	27	1	nogas	66.646	0.075	434268	0.61	100	66.6	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	441.149	0.173	131116	0.70	500	88.2	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9763.300	1.012	36760367	0.76	10000	97.6	90	110	
Ca	43	1	nogas	10280.345	1.807	74645	2.21	10000	102.8	90	110	
Ca	44	1	nogas	10211.147	1.293	1212733	1.28	10000	102.1	90	110	
Ti	47	1	nogas	97.511	2.608	35974	3.00	100	97.5	90	110	
V	51	1	nogas	99.426	2.595	621073	2.08	100	99.4	90	110	
Cr	52	1	nogas	97.170	0.411	452545	0.34	100	97.2	90	110	
Mn	55	1	nogas	97.785	0.358	587167	0.88	100	97.8	90	110	
Fe	56	1	nogas	9544.887	1.691	47712311	2.22	10000	95.4	90	110	
Co	59	1	nogas	96.892	1.165	465838	1.69	100	96.9	90	110	
Ni	60	1	nogas	98.682	2.208	104532	2.69	100	98.7	90	110	
Cu	63	1	nogas	97.634	2.752	259677	3.16	100	97.6	90	110	
Zn	66	1	nogas	99.659	1.013	88082	1.54	100	99.7	90	110	
As	75	1	nogas	100.835	1.632	103573	1.51	100	100.8	90	110	
Se	77	1	nogas	99.813	3.928	9376	2.11	100	99.8	90	110	
Se	82	1	nogas	96.965	7.090	4817	7.17	100	97.0	90	110	
Sr	88	1	nogas	107.239	0.141	730890	0.69	100	107.2	90	110	
Mo	95	1	nogas	96.955	1.145	138224	0.61	100	97.0	90	110	
Ag	107	1	nogas	96.257	0.152	372376	0.54	100	96.3	90	110	
Cd	111	1	nogas	98.064	2.467	84535	2.07	100	98.1	90	110	
Sn	118	1	nogas	99.784	2.044	250035	1.45	100	99.8	90	110	
Sb	121	1	nogas	98.133	0.470	362907	0.26	100	98.1	90	110	
Ba	137	1	nogas	101.871	1.313	128202	1.59	100	101.9	90	110	
Tl	205	1	nogas	95.077	1.410	1055940	1.01	100	95.1	90	110	
Pb	208	1	nogas	95.421	1.056	810787	0.60	100	95.4	90	110	
U	238	1	nogas	97.127	2.181	2016534	1.71	100	97.1	90	110	
Li	7	1	nogas	103.511	1.138	443598	0.78	100	103.5	90	110	
Si	28	1	nogas	5100.215	1.640	10314312	1.42	5000	102.0	90	110	
Ba	135	1	nogas	102.358	1.616	74845	1.79	100	102.4	90	110	
La	139	1	nogas	137.725	41.055	167	27.06	100	137.7	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	270.840	114.999	13	114.56	100	270.8	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	95.667	0.310	437933	0.65	100	95.7	90	110	
Na	23	2	He	10284.970	1.398	1956064	0.93	10000	102.8	90	110	
Mg	24	2	He	9445.675	2.037	836538	1.09	10000	94.5	90	110	
Al	27	2	He	62.971	3.756	3007	3.28	100	63.0	90	110	CCV Main CR1-2 Failed
K	39	2	He	9579.989	1.419	434242	0.62	10000	95.8	90	110	
Ca	43	2	He	11117.538	4.801	1297	5.68	10000	111.2	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9831.269	3.345	18310	4.35	10000	98.3	90	110	
V	51	2	He	95.696	1.244	32162	0.68	100	95.7	90	110	
Cr	52	2	He	95.404	0.721	41169	1.91	100	95.4	90	110	
Mn	55	2	He	99.011	1.886	21757	0.69	100	99.0	90	110	
Fe	56	2	He	9642.430	1.270	3173399	1.48	10000	96.4	90	110	
Co	59	2	He	96.214	3.122	58921	3.11	100	96.2	90	110	
Ni	60	2	He	94.630	1.999	15961	0.72	100	94.6	90	110	
Cu	63	2	He	95.626	1.467	45594	2.39	100	95.6	90	110	
Zn	66	2	He	94.742	5.222	7905	5.22	100	94.7	90	110	
As	75	2	He	95.702	1.365	5005	2.39	100	95.7	90	110	
Sb	121	2	He	96.845	2.013	39495	2.36	100	96.8	90	110	
Se	78	2	He	87.280	3.882	303	4.95	100	87.3	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
Ge	72	1	nogas	558417	0.55	606326	92.10	70	125	
In	115	1	nogas	668304	0.79	717978	93.08	70	125	
Li	6	1	nogas	254768	0.58	264394	96.36	70	125	
Bi	209	1	nogas	968407	0.69	1029814	94.04	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	31583	1.37	35160	89.83	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	266_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:59:34-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	35.6	73	28.4	1	
B	11	1	nogas	-31.940	-25.7	61697	10.2	10	
Na	23	1	nogas	-76.075	-4.5	597319	3.2	100	
Mg	24	1	nogas	2.278	28.2	12274	19.1	100	
Al	27	1	nogas	-0.789	-3.5	5424	2.8	5	
P	31	1	nogas	0.348	476.0	9853	5.5	10	
K	39	1	nogas	-23.236	-33.5	1162159	2.1	100	
Ca	43	1	nogas	-64.525	-20.4	470	20.3	100	
Ca	44	1	nogas	-24.195	-24.8	11664	5.8	100	
Ti	47	1	nogas	0.028	141.3	27	57.3	2.5	
V	51	1	nogas	-0.324	-827.2	110981	12.6	2.5	
Cr	52	1	nogas	-0.011	-321.4	5081	3.6	2.5	
Mn	55	1	nogas	-0.174	-14.1	4884	2.6	2.5	
Fe	56	1	nogas	-26.733	-4.5	242960	2.5	100	
Co	59	1	nogas	0.026	49.1	207	30.7	2.5	
Ni	60	1	nogas	-0.548	-3.4	293	7.1	2.5	
Cu	63	1	nogas	-0.465	-1.5	1660	1.6	2.5	
Zn	66	1	nogas	-0.537	-12.7	233	26.2	2.5	
As	75	1	nogas	0.066	1272.9	18227	3.4	2.5	
Se	77	1	nogas	3.873	231.1	5968	5.6	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.249	-705.7	210	40.7	2.5	
Sr	88	1	nogas	0.016	36.5	597	7.6	2.5	
Mo	95	1	nogas	0.048	85.8	83	73.3	2.5	
Ag	107	1	nogas	0.035	61.7	193	44.0	2.5	
Cd	111	1	nogas	0.026	160.9	27	142.0	1	
Sn	118	1	nogas	0.153	28.5	970	12.4	5	
Sb	121	1	nogas	0.166	13.2	1047	8.6	2.5	
Ba	137	1	nogas	-0.076	-24.7	127	19.9	2.5	
Tl	205	1	nogas	0.110	15.4	1360	14.7	1	
Pb	208	1	nogas	0.027	5.7	473	3.2	2.5	
U	238	1	nogas	0.037	11.3	997	9.1	2.5	
Si	28	1	nogas	22.097	13.7	735909	1.3	5	CCB Main CR1 Failed
La	139	1	nogas	-37.579	-18.7	27	21.7	2.5	
Au	197	1	nogas	127.356	86.6	7	86.6	2.5	CCB Main CR1 Failed
Na	23	2	He	-61.762	-6.1	22341	2.0	100	
Mg	24	2	He	1.371	82.1	200	52.7	100	
Al	27	2	He	-1.719	-13.5	57	20.4	5	
K	39	2	He	5.526	82.5	6908	2.6	100	
Ca	43	2	He	30.299	472.4	10	173.2	100	
Ca	44	2	He	1.650	839.9	40	66.1	100	
V	51	2	He	0.208	59.2	197	21.1	2.5	
Cr	52	2	He	0.025	678.2	117	64.9	2.5	
Mn	55	2	He	-0.049	-89.3	60	16.7	2.5	
Fe	56	2	He	1.419	32.8	1537	10.1	100	
Co	59	2	He	0.028	143.3	27	94.4	2.5	
Ni	60	2	He	0.586	5.9	27	21.7	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.635	-12.3	210	19.0	2.5	
Zn	66	2	He	-0.691	-51.5	47	65.5	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	-0.041	-324.2	9	78.1	2.5	
Sb	121	2	He	0.045	29.2	83	6.9	2.5	
Se	78	2	He	-0.812	-81.3	3	86.6	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	577008	0.66	606326	95.16	70	125	
In	115	1	nogas	696400	0.69	717978	96.99	70	125	
Li	6	1	nogas	242801	0.78	264394	91.83	70	125	
Bi	209	1	nogas	1025937	0.52	1029814	99.62	70	125	
Ge	72	2	He	32571	1.46	35160	92.64	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	277_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T21:30:06-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	104.433	0.375	177075	0.54	100	104.4	90	110	
B	11	1	nogas	438.573	2.896	428607	1.62	500	87.7	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	10364.702	1.494	53824001	1.13	10000	103.6	90	110	
Mg	24	1	nogas	9631.992	0.027	34568534	0.98	10000	96.3	90	110	
Al	27	1	nogas	65.984	0.448	435443	1.37	100	66.0	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	426.258	0.557	128598	1.41	500	85.3	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9772.772	1.222	37254775	1.34	10000	97.7	90	110	
Ca	43	1	nogas	10089.537	2.086	74190	2.39	10000	100.9	90	110	
Ca	44	1	nogas	10156.921	1.438	1221384	1.13	10000	101.6	90	110	
Ti	47	1	nogas	97.337	0.883	36358	1.85	100	97.3	90	110	
V	51	1	nogas	102.586	0.579	645321	1.08	100	102.6	90	110	
Cr	52	1	nogas	97.426	0.404	459424	1.64	100	97.4	90	110	
Mn	55	1	nogas	98.405	1.252	598190	0.72	100	98.4	90	110	
Fe	56	1	nogas	9708.466	0.907	49126885	1.30	10000	97.1	90	110	
Co	59	1	nogas	98.456	0.704	479252	1.14	100	98.5	90	110	
Ni	60	1	nogas	98.457	0.383	105598	1.77	100	98.5	90	110	
Cu	63	1	nogas	98.637	1.144	265558	0.79	100	98.6	90	110	
Zn	66	1	nogas	100.777	1.837	90159	0.40	100	100.8	90	110	
As	75	1	nogas	102.003	0.993	105887	2.21	100	102.0	90	110	
Se	77	1	nogas	118.079	4.616	10187	2.26	100	118.1	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.093	2.784	4834	1.88	100	96.1	90	110	
Sr	88	1	nogas	105.760	0.803	729795	0.67	100	105.8	90	110	
Mo	95	1	nogas	97.363	1.675	140543	1.82	100	97.4	90	110	
Ag	107	1	nogas	98.145	1.313	384412	1.34	100	98.1	90	110	
Cd	111	1	nogas	97.823	1.234	87269	1.12	100	97.8	90	110	
Sn	118	1	nogas	98.756	0.642	256110	1.07	100	98.8	90	110	
Sb	121	1	nogas	97.955	1.980	366726	0.63	100	98.0	90	110	
Ba	137	1	nogas	100.618	1.614	131045	2.27	100	100.6	90	110	
Tl	205	1	nogas	94.675	0.919	1083979	0.54	100	94.7	90	110	
Pb	208	1	nogas	94.756	1.166	830066	1.59	100	94.8	90	110	
U	238	1	nogas	94.964	1.311	2032763	1.75	100	95.0	90	110	
Li	7	1	nogas	103.215	0.810	444944	0.79	100	103.2	90	110	
Si	28	1	nogas	4978.081	0.820	10209576	1.23	5000	99.6	90	110	
Ba	135	1	nogas	101.095	2.043	76490	1.13	100	101.1	90	110	
La	139	1	nogas	147.018	52.150	180	34.70	100	147.0	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	131.757	173.205	7	173.21	100	131.8	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	95.111	0.559	448828	0.17	100	95.1	90	110	
Na	23	2	He	10052.056	3.361	1959504	1.55	10000	100.5	90	110	
Mg	24	2	He	9236.520	2.956	838182	0.79	10000	92.4	90	110	
Al	27	2	He	58.645	2.375	2880	3.66	100	58.6	90	110	CCV Main CR1-2 Failed
K	39	2	He	9273.350	2.486	430935	0.75	10000	92.7	90	110	
Ca	43	2	He	10327.783	6.854	1233	4.08	10000	103.3	90	110	
Ca	44	2	He	9716.871	3.890	18533	1.38	10000	97.2	90	110	
V	51	2	He	94.075	3.133	32395	0.28	100	94.1	90	110	
Cr	52	2	He	94.845	4.252	41918	1.25	100	94.8	90	110	
Mn	55	2	He	93.884	4.516	21137	1.61	100	93.9	90	110	
Fe	56	2	He	9410.771	3.496	3172851	1.07	10000	94.1	90	110	
Co	59	2	He	95.485	3.241	59907	0.83	100	95.5	90	110	
Ni	60	2	He	93.988	7.707	16228	4.77	100	94.0	90	110	
Cu	63	2	He	95.565	1.599	46690	1.44	100	95.6	90	110	
Zn	66	2	He	95.130	1.719	8135	2.77	100	95.1	90	110	
As	75	2	He	91.093	2.685	4882	2.06	100	91.1	90	110	
Sb	121	2	He	95.243	0.989	39809	1.98	100	95.2	90	110	
Se	78	2	He	91.577	1.989	326	4.79	100	91.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	565414	1.42	606326	93.25	70	125	
In	115	1	nogas	691588	0.91	717978	96.32	70	125	
Li	6	1	nogas	256237	0.90	264394	96.91	70	125	
Bi	209	1	nogas	998316	0.45	1029814	96.94	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	32374	2.94	35160	92.08	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	278_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T21:32:17-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	0.032	77.7	67	60.6	1	
B	11	1	nogas	-56.127	-9.8	43888	10.4	10	
Na	23	1	nogas	-119.678	-1.3	370874	0.6	100	
Mg	24	1	nogas	2.527	15.7	13108	12.3	100	
Al	27	1	nogas	-0.805	-3.7	5331	3.0	5	
P	31	1	nogas	1.819	195.6	10283	8.4	10	
K	39	1	nogas	-26.221	-32.9	1153267	1.5	100	
Ca	43	1	nogas	-92.986	-10.0	260	26.6	100	
Ca	44	1	nogas	-34.079	-3.5	10490	1.4	100	
Ti	47	1	nogas	0.090	135.9	50	91.7	2.5	
V	51	1	nogas	3.856	30.8	133509	4.3	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.068	64.2	5471	5.1	2.5	
Mn	55	1	nogas	-0.108	-36.5	5301	3.9	2.5	
Fe	56	1	nogas	-27.436	-2.4	239925	2.8	100	
Co	59	1	nogas	0.015	75.0	150	37.1	2.5	
Ni	60	1	nogas	-0.652	-5.3	180	19.2	2.5	
Cu	63	1	nogas	-0.594	-7.0	1313	8.0	2.5	
Zn	66	1	nogas	-0.548	-14.0	223	29.8	2.5	
As	75	1	nogas	2.418	26.6	20343	1.9	2.5	
Se	77	1	nogas	35.112	4.2	7195	1.0	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.404	-212.0	203	22.2	2.5	
Sr	88	1	nogas	0.008	203.5	540	21.4	2.5	
Mo	95	1	nogas	0.057	15.4	97	11.9	2.5	
Ag	107	1	nogas	0.020	58.5	133	35.4	2.5	
Cd	111	1	nogas	0.015	42.4	17	34.6	1	
Sn	118	1	nogas	0.056	55.1	717	11.3	5	
Sb	121	1	nogas	0.006	778.3	433	37.6	2.5	
Ba	137	1	nogas	-0.122	-3.5	67	8.7	2.5	
Tl	205	1	nogas	0.110	31.2	1383	30.5	1	
Pb	208	1	nogas	0.025	46.4	460	22.6	2.5	
U	238	1	nogas	0.031	14.8	877	12.3	2.5	
Si	28	1	nogas	-7.838	-96.9	678814	1.6	5	
La	139	1	nogas	-45.372	-53.0	20	100.0	2.5	
Au	197	1	nogas	250.676	173.2	13	173.2	2.5	CCB Main CR1 Failed
Na	23	2	He	-99.990	-3.9	15133	3.9	100	
Mg	24	2	He	2.151	32.5	273	23.5	100	
Al	27	2	He	-1.380	-64.2	73	56.8	5	
K	39	2	He	-11.312	-34.7	6201	3.6	100	
Ca	43	2	He	-24.560	-195.9	3	173.2	100	
Ca	44	2	He	-5.623	-98.4	27	43.3	100	
V	51	2	He	0.331	8.5	243	3.8	2.5	
Cr	52	2	He	-0.010	-682.4	103	31.1	2.5	
Mn	55	2	He	-0.169	-74.7	33	86.6	2.5	
Fe	56	2	He	0.997	75.6	1407	16.7	100	
Co	59	2	He	-0.004	-390.6	7	173.2	2.5	
Ni	60	2	He	0.471	6.9	7	86.6	2.5	
Cu	63	2	He	-0.638	-8.0	210	9.5	2.5	
Zn	66	2	He	-1.200	-5.4	3	173.2	2.5	

Continuing Calibration Blank (CCB) Report

As	75	2	He	0.000	97866.4	11	148.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	-0.053	-151.0	43	81.0	2.5	
Se	78	2	He	0.122	493.9	6	33.3	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	578290	1.46	606326	95.38	70	125	
In	115	1	nogas	694888	0.94	717978	96.78	70	125	
Li	6	1	nogas	242137	1.40	264394	91.58	70	125	
Bi	209	1	nogas	1040414	1.08	1029814	101.03	70	125	
Ge	72	2	He	32932	2.61	35160	93.66	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	286_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T21:49:56-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	104.438	0.693	185157	1.85	100	104.4	90	110	
B	11	1	nogas	476.324	1.705	478614	0.20	500	95.3	90	110	
Na	23	1	nogas	10584.511	2.546	56867897	2.70	10000	105.8	90	110	
Mg	24	1	nogas	9761.010	2.904	36247538	1.71	10000	97.6	90	110	
Al	27	1	nogas	65.751	0.701	458856	0.13	100	65.8	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	436.698	0.568	139071	1.03	500	87.3	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9605.685	0.961	38746562	1.51	10000	96.1	90	110	
Ca	43	1	nogas	10078.957	1.414	78376	1.97	10000	100.8	90	110	
Ca	44	1	nogas	10055.127	0.149	1278857	0.53	10000	100.6	90	110	
Ti	47	1	nogas	93.867	3.724	37080	4.16	100	93.9	90	110	
V	51	1	nogas	95.180	2.750	641542	1.93	100	95.2	90	110	
Cr	52	1	nogas	96.658	1.720	481985	1.16	100	96.7	90	110	
Mn	55	1	nogas	96.657	1.682	621443	1.09	100	96.7	90	110	
Fe	56	1	nogas	9561.919	2.894	51166637	2.32	10000	95.6	90	110	
Co	59	1	nogas	96.628	1.968	497352	1.41	100	96.6	90	110	
Ni	60	1	nogas	95.980	2.380	108865	1.83	100	96.0	90	110	
Cu	63	1	nogas	96.578	1.195	275026	0.62	100	96.6	90	110	
Zn	66	1	nogas	98.154	2.334	92891	2.32	100	98.2	90	110	
As	75	1	nogas	99.389	0.986	109573	0.99	100	99.4	90	110	
Se	77	1	nogas	82.846	13.218	9356	4.50	100	82.8	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.525	2.529	5134	1.85	100	96.5	90	110	
Sr	88	1	nogas	105.663	1.225	771033	0.97	100	105.7	90	110	
Mo	95	1	nogas	97.094	1.912	148202	1.39	100	97.1	90	110	
Ag	107	1	nogas	97.473	1.215	403731	1.27	100	97.5	90	110	
Cd	111	1	nogas	97.975	0.654	91895	1.50	100	98.0	90	110	
Sn	118	1	nogas	97.251	2.229	265137	1.94	100	97.3	90	110	
Sb	121	1	nogas	98.238	0.543	388972	0.18	100	98.2	90	110	
Ba	137	1	nogas	100.390	1.763	137434	0.79	100	100.4	90	110	
Tl	205	1	nogas	95.123	2.184	1134849	1.56	100	95.1	90	110	
Pb	208	1	nogas	95.523	0.969	871960	1.18	100	95.5	90	110	
U	238	1	nogas	96.791	3.288	2158536	2.37	100	96.8	90	110	
Li	7	1	nogas	103.674	0.969	467165	1.30	100	103.7	90	110	
Si	28	1	nogas	4972.656	1.078	10785487	1.30	5000	99.5	90	110	
Ba	135	1	nogas	99.781	3.345	79370	2.93	100	99.8	90	110	
La	139	1	nogas	101.672	58.085	150	35.28	100	101.7	90	110	
Au	197	1	nogas	0.000	#DIV/0!	0	#DIV/0!	100	0.0	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	96.124	0.763	472689	0.69	100	96.1	90	110	
Na	23	2	He	10223.357	3.460	2116152	1.49	10000	102.2	90	110	
Mg	24	2	He	9216.336	1.849	888526	1.06	10000	92.2	90	110	
Al	27	2	He	62.694	3.124	3260	3.84	100	62.7	90	110	CCV Main CR1-2 Failed
K	39	2	He	9283.166	0.324	458357	2.11	10000	92.8	90	110	
Ca	43	2	He	9481.986	9.225	1203	7.54	10000	94.8	90	110	
Ca	44	2	He	9735.110	2.014	19738	3.76	10000	97.4	90	110	
V	51	2	He	93.987	0.606	34390	1.42	100	94.0	90	110	
Cr	52	2	He	96.432	1.042	45293	1.43	100	96.4	90	110	
Mn	55	2	He	95.418	0.881	22832	2.06	100	95.4	90	110	
Fe	56	2	He	9607.232	2.616	3441387	1.96	10000	96.1	90	110	
Co	59	2	He	95.035	2.194	63343	0.46	100	95.0	90	110	
Ni	60	2	He	96.393	1.649	17706	3.24	100	96.4	90	110	
Cu	63	2	He	95.365	0.927	49502	2.62	100	95.4	90	110	
Zn	66	2	He	94.537	3.097	8586	2.31	100	94.5	90	110	
As	75	2	He	96.078	2.895	5469	2.51	100	96.1	90	110	
Sb	121	2	He	92.743	2.915	41162	1.14	100	92.7	90	110	
Se	78	2	He	94.313	5.576	356	3.51	100	94.3	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	597889	0.58	606326	98.61	70	125	
In	115	1	nogas	727076	1.17	717978	101.27	70	125	
Li	6	1	nogas	267899	1.17	264394	101.33	70	125	
Bi	209	1	nogas	1040329	0.93	1029814	101.02	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	34382	1.94	35160	97.79	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	287_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T21:52:08-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	0.012	76.3	37	41.7	1	
B	11	1	nogas	-47.622	-7.7	52490	6.5	10	
Na	23	1	nogas	-110.818	-1.1	439063	1.4	100	
Mg	24	1	nogas	2.399	29.6	13342	20.8	100	
Al	27	1	nogas	-0.746	-2.8	6018	0.9	5	
P	31	1	nogas	0.960	96.3	10567	1.4	10	
K	39	1	nogas	-13.583	-91.3	1263229	2.9	100	
Ca	43	1	nogas	-89.209	-13.0	303	30.6	100	
Ca	44	1	nogas	-35.023	-5.7	10914	2.1	100	
Ti	47	1	nogas	-0.009	-428.1	13	114.6	2.5	
V	51	1	nogas	-0.698	-80.4	114898	1.3	2.5	
Cr	52	1	nogas	-0.027	-268.9	5274	6.0	2.5	
Mn	55	1	nogas	-0.247	-2.1	4677	1.6	2.5	
Fe	56	1	nogas	-27.451	-7.9	252197	3.8	100	
Co	59	1	nogas	0.033	43.0	253	29.1	2.5	
Ni	60	1	nogas	-0.643	-4.5	200	17.3	2.5	
Cu	63	1	nogas	-0.446	-13.9	1804	8.9	2.5	
Zn	66	1	nogas	-0.592	-11.5	193	33.3	2.5	
As	75	1	nogas	-0.540	-81.2	18657	2.8	2.5	
Se	77	1	nogas	-4.042	-84.5	5968	1.7	2.5	
Se	82	1	nogas	-0.017	-6590.7	233	24.4	2.5	
Sr	88	1	nogas	0.016	88.8	627	17.8	2.5	
Mo	95	1	nogas	0.047	6.2	87	6.7	2.5	
Ag	107	1	nogas	0.049	18.7	263	13.3	2.5	
Cd	111	1	nogas	0.024	89.4	27	78.1	1	
Sn	118	1	nogas	0.040	50.2	720	8.3	5	
Sb	121	1	nogas	0.116	26.8	900	14.2	2.5	
Ba	137	1	nogas	-0.101	-21.6	100	30.0	2.5	
Tl	205	1	nogas	0.124	21.5	1623	21.7	1	
Pb	208	1	nogas	0.035	23.5	573	13.2	2.5	
U	238	1	nogas	0.039	8.7	1113	7.3	2.5	
Si	28	1	nogas	16.225	25.5	763764	2.1	5	CCB Main CR1 Failed
La	139	1	nogas	-54.378	-23.9	13	86.6	2.5	
Au	197	1	nogas	0.000	#DIV/0!	0	#DIV/0!	2.5	
Na	23	2	He	-94.355	-2.7	16852	2.3	100	
Mg	24	2	He	2.011	19.0	270	12.8	100	
Al	27	2	He	-1.168	-19.3	87	13.3	5	
K	39	2	He	-4.902	-386.0	6735	11.6	100	
Ca	43	2	He	2.028	4643.4	7	173.2	100	
Ca	44	2	He	5.611	177.7	50	40.0	100	
V	51	2	He	0.162	48.8	191	14.7	2.5	
Cr	52	2	He	-0.038	-318.7	93	59.0	2.5	
Mn	55	2	He	-0.158	-62.5	37	63.0	2.5	
Fe	56	2	He	1.442	29.9	1623	11.4	100	
Co	59	2	He	0.026	35.0	27	21.7	2.5	
Ni	60	2	He	0.634	20.0	37	63.0	2.5	
Cu	63	2	He	-0.688	-12.2	193	23.3	2.5	
Zn	66	2	He	-1.013	-0.5	20	0.0	2.5	

Continuing Calibration Blank (CCB) Report

As	75	2	He	0.010	908.4	12	41.7	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.102	80.1	113	33.4	2.5	
Se	78	2	He	0.234	271.9	7	34.6	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	608319	1.43	606326	100.33	70	125	
In	115	1	nogas	740357	0.88	717978	103.12	70	125	
Li	6	1	nogas	253790	1.71	264394	95.99	70	125	
Bi	209	1	nogas	1089048	0.99	1029814	105.75	70	125	
Ge	72	2	He	34181	2.11	35160	97.22	70	125	

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	289CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T21:57:44-06:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	3	5196.15
B	11	1	nogas	25258	0.02
Na	23	1	nogas	372880	0.00
Mg	24	1	nogas	4335	0.40
Al	27	1	nogas	11240	0.03
P	31	1	nogas	10567	0.05
K	39	1	nogas	1205251	0.00
Ca	43	1	nogas	277	11.71
Ca	44	1	nogas	10557	0.05
Ti	47	1	nogas	37	154.83
V	51	1	nogas	130743	0.00
Cr	52	1	nogas	6231	0.14
Mn	55	1	nogas	5921	0.10
Fe	56	1	nogas	273959	0.00
Co	59	1	nogas	87	46.76
Ni	60	1	nogas	453	4.62
Cu	63	1	nogas	2457	0.25
Zn	66	1	nogas	470	2.52
As	75	1	nogas	21584	0.01
Se	77	1	nogas	7068	0.13
Se	82	1	nogas	277	6.17
Sr	88	1	nogas	387	3.86
Mo	95	1	nogas	67	25.98
Ag	107	1	nogas	53	73.18
Cd	111	1	nogas	7	2598.08
Sn	118	1	nogas	767	1.11
Sb	121	1	nogas	573	1.41
Ba	137	1	nogas	283	1.90
Tl	205	1	nogas	130	21.33
Pb	208	1	nogas	263	8.33
Li	7	1	nogas	20916	0.02
Si	28	1	nogas	686724	0.00
La	139	1	nogas	23	280.57
Na	23	2	He	16031	0.02
Mg	24	2	He	93	35.07
Al	27	2	He	87	60.03
K	39	2	He	6655	0.17
Ca	44	2	He	70	93.52
V	51	2	He	227	7.80
Cr	52	2	He	137	17.21
Mn	55	2	He	63	14.39
Fe	56	2	He	1243	0.88

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	17	415.69
Ni	60	2	He	23	106.04
Cu	63	2	He	450	2.75
Zn	66	2	He	53	81.19
As	75	2	He	17	432.63
Sb	121	2	He	57	78.37
Se	78	2	He	4	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Ge	72	1	nogas	610209	1.72
In	115	1	nogas	742039	1.43
Li	6	1	nogas	256544	1.54
Bi	209	1	nogas	1099361	0.50
Ge	72	2	He	34709	5.13

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	290CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T21:59:56-06:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	289CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	3851	0.10
B	11	1	nogas	33057	0.01
Na	23	1	nogas	1517573	0.00
Mg	24	1	nogas	817942	0.00
Al	27	1	nogas	31405	0.01
P	31	1	nogas	14433	0.01
K	39	1	nogas	2035034	0.00
Ca	43	1	nogas	1923	0.20
Ca	44	1	nogas	38139	0.00
Ti	47	1	nogas	753	1.42
V	51	1	nogas	150641	0.00
Cr	52	1	nogas	17132	0.01
Mn	55	1	nogas	18964	0.01
Fe	56	1	nogas	1458623	0.00
Co	59	1	nogas	11617	0.04
Ni	60	1	nogas	2454	0.45
Cu	63	1	nogas	10683	0.03
Zn	66	1	nogas	2864	0.61
As	75	1	nogas	24511	0.01
Se	77	1	nogas	7425	0.03
Se	82	1	nogas	313	4.70
Sr	88	1	nogas	16271	0.03
Mo	95	1	nogas	3200	0.04
Ag	107	1	nogas	8936	0.01
Cd	111	1	nogas	1823	0.54
Sn	118	1	nogas	6538	0.06
Sb	121	1	nogas	8873	0.04
Ba	137	1	nogas	3034	0.15
Tl	205	1	nogas	24767	0.01
Pb	208	1	nogas	19983	0.01
Si	28	1	nogas	890154	0.00
La	139	1	nogas	83	68.05
Na	23	2	He	55898	0.00
Mg	24	2	He	18907	0.01
Al	27	2	He	237	7.21
K	39	2	He	16164	0.02
Ca	43	2	He	20	433.01
Ca	44	2	He	430	1.08
V	51	2	He	952	0.41
Cr	52	2	He	1113	0.73

Calibration Standard Report

Mn	55	2	He	537	3.15
Fe	56	2	He	75648	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	1343	0.78
Ni	60	2	He	430	6.14
Cu	63	2	He	1817	0.10
Zn	66	2	He	260	3.91
As	75	2	He	116	7.21
Sb	121	2	He	1010	0.43
Se	78	2	He	5	2148.08

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	613880	0.81	610209	100.60	70	125	
In	115	1	nogas	742626	0.54	742039	100.08	70	125	
Li	6	1	nogas	255710	0.74	256544	99.67	70	125	
Bi	209	1	nogas	1091480	1.08	1099361	99.28	70	125	
Ge	72	2	He	34823	1.98	34709	100.33	70	125	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	291CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T22:02:08-06:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	289CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	9976	0.06
B	11	1	nogas	43483	0.01
Na	23	1	nogas	3092713	0.00
Mg	24	1	nogas	1976086	0.00
Al	27	1	nogas	49359	0.00
P	31	1	nogas	18690	0.01
K	39	1	nogas	3209158	0.00
Ca	43	1	nogas	4287	0.05
Ca	44	1	nogas	76983	0.00
Ti	47	1	nogas	1897	0.49
V	51	1	nogas	163260	0.00
Cr	52	1	nogas	31062	0.01
Mn	55	1	nogas	39245	0.00
Fe	56	1	nogas	3059962	0.00
Co	59	1	nogas	26865	0.01
Ni	60	1	nogas	6015	0.13
Cu	63	1	nogas	16682	0.02
Zn	66	1	nogas	5731	0.10
As	75	1	nogas	27499	0.00
Se	77	1	nogas	7685	0.05
Se	82	1	nogas	447	4.26
Sr	88	1	nogas	37813	0.01
Mo	95	1	nogas	7869	0.02
Ag	107	1	nogas	21464	0.02
Cd	111	1	nogas	5021	0.09
Sn	118	1	nogas	14627	0.02
Sb	121	1	nogas	21798	0.01
Ba	137	1	nogas	7489	0.07
Tl	205	1	nogas	59729	0.00
Pb	208	1	nogas	46852	0.01
Si	28	1	nogas	1409247	0.00
La	139	1	nogas	110	21.87
Na	23	2	He	113658	0.00
Mg	24	2	He	46260	0.00
Al	27	2	He	403	5.71
K	39	2	He	30517	0.00
Ca	43	2	He	40	250.00
Ca	44	2	He	1153	0.65
V	51	2	He	1983	0.18
Cr	52	2	He	2490	0.28

Calibration Standard Report

Mn	55	2	He	1263	0.85
Fe	56	2	He	181912	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	3327	0.19
Ni	60	2	He	993	2.25
Cu	63	2	He	2804	0.12
Zn	66	2	He	493	2.51
As	75	2	He	289	6.22
Sb	121	2	He	2217	0.40
Se	78	2	He	16	270.63

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	597887	0.84	610209	97.98	70	125	
In	115	1	nogas	725017	0.65	742039	97.71	70	125	
Li	6	1	nogas	250003	0.40	256544	97.45	70	125	
Bi	209	1	nogas	1056383	0.76	1099361	96.09	70	125	
Ge	72	2	He	33938	2.73	34709	97.78	70	125	

Calibration Standard Report

Sample Table

Sample Name	10/50/1000
Data File Name	292CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T22:04:20-06:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	289CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	19795	0.01
B	11	1	nogas	67678	0.00
Na	23	1	nogas	6010891	0.00
Mg	24	1	nogas	4044207	0.00
Al	27	1	nogas	90119	0.00
P	31	1	nogas	27278	0.01
K	39	1	nogas	5219797	0.00
Ca	43	1	nogas	8726	0.03
Ca	44	1	nogas	144809	0.00
Ti	47	1	nogas	4404	0.04
V	51	1	nogas	204455	0.00
Cr	52	1	nogas	58044	0.00
Mn	55	1	nogas	73841	0.00
Fe	56	1	nogas	5981101	0.00
Co	59	1	nogas	54550	0.00
Ni	60	1	nogas	13255	0.01
Cu	63	1	nogas	32862	0.01
Zn	66	1	nogas	10443	0.07
As	75	1	nogas	32949	0.01
Se	77	1	nogas	8579	0.05
Se	82	1	nogas	770	2.11
Sr	88	1	nogas	77307	0.00
Mo	95	1	nogas	15925	0.02
Ag	107	1	nogas	43955	0.00
Cd	111	1	nogas	9763	0.03
Sn	118	1	nogas	29811	0.01
Sb	121	1	nogas	42575	0.01
Ba	137	1	nogas	14567	0.03
Tl	205	1	nogas	124377	0.00
Pb	208	1	nogas	95155	0.00
Si	28	1	nogas	1915603	0.00
La	139	1	nogas	60	55.56
Na	23	2	He	217934	0.00
Mg	24	2	He	93957	0.00
Al	27	2	He	633	1.23
K	39	2	He	54679	0.00
Ca	43	2	He	117	23.62
Ca	44	2	He	2044	0.56
V	51	2	He	3868	0.08
Cr	52	2	He	5044	0.07

Calibration Standard Report

Mn	55	2	He	2474	0.35
Fe	56	2	He	373005	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	7122	0.04
Ni	60	2	He	2057	0.37
Cu	63	2	He	5584	0.08
Zn	66	2	He	947	0.39
As	75	2	He	649	2.32
Sb	121	2	He	4621	0.10
Se	78	2	He	36	77.16

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	595686	0.59	610209	97.62	70	125	
In	115	1	nogas	714769	1.10	742039	96.33	70	125	
Li	6	1	nogas	248282	0.86	256544	96.78	70	125	
Bi	209	1	nogas	1054936	0.86	1099361	95.96	70	125	
Ge	72	2	He	34201	1.06	34709	98.54	70	125	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	293CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T22:06:32-06:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	289CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	192052	0.00
B	11	1	nogas	478365	0.00
Na	23	1	nogas	52277039	0.00
Mg	24	1	nogas	37360444	0.00
Al	27	1	nogas	685576	0.00
P	31	1	nogas	154533	0.00
K	39	1	nogas	39720022	0.00
Ca	43	1	nogas	77166	0.00
Ca	44	1	nogas	1268096	0.00
Ti	47	1	nogas	38864	0.00
V	51	1	nogas	675006	0.00
Cr	52	1	nogas	497996	0.00
Mn	55	1	nogas	638712	0.00
Fe	56	1	nogas	53307572	0.00
Co	59	1	nogas	511407	0.00
Ni	60	1	nogas	113437	0.00
Cu	63	1	nogas	285029	0.00
Zn	66	1	nogas	95545	0.00
As	75	1	nogas	115469	0.00
Se	77	1	nogas	10924	0.06
Se	82	1	nogas	5341	0.14
Sr	88	1	nogas	736431	0.00
Mo	95	1	nogas	153384	0.00
Ag	107	1	nogas	417676	0.00
Cd	111	1	nogas	92956	0.00
Sn	118	1	nogas	271920	0.00
Sb	121	1	nogas	401883	0.00
Ba	137	1	nogas	138132	0.00
Tl	205	1	nogas	1182632	0.00
Pb	208	1	nogas	906563	0.00
Si	28	1	nogas	10835215	0.00
La	139	1	nogas	133	17.18
Na	23	2	He	1905283	0.00
Mg	24	2	He	879076	0.00
Al	27	2	He	4764	0.19
K	39	2	He	456472	0.00
Ca	43	2	He	1150	1.05
Ca	44	2	He	18901	0.02
V	51	2	He	34917	0.00
Cr	52	2	He	44675	0.00

Calibration Standard Report

Mn	55	2	He	23249	0.01
Fe	56	2	He	3492632	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	63755	0.00
Ni	60	2	He	18090	0.01
Cu	63	2	He	50414	0.00
Zn	66	2	He	8659	0.01
As	75	2	He	5402	0.08
Sb	121	2	He	42823	0.01
Se	78	2	He	406	3.16

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	594314	2.11	610209	97.40	70	125	
In	115	1	nogas	711132	1.09	742039	95.83	70	125	
Li	6	1	nogas	265704	0.97	256544	103.57	70	125	
Bi	209	1	nogas	1052114	0.54	1099361	95.70	70	125	
Ge	72	2	He	32912	1.05	34709	94.82	70	125	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	294CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T22:08:42-06:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	289CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	375887	0.00
B	11	1	nogas	959345	0.00
Na	23	1	nogas	104315640	0.00
Mg	24	1	nogas	73096310	0.00
Al	27	1	nogas	1341767	0.00
P	31	1	nogas	301458	0.00
K	39	1	nogas	76357923	0.00
Ca	43	1	nogas	154321	0.00
Ca	44	1	nogas	2461117	0.00
Ti	47	1	nogas	76973	0.00
V	51	1	nogas	1226034	0.00
Cr	52	1	nogas	975745	0.00
Mn	55	1	nogas	1255403	0.00
Fe	56	1	nogas	103302511	0.00
Co	59	1	nogas	1009524	0.00
Ni	60	1	nogas	225226	0.00
Cu	63	1	nogas	559721	0.00
Zn	66	1	nogas	190087	0.00
As	75	1	nogas	206882	0.00
Se	77	1	nogas	14253	0.00
Se	82	1	nogas	10383	0.03
Sr	88	1	nogas	1476024	0.00
Mo	95	1	nogas	312469	0.00
Ag	107	1	nogas	827004	0.00
Cd	111	1	nogas	185457	0.00
Sn	118	1	nogas	548508	0.00
Sb	121	1	nogas	807352	0.00
Ba	137	1	nogas	273985	0.00
Tl	205	1	nogas	2399285	0.00
Pb	208	1	nogas	1813711	0.00
Si	28	1	nogas	20304043	0.00
La	139	1	nogas	273	2.79
Na	23	2	He	3705892	0.00
Mg	24	2	He	1762038	0.00
Al	27	2	He	8972	0.04
K	39	2	He	906364	0.00
Ca	43	2	He	2384	0.19
Ca	44	2	He	37190	0.00
V	51	2	He	68982	0.00
Cr	52	2	He	87503	0.00

Calibration Standard Report

Mn	55	2	He	44561	0.00
Fe	56	2	He	6783462	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	125650	0.00
Ni	60	2	He	34592	0.01
Cu	63	2	He	97971	0.00
Zn	66	2	He	17176	0.02
As	75	2	He	11016	0.02
Sb	121	2	He	87388	0.00
Se	78	2	He	700	0.78

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	582580	0.29	610209	95.47	70	125	
In	115	1	nogas	700722	0.72	742039	94.43	70	125	
Li	6	1	nogas	289233	1.33	256544	112.74	70	125	
Bi	209	1	nogas	1028799	0.56	1099361	93.58	70	125	
Ge	72	2	He	32107	2.26	34709	92.50	70	125	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICCV
Data File Name	295_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T22:10:52-06:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	106.675	2.786	191871	1.17	100	106.7	90	110	
B	11	1	nogas	566.123	1.862	525464	0.60	500	113.2	90	110	ICV Main CR1 Failed
Na	23	1	nogas	9803.989	1.468	52882745	1.45	10000	98.0	90	110	
Mg	24	1	nogas	9741.360	2.310	36857275	1.19	10000	97.4	90	110	
Al	27	1	nogas	75.427	0.305	529794	0.40	100	75.4	90	110	ICV Main CR1 Failed
P	31	1	nogas	453.106	1.077	146204	1.11	500	90.6	90	110	
K	39	1	nogas	9729.336	1.089	39067650	1.44	10000	97.3	90	110	
Ca	43	1	nogas	9435.698	1.408	75128	1.91	10000	94.4	90	110	
Ca	44	1	nogas	9756.212	0.685	1248597	0.79	10000	97.6	90	110	
Ti	47	1	nogas	94.696	2.057	37638	2.44	100	94.7	90	110	
V	51	1	nogas	88.126	1.115	628848	0.79	100	88.1	90	110	ICV Main CR1 Failed
Cr	52	1	nogas	98.192	0.892	498051	1.15	100	98.2	90	110	
Mn	55	1	nogas	98.109	0.111	639041	0.51	100	98.1	90	110	
Fe	56	1	nogas	9745.079	0.755	52296813	0.27	10000	97.5	90	110	
Co	59	1	nogas	98.390	1.031	512967	0.52	100	98.4	90	110	
Ni	60	1	nogas	97.596	2.823	113576	2.42	100	97.6	90	110	
Cu	63	1	nogas	97.098	1.669	281981	1.40	100	97.1	90	110	
Zn	66	1	nogas	98.841	1.920	97100	1.54	100	98.8	90	110	
As	75	1	nogas	89.792	1.466	108225	1.10	100	89.8	90	110	ICV Main CR1 Failed
Se	77	1	nogas	51.118	29.204	9009	7.07	100	51.1	90	110	ICV Main CR1 Failed
Se	82	1	nogas	98.749	6.054	5421	5.76	100	98.7	90	110	
Sr	88	1	nogas	95.542	0.717	726136	0.20	100	95.5	90	110	
Mo	95	1	nogas	95.627	2.241	153368	2.31	100	95.6	90	110	
Ag	107	1	nogas	96.829	2.043	413287	1.75	100	96.8	90	110	
Cd	111	1	nogas	97.771	1.072	93794	1.03	100	97.8	90	110	
Sn	118	1	nogas	92.888	1.107	263323	1.77	100	92.9	90	110	
Sb	121	1	nogas	98.582	1.167	409772	0.65	100	98.6	90	110	
Ba	137	1	nogas	97.291	1.018	138155	0.36	100	97.3	90	110	
Tl	205	1	nogas	99.659	1.243	1232147	1.79	100	99.7	90	110	
Pb	208	1	nogas	98.283	1.083	921119	0.29	100	98.3	90	110	
U	238	1	nogas	95.331	1.511	2200398	0.24	100	95.3	90	110	
Li	7	1	nogas	110.257	0.915	509716	2.03	100	110.3	90	110	ICV Main CR1 Failed
Si	28	1	nogas	5052.381	0.657	10981576	1.13	5000	101.0	90	110	
Ba	135	1	nogas	97.484	0.768	80811	1.54	100	97.5	90	110	
La	139	1	nogas	203.213	56.094	283	51.07	100	203.2	90	110	ICV Main CR1 Failed
Au	197	1	nogas	-76.571	0.000	0	#DIV/0!	100	-76.6	90	110	ICV Main CR1 Failed
Tl	203	1	nogas	100.779	1.300	511043	0.87	100	100.8	90	110	
Na	23	2	He	10416.544	1.171	1985669	1.91	10000	104.2	90	110	
Mg	24	2	He	9829.492	1.154	883167	1.42	10000	98.3	90	110	
Al	27	2	He	82.505	3.025	3897	5.04	100	82.5	90	110	ICV Main CR1 Failed
K	39	2	He	9817.632	1.916	457170	2.68	10000	98.2	90	110	
Ca	43	2	He	9000.388	2.618	1087	1.41	10000	90.0	90	110	
Ca	44	2	He	9966.506	6.322	18977	3.72	10000	99.7	90	110	
V	51	2	He	98.346	2.298	34736	0.33	100	98.3	90	110	
Cr	52	2	He	101.317	3.536	45457	2.98	100	101.3	90	110	
Mn	55	2	He	97.915	1.606	22468	1.00	100	97.9	90	110	
Fe	56	2	He	9732.221	3.044	3386157	0.73	10000	97.3	90	110	
Co	59	2	He	101.130	3.509	64982	1.06	100	101.1	90	110	
Ni	60	2	He	97.090	2.693	17332	3.36	100	97.1	90	110	
Cu	63	2	He	99.351	4.900	50076	2.46	100	99.4	90	110	
Zn	66	2	He	97.342	6.435	8552	3.83	100	97.3	90	110	
As	75	2	He	98.592	1.771	5528	2.39	100	98.6	90	110	
Sn	118	2	He	95.708	3.511	29614	1.27	100	95.7	90	110	
Sb	121	2	He	95.041	4.062	42208	2.62	100	95.0	90	110	
Se	78	2	He	85.965	12.095	319	12.64	100	86.0	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
Ge	72	1	nogas	602437	0.52	610209	98.73	70	125	
In	115	1	nogas	726612	1.09	742039	97.92	70	125	
Li	6	1	nogas	270649	2.12	256544	105.50	70	125	

Initial Calibration Verification (ICV) Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Bi	209	1	nogas	1067915	1.28	1099361	97.14	70	125	
Ge	72	2	He	32915	2.56	34709	94.83	70	125	

Sample Report

Sample Table

Sample Name	LLCCV2
Data File Name	296SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T22:13:03-06:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	289CALB.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	2.308	2.308	7.08	3917	0.06	2000	
B	11	1	nogas	51.365	51.365	12.81	67781	0.08	2000	
Na	23	1	nogas	205.360	205.360	1.95	1457529	0.01	200000	
Mg	24	1	nogas	208.648	208.648	2.51	788195	0.03	200000	
Al	27	1	nogas	2.790	2.790	2.34	30250	0.01	2000	
K	39	1	nogas	221.346	221.346	2.84	2049607	0.01	200000	
Ca	43	1	nogas	219.560	219.560	8.80	2013	10.90	200000	
Ca	44	1	nogas	218.319	218.319	3.04	38082	0.57	200000	
Ti	47	1	nogas	2.001	2.001	9.26	830	0.24	2000	
V	51	1	nogas	-5.571	-5.571	-9.92	97392	-0.01	2000	
Cr	52	1	nogas	1.788	1.788	3.87	15090	0.01	2000	
Mn	55	1	nogas	2.102	2.102	5.83	19388	0.01	2000	
Fe	56	1	nogas	208.408	208.408	2.80	1381851	0.02	200000	
Co	59	1	nogas	2.134	2.134	8.24	11201	0.02	2000	
Ni	60	1	nogas	1.899	1.899	19.04	2667	0.07	2000	
Cu	63	1	nogas	2.803	2.803	4.30	10483	0.03	2000	
Zn	66	1	nogas	2.635	2.635	5.61	3144	0.08	2000	
As	75	1	nogas	-3.830	-3.830	-22.00	18724	-0.02	2000	
Se	77	1	nogas	-35.168	-35.168	-17.88	5591	-0.63	2000	
Se	82	1	nogas	0.764	0.764	147.75	313	0.24	2000	
Sr	88	1	nogas	2.121	2.121	1.51	16478	0.01	2000	
Mo	95	1	nogas	1.895	1.895	8.39	3100	0.06	2000	
Ag	107	1	nogas	2.095	2.095	6.25	8986	0.02	2000	
Cd	111	1	nogas	1.999	1.999	9.44	1913	0.10	2000	
Sn	118	1	nogas	2.177	2.177	3.05	6868	0.03	2000	
Sb	121	1	nogas	1.966	1.966	4.48	8719	0.02	2000	
Ba	137	1	nogas	2.197	2.197	8.38	3374	0.07	2000	
Tl	205	1	nogas	2.052	2.052	2.59	25762	0.01	2000	
Pb	208	1	nogas	2.076	2.076	0.22	19917	0.01	2000	
U	238	1	nogas	2.016	2.016	1.03	47228	0.00	2000	
Si	28	1	nogas	169.790	169.790	5.39	1023372	0.02	2000	
La	139	1	nogas	55.077	55.077	105.52	93	59.01	2000	
Au	197	1	nogas	155.854	155.854	258.30	10	1558.54	2000	
Na	23	2	He	190.220	190.220	1.63	53357	0.36	200000	
Mg	24	2	He	197.648	197.648	6.52	18583	1.06	200000	
Al	27	2	He	1.663	1.663	41.76	227	0.73	2000	
K	39	2	He	195.462	195.462	9.84	15924	1.23	200000	
Ca	43	2	He	132.507	132.507	34.72	17	795.04	200000	
Ca	44	2	He	211.580	211.580	14.42	487	43.47	200000	
V	51	2	He	1.961	1.961	1.04	867	0.23	2000	

Sample Report

Cr	52	2	He	2.204	2.204	11.13	1163	0.19	2000	
Mn	55	2	He	2.184	2.184	8.12	583	0.37	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Fe	56	2	He	203.087	203.087	0.57	74839	0.27	200000	
Co	59	2	He	1.948	1.948	17.09	1320	0.15	2000	
Ni	60	2	He	1.601	1.601	19.99	420	0.38	2000	
Cu	63	2	He	2.361	2.361	11.85	1680	0.14	2000	
Zn	66	2	He	2.693	2.693	33.85	280	0.96	2000	
As	75	2	He	1.810	1.810	21.37	122	1.48	2000	
Sb	121	2	He	2.013	2.013	11.53	987	0.20	2000	
Se	78	2	He	3.331	3.331	90.79	17	19.99	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	601803	0.68	610209	98.62	70	125	
In	115	1	nogas	722942	0.77	742039	97.43	70	125	
Li	6	1	nogas	255058	0.19	256544	99.42	70	125	
Bi	209	1	nogas	1078976	0.70	1099361	98.15	70	125	
Ge	72	2	He	34285	1.23	34709	98.78	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	LLCCV5
Data File Name	297LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T22:15:16-06:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	5.770	3.659	9816	2.75	5	115.4	70	130	
B	11	1	nogas	39.390	2.604	58014	1.08	25	157.6	70	130	LLICV Main CR1 Failed
Na	23	1	nogas	517.884	1.785	3124990	1.86	500	103.6	70	130	
Mg	24	1	nogas	521.507	1.707	1967047	2.41	500	104.3	70	130	
Al	27	1	nogas	5.600	2.917	49998	1.62	5	112.0	70	130	
P	31	1	nogas	26.883	2.744	18637	1.24	25	107.5	70	130	
K	39	1	nogas	507.567	1.421	3191145	0.31	500	101.5	70	130	
Ca	43	1	nogas	538.370	8.359	4581	7.73	500	107.7	70	130	
Ca	44	1	nogas	518.193	1.840	76792	1.53	500	103.6	70	130	
Ti	47	1	nogas	5.190	5.935	2114	6.10	5	103.8	70	130	
V	51	1	nogas	-0.791	-122.909	125605	4.43	5	-15.8	70	130	LLICV Main CR1 Failed
Cr	52	1	nogas	5.042	5.918	31663	5.25	5	100.8	70	130	
Mn	55	1	nogas	5.080	1.098	38938	0.50	5	101.6	70	130	
Fe	56	1	nogas	517.886	1.389	3059550	0.63	500	103.6	70	130	
Co	59	1	nogas	5.151	1.629	27155	2.06	5	103.0	70	130	
Ni	60	1	nogas	4.840	9.309	6125	8.27	5	96.8	70	130	
Cu	63	1	nogas	4.783	5.148	16328	4.67	5	95.7	70	130	
Zn	66	1	nogas	5.122	8.249	5621	7.56	5	102.4	70	130	
As	75	1	nogas	-0.316	-183.080	22282	2.36	5	-6.3	70	130	LLICV Main CR1 Failed
Se	77	1	nogas	-30.294	-28.202	5835	5.19	5	-605.9	70	130	LLICV Main CR1 Failed
Se	82	1	nogas	3.569	16.542	463	6.59	5	71.4	70	130	
Sr	88	1	nogas	5.008	2.367	38725	1.71	5	100.2	70	130	
Mo	95	1	nogas	4.991	0.770	8132	1.19	5	99.8	70	130	
Ag	107	1	nogas	5.325	1.462	22960	1.33	5	106.5	70	130	
Cd	111	1	nogas	4.993	7.259	4867	7.65	5	99.9	70	130	
Sn	118	1	nogas	5.050	4.388	15244	3.82	5	101.0	70	130	
Sb	121	1	nogas	5.024	3.495	21591	2.87	5	100.5	70	130	
Ba	137	1	nogas	5.137	2.097	7669	1.63	5	102.7	70	130	
Tl	205	1	nogas	4.859	1.535	60860	2.05	5	97.2	70	130	
Pb	208	1	nogas	5.000	1.787	47634	2.94	5	100.0	70	130	
U	238	1	nogas	4.898	1.352	114501	1.23	5	98.0	70	130	
Li	7	1	nogas	5.909	1.730	45568	0.79	5	118.2	70	130	
Si	28	1	nogas	368.105	4.108	1440308	2.64	25	1472.4	70	130	LLICV Main CR1 Failed
La	139	1	nogas	46.093	91.245	83	66.09	5	921.9	70	130	LLICV Main CR1 Failed
Au	197	1	nogas	230.334	151.256	13	114.56	5	4606.7	70	130	LLICV Main CR1 Failed
Na	23	2	He	501.095	1.599	112967	1.01	500	100.2	70	130	
Mg	24	2	He	498.161	3.678	46040	3.30	500	99.6	70	130	
Al	27	2	He	3.875	38.152	327	20.84	5	77.5	70	130	
K	39	2	He	502.133	1.920	30160	1.73	500	100.4	70	130	
Ca	43	2	He	484.320	29.373	60	28.87	500	96.9	70	130	
Ca	44	2	He	488.574	19.123	1020	17.97	500	97.7	70	130	
V	51	2	He	4.961	1.141	1939	1.07	5	99.2	70	130	
Cr	52	2	He	4.464	15.660	2184	14.23	5	89.3	70	130	
Mn	55	2	He	5.198	6.213	1283	6.35	5	104.0	70	130	
Fe	56	2	He	511.384	0.805	183894	0.36	500	102.3	70	130	
Co	59	2	He	5.290	1.485	3507	1.86	5	105.8	70	130	
Ni	60	2	He	4.804	14.930	997	13.32	5	96.1	70	130	
Cu	63	2	He	5.022	5.626	3022	4.39	5	100.4	70	130	
Zn	66	2	He	6.301	12.064	600	11.67	5	126.0	70	130	
As	75	2	He	4.315	17.641	264	16.93	5	86.3	70	130	
Sb	121	2	He	4.775	9.438	2230	9.07	5	95.5	70	130	
Se	78	2	He	6.234	29.959	27	25.70	5	124.7	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	607258	0.66	610209	99.52	70	125	
In	115	1	nogas	737299	0.44	742039	99.36	70	125	
Li	6	1	nogas	255891	0.95	256544	99.75	70	125	
Bi	209	1	nogas	1079668	1.75	1099361	98.21	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Ge	72	2	He	33790	0.45	34709	97.35	70	125	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICCB
Data File Name	298_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T22:17:31-06:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	0.012	26.6	23	24.7	1	
B	11	1	nogas	4.113	36.6	28940	5.8	10	
Na	23	1	nogas	-20.427	-10.1	262660	3.0	100	
Mg	24	1	nogas	-0.323	-147.2	3101	59.1	100	
Al	27	1	nogas	-0.960	-2.7	4511	3.6	5	
P	31	1	nogas	-0.806	-69.9	10230	1.9	10	
K	39	1	nogas	-4.684	-62.0	1175972	0.6	100	
Ca	43	1	nogas	-10.267	-118.5	193	50.2	100	
Ca	44	1	nogas	-4.993	-56.5	9820	3.2	100	
Ti	47	1	nogas	-0.032	-44.3	23	24.7	2.5	
V	51	1	nogas	-6.454	-1.8	92833	0.4	2.5	
Cr	52	1	nogas	-0.267	-11.9	4831	3.6	2.5	
Mn	55	1	nogas	-0.189	-8.9	4641	1.8	2.5	
Fe	56	1	nogas	-8.478	-21.3	226073	4.3	100	
Co	59	1	nogas	0.012	75.6	147	31.5	2.5	
Ni	60	1	nogas	-0.303	-4.4	117	13.1	2.5	
Cu	63	1	nogas	-0.311	-8.5	1537	5.5	2.5	
Zn	66	1	nogas	-0.390	-22.7	193	44.6	2.5	
As	75	1	nogas	-5.414	-11.9	17296	3.6	2.5	
Se	77	1	nogas	-36.942	-22.5	5548	6.2	2.5	
Se	82	1	nogas	-1.043	-81.2	220	19.8	2.5	
Sr	88	1	nogas	-0.029	-23.4	160	33.1	2.5	
Mo	95	1	nogas	-0.031	-23.3	17	69.3	2.5	
Ag	107	1	nogas	0.013	53.1	110	27.3	2.5	
Cd	111	1	nogas	0.004	291.4	10	100.0	1	
Sn	118	1	nogas	0.005	377.4	773	7.4	5	
Sb	121	1	nogas	-0.043	-80.2	390	35.9	2.5	
Ba	137	1	nogas	-0.107	-39.3	127	47.6	2.5	
Tl	205	1	nogas	0.018	16.6	357	11.3	1	
Pb	208	1	nogas	-0.008	-150.0	183	67.3	2.5	
U	238	1	nogas	0.006	53.7	367	21.9	2.5	
Si	28	1	nogas	-5.473	-18.9	669406	0.8	5	
La	139	1	nogas	15.653	102.6	43	48.0	2.5	ICB Main CR1 Failed
Au	197	1	nogas	227.433	115.8	13	86.6	2.5	ICB Main CR1 Failed
Na	23	2	He	-21.868	-13.3	11501	5.1	100	
Mg	24	2	He	-0.414	-54.1	53	39.0	100	
Al	27	2	He	-1.991	-44.3	53	78.1	5	
K	39	2	He	-0.629	-1227.9	6511	5.8	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-27.690	-10.7	13	43.3	100	
V	51	2	He	-0.001	-3129.0	147	8.2	2.5	
Cr	52	2	He	-0.018	-423.7	127	27.7	2.5	
Mn	55	2	He	-0.122	-40.1	33	34.6	2.5	
Fe	56	2	He	-1.331	-7.6	743	4.7	100	

Initial Calibration Blank (ICB) Report

Co	59	2	He	0.001	2918.9	17	91.7	2.5	
Ni	60	2	He	-0.671	0.0	0	#DIV/0!	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Cu	63	2	He	-0.415	-12.0	233	10.8	2.5	
Zn	66	2	He	-0.112	-150.4	23	65.5	2.5	
As	75	2	He	-0.194	-62.0	6	124.9	2.5	
Sb	121	2	He	-0.020	-62.6	47	12.4	2.5	
Se	78	2	He	0.721	152.5	7	62.4	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	604644	0.51	610209	99.09	70	125	
In	115	1	nogas	734503	0.17	742039	98.98	70	125	
Li	6	1	nogas	258641	1.90	256544	100.82	70	125	
Bi	209	1	nogas	1100838	0.82	1099361	100.13	70	125	
Ge	72	2	He	34085	0.21	34709	98.20	70	125	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	299ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T22:19:43-06:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	0.002	327.2	7	173.2	0	ICSA Main CR1 Failed
B	11	1	nogas	4.833	50.1	28243	6.2	0	ICSA Main CR1 Failed
Na	23	1	nogas	98047.309	1.2	515408095	0.6	0	
Mg	24	1	nogas	95378.422	1.1	353909508	0.2	0	
Al	27	1	nogas	62611.289	0.6	420210940	0.5	0	
P	31	1	nogas	81510.305	0.3	23846164	0.6	0	
K	39	1	nogas	97532.121	2.0	371720275	2.1	0	
Ca	43	1	nogas	95517.859	0.7	739729	0.5	0	
Ca	44	1	nogas	94611.426	0.3	11728403	0.5	0	
Ti	47	1	nogas	1981.610	0.5	767899	0.4	0	
V	51	1	nogas	-14.937	-6.5	43329	12.5	0	ICSA Main CR1 Failed
Cr	52	1	nogas	-0.171	-28.0	5164	4.7	0	ICSA Main CR1 Failed
Mn	55	1	nogas	0.185	25.0	6868	4.6	0	ICSA Main CR1 Failed
Fe	56	1	nogas	96118.792	0.9	501060278	0.5	0	
Co	59	1	nogas	0.073	22.0	453	17.7	0	ICSA Main CR1 Failed
Ni	60	1	nogas	0.125	78.4	597	18.5	0	ICSA Main CR1 Failed
Cu	63	1	nogas	0.397	19.7	3484	6.4	0	ICSA Main CR1 Failed
Zn	66	1	nogas	0.882	31.5	1400	18.6	0	ICSA Main CR1 Failed
As	75	1	nogas	-12.805	-5.8	9923	6.9	0	ICSA Main CR1 Failed
Se	77	1	nogas	-88.443	-8.6	3407	8.5	0	ICSA Main CR1 Failed
Se	82	1	nogas	-2.298	-48.2	150	37.1	0	ICSA Main CR1 Failed
Sr	88	1	nogas	0.871	1.6	6832	1.1	0	ICSA Main CR1 Failed
Mo	95	1	nogas	1938.729	0.4	3033235	0.2	0	
Ag	107	1	nogas	0.040	35.1	217	27.0	0	ICSA Main CR1 Failed
Cd	111	1	nogas	0.688	29.1	640	28.4	0	ICSA Main CR1 Failed
Sn	118	1	nogas	-0.023	-145.9	660	13.9	0	ICSA Main CR1 Failed
Sb	121	1	nogas	0.012	181.6	600	14.5	0	ICSA Main CR1 Failed
Ba	137	1	nogas	0.002	509.7	270	6.4	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.011	4.1	253	2.3	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.080	7.1	953	5.3	0	ICSA Main CR1 Failed
Si	28	1	nogas	42.142	6.4	745650	0.6	0	
La	139	1	nogas	57.922	49.5	93	37.6	0	
Na	23	2	He	96000.574	2.8	18002802	1.1	0	
Mg	24	2	He	94528.207	2.8	8412142	0.6	0	
Al	27	2	He	67179.402	2.8	3027338	1.6	0	
K	39	2	He	95410.932	2.7	4346236	1.2	0	
Ca	43	2	He	90249.165	3.5	10797	2.8	0	
Ca	44	2	He	96516.015	3.0	181627	0.3	0	
V	51	2	He	-0.227	-24.7	63	35.2	0	ICSA Main CR1 Failed
Cr	52	2	He	0.122	19.5	183	6.3	0	ICSA Main CR1 Failed
Mn	55	2	He	0.078	372.8	77	83.9	0	ICSA Main CR1 Failed
Fe	56	2	He	93006.077	3.0	32053228	0.9	0	
Co	59	2	He	0.028	25.7	33	17.3	0	ICSA Main CR1 Failed
Ni	60	2	He	-0.332	-48.1	60	50.0	0	ICSA Main CR1 Failed
Cu	63	2	He	-0.044	-125.7	407	5.1	0	ICSA Main CR1 Failed
Zn	66	2	He	0.447	122.6	70	65.5	0	ICSA Main CR1 Failed
As	75	2	He	-0.048	-227.0	13	43.3	0	ICSA Main CR1 Failed
Sb	121	2	He	-0.045	-32.0	33	17.3	0	ICSA Main CR1 Failed
Se	78	2	He	1.545	77.6	9	44.6	0	ICSA Main CR1 Failed

Interference Check Solution A (ICS-A) Report

Interference Check Solution A (ICS-A) Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	587933	0.45	610209	96.35	70	125	
In	115	1	nogas	698165	0.37	742039	94.09	70	125	
Li	6	1	nogas	247390	0.68	256544	96.43	70	125	
Bi	209	1	nogas	1016480	0.24	1099361	92.46	70	125	
Ge	72	2	He	32618	3.37	34709	93.98	70	125	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	300ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T22:22:00-06:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	104.884	1.272	187875	0.89	100	104.9	80	120	
B	11	1	nogas	545.214	1.326	504911	1.22	100	545.2	80	120	
Na	23	1	nogas	104902.836	1.314	555181112	0.41	100	104902.8	80	120	ICSB Main CR1 Failed
Mg	24	1	nogas	102492.190	0.942	382909984	0.14	100	102492.2	80	120	ICSB Main CR1 Failed
Al	27	1	nogas	61794.907	1.979	415486914	1.02	100	61794.9	80	120	ICSB Main CR1 Failed
K	39	1	nogas	106036.542	2.703	404741376	1.73	100	106036.5	80	120	
Ca	43	1	nogas	103086.299	1.129	799824	0.48	100	103086.3	80	120	ICSB Main CR1 Failed
Ca	44	1	nogas	102933.996	1.298	12782947	0.54	100	102934.0	80	120	
Ti	47	1	nogas	2035.122	1.076	790125	0.62	100	2035.1	80	120	ICSB Main CR1 Failed
V	51	1	nogas	82.284	3.556	582416	2.01	100	82.3	80	120	
Cr	52	1	nogas	95.106	1.122	471883	1.59	100	95.1	80	120	
Mn	55	1	nogas	96.880	1.100	617065	0.35	100	96.9	80	120	
Fe	56	1	nogas	104689.773	0.826	546759946	0.24	100	104689.8	80	120	
Co	59	1	nogas	96.376	0.830	491316	0.44	100	96.4	80	120	
Ni	60	1	nogas	95.690	1.579	108898	1.22	100	95.7	80	120	
Cu	63	1	nogas	95.379	1.696	270873	1.16	100	95.4	80	120	
Zn	66	1	nogas	98.365	1.922	94485	0.99	100	98.4	80	120	
As	75	1	nogas	86.781	1.914	103006	1.29	100	86.8	80	120	
Se	77	1	nogas	14.906	65.687	7408	5.40	100	14.9	80	120	
Se	82	1	nogas	95.078	2.358	5114	3.07	100	95.1	80	120	
Sr	88	1	nogas	98.030	1.499	728455	0.61	100	98.0	80	120	
Mo	95	1	nogas	2009.730	0.852	3150324	0.75	100	2009.7	80	120	ICSB Main CR1 Failed
Ag	107	1	nogas	92.801	0.994	387302	0.36	100	92.8	80	120	
Cd	111	1	nogas	98.642	1.679	91026	2.33	100	98.6	80	120	
Sn	118	1	nogas	99.409	1.443	270987	1.49	100	99.4	80	120	
Sb	121	1	nogas	97.066	1.559	394522	1.29	100	97.1	80	120	
Ba	137	1	nogas	97.247	1.770	132825	1.67	100	97.2	80	120	
Tl	205	1	nogas	95.580	1.975	1127686	1.50	100	95.6	80	120	
Pb	208	1	nogas	98.321	0.840	879458	0.25	100	98.3	80	120	
U	238	1	nogas	101.680	0.651	2240129	1.33	100	101.7	80	120	
Si	28	1	nogas	5138.984	0.806	10909929	0.45	100	5139.0	80	120	ICSB Main CR1 Failed
La	139	1	nogas	348.984	8.638	453	8.92	100	349.0	80	120	ICSB Main CR1 Failed
Na	23	2	He	103789.340	5.119	19490424	1.17	100	103789.3	80	120	ICSB Main CR1 Failed
Mg	24	2	He	102111.979	4.307	9102385	0.52	100	102112.0	80	120	ICSB Main CR1 Failed
Al	27	2	He	65365.117	2.399	2952047	2.28	100	65365.1	80	120	ICSB Main CR1 Failed
K	39	2	He	102243.245	3.827	4665267	0.82	100	102243.2	80	120	ICSB Main CR1 Failed
Ca	43	2	He	98621.243	2.525	11824	2.42	100	98621.2	80	120	
Ca	44	2	He	104702.557	5.024	197328	0.68	100	104702.6	80	120	
V	51	2	He	96.080	4.655	33678	0.32	100	96.1	80	120	
Cr	52	2	He	94.524	3.648	42101	0.93	100	94.5	80	120	
Mn	55	2	He	96.050	3.425	21878	1.28	100	96.1	80	120	
Fe	56	2	He	101167.949	3.809	34930844	0.93	100	101167.9	80	120	
Co	59	2	He	94.811	5.961	60443	1.53	100	94.8	80	120	
Ni	60	2	He	91.769	6.664	16248	2.07	100	91.8	80	120	
Cu	63	2	He	95.389	6.128	47730	2.46	100	95.4	80	120	
Zn	66	2	He	94.098	2.048	8219	3.55	100	94.1	80	120	
As	75	2	He	97.220	1.888	5414	4.32	100	97.2	80	120	
Sb	121	2	He	94.967	3.898	41874	2.52	100	95.0	80	120	
Se	78	2	He	94.361	9.713	346	5.04	100	94.4	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	589072	0.97	610209	96.54	70	125	
In	115	1	nogas	698864	0.68	742039	94.18	70	125	
Li	6	1	nogas	269451	0.63	256544	105.03	70	125	
Bi	209	1	nogas	1019159	0.69	1099361	92.70	70	125	
Ge	72	2	He	32695	4.53	34709	94.20	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	304_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T22:33:56-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	101.349	1.024	182221	0.55	100	101.3	90	110	
B	11	1	nogas	490.586	1.037	458708	1.59	500	98.1	90	110	
Na	23	1	nogas	10400.671	1.286	55866755	1.35	10000	104.0	90	110	
Mg	24	1	nogas	9544.164	0.420	35979092	0.47	10000	95.4	90	110	
Al	27	1	nogas	66.316	0.559	456976	0.62	100	66.3	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	434.192	1.621	137467	0.46	500	86.8	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9831.398	0.824	38604565	0.61	10000	98.3	90	110	
Ca	43	1	nogas	9963.606	1.139	77585	1.08	10000	99.6	90	110	
Ca	44	1	nogas	10321.697	1.367	1291546	0.24	10000	103.2	90	110	
Ti	47	1	nogas	95.535	2.592	37137	1.46	100	95.5	90	110	
V	51	1	nogas	83.484	2.864	589340	1.18	100	83.5	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	96.662	2.370	479639	1.20	100	96.7	90	110	
Mn	55	1	nogas	98.253	2.467	625951	1.36	100	98.3	90	110	
Fe	56	1	nogas	9753.788	1.696	51201104	0.75	10000	97.5	90	110	
Co	59	1	nogas	96.714	1.741	493233	0.73	100	96.7	90	110	
Ni	60	1	nogas	95.258	1.774	108452	0.75	100	95.3	90	110	
Cu	63	1	nogas	96.849	2.352	275122	1.49	100	96.8	90	110	
Zn	66	1	nogas	98.034	1.018	94224	1.53	100	98.0	90	110	
As	75	1	nogas	87.104	2.968	103352	1.95	100	87.1	90	110	CCV Main CR1-2 Failed
Se	77	1	nogas	13.433	72.024	7352	4.01	100	13.4	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	95.196	12.719	5118	10.91	100	95.2	90	110	
Sr	88	1	nogas	105.216	2.663	782106	1.53	100	105.2	90	110	
Mo	95	1	nogas	94.358	2.123	148024	1.20	100	94.4	90	110	
Ag	107	1	nogas	96.992	1.442	404971	0.86	100	97.0	90	110	
Cd	111	1	nogas	96.877	1.484	92712	1.89	100	96.9	90	110	
Sn	118	1	nogas	96.182	0.901	271941	0.56	100	96.2	90	110	
Sb	121	1	nogas	97.095	2.085	394783	0.95	100	97.1	90	110	
Ba	137	1	nogas	98.928	0.690	140133	0.70	100	98.9	90	110	
Tl	205	1	nogas	95.600	0.558	1172127	0.33	100	95.6	90	110	
Pb	208	1	nogas	96.556	0.887	897514	1.17	100	96.6	90	110	
U	238	1	nogas	95.897	1.537	2195438	1.98	100	95.9	90	110	
Li	7	1	nogas	101.450	0.499	470443	0.69	100	101.4	90	110	
Si	28	1	nogas	4998.607	0.631	10635454	1.29	5000	100.0	90	110	
Ba	135	1	nogas	99.986	2.057	82676	2.41	100	100.0	90	110	
La	139	1	nogas	143.212	43.166	207	39.11	100	143.2	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	82.560	333.846	7	173.21	100	82.6	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	95.563	0.793	480601	0.59	100	95.6	90	110	
Na	23	2	He	10362.351	3.570	2021920	0.99	10000	103.6	90	110	
Mg	24	2	He	9394.888	2.064	864295	1.19	10000	93.9	90	110	
Al	27	2	He	65.474	11.369	3194	10.06	100	65.5	90	110	CCV Main CR1-2 Failed
K	39	2	He	9417.614	2.203	449220	0.55	10000	94.2	90	110	
Ca	43	2	He	9909.351	5.797	1227	8.17	10000	99.1	90	110	
Ca	44	2	He	9971.090	2.477	19471	5.09	10000	99.7	90	110	
V	51	2	He	93.300	1.995	33756	1.08	100	93.3	90	110	
Cr	52	2	He	95.085	0.783	43709	2.80	100	95.1	90	110	
Mn	55	2	He	93.440	1.439	21964	2.78	100	93.4	90	110	
Fe	56	2	He	9470.205	2.158	3374662	0.68	10000	94.7	90	110	
Co	59	2	He	93.398	0.795	61490	2.40	100	93.4	90	110	
Ni	60	2	He	94.470	2.371	17269	1.71	100	94.5	90	110	
Cu	63	2	He	93.427	1.295	48285	2.68	100	93.4	90	110	
Zn	66	2	He	92.757	2.683	8352	0.55	100	92.8	90	110	
As	75	2	He	92.591	3.290	5318	4.14	100	92.6	90	110	
Sb	121	2	He	94.563	3.181	43007	1.52	100	94.6	90	110	
Se	78	2	He	94.350	5.469	357	2.76	100	94.3	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	589347	1.13	610209	96.58	70	125	
In	115	1	nogas	724811	0.88	742039	97.68	70	125	
Li	6	1	nogas	270458	0.83	256544	105.42	70	125	
Bi	209	1	nogas	1059041	0.53	1099361	96.33	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	33707	2.75	34709	97.11	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	305_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T22:36:07-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	0.034	63.1	60	60.1	1	
B	11	1	nogas	23.098	26.7	44041	11.5	10	CCB Main CR1 Failed
Na	23	1	nogas	-8.637	-14.9	320782	3.1	100	
Mg	24	1	nogas	2.871	7.3	15110	5.8	100	
Al	27	1	nogas	-0.577	-9.1	7138	4.3	5	
P	31	1	nogas	-7.131	-5.2	8312	1.0	10	
K	39	1	nogas	3.069	244.8	1204085	2.4	100	
Ca	43	1	nogas	1.977	182.5	290	9.1	100	
Ca	44	1	nogas	3.216	103.1	10847	4.0	100	
Ti	47	1	nogas	0.068	75.4	63	32.9	2.5	
V	51	1	nogas	-11.801	-8.1	62261	7.9	2.5	
Cr	52	1	nogas	-0.418	-10.2	4064	4.5	2.5	
Mn	55	1	nogas	-0.234	-25.4	4341	8.1	2.5	
Fe	56	1	nogas	-6.200	-12.8	237840	1.7	100	
Co	59	1	nogas	0.037	31.6	277	21.8	2.5	
Ni	60	1	nogas	-0.282	-11.3	140	25.8	2.5	
Cu	63	1	nogas	-0.251	-16.3	1707	7.1	2.5	
Zn	66	1	nogas	-0.383	-12.1	200	22.9	2.5	
As	75	1	nogas	-9.869	-6.4	13002	5.4	2.5	
Se	77	1	nogas	-75.689	-5.8	4004	5.1	2.5	
Se	82	1	nogas	-0.656	-54.1	240	8.3	2.5	
Sr	88	1	nogas	0.032	35.9	623	14.4	2.5	
Mo	95	1	nogas	0.106	53.3	237	37.9	2.5	
Ag	107	1	nogas	0.037	45.7	213	35.2	2.5	
Cd	111	1	nogas	0.027	43.3	33	34.6	1	
Sn	118	1	nogas	0.207	180.6	1355	78.8	5	
Sb	121	1	nogas	-0.009	-31.5	530	1.9	2.5	
Ba	137	1	nogas	-0.117	-23.7	113	35.7	2.5	
Tl	205	1	nogas	0.111	15.6	1533	15.7	1	
Pb	208	1	nogas	0.031	21.9	557	13.0	2.5	
U	238	1	nogas	0.042	16.8	1213	15.0	2.5	
Si	28	1	nogas	18.093	34.8	716319	1.7	5	CCB Main CR1 Failed
La	139	1	nogas	0.128	9098.2	23	65.5	2.5	
Au	197	1	nogas	-76.571	0.0	0	#DIV/0!	2.5	
Na	23	2	He	-18.488	-15.9	12251	4.3	100	
Mg	24	2	He	2.847	21.6	360	17.3	100	
Al	27	2	He	-1.988	-40.8	53	71.0	5	
K	39	2	He	15.790	17.0	7345	0.2	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-15.937	-67.0	37	56.8	100	
V	51	2	He	-0.113	-44.2	107	16.8	2.5	
Cr	52	2	He	0.060	251.5	163	41.7	2.5	
Mn	55	2	He	-0.109	-59.1	37	41.7	2.5	
Fe	56	2	He	1.657	33.8	1833	10.6	100	
Co	59	2	He	-0.004	-843.2	13	173.2	2.5	
Ni	60	2	He	-0.455	-24.1	40	50.0	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.597	-0.9	140	0.0	2.5	
Zn	66	2	He	0.068	427.0	40	66.1	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	-0.176	-32.9	7	50.0	2.5	
Sb	121	2	He	-0.006	-1301.6	53	65.8	2.5	
Se	78	2	He	0.546	337.3	6	115.5	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	603555	0.80	610209	98.91	70	125	
In	115	1	nogas	738496	0.44	742039	99.52	70	125	
Li	6	1	nogas	253616	1.07	256544	98.86	70	125	
Bi	209	1	nogas	1095828	1.53	1099361	99.68	70	125	
Ge	72	2	He	34341	1.96	34709	98.94	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	316_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T23:00:30-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	101.761	1.930	192579	2.39	100	101.8	90	110	
B	11	1	nogas	497.721	1.611	489379	1.81	500	99.5	90	110	
Na	23	1	nogas	10199.028	1.153	56500524	0.56	10000	102.0	90	110	
Mg	24	1	nogas	9530.010	1.569	37046513	1.03	10000	95.3	90	110	
Al	27	1	nogas	70.001	2.934	507552	2.12	100	70.0	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	435.616	3.294	145266	1.92	500	87.1	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9658.007	1.979	39976431	0.59	10000	96.6	90	110	
Ca	43	1	nogas	9599.589	3.180	78767	2.82	10000	96.0	90	110	
Ca	44	1	nogas	9787.752	1.786	1290958	0.23	10000	97.9	90	110	
Ti	47	1	nogas	92.212	4.370	37775	4.30	100	92.2	90	110	
V	51	1	nogas	91.490	1.899	667795	0.48	100	91.5	90	110	
Cr	52	1	nogas	95.661	2.227	500206	0.66	100	95.7	90	110	
Mn	55	1	nogas	97.216	2.161	652642	0.73	100	97.2	90	110	
Fe	56	1	nogas	9715.922	2.572	53734697	1.01	10000	97.2	90	110	
Co	59	1	nogas	96.937	1.479	520903	0.07	100	96.9	90	110	
Ni	60	1	nogas	95.790	2.922	114897	1.81	100	95.8	90	110	
Cu	63	1	nogas	96.038	0.740	287511	0.86	100	96.0	90	110	
Zn	66	1	nogas	96.742	1.580	97982	2.11	100	96.7	90	110	
As	75	1	nogas	92.492	1.932	114210	1.39	100	92.5	90	110	
Se	77	1	nogas	73.839	12.026	10210	3.71	100	73.8	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	92.271	4.792	5238	3.11	100	92.3	90	110	
Sr	88	1	nogas	97.760	1.226	765796	0.36	100	97.8	90	110	
Mo	95	1	nogas	93.618	1.624	154749	0.71	100	93.6	90	110	
Ag	107	1	nogas	95.101	2.345	418345	1.13	100	95.1	90	110	
Cd	111	1	nogas	96.386	1.555	95655	1.46	100	96.4	90	110	
Sn	118	1	nogas	93.095	0.084	273000	0.64	100	93.1	90	110	
Sb	121	1	nogas	94.898	2.183	406578	1.38	100	94.9	90	110	
Ba	137	1	nogas	97.940	1.799	143871	1.45	100	97.9	90	110	
Tl	205	1	nogas	95.798	0.366	1215830	0.65	100	95.8	90	110	
Pb	208	1	nogas	96.685	1.958	930281	2.07	100	96.7	90	110	
U	238	1	nogas	95.286	0.406	2258032	0.90	100	95.3	90	110	
Li	7	1	nogas	104.421	2.106	508976	2.47	100	104.4	90	110	
Si	28	1	nogas	4985.894	3.039	11177043	1.72	5000	99.7	90	110	
Ba	135	1	nogas	95.963	2.608	82285	2.12	100	96.0	90	110	
La	139	1	nogas	160.159	30.632	237	28.13	100	160.2	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-76.571	0.000	0	#DIV/0!	100	-76.6	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	96.233	0.564	500991	1.14	100	96.2	90	110	
Na	23	2	He	10025.318	0.878	2020160	1.40	10000	100.3	90	110	
Mg	24	2	He	9305.308	1.748	883469	0.87	10000	93.1	90	110	
Al	27	2	He	68.118	4.282	3424	3.20	100	68.1	90	110	CCV Main CR1-2 Failed
K	39	2	He	9396.837	1.199	462667	1.40	10000	94.0	90	110	
Ca	43	2	He	9104.846	14.008	1163	15.39	10000	91.0	90	110	
Ca	44	2	He	9551.442	1.674	19237	0.49	10000	95.5	90	110	
V	51	2	He	94.589	1.069	35319	1.15	100	94.6	90	110	
Cr	52	2	He	95.254	3.013	45166	1.36	100	95.3	90	110	
Mn	55	2	He	95.106	5.674	23053	3.72	100	95.1	90	110	
Fe	56	2	He	9349.784	1.214	3438892	1.24	10000	93.5	90	110	
Co	59	2	He	95.509	0.950	64885	1.73	100	95.5	90	110	
Ni	60	2	He	93.755	4.566	17686	3.96	100	93.8	90	110	
Cu	63	2	He	92.184	5.386	49134	3.14	100	92.2	90	110	
Zn	66	2	He	95.099	10.992	8829	9.49	100	95.1	90	110	
As	75	2	He	91.448	4.557	5416	2.52	100	91.4	90	110	
Sb	121	2	He	93.820	2.735	44036	0.68	100	93.8	90	110	
Se	78	2	He	87.957	16.882	345	17.77	100	88.0	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
Ge	72	1	nogas	620997	1.55	610209	101.77	70	125	
In	115	1	nogas	751657	0.57	742039	101.30	70	125	
Li	6	1	nogas	284644	0.46	256544	110.95	70	125	
Bi	209	1	nogas	1096256	0.76	1099361	99.72	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	34782	2.14	34709	100.21	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	317_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T23:02:42-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	0.056	23.5	93	22.3	1	
B	11	1	nogas	24.322	29.4	43337	13.4	10	CCB Main CR1 Failed
Na	23	1	nogas	64.380	4.7	661849	1.7	100	
Mg	24	1	nogas	5.392	11.4	22920	9.0	100	
Al	27	1	nogas	-0.719	-9.2	5688	7.6	5	
P	31	1	nogas	-2.979	-20.7	8822	1.3	10	
K	39	1	nogas	22.747	63.2	1182682	5.5	100	
Ca	43	1	nogas	-5.495	-96.6	213	19.5	100	
Ca	44	1	nogas	2.164	61.6	9890	2.5	100	
Ti	47	1	nogas	0.018	257.1	40	43.3	2.5	
V	51	1	nogas	-4.424	-1.4	96187	1.6	2.5	
Cr	52	1	nogas	-0.281	-5.3	4384	2.9	2.5	
Mn	55	1	nogas	-0.111	-24.8	4741	3.1	2.5	
Fe	56	1	nogas	6.261	12.1	281079	2.0	100	
Co	59	1	nogas	0.044	32.5	293	24.2	2.5	
Ni	60	1	nogas	-0.170	-12.8	250	8.0	2.5	
Cu	63	1	nogas	-0.350	-14.0	1310	8.8	2.5	
Zn	66	1	nogas	-0.292	-37.0	267	35.6	2.5	
As	75	1	nogas	-5.479	-7.8	15881	3.3	2.5	
Se	77	1	nogas	-27.699	-22.9	5451	5.5	2.5	
Se	82	1	nogas	-1.658	-28.7	173	14.5	2.5	
Sr	88	1	nogas	0.092	11.4	997	6.0	2.5	
Mo	95	1	nogas	0.006	292.5	70	37.8	2.5	
Ag	107	1	nogas	0.040	14.9	207	10.1	2.5	
Cd	111	1	nogas	0.044	28.2	47	24.7	1	
Sn	118	1	nogas	-0.009	-66.6	690	2.5	5	
Sb	121	1	nogas	-0.009	-249.8	487	18.0	2.5	
Ba	137	1	nogas	-0.119	-31.8	103	49.7	2.5	
Tl	205	1	nogas	0.116	34.0	1520	32.6	1	
Pb	208	1	nogas	0.030	22.5	520	12.6	2.5	
U	238	1	nogas	0.038	22.1	1057	19.1	2.5	
Si	28	1	nogas	52.628	13.4	726477	3.1	5	CCB Main CR1 Failed
La	139	1	nogas	-12.296	-76.4	7	173.2	2.5	
Au	197	1	nogas	3.225	4285.2	3	173.2	2.5	CCB Main CR1 Failed
Na	23	2	He	56.292	13.1	23095	2.2	100	
Mg	24	2	He	5.280	19.8	503	17.9	100	
Al	27	2	He	-0.492	-43.7	107	5.4	5	
K	39	2	He	19.374	26.3	6435	4.4	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-30.479	-11.4	7	86.6	100	
V	51	2	He	0.096	162.6	157	28.0	2.5	
Cr	52	2	He	-0.090	-55.2	80	21.7	2.5	
Mn	55	2	He	-0.018	-479.2	50	34.6	2.5	
Fe	56	2	He	2.530	46.0	1833	16.4	100	
Co	59	2	He	0.028	59.1	30	33.3	2.5	
Ni	60	2	He	-0.628	-5.9	7	86.6	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.364	-21.4	223	13.7	2.5	
Zn	66	2	He	0.140	179.3	40	50.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	-0.245	-15.8	2	86.6	2.5	
Sb	121	2	He	-0.027	-397.9	37	110.2	2.5	
Se	78	2	He	0.397	100.7	5	24.7	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	557124	1.30	610209	91.30	70	125	
In	115	1	nogas	692856	0.24	742039	93.37	70	125	
Li	6	1	nogas	243859	0.45	256544	95.06	70	125	
Bi	209	1	nogas	1034973	1.43	1099361	94.14	70	125	
Ge	72	2	He	29392	3.17	34709	84.68	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	328_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T23:27:11-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	102.105	1.423	178856	0.69	100	102.1	90	110	
B	11	1	nogas	490.852	1.920	447102	1.37	500	98.2	90	110	
Na	23	1	nogas	9687.261	1.100	53091876	1.08	10000	96.9	90	110	
Mg	24	1	nogas	9287.741	0.778	35706866	0.78	10000	92.9	90	110	
Al	27	1	nogas	68.243	1.172	476909	0.44	100	68.2	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	416.012	1.402	134108	0.54	500	83.2	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9324.111	1.685	37216353	0.85	10000	93.2	90	110	
Ca	43	1	nogas	9370.828	2.320	74073	2.44	10000	93.7	90	110	
Ca	44	1	nogas	9633.102	1.382	1224030	0.77	10000	96.3	90	110	
Ti	47	1	nogas	93.403	1.327	36853	0.53	100	93.4	90	110	
V	51	1	nogas	94.073	1.020	657846	1.60	100	94.1	90	110	
Cr	52	1	nogas	93.663	0.748	471925	0.72	100	93.7	90	110	
Mn	55	1	nogas	95.494	0.597	617676	0.68	100	95.5	90	110	
Fe	56	1	nogas	9465.969	0.403	50441929	0.66	10000	94.7	90	110	
Co	59	1	nogas	94.893	1.546	491172	1.21	100	94.9	90	110	
Ni	60	1	nogas	93.005	1.383	107493	2.15	100	93.0	90	110	
Cu	63	1	nogas	94.760	1.166	273262	0.37	100	94.8	90	110	
Zn	66	1	nogas	94.411	1.050	92113	1.52	100	94.4	90	110	
As	75	1	nogas	92.256	1.081	109788	1.35	100	92.3	90	110	
Se	77	1	nogas	87.329	6.326	10363	2.30	100	87.3	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	93.875	5.032	5131	5.46	100	93.9	90	110	
Sr	88	1	nogas	96.923	0.815	731315	0.07	100	96.9	90	110	
Mo	95	1	nogas	91.999	0.361	146490	0.88	100	92.0	90	110	
Ag	107	1	nogas	93.751	1.882	397253	1.20	100	93.8	90	110	
Cd	111	1	nogas	93.670	3.345	91545	2.97	100	93.7	90	110	
Sn	118	1	nogas	89.793	1.555	259363	1.93	100	89.8	90	110	CCV Main CR1-2 Failed
Sb	121	1	nogas	95.913	1.054	395859	1.70	100	95.9	90	110	
Ba	137	1	nogas	94.079	0.939	136122	0.96	100	94.1	90	110	
Tl	205	1	nogas	93.392	0.388	1158902	0.95	100	93.4	90	110	
Pb	208	1	nogas	93.390	0.360	878572	1.04	100	93.4	90	110	
U	238	1	nogas	90.775	1.291	2103414	2.30	100	90.8	90	110	
Li	7	1	nogas	104.791	1.258	472713	0.18	100	104.8	90	110	
Si	28	1	nogas	4818.192	2.188	10427131	1.30	5000	96.4	90	110	
Ba	135	1	nogas	93.125	1.652	78660	2.34	100	93.1	90	110	
La	139	1	nogas	107.238	26.286	163	21.50	100	107.2	90	110	
Au	197	1	nogas	2.667	5145.954	3	173.21	100	2.7	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	94.134	0.340	479137	0.77	100	94.1	90	110	
Na	23	2	He	10396.867	1.691	1879595	1.45	10000	104.0	90	110	
Mg	24	2	He	9461.752	0.230	806301	0.71	10000	94.6	90	110	
Al	27	2	He	69.990	11.295	3154	10.56	100	70.0	90	110	CCV Main CR1-2 Failed
K	39	2	He	9476.641	1.396	418725	1.86	10000	94.8	90	110	
Ca	43	2	He	9752.296	11.525	1117	11.20	10000	97.5	90	110	
Ca	44	2	He	10090.798	3.320	18236	2.83	10000	100.9	90	110	
V	51	2	He	95.376	1.624	31961	1.58	100	95.4	90	110	
Cr	52	2	He	96.281	2.478	40979	2.06	100	96.3	90	110	
Mn	55	2	He	94.206	1.076	20506	0.92	100	94.2	90	110	
Fe	56	2	He	9557.749	1.948	3154813	1.54	10000	95.6	90	110	
Co	59	2	He	97.810	2.013	59633	2.15	100	97.8	90	110	
Ni	60	2	He	94.728	3.393	16041	3.81	100	94.7	90	110	
Cu	63	2	He	96.363	1.292	46106	1.27	100	96.4	90	110	
Zn	66	2	He	98.881	4.337	8246	3.91	100	98.9	90	110	
As	75	2	He	90.467	3.591	4812	3.87	100	90.5	90	110	
Sb	121	2	He	95.355	3.684	40179	3.94	100	95.4	90	110	
Se	78	2	He	94.991	10.183	333	9.61	100	95.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	598104	0.79	610209	98.02	70	125	
In	115	1	nogas	740294	1.09	742039	99.76	70	125	
Li	6	1	nogas	263516	1.34	256544	102.72	70	125	
Bi	209	1	nogas	1071846	1.10	1099361	97.50	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	31212	0.50	34709	89.92	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	329_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T23:29:22-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	0.048	47.1	80	45.1	1	
B	11	1	nogas	20.755	27.7	39882	10.6	10	CCB Main CR1 Failed
Na	23	1	nogas	45.924	6.5	585148	1.8	100	
Mg	24	1	nogas	5.634	6.9	24423	7.1	100	
Al	27	1	nogas	-0.775	-11.3	5418	9.8	5	
P	31	1	nogas	-3.471	-57.4	8829	5.4	10	
K	39	1	nogas	4.707	154.9	1136108	2.6	100	
Ca	43	1	nogas	-2.366	-86.8	240	7.2	100	
Ca	44	1	nogas	1.959	295.0	10026	6.1	100	
Ti	47	1	nogas	0.025	263.1	43	58.1	2.5	
V	51	1	nogas	1.180	46.0	127660	1.4	2.5	
Cr	52	1	nogas	-0.258	-12.9	4564	2.5	2.5	
Mn	55	1	nogas	-0.137	-15.5	4664	3.6	2.5	
Fe	56	1	nogas	6.321	25.1	286035	1.9	100	
Co	59	1	nogas	0.026	16.9	207	11.2	2.5	
Ni	60	1	nogas	-0.122	-39.5	307	18.0	2.5	
Cu	63	1	nogas	-0.265	-19.7	1563	8.0	2.5	
Zn	66	1	nogas	-0.308	-18.6	257	21.5	2.5	
As	75	1	nogas	-2.009	-26.1	19264	2.9	2.5	
Se	77	1	nogas	2.176	696.3	6648	7.8	2.5	
Se	82	1	nogas	-1.374	-103.7	190	36.8	2.5	
Sr	88	1	nogas	0.087	11.4	977	6.3	2.5	
Mo	95	1	nogas	0.032	54.8	110	24.1	2.5	
Ag	107	1	nogas	0.027	47.1	157	32.8	2.5	
Cd	111	1	nogas	0.022	101.6	27	78.1	1	
Sn	118	1	nogas	-0.029	-124.3	643	15.3	5	
Sb	121	1	nogas	0.016	167.7	593	18.0	2.5	
Ba	137	1	nogas	-0.089	-4.0	147	3.9	2.5	
Tl	205	1	nogas	0.128	4.8	1687	5.5	1	
Pb	208	1	nogas	0.024	32.2	477	13.5	2.5	
U	238	1	nogas	0.041	27.0	1140	23.4	2.5	
Si	28	1	nogas	32.214	22.4	699313	1.4	5	CCB Main CR1 Failed
La	139	1	nogas	-1.614	-495.9	20	50.0	2.5	
Au	197	1	nogas	317.439	155.1	17	124.9	2.5	CCB Main CR1 Failed
Na	23	2	He	42.356	12.7	22187	2.5	100	
Mg	24	2	He	5.375	18.9	547	17.6	100	
Al	27	2	He	-1.137	-108.6	87	63.5	5	
K	39	2	He	6.556	193.9	6311	7.4	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-8.344	-384.6	47	121.8	100	
V	51	2	He	0.136	37.1	182	10.8	2.5	
Cr	52	2	He	-0.111	-83.7	77	49.4	2.5	
Mn	55	2	He	-0.095	-144.3	37	83.3	2.5	
Fe	56	2	He	1.894	15.5	1757	6.2	100	
Co	59	2	He	0.019	45.7	27	21.7	2.5	
Ni	60	2	He	-0.572	-15.6	17	91.7	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.368	-49.0	237	35.4	2.5	
Zn	66	2	He	-0.006	-6560.3	30	100.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	-0.249	-14.4	2	86.6	2.5	
Sb	121	2	He	0.005	589.1	53	21.7	2.5	
Se	78	2	He	1.086	205.0	7	103.3	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	566457	1.02	610209	92.83	70	125	
In	115	1	nogas	700919	0.62	742039	94.46	70	125	
Li	6	1	nogas	240306	1.35	256544	93.67	70	125	
Bi	209	1	nogas	1055246	1.58	1099361	95.99	70	125	
Ge	72	2	He	31419	1.83	34709	90.52	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	340_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T23:53:41-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	102.603	1.428	174700	0.19	100	102.6	90	110	
B	11	1	nogas	509.922	2.071	450481	1.05	500	102.0	90	110	
Na	23	1	nogas	10007.249	1.178	50259952	0.47	10000	100.1	90	110	
Mg	24	1	nogas	9508.277	0.794	33506743	0.58	10000	95.1	90	110	
Al	27	1	nogas	69.433	1.089	457568	0.45	100	69.4	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	429.942	1.848	130418	0.73	500	86.0	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9672.822	2.232	36378073	1.09	10000	96.7	90	110	
Ca	43	1	nogas	9606.891	2.020	71623	1.02	10000	96.1	90	110	
Ca	44	1	nogas	9846.495	1.195	1180069	0.22	10000	98.5	90	110	
Ti	47	1	nogas	95.191	2.893	35426	1.81	100	95.2	90	110	
V	51	1	nogas	95.487	1.607	628039	0.89	100	95.5	90	110	
Cr	52	1	nogas	96.230	0.247	457255	0.93	100	96.2	90	110	
Mn	55	1	nogas	96.343	0.330	587839	0.89	100	96.3	90	110	
Fe	56	1	nogas	9569.004	0.688	48099510	0.42	10000	95.7	90	110	
Co	59	1	nogas	96.869	1.486	473032	1.70	100	96.9	90	110	
Ni	60	1	nogas	95.872	1.498	104521	2.44	100	95.9	90	110	
Cu	63	1	nogas	97.047	0.754	263965	0.96	100	97.0	90	110	
Zn	66	1	nogas	97.681	1.090	89891	1.83	100	97.7	90	110	
As	75	1	nogas	95.065	3.282	106078	2.43	100	95.1	90	110	
Se	77	1	nogas	87.310	19.661	9773	5.85	100	87.3	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	92.054	2.887	4751	3.29	100	92.1	90	110	
Sr	88	1	nogas	99.988	1.536	711667	0.47	100	100.0	90	110	
Mo	95	1	nogas	94.798	0.613	142393	0.55	100	94.8	90	110	
Ag	107	1	nogas	96.935	2.186	387467	1.25	100	96.9	90	110	
Cd	111	1	nogas	97.870	1.452	90476	1.53	100	97.9	90	110	
Sn	118	1	nogas	94.726	1.121	258734	0.68	100	94.7	90	110	
Sb	121	1	nogas	99.352	1.258	386768	0.38	100	99.4	90	110	
Ba	137	1	nogas	97.142	0.785	132931	0.19	100	97.1	90	110	
Tl	205	1	nogas	96.135	1.664	1154192	0.15	100	96.1	90	110	
Pb	208	1	nogas	96.849	0.907	881587	0.84	100	96.8	90	110	
U	238	1	nogas	95.090	0.386	2131908	1.22	100	95.1	90	110	
Li	7	1	nogas	105.418	1.126	462178	1.94	100	105.4	90	110	
Si	28	1	nogas	4935.673	1.269	10062024	1.44	5000	98.7	90	110	
Ba	135	1	nogas	97.917	1.362	78210	0.74	100	97.9	90	110	
La	139	1	nogas	116.857	7.253	167	6.93	100	116.9	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-76.571	0.000	0	#DIV/0!	100	-76.6	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	96.951	0.392	477518	1.26	100	97.0	90	110	
Na	23	2	He	10018.706	1.511	1781013	2.18	10000	100.2	90	110	
Mg	24	2	He	9419.900	2.366	788930	1.51	10000	94.2	90	110	
Al	27	2	He	68.958	2.362	3057	3.04	100	69.0	90	110	CCV Main CR1-2 Failed
K	39	2	He	9394.095	0.800	408027	1.00	10000	93.9	90	110	
Ca	43	2	He	8548.584	16.009	963	16.78	10000	85.5	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9723.124	1.966	17275	1.72	10000	97.2	90	110	
V	51	2	He	95.498	1.355	31456	1.55	100	95.5	90	110	
Cr	52	2	He	97.315	2.039	40708	0.85	100	97.3	90	110	
Mn	55	2	He	94.489	3.398	20212	2.24	100	94.5	90	110	
Fe	56	2	He	9485.782	0.854	3078064	1.92	10000	94.9	90	110	
Co	59	2	He	96.769	0.562	57991	1.04	100	96.8	90	110	
Ni	60	2	He	93.894	4.664	15624	3.74	100	93.9	90	110	
Cu	63	2	He	97.351	1.059	45778	0.79	100	97.4	90	110	
Zn	66	2	He	98.547	2.581	8079	2.85	100	98.5	90	110	
As	75	2	He	97.303	1.700	5086	2.80	100	97.3	90	110	
Sb	121	2	He	96.913	0.633	40140	1.93	100	96.9	90	110	
Se	78	2	He	90.822	8.454	313	7.17	100	90.8	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	564242	1.10	610209	92.47	70	125	
In	115	1	nogas	700181	0.63	742039	94.36	70	125	
Li	6	1	nogas	256145	1.26	256544	99.84	70	125	
Bi	209	1	nogas	1037196	1.53	1099361	94.35	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	30681	1.53	34709	88.40	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	341_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T23:55:52-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	0.078	23.0	130	23.1	1	
B	11	1	nogas	24.899	23.6	44061	11.4	10	CCB Main CR1 Failed
Na	23	1	nogas	8.091	8.3	387803	1.2	100	
Mg	24	1	nogas	4.113	11.6	18714	8.8	100	
Al	27	1	nogas	-0.734	-8.6	5698	6.6	5	
P	31	1	nogas	-0.908	-148.0	9583	4.7	10	
K	39	1	nogas	5.676	70.2	1142711	0.6	100	
Ca	43	1	nogas	1.112	561.1	267	17.7	100	
Ca	44	1	nogas	-3.388	-94.5	9416	3.4	100	
Ti	47	1	nogas	0.106	73.8	73	39.4	2.5	
V	51	1	nogas	-1.048	-67.9	116114	3.3	2.5	
Cr	52	1	nogas	-0.236	-37.9	4684	9.7	2.5	
Mn	55	1	nogas	-0.034	-111.4	5301	4.9	2.5	
Fe	56	1	nogas	2.841	76.3	269308	3.4	100	
Co	59	1	nogas	0.030	36.4	230	23.0	2.5	
Ni	60	1	nogas	-0.214	-6.9	207	7.4	2.5	
Cu	63	1	nogas	-0.312	-5.6	1440	3.5	2.5	
Zn	66	1	nogas	-0.320	-11.4	247	13.0	2.5	
As	75	1	nogas	-2.354	-25.0	19004	2.5	2.5	
Se	77	1	nogas	-7.722	-201.8	6298	8.7	2.5	
Se	82	1	nogas	-1.999	-96.2	160	59.6	2.5	
Sr	88	1	nogas	0.045	21.5	680	10.3	2.5	
Mo	95	1	nogas	0.007	137.0	73	20.8	2.5	
Ag	107	1	nogas	0.045	20.4	230	15.7	2.5	
Cd	111	1	nogas	0.011	148.1	17	91.7	1	
Sn	118	1	nogas	-0.003	-841.3	723	9.2	5	
Sb	121	1	nogas	-0.006	-513.9	510	23.8	2.5	
Ba	137	1	nogas	-0.121	-17.7	103	27.9	2.5	
Tl	205	1	nogas	0.117	14.5	1593	13.8	1	
Pb	208	1	nogas	0.037	7.3	613	4.7	2.5	
U	238	1	nogas	0.038	14.9	1090	12.6	2.5	
Si	28	1	nogas	39.583	18.0	715533	2.6	5	CCB Main CR1 Failed
La	139	1	nogas	3.688	551.0	27	94.4	2.5	CCB Main CR1 Failed
Au	197	1	nogas	-76.571	0.0	0	#DIV/0!	2.5	
Na	23	2	He	8.471	56.2	15654	5.3	100	
Mg	24	2	He	3.711	53.7	393	42.7	100	
Al	27	2	He	-2.246	-32.9	37	83.3	5	
K	39	2	He	7.497	58.6	6188	1.1	100	
Ca	43	2	He	29.041	173.2	3	173.2	100	
Ca	44	2	He	-13.634	-50.6	37	31.5	100	
V	51	2	He	0.141	36.4	179	7.6	2.5	
Cr	52	2	He	-0.054	-425.7	100	98.5	2.5	
Mn	55	2	He	-0.075	-164.3	40	66.1	2.5	
Fe	56	2	He	2.158	17.7	1797	8.4	100	
Co	59	2	He	0.037	160.3	37	95.8	2.5	
Ni	60	2	He	-0.446	-44.4	37	87.7	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.456	-6.1	190	5.3	2.5	
Zn	66	2	He	-0.004	-8645.5	30	88.2	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	-0.268	-14.1	1	173.2	2.5	
Sb	121	2	He	0.023	449.9	60	72.6	2.5	
Se	78	2	He	0.923	38.1	7	17.3	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	568010	0.70	610209	93.08	70	125	
In	115	1	nogas	709796	1.30	742039	95.65	70	125	
Li	6	1	nogas	245284	1.36	256544	95.61	70	125	
Bi	209	1	nogas	1078943	0.59	1099361	98.14	70	125	
Ge	72	2	He	30591	2.03	34709	88.14	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	352_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-06T00:20:09-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	105.267	0.368	163108	1.41	100	105.3	90	110	
B	11	1	nogas	494.443	3.528	398104	2.19	500	98.9	90	110	
Na	23	1	nogas	10041.399	1.027	48362543	0.74	10000	100.4	90	110	
Mg	24	1	nogas	9581.005	2.440	32378218	2.44	10000	95.8	90	110	
Al	27	1	nogas	70.112	1.268	442650	0.92	100	70.1	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	439.540	0.778	127560	0.39	500	87.9	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9765.855	1.880	35186564	1.50	10000	97.7	90	110	
Ca	43	1	nogas	9663.617	0.516	69043	0.62	10000	96.6	90	110	
Ca	44	1	nogas	9920.218	1.580	1139225	1.54	10000	99.2	90	110	
Ti	47	1	nogas	96.634	2.412	34471	3.15	100	96.6	90	110	
V	51	1	nogas	84.666	2.495	546818	2.72	100	84.7	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	96.538	0.553	439532	0.53	100	96.5	90	110	
Mn	55	1	nogas	98.279	0.650	574479	0.30	100	98.3	90	110	
Fe	56	1	nogas	9749.239	0.395	46954789	0.53	10000	97.5	90	110	
Co	59	1	nogas	97.955	1.018	458334	0.74	100	98.0	90	110	
Ni	60	1	nogas	97.087	0.828	101413	1.58	100	97.1	90	110	
Cu	63	1	nogas	97.101	1.531	253062	0.74	100	97.1	90	110	
Zn	66	1	nogas	96.583	1.053	85167	0.98	100	96.6	90	110	
As	75	1	nogas	88.215	0.703	95774	0.27	100	88.2	90	110	CCV Main CR1-2 Failed
Se	77	1	nogas	41.398	5.186	7739	0.66	100	41.4	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	101.785	2.403	5008	2.83	100	101.8	90	110	
Sr	88	1	nogas	99.687	0.689	679953	1.04	100	99.7	90	110	
Mo	95	1	nogas	94.477	1.324	135979	0.66	100	94.5	90	110	
Ag	107	1	nogas	96.521	1.512	369720	0.92	100	96.5	90	110	
Cd	111	1	nogas	98.622	1.545	84762	1.49	100	98.6	90	110	
Sn	118	1	nogas	95.586	0.994	242733	0.99	100	95.6	90	110	
Sb	121	1	nogas	98.821	0.912	368646	0.46	100	98.8	90	110	
Ba	137	1	nogas	99.816	1.147	126986	1.20	100	99.8	90	110	
Tl	205	1	nogas	97.360	0.935	1080017	1.53	100	97.4	90	110	
Pb	208	1	nogas	97.953	0.707	823758	1.29	100	98.0	90	110	
U	238	1	nogas	97.806	2.129	2025386	0.15	100	97.8	90	110	
Li	7	1	nogas	107.531	1.705	428527	0.96	100	107.5	90	110	
Si	28	1	nogas	4942.122	2.428	9652415	1.49	5000	98.8	90	110	
Ba	135	1	nogas	100.039	0.755	74290	0.81	100	100.0	90	110	
La	139	1	nogas	115.497	26.481	153	22.91	100	115.5	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	11.669	1309.777	3	173.21	100	11.7	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	98.208	1.861	446793	0.21	100	98.2	90	110	
Na	23	2	He	9860.699	5.567	1718818	2.82	10000	98.6	90	110	
Mg	24	2	He	9329.613	2.737	766647	1.12	10000	93.3	90	110	
Al	27	2	He	70.092	4.435	3047	4.75	100	70.1	90	110	CCV Main CR1-2 Failed
K	39	2	He	9464.471	4.832	403058	1.72	10000	94.6	90	110	
Ca	43	2	He	9871.044	19.297	1087	16.78	10000	98.7	90	110	
Ca	44	2	He	9667.760	2.399	16855	2.05	10000	96.7	90	110	
V	51	2	He	95.295	3.581	30787	0.52	100	95.3	90	110	
Cr	52	2	He	95.949	4.668	39368	2.23	100	95.9	90	110	
Mn	55	2	He	95.830	1.182	20125	3.47	100	95.8	90	110	
Fe	56	2	He	9341.565	3.092	2973252	0.70	10000	93.4	90	110	
Co	59	2	He	96.035	4.367	56443	1.97	100	96.0	90	110	
Ni	60	2	He	96.207	5.096	15701	2.91	100	96.2	90	110	
Cu	63	2	He	94.994	5.089	43813	2.33	100	95.0	90	110	
Zn	66	2	He	92.619	7.527	7465	10.59	100	92.6	90	110	
As	75	2	He	95.780	8.786	4905	5.93	100	95.8	90	110	
Sb	121	2	He	96.011	5.023	38990	2.17	100	96.0	90	110	
Se	78	2	He	97.341	13.612	329	10.63	100	97.3	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	540665	0.78	610209	88.60	70	125	
In	115	1	nogas	650957	0.06	742039	87.73	70	125	
Li	6	1	nogas	233079	1.77	256544	90.85	70	125	
Bi	209	1	nogas	958252	2.01	1099361	87.16	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	30114	3.13	34709	86.76	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	353_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-06T00:22:20-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	86.1	73	82.2	1	
B	11	1	nogas	19.957	25.1	37323	10.7	10	CCB Main CR1 Failed
Na	23	1	nogas	41.467	3.2	524993	1.1	100	
Mg	24	1	nogas	6.013	5.1	24054	3.4	100	
Al	27	1	nogas	-0.746	-4.1	5411	4.3	5	
P	31	1	nogas	1.195	146.6	9786	5.8	10	
K	39	1	nogas	16.147	3.1	1135762	1.4	100	
Ca	43	1	nogas	2.585	446.6	267	30.5	100	
Ca	44	1	nogas	2.121	196.4	9693	6.1	100	
Ti	47	1	nogas	0.067	229.4	57	97.2	2.5	
V	51	1	nogas	-10.101	-6.3	65099	5.0	2.5	
Cr	52	1	nogas	-0.461	-20.1	3480	11.0	2.5	
Mn	55	1	nogas	0.094	63.6	5848	7.2	2.5	
Fe	56	1	nogas	2.026	29.2	255044	1.8	100	
Co	59	1	nogas	0.041	46.1	270	32.3	2.5	
Ni	60	1	nogas	-0.174	-26.2	240	19.1	2.5	
Cu	63	1	nogas	-0.340	-11.4	1313	8.1	2.5	
Zn	66	1	nogas	-0.328	-12.3	230	15.7	2.5	
As	75	1	nogas	-9.207	-12.5	12328	7.0	2.5	
Se	77	1	nogas	-59.170	-21.3	4211	9.6	2.5	
Se	82	1	nogas	-1.652	-13.1	170	5.9	2.5	
Sr	88	1	nogas	0.066	2.8	800	2.5	2.5	
Mo	95	1	nogas	0.023	153.9	93	55.0	2.5	
Ag	107	1	nogas	0.038	40.6	193	29.9	2.5	
Cd	111	1	nogas	0.027	150.0	30	120.2	1	
Sn	118	1	nogas	-0.022	-359.6	640	32.3	5	
Sb	121	1	nogas	0.005	204.8	530	5.7	2.5	
Ba	137	1	nogas	-0.084	-44.3	147	33.6	2.5	
Tl	205	1	nogas	0.132	21.9	1660	20.5	1	
Pb	208	1	nogas	0.038	34.2	573	19.1	2.5	
U	238	1	nogas	0.047	1.1	1213	0.5	2.5	
Si	28	1	nogas	40.389	11.6	689477	2.3	5	CCB Main CR1 Failed
La	139	1	nogas	21.487	46.1	47	24.7	2.5	CCB Main CR1 Failed
Au	197	1	nogas	-76.571	0.0	0	#DIV/0!	2.5	
Na	23	2	He	32.822	15.1	19648	1.2	100	
Mg	24	2	He	6.858	9.9	647	10.3	100	
Al	27	2	He	-1.458	-56.2	70	51.5	5	
K	39	2	He	11.707	51.3	6278	1.1	100	
Ca	43	2	He	62.464	173.2	7	173.2	100	
Ca	44	2	He	-15.266	-44.8	33	34.6	100	
V	51	2	He	-0.102	-104.3	98	35.4	2.5	
Cr	52	2	He	-0.048	-124.9	100	26.5	2.5	
Mn	55	2	He	0.009	890.3	57	27.0	2.5	
Fe	56	2	He	2.717	21.7	1953	12.6	100	
Co	59	2	He	-0.001	-2381.8	13	114.6	2.5	
Ni	60	2	He	-0.530	-23.8	23	89.2	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.507	-17.3	163	21.5	2.5	
Zn	66	2	He	-0.076	-108.1	23	24.7	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	-0.140	-51.4	8	49.5	2.5	
Sb	121	2	He	-0.056	-163.2	27	142.0	2.5	
Se	78	2	He	-0.032	-2972.9	3	91.7	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	546147	1.20	610209	89.50	70	125	
In	115	1	nogas	673618	0.62	742039	90.78	70	125	
Li	6	1	nogas	228238	0.79	256544	88.97	70	125	
Bi	209	1	nogas	1005986	0.76	1099361	91.51	70	125	
Ge	72	2	He	30174	3.17	34709	86.93	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	364_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-06T00:46:45-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	105.865	0.967	179724	1.19	100	105.9	90	110	
B	11	1	nogas	487.197	2.768	430250	2.40	500	97.4	90	110	
Na	23	1	nogas	10090.097	1.776	52589018	0.53	10000	100.9	90	110	
Mg	24	1	nogas	9626.961	2.492	35207493	2.06	10000	96.3	90	110	
Al	27	1	nogas	69.524	0.253	480006	1.21	100	69.5	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	438.313	0.700	139100	0.78	500	87.7	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9692.843	0.331	38192345	1.04	10000	96.9	90	110	
Ca	43	1	nogas	9627.478	0.803	75208	1.87	10000	96.3	90	110	
Ca	44	1	nogas	9926.033	0.509	1246265	1.20	10000	99.3	90	110	
Ti	47	1	nogas	94.873	1.553	36993	0.42	100	94.9	90	110	
V	51	1	nogas	84.676	1.064	597853	1.72	100	84.7	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	95.754	0.502	476686	0.99	100	95.8	90	110	
Mn	55	1	nogas	97.585	0.356	623705	1.25	100	97.6	90	110	
Fe	56	1	nogas	9768.210	0.196	51436990	1.41	10000	97.7	90	110	
Co	59	1	nogas	97.771	1.231	500129	0.28	100	97.8	90	110	
Ni	60	1	nogas	96.965	1.573	110723	1.18	100	97.0	90	110	
Cu	63	1	nogas	97.286	0.587	277223	1.45	100	97.3	90	110	
Zn	66	1	nogas	98.324	1.022	94793	2.32	100	98.3	90	110	
As	75	1	nogas	88.133	0.382	104635	1.15	100	88.1	90	110	CCV Main CR1-2 Failed
Se	77	1	nogas	11.472	56.616	7298	2.22	100	11.5	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	94.651	5.463	5108	4.16	100	94.7	90	110	
Sr	88	1	nogas	100.126	1.031	746609	0.50	100	100.1	90	110	
Mo	95	1	nogas	94.755	1.158	149107	1.16	100	94.8	90	110	
Ag	107	1	nogas	96.693	0.786	404948	0.87	100	96.7	90	110	
Cd	111	1	nogas	97.531	0.668	92413	0.36	100	97.5	90	110	
Sn	118	1	nogas	96.575	0.331	270381	1.33	100	96.6	90	110	
Sb	121	1	nogas	102.188	1.139	416770	1.54	100	102.2	90	110	
Ba	137	1	nogas	100.975	1.496	141625	1.89	100	101.0	90	110	
Tl	205	1	nogas	97.547	1.146	1196829	0.54	100	97.5	90	110	
Pb	208	1	nogas	97.945	0.977	911054	0.84	100	97.9	90	110	
U	238	1	nogas	95.570	1.643	2189579	2.12	100	95.6	90	110	
Li	7	1	nogas	107.793	0.063	470654	0.24	100	107.8	90	110	
Si	28	1	nogas	4977.073	0.099	10624351	1.35	5000	99.5	90	110	
Ba	135	1	nogas	101.118	0.946	82786	1.43	100	101.1	90	110	
La	139	1	nogas	153.362	35.930	217	31.42	100	153.4	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	479.784	160.288	23	137.77	100	479.8	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	98.229	0.681	494366	0.31	100	98.2	90	110	
Na	23	2	He	9851.638	2.349	1889096	1.02	10000	98.5	90	110	
Mg	24	2	He	9217.203	2.825	832644	0.46	10000	92.2	90	110	
Al	27	2	He	69.432	11.604	3317	10.40	100	69.4	90	110	CCV Main CR1-2 Failed
K	39	2	He	9345.172	2.610	437809	0.35	10000	93.5	90	110	
Ca	43	2	He	9263.719	8.985	1127	11.24	10000	92.6	90	110	
Ca	44	2	He	9926.974	3.526	19021	1.97	10000	99.3	90	110	
V	51	2	He	93.850	2.990	33340	0.57	100	93.9	90	110	
Cr	52	2	He	94.450	1.426	42629	1.11	100	94.4	90	110	
Mn	55	2	He	96.214	5.878	22195	4.47	100	96.2	90	110	
Fe	56	2	He	9425.290	1.094	3299137	1.46	10000	94.3	90	110	
Co	59	2	He	94.808	2.935	61275	1.15	100	94.8	90	110	
Ni	60	2	He	95.702	3.379	17179	2.75	100	95.7	90	110	
Cu	63	2	He	93.072	4.003	47215	2.05	100	93.1	90	110	
Zn	66	2	He	94.166	3.966	8326	2.02	100	94.2	90	110	
As	75	2	He	97.876	3.327	5516	0.84	100	97.9	90	110	
Sb	121	2	He	96.984	2.003	43324	0.94	100	97.0	90	110	
Se	78	2	He	88.029	0.802	328	2.66	100	88.0	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
Ge	72	1	nogas	591117	1.31	610209	96.87	70	125	
In	115	1	nogas	717680	1.00	742039	96.72	70	125	
Li	6	1	nogas	255357	0.23	256544	99.54	70	125	
Bi	209	1	nogas	1059830	0.87	1099361	96.40	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	33102	2.47	34709	95.37	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	365_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-06T00:48:56-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	0.056	29.2	90	29.4	1	
B	11	1	nogas	29.307	22.2	45091	11.5	10	CCB Main CR1 Failed
Na	23	1	nogas	27.905	16.4	495872	2.5	100	
Mg	24	1	nogas	6.203	13.1	26662	12.8	100	
Al	27	1	nogas	-0.738	-6.1	5821	6.6	5	
P	31	1	nogas	1.086	84.2	10400	3.6	10	
K	39	1	nogas	20.493	10.1	1227165	1.9	100	
Ca	43	1	nogas	-11.450	-93.8	177	46.1	100	
Ca	44	1	nogas	3.577	104.0	10503	2.9	100	
Ti	47	1	nogas	-0.056	-27.2	13	43.3	2.5	
V	51	1	nogas	-11.951	-3.8	59279	5.1	2.5	
Cr	52	1	nogas	-0.457	-8.7	3730	6.6	2.5	
Mn	55	1	nogas	0.078	81.7	6131	5.6	2.5	
Fe	56	1	nogas	2.790	55.3	275760	1.8	100	
Co	59	1	nogas	0.053	4.7	350	5.0	2.5	
Ni	60	1	nogas	-0.163	-44.7	270	31.6	2.5	
Cu	63	1	nogas	-0.350	-5.0	1370	4.4	2.5	
Zn	66	1	nogas	-0.344	-13.6	230	19.0	2.5	
As	75	1	nogas	-10.622	-5.3	11844	4.9	2.5	
Se	77	1	nogas	-67.591	-1.8	4171	1.4	2.5	
Se	82	1	nogas	-1.740	-63.8	177	31.2	2.5	
Sr	88	1	nogas	0.068	33.4	863	18.5	2.5	
Mo	95	1	nogas	0.015	155.6	87	40.5	2.5	
Ag	107	1	nogas	0.046	59.2	240	48.1	2.5	
Cd	111	1	nogas	0.057	50.3	60	44.1	1	
Sn	118	1	nogas	-0.033	-56.5	647	7.3	5	
Sb	121	1	nogas	0.745	13.1	3540	12.5	2.5	
Ba	137	1	nogas	-0.034	-171.1	227	35.9	2.5	
Tl	205	1	nogas	0.115	11.3	1543	11.1	1	
Pb	208	1	nogas	0.032	39.5	550	22.0	2.5	
U	238	1	nogas	0.047	26.5	1287	22.6	2.5	
Si	28	1	nogas	42.345	11.6	738906	2.7	5	CCB Main CR1 Failed
La	139	1	nogas	16.374	146.2	43	70.5	2.5	CCB Main CR1 Failed
Au	197	1	nogas	80.649	337.7	7	173.2	2.5	CCB Main CR1 Failed
Na	23	2	He	21.903	28.8	18937	4.7	100	
Mg	24	2	He	7.058	10.3	707	9.4	100	
Al	27	2	He	-2.071	-31.6	47	61.9	5	
K	39	2	He	18.392	68.1	6995	7.0	100	
Ca	43	2	He	111.110	173.2	13	173.2	100	CCB Main CR1 Failed
Ca	44	2	He	4.739	639.1	73	78.7	100	
V	51	2	He	-0.087	-45.9	109	11.2	2.5	
Cr	52	2	He	-0.024	-69.0	117	4.9	2.5	
Mn	55	2	He	0.005	3500.5	60	60.1	2.5	
Fe	56	2	He	2.620	18.8	2047	9.2	100	
Co	59	2	He	0.018	252.3	27	108.3	2.5	
Ni	60	2	He	-0.478	-7.2	33	17.3	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.402	-39.1	227	33.7	2.5	
Zn	66	2	He	-0.056	-650.4	27	114.6	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	-0.064	-390.6	12	110.2	2.5	
Sb	121	2	He	0.615	24.1	320	21.6	2.5	
Se	78	2	He	1.587	114.5	9	68.9	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	582219	1.43	610209	95.41	70	125	
In	115	1	nogas	716068	0.80	742039	96.50	70	125	
Li	6	1	nogas	232453	1.43	256544	90.61	70	125	
Bi	209	1	nogas	1063407	1.06	1099361	96.73	70	125	
Ge	72	2	He	32171	1.47	34709	92.69	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	369_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-06T00:57:47-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	105.593	1.941	169716	2.12	100	105.6	90	110	
B	11	1	nogas	492.956	3.866	411811	2.87	500	98.6	90	110	
Na	23	1	nogas	10057.273	1.481	49332528	0.72	10000	100.6	90	110	
Mg	24	1	nogas	9626.915	0.921	33135302	1.00	10000	96.3	90	110	
Al	27	1	nogas	69.107	0.966	452721	0.92	100	69.1	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	445.973	1.877	134102	1.30	500	89.2	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9631.696	1.002	36012802	1.11	10000	96.3	90	110	
Ca	43	1	nogas	9560.538	2.115	70850	1.75	10000	95.6	90	110	
Ca	44	1	nogas	9816.170	0.648	1169373	0.59	10000	98.2	90	110	
Ti	47	1	nogas	94.507	1.065	34965	1.46	100	94.5	90	110	
V	51	1	nogas	82.661	4.802	556559	3.91	100	82.7	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	96.251	0.103	454568	0.48	100	96.3	90	110	
Mn	55	1	nogas	96.659	2.035	586126	1.63	100	96.7	90	110	
Fe	56	1	nogas	9692.728	1.124	48421585	0.68	10000	96.9	90	110	
Co	59	1	nogas	97.494	1.280	473166	0.85	100	97.5	90	110	
Ni	60	1	nogas	99.063	0.809	107318	0.99	100	99.1	90	110	
Cu	63	1	nogas	97.079	0.533	262451	0.87	100	97.1	90	110	
Zn	66	1	nogas	97.757	0.665	89409	0.94	100	97.8	90	110	
As	75	1	nogas	87.772	2.757	98952	2.43	100	87.8	90	110	CCV Main CR1-2 Failed
Se	77	1	nogas	20.500	43.702	7258	4.65	100	20.5	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	86.527	6.237	4454	6.29	100	86.5	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	99.671	0.435	705151	0.02	100	99.7	90	110	
Mo	95	1	nogas	94.700	1.122	141381	0.87	100	94.7	90	110	
Ag	107	1	nogas	97.572	1.494	387680	1.29	100	97.6	90	110	
Cd	111	1	nogas	97.692	0.448	88562	0.18	100	97.7	90	110	
Sn	118	1	nogas	94.832	1.166	254008	0.74	100	94.8	90	110	
Sb	121	1	nogas	101.380	1.025	392266	0.58	100	101.4	90	110	
Ba	137	1	nogas	99.264	2.106	133198	1.88	100	99.3	90	110	
Tl	205	1	nogas	96.633	0.278	1112866	1.25	100	96.6	90	110	
Pb	208	1	nogas	98.373	1.820	858778	1.25	100	98.4	90	110	
U	238	1	nogas	95.945	3.116	2062597	1.98	100	95.9	90	110	
Li	7	1	nogas	107.137	1.436	442990	1.35	100	107.1	90	110	
Si	28	1	nogas	4966.317	0.230	10058887	0.23	5000	99.3	90	110	
Ba	135	1	nogas	97.843	2.285	76637	1.87	100	97.8	90	110	
La	139	1	nogas	138.678	25.501	190	22.94	100	138.7	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	429.133	59.085	20	50.00	100	429.1	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	98.180	1.244	463741	0.22	100	98.2	90	110	
Na	23	2	He	9712.977	2.435	1782334	2.28	10000	97.1	90	110	
Mg	24	2	He	9293.179	1.875	803351	1.49	10000	92.9	90	110	
Al	27	2	He	74.329	4.023	3390	4.54	100	74.3	90	110	CCV Main CR1-2 Failed
K	39	2	He	9359.076	1.643	419561	1.47	10000	93.6	90	110	
Ca	43	2	He	8814.710	14.068	1023	13.30	10000	88.1	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9624.379	4.613	17646	3.77	10000	96.2	90	110	
V	51	2	He	94.010	2.428	31956	1.38	100	94.0	90	110	
Cr	52	2	He	96.469	2.769	41647	1.31	100	96.5	90	110	
Mn	55	2	He	95.427	0.310	21073	1.42	100	95.4	90	110	
Fe	56	2	He	9331.481	1.052	3124795	0.58	10000	93.3	90	110	
Co	59	2	He	98.169	4.390	60693	2.75	100	98.2	90	110	
Ni	60	2	He	98.623	1.897	16939	2.91	100	98.6	90	110	
Cu	63	2	He	93.359	2.340	45320	0.68	100	93.4	90	110	
Zn	66	2	He	93.308	8.657	7899	9.26	100	93.3	90	110	
As	75	2	He	97.673	1.749	5269	1.69	100	97.7	90	110	
Sb	121	2	He	97.745	2.262	41777	2.05	100	97.7	90	110	
Se	78	2	He	76.995	7.904	275	6.19	100	77.0	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
Ge	72	1	nogas	560798	0.44	610209	91.90	70	125	
In	115	1	nogas	686618	0.43	742039	92.53	70	125	
Li	6	1	nogas	241760	0.78	256544	94.24	70	125	
Bi	209	1	nogas	994738	1.18	1099361	90.48	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	31666	1.62	34709	91.23	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	370_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-06T00:59:59-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	24.0	90	22.2	1	
B	11	1	nogas	35.207	24.7	49245	12.3	10	CCB Main CR1 Failed
Na	23	1	nogas	9.420	10.7	386966	0.7	100	
Mg	24	1	nogas	4.429	7.5	19482	7.5	100	
Al	27	1	nogas	-0.731	-6.7	5718	5.1	5	
P	31	1	nogas	2.115	4.1	10430	1.8	10	
K	39	1	nogas	20.934	43.6	1197824	1.4	100	
Ca	43	1	nogas	-7.310	-27.2	203	5.7	100	
Ca	44	1	nogas	5.579	167.4	10483	10.4	100	
Ti	47	1	nogas	0.077	151.5	63	71.2	2.5	
V	51	1	nogas	-12.113	-3.8	56907	3.6	2.5	
Cr	52	1	nogas	-0.429	-16.1	3767	7.9	2.5	
Mn	55	1	nogas	-0.006	-547.3	5468	2.1	2.5	
Fe	56	1	nogas	-0.590	-171.5	251920	1.8	100	
Co	59	1	nogas	0.047	24.1	313	19.5	2.5	
Ni	60	1	nogas	-0.229	-39.5	190	51.8	2.5	
Cu	63	1	nogas	-0.301	-20.2	1470	11.8	2.5	
Zn	66	1	nogas	-0.393	-19.0	180	40.1	2.5	
As	75	1	nogas	-10.890	-4.2	11307	3.9	2.5	
Se	77	1	nogas	-72.346	-9.6	3887	5.2	2.5	
Se	82	1	nogas	-0.030	-3830.8	257	22.8	2.5	
Sr	88	1	nogas	0.042	38.0	663	19.2	2.5	
Mo	95	1	nogas	0.033	143.7	113	66.2	2.5	
Ag	107	1	nogas	0.047	53.3	237	41.0	2.5	
Cd	111	1	nogas	0.022	186.1	27	142.0	1	
Sn	118	1	nogas	0.018	249.3	773	16.4	5	
Sb	121	1	nogas	1.227	8.7	5338	9.5	2.5	
Ba	137	1	nogas	-0.096	-30.7	137	29.6	2.5	
Tl	205	1	nogas	0.121	30.6	1573	28.6	1	
Pb	208	1	nogas	0.028	21.2	500	11.1	2.5	
U	238	1	nogas	0.042	8.9	1143	8.4	2.5	
Si	28	1	nogas	55.658	1.9	746024	2.0	5	CCB Main CR1 Failed
La	139	1	nogas	-1.558	-901.3	20	86.6	2.5	
Au	197	1	nogas	330.104	113.4	17	91.7	2.5	CCB Main CR1 Failed
Na	23	2	He	5.233	20.9	16178	0.8	100	
Mg	24	2	He	3.221	11.4	377	7.7	100	
Al	27	2	He	-1.358	-1.3	80	0.0	5	
K	39	2	He	2.610	403.7	6415	7.6	100	
Ca	43	2	He	27.566	173.2	3	173.2	100	
Ca	44	2	He	-20.378	-15.2	27	21.7	100	
V	51	2	He	-0.135	-71.2	95	34.4	2.5	
Cr	52	2	He	-0.105	-107.4	83	60.4	2.5	
Mn	55	2	He	0.031	446.2	67	45.8	2.5	
Fe	56	2	He	1.611	42.2	1737	14.2	100	
Co	59	2	He	0.033	166.4	37	95.8	2.5	
Ni	60	2	He	-0.425	-43.7	43	74.2	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.471	-15.5	197	19.3	2.5	
Zn	66	2	He	-0.140	-80.4	20	50.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	-0.150	-62.2	8	65.5	2.5	
Sb	121	2	He	1.181	17.2	577	16.5	2.5	
Se	78	2	He	1.878	59.5	11	39.0	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	567720	1.72	610209	93.04	70	125	
In	115	1	nogas	700837	1.57	742039	94.45	70	125	
Li	6	1	nogas	231310	1.50	256544	90.16	70	125	
Bi	209	1	nogas	1038212	1.15	1099361	94.44	70	125	
Ge	72	2	He	32805	1.00	34709	94.51	70	125	

Sample Report

Sample Table

Sample Name	LLICV2
Data File Name	371SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-06T01:02:12-06:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	289CALB.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	2.393	2.393	3.78	3634	0.07	2000	
B	11	1	nogas	14.071	14.071	8.68	32931	0.04	2000	
Na	23	1	nogas	207.556	207.556	0.63	1352839	0.02	200000	
Mg	24	1	nogas	207.926	207.926	0.63	723295	0.03	200000	
Al	27	1	nogas	2.794	2.794	2.41	28497	0.01	2000	
K	39	1	nogas	237.926	237.926	1.51	1989849	0.01	200000	
Ca	43	1	nogas	195.331	195.331	8.24	1713	11.40	200000	
Ca	44	1	nogas	216.963	216.963	2.61	35684	0.61	200000	
Ti	47	1	nogas	2.288	2.288	22.69	887	0.26	2000	
V	51	1	nogas	-9.538	-9.538	-6.98	70494	-0.01	2000	
Cr	52	1	nogas	1.536	1.536	1.43	13015	0.01	2000	
Mn	55	1	nogas	2.279	2.279	2.01	19321	0.01	2000	
Fe	56	1	nogas	230.381	230.381	1.58	1410969	0.02	200000	
Co	59	1	nogas	2.047	2.047	4.36	10113	0.02	2000	
Ni	60	1	nogas	1.830	1.830	4.58	2434	0.08	2000	
Cu	63	1	nogas	2.773	2.773	5.06	9786	0.03	2000	
Zn	66	1	nogas	2.574	2.574	16.08	2904	0.09	2000	
As	75	1	nogas	-7.270	-7.270	-17.06	14533	-0.05	2000	
Se	77	1	nogas	-63.920	-63.920	-13.79	4197	-1.52	2000	
Se	82	1	nogas	0.873	0.873	44.74	300	0.29	2000	
Sr	88	1	nogas	2.032	2.032	0.79	14870	0.01	2000	
Mo	95	1	nogas	2.028	2.028	4.42	3117	0.07	2000	
Ag	107	1	nogas	2.184	2.184	0.54	8813	0.02	2000	
Cd	111	1	nogas	1.908	1.908	5.93	1723	0.11	2000	
Sn	118	1	nogas	1.991	1.991	2.82	5985	0.03	2000	
Sb	121	1	nogas	3.033	3.033	4.14	12372	0.02	2000	
Ba	137	1	nogas	2.250	2.250	4.34	3254	0.07	2000	
Tl	205	1	nogas	2.046	2.046	1.41	24243	0.01	2000	
Pb	208	1	nogas	2.133	2.133	2.50	19306	0.01	2000	
U	238	1	nogas	1.955	1.955	1.46	43246	0.00	2000	
Si	28	1	nogas	130.600	130.600	7.23	887869	0.01	2000	
La	139	1	nogas	67.980	67.980	7.21	103	65.79	2000	
Au	197	1	nogas	330.945	330.945	153.10	17	1985.67	2000	
Na	23	2	He	206.309	206.309	2.41	52892	0.39	200000	
Mg	24	2	He	198.007	198.007	2.91	17426	1.14	200000	
Al	27	2	He	1.087	1.087	113.76	187	0.58	2000	
K	39	2	He	210.197	210.197	3.57	15564	1.35	200000	
Ca	43	2	He	56.701	56.701	173.21	7	850.52	200000	
Ca	44	2	He	181.579	181.579	21.32	400	45.39	200000	
V	51	2	He	1.935	1.935	8.41	803	0.24	2000	

Sample Report

Cr	52	2	He	1.872	1.872	15.21	943	0.20	2000	
Mn	55	2	He	1.665	1.665	9.84	430	0.39	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Fe	56	2	He	200.861	200.861	1.05	69268	0.29	200000	
Co	59	2	He	2.088	2.088	2.60	1323	0.16	2000	
Ni	60	2	He	1.992	1.992	25.46	460	0.43	2000	
Cu	63	2	He	2.446	2.446	17.73	1613	0.15	2000	
Zn	66	2	He	2.052	2.052	23.05	207	0.99	2000	
As	75	2	He	1.628	1.628	38.17	104	1.56	2000	
Sb	121	2	He	2.654	2.654	34.40	1200	0.22	2000	
Se	78	2	He	3.258	3.258	39.62	15	21.25	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	566449	1.43	610209	92.83	70	125	
In	115	1	nogas	681895	0.14	742039	91.89	70	125	
Li	6	1	nogas	228235	0.89	256544	88.97	70	125	
Bi	209	1	nogas	1018527	1.30	1099361	92.65	70	125	
Ge	72	2	He	32077	0.13	34709	92.42	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	LLICV5
Data File Name	372LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-06T01:04:23-06:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	6.205	0.350	9633	1.37	5	124.1	70	130	
B	11	1	nogas	24.429	8.356	41545	2.59	25	97.7	70	130	
Na	23	1	nogas	523.392	0.792	2954037	1.17	500	104.7	70	130	
Mg	24	1	nogas	520.422	1.206	1838151	1.24	500	104.1	70	130	
Al	27	1	nogas	5.726	3.174	47905	2.07	5	114.5	70	130	
P	31	1	nogas	28.971	0.705	18143	0.76	25	115.9	70	130	
K	39	1	nogas	518.238	1.039	3044393	0.91	500	103.6	70	130	
Ca	43	1	nogas	500.334	2.990	4027	2.90	500	100.1	70	130	
Ca	44	1	nogas	526.206	2.663	73270	1.85	500	105.2	70	130	
Ti	47	1	nogas	4.977	5.396	1910	5.76	5	99.5	70	130	
V	51	1	nogas	-5.956	-19.659	90454	6.52	5	-119.1	70	130	LLICV Main CR1 Failed
Cr	52	1	nogas	4.783	2.313	28577	1.38	5	95.7	70	130	
Mn	55	1	nogas	5.217	1.123	37508	1.33	5	104.3	70	130	
Fe	56	1	nogas	528.934	2.724	2936838	2.03	500	105.8	70	130	
Co	59	1	nogas	5.100	2.238	25312	1.91	5	102.0	70	130	
Ni	60	1	nogas	5.067	2.987	6018	2.86	5	101.3	70	130	
Cu	63	1	nogas	4.856	3.106	15574	2.49	5	97.1	70	130	
Zn	66	1	nogas	5.608	7.915	5744	7.62	5	112.2	70	130	
As	75	1	nogas	-3.268	-10.375	18304	2.03	5	-65.4	70	130	LLICV Main CR1 Failed
Se	77	1	nogas	-45.262	-22.053	4934	7.74	5	-905.2	70	130	LLICV Main CR1 Failed
Se	82	1	nogas	4.520	38.125	483	17.60	5	90.4	70	130	
Sr	88	1	nogas	5.150	1.247	37492	1.70	5	103.0	70	130	
Mo	95	1	nogas	4.849	1.641	7442	2.09	5	97.0	70	130	
Ag	107	1	nogas	5.347	4.612	21714	5.02	5	106.9	70	130	
Cd	111	1	nogas	5.248	1.531	4877	1.95	5	105.0	70	130	
Sn	118	1	nogas	4.975	0.521	14333	1.00	5	99.5	70	130	
Sb	121	1	nogas	5.939	5.046	23934	4.47	5	118.8	70	130	
Ba	137	1	nogas	5.383	4.374	7649	3.36	5	107.7	70	130	
Tl	205	1	nogas	4.909	1.753	59371	1.40	5	98.2	70	130	
Pb	208	1	nogas	5.033	1.087	46297	1.38	5	100.7	70	130	
U	238	1	nogas	4.911	1.280	110877	0.41	5	98.2	70	130	
Li	7	1	nogas	5.895	3.485	41525	2.88	5	117.9	70	130	
Si	28	1	nogas	361.442	4.743	1343152	2.11	25	1445.8	70	130	LLICV Main CR1 Failed
La	139	1	nogas	65.328	30.424	103	24.35	5	1306.6	70	130	LLICV Main CR1 Failed
Au	197	1	nogas	-76.571	0.000	0	#DIV/0!	5	-1531.4	70	130	LLICV Main CR1 Failed
Na	23	2	He	507.086	2.902	106346	1.02	500	101.4	70	130	
Mg	24	2	He	498.367	3.626	42919	2.71	500	99.7	70	130	
Al	27	2	He	4.765	26.318	343	16.04	5	95.3	70	130	
K	39	2	He	508.222	5.625	28363	2.94	500	101.6	70	130	
Ca	43	2	He	604.287	41.757	70	42.86	500	120.9	70	130	
Ca	44	2	He	527.594	14.765	1020	12.25	500	105.5	70	130	
V	51	2	He	4.788	6.180	1747	4.20	5	95.8	70	130	
Cr	52	2	He	5.413	6.238	2444	7.21	5	108.3	70	130	
Mn	55	2	He	5.293	6.382	1217	6.38	5	105.9	70	130	
Fe	56	2	He	506.275	3.564	169633	2.13	500	101.3	70	130	
Co	59	2	He	4.955	5.986	3060	4.58	5	99.1	70	130	
Ni	60	2	He	4.811	0.959	930	1.86	5	96.2	70	130	
Cu	63	2	He	4.493	6.844	2564	5.75	5	89.9	70	130	
Zn	66	2	He	5.681	10.016	507	7.98	5	113.6	70	130	
As	75	2	He	4.967	5.429	281	4.79	5	99.3	70	130	
Sb	121	2	He	6.162	5.851	2667	5.11	5	123.2	70	130	
Se	78	2	He	6.966	25.460	28	21.43	5	139.3	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
Ge	72	1	nogas	571803	0.46	610209	93.71	70	125	
In	115	1	nogas	703053	1.09	742039	94.75	70	125	
Li	6	1	nogas	233452	1.18	256544	91.00	70	125	
Bi	209	1	nogas	1042662	0.88	1099361	94.84	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Ge	72	2	He	31493	1.66	34709	90.73	70	125	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	373ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-06T01:06:35-06:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	122.8	23	107.9	0	ICSA Main CR1 Failed
B	11	1	nogas	-2.833	-106.0	20122	10.2	0	ICSA Main CR1 Failed
Na	23	1	nogas	94979.647	0.4	477115261	0.3	0	
Mg	24	1	nogas	93083.447	0.5	330052174	0.2	0	
Al	27	1	nogas	60958.740	1.0	398139207	0.8	0	
P	31	1	nogas	80362.612	1.0	22879562	1.1	0	
K	39	1	nogas	96311.891	0.6	357228708	0.6	0	
Ca	43	1	nogas	94146.884	0.5	709555	0.6	0	
Ca	44	1	nogas	93746.316	0.7	11309384	0.8	0	
Ti	47	1	nogas	1944.657	0.7	733359	0.7	0	
V	51	1	nogas	-19.178	-0.6	19315	2.9	0	ICSA Main CR1 Failed
Cr	52	1	nogas	-0.295	-20.3	4437	6.3	0	ICSA Main CR1 Failed
Mn	55	1	nogas	0.279	22.4	7262	5.4	0	ICSA Main CR1 Failed
Fe	56	1	nogas	95956.940	0.6	486801678	0.5	0	
Co	59	1	nogas	0.070	6.0	427	4.9	0	ICSA Main CR1 Failed
Ni	60	1	nogas	0.506	16.4	1000	9.0	0	ICSA Main CR1 Failed
Cu	63	1	nogas	0.413	28.5	3434	9.3	0	ICSA Main CR1 Failed
Zn	66	1	nogas	1.023	9.7	1493	6.1	0	ICSA Main CR1 Failed
As	75	1	nogas	-14.695	-1.7	7942	2.9	0	ICSA Main CR1 Failed
Se	77	1	nogas	-104.935	-0.3	2697	0.4	0	ICSA Main CR1 Failed
Se	82	1	nogas	-0.132	-471.1	253	12.1	0	ICSA Main CR1 Failed
Sr	88	1	nogas	0.914	0.6	6958	0.6	0	ICSA Main CR1 Failed
Mo	95	1	nogas	1968.689	2.3	2997429	2.2	0	
Ag	107	1	nogas	0.035	62.5	193	46.4	0	ICSA Main CR1 Failed
Cd	111	1	nogas	0.716	19.3	653	19.4	0	ICSA Main CR1 Failed
Sn	118	1	nogas	0.036	152.6	803	17.7	0	ICSA Main CR1 Failed
Sb	121	1	nogas	0.582	8.0	2830	6.5	0	ICSA Main CR1 Failed
Ba	137	1	nogas	-0.019	-150.0	237	16.0	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.009	34.0	227	16.7	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.092	14.3	1037	10.3	0	ICSA Main CR1 Failed
Si	28	1	nogas	55.611	6.9	751734	1.0	0	
La	139	1	nogas	75.904	13.0	113	10.2	0	
Na	23	2	He	94155.623	1.2	16752306	0.3	0	
Mg	24	2	He	91595.800	0.7	7734952	2.0	0	
Al	27	2	He	64935.584	1.2	2776360	1.6	0	
K	39	2	He	95811.391	1.4	4140724	1.0	0	
Ca	43	2	He	87734.478	7.7	9960	8.0	0	
Ca	44	2	He	96526.219	1.0	172360	1.1	0	
V	51	2	He	-0.277	-7.2	43	16.5	0	ICSA Main CR1 Failed
Cr	52	2	He	0.239	19.1	223	9.3	0	ICSA Main CR1 Failed
Mn	55	2	He	0.234	51.3	107	23.6	0	ICSA Main CR1 Failed
Fe	56	2	He	92210.902	1.1	30152573	0.6	0	
Co	59	2	He	0.031	61.6	33	34.6	0	ICSA Main CR1 Failed
Ni	60	2	He	-0.349	-56.7	53	60.3	0	ICSA Main CR1 Failed
Cu	63	2	He	-0.083	-231.8	367	23.8	0	ICSA Main CR1 Failed
Zn	66	2	He	1.287	33.7	137	27.7	0	ICSA Main CR1 Failed
As	75	2	He	-0.205	-35.7	4	86.6	0	ICSA Main CR1 Failed
Sb	121	2	He	0.445	41.7	237	33.9	0	ICSA Main CR1 Failed
Se	78	2	He	3.218	25.9	15	20.8	0	ICSA Main CR1 Failed

Interference Check Solution A (ICS-A) Report

Interference Check Solution A (ICS-A) Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	572151	0.13	610209	93.76	70	125	
In	115	1	nogas	684734	0.97	742039	92.28	70	125	
Li	6	1	nogas	225615	0.74	256544	87.94	70	125	
Bi	209	1	nogas	993099	0.90	1099361	90.33	70	125	
Ge	72	2	He	30932	1.46	34709	89.12	70	125	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	374ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-06T01:08:53-06:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	108.068	2.082	172441	0.72	100	108.1	80	120	
B	11	1	nogas	561.579	1.543	462586	0.55	100	561.6	80	120	
Na	23	1	nogas	104394.968	1.231	528053828	0.96	100	104395.0	80	120	
Mg	24	1	nogas	102442.941	0.729	365791767	0.60	100	102442.9	80	120	
Al	27	1	nogas	61486.341	0.225	399746341	0.23	100	61486.3	80	120	ICSB Main CR1 Failed
K	39	1	nogas	106422.678	1.334	392798050	1.24	100	106422.7	80	120	
Ca	43	1	nogas	104172.183	0.185	781483	0.29	100	104172.2	80	120	
Ca	44	1	nogas	102946.955	1.599	12361326	1.59	100	102947.0	80	120	
Ti	47	1	nogas	2046.790	0.217	768338	0.51	100	2046.8	80	120	
V	51	1	nogas	79.104	1.814	546121	1.16	100	79.1	80	120	
Cr	52	1	nogas	95.115	1.079	456261	0.94	100	95.1	80	120	
Mn	55	1	nogas	97.237	1.014	598798	0.68	100	97.2	80	120	
Fe	56	1	nogas	105841.403	2.144	534436962	1.83	100	105841.4	80	120	
Co	59	1	nogas	97.387	1.178	480012	0.91	100	97.4	80	120	
Ni	60	1	nogas	96.586	1.336	106272	1.18	100	96.6	80	120	
Cu	63	1	nogas	96.868	1.036	265957	0.88	100	96.9	80	120	
Zn	66	1	nogas	99.066	1.847	92009	1.84	100	99.1	80	120	
As	75	1	nogas	86.055	0.415	98939	0.62	100	86.1	80	120	
Se	77	1	nogas	3.825	38.077	6748	0.76	100	3.8	80	120	
Se	82	1	nogas	99.625	4.697	5168	4.15	100	99.6	80	120	
Sr	88	1	nogas	101.522	0.564	729426	0.40	100	101.5	80	120	
Mo	95	1	nogas	2051.043	0.653	3108505	0.51	100	2051.0	80	120	
Ag	107	1	nogas	96.372	0.793	388891	1.07	100	96.4	80	120	
Cd	111	1	nogas	100.607	1.069	91793	1.64	100	100.6	80	120	
Sn	118	1	nogas	101.091	1.488	272456	1.09	100	101.1	80	120	
Sb	121	1	nogas	101.864	0.795	400280	0.67	100	101.9	80	120	
Ba	137	1	nogas	102.398	1.644	138270	1.07	100	102.4	80	120	
Tl	205	1	nogas	97.255	1.305	1113766	1.36	100	97.3	80	120	
Pb	208	1	nogas	99.975	0.177	867988	0.85	100	100.0	80	120	
U	238	1	nogas	101.670	2.392	2174002	2.52	100	101.7	80	120	
Si	28	1	nogas	5129.705	0.286	10530617	0.59	100	5129.7	80	120	ICSB Main CR1 Failed
La	139	1	nogas	293.480	29.851	380	27.73	100	293.5	80	120	ICSB Main CR1 Failed
Na	23	2	He	104918.756	2.707	18157231	0.11	100	104918.8	80	120	
Mg	24	2	He	104142.711	2.738	8553853	0.94	100	104142.7	80	120	ICSB Main CR1 Failed
Al	27	2	He	65832.234	3.869	2737239	1.23	100	65832.2	80	120	ICSB Main CR1 Failed
K	39	2	He	105636.428	2.828	4440310	0.60	100	105636.4	80	120	
Ca	43	2	He	100014.885	5.539	11037	3.17	100	100014.9	80	120	ICSB Main CR1 Failed
Ca	44	2	He	109544.293	1.984	190284	0.69	100	109544.3	80	120	ICSB Main CR1 Failed
V	51	2	He	100.219	1.637	32372	1.12	100	100.2	80	120	
Cr	52	2	He	100.565	0.501	41276	2.86	100	100.6	80	120	
Mn	55	2	He	97.956	1.480	20556	1.31	100	98.0	80	120	
Fe	56	2	He	104790.144	2.996	33330367	0.37	100	104790.1	80	120	ICSB Main CR1 Failed
Co	59	2	He	100.701	3.844	59168	1.40	100	100.7	80	120	
Ni	60	2	He	94.960	5.581	15494	3.92	100	95.0	80	120	
Cu	63	2	He	99.134	4.241	45701	2.19	100	99.1	80	120	
Zn	66	2	He	102.594	3.982	8252	5.39	100	102.6	80	120	
As	75	2	He	101.858	6.299	5222	6.59	100	101.9	80	120	
Sb	121	2	He	103.756	0.161	42154	2.53	100	103.8	80	120	
Se	78	2	He	93.935	1.741	318	2.74	100	93.9	80	120	

QC ISTD Table

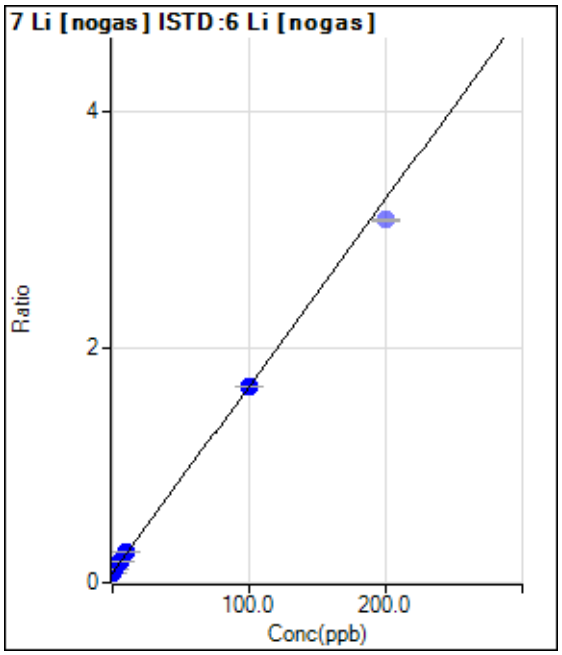
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	569529	0.33	610209	93.33	70	125	
In	115	1	nogas	691014	0.58	742039	93.12	70	125	
Li	6	1	nogas	240070	1.63	256544	93.58	70	125	
Bi	209	1	nogas	989193	0.80	1099361	89.98	70	125	
Ge	72	2	He	30100	2.66	34709	86.72	70	125	

Calibration for 026_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\010518A.b\
Analysis File: 010518A.batch.bin
DA Date-Time: 1/5/2018 10:38:02 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	020CALB.d	CAL BLK	1/5/2018 11:13:19 AM
2	021CALS.d	2/10/200	1/5/2018 11:15:31 AM
3	022CALS.d	5/25/500	1/5/2018 11:17:43 AM
4	023CALS.d	10/50/1000	1/5/2018 11:19:54 AM
5	024CALS.d	100/500/10K	1/5/2018 11:22:05 AM
6	025CALS.d	200/1000/20K	1/5/2018 11:24:17 AM
7			

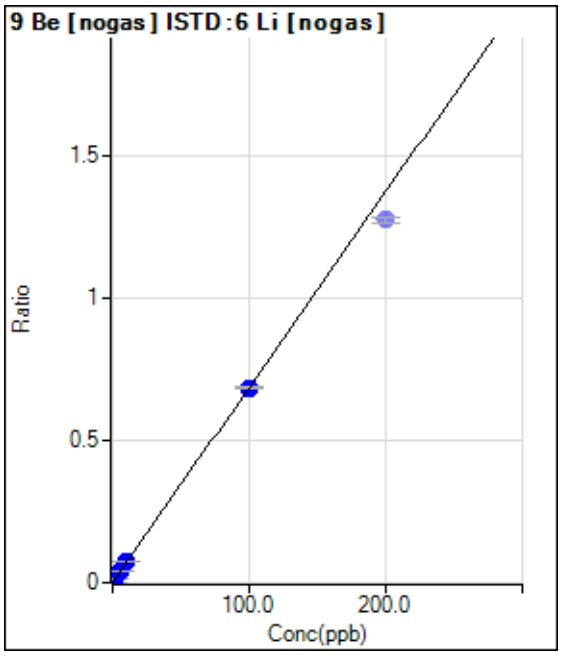
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	17395.34	0.0823	P	4.1
2	☐	2.000	2.334	25491.65	0.1193	P	3.2
3	☐	5.000	5.866	36246.89	0.1754	P	3.2
4	☐	10.000	11.065	53794.40	0.2579	P	0.8
5	☐	100.000	99.844	375027.73	1.6670	P	0.4
6	☑	200.000		732070.66	3.0826	P	0.6
7	☐	1.000					

y = 0.0159 * x + 0.0823
R = 0.9999
DL = 0.6306
BEC = 5.183

Weight: <None>
Min Conc: <None>

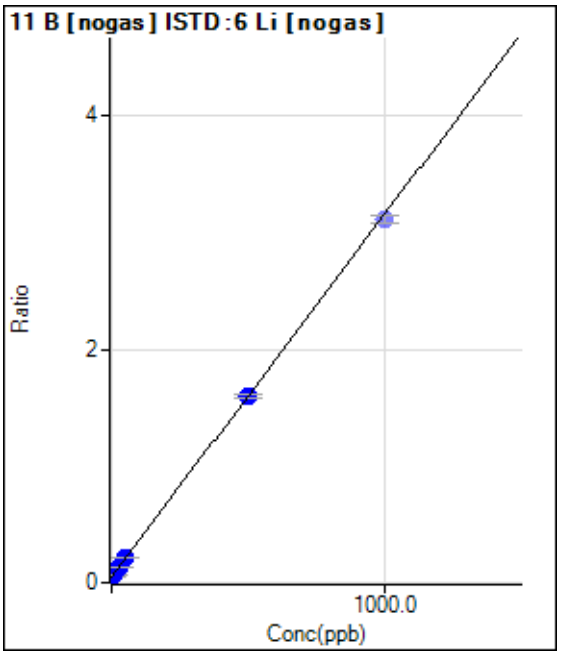


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0000	P	100.
2	☐	2.000	2.017	2966.97	0.0139	P	7.0
3	☐	5.000	5.601	7951.88	0.0385	P	3.8
4	☐	10.000	10.868	15550.29	0.0746	P	5.8
5	☐	100.000	99.883	154114.62	0.6851	P	1.4
6	☑	200.000		302651.92	1.2745	P	1.5
7	☐	1.000					

y = 0.0069 * x + 4.7682E-005
R = 1.0000
DL = 0.02096
BEC = 0.006953

Weight: <None>
Min Conc: <None>

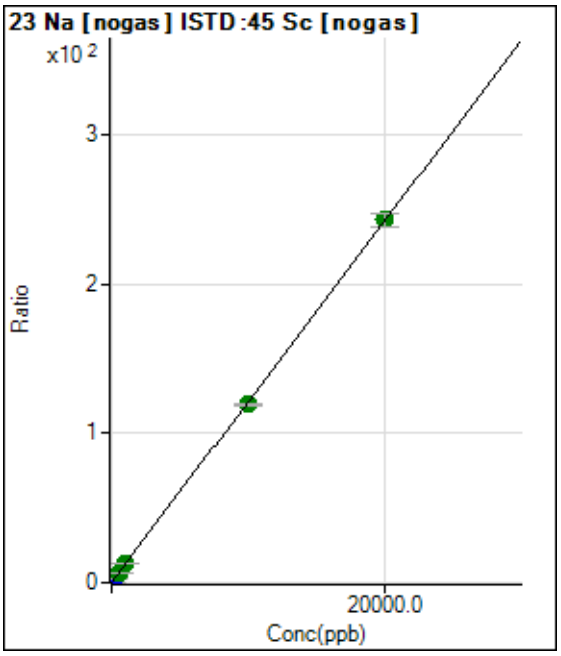
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10213.09	0.0483	P	6.7
2	☐	10.000	7.522	15320.11	0.0717	P	0.7
3	☐	25.000	25.795	26550.05	0.1285	P	4.1
4	☐	50.000	52.652	44201.42	0.2119	P	3.5
5	☐	500.000	499.745	360267.47	1.6012	P	2.2
6	☑	1000.000		738368.79	3.1097	P	2.3
7	☐	5.000					

y = 0.0031 * x + 0.0483
R = 1.0000
DL = 3.112
BEC = 15.55

Weight: <None>
Min Conc: <None>

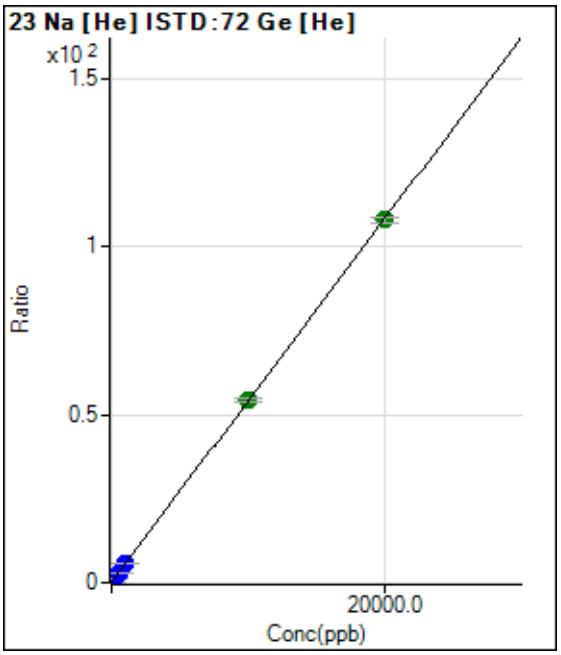


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	64798.50	0.1850	P	2.3
2	☐	200.000	219.412	985287.75	2.8379	P	2.1
3	☐	500.000	538.050	2361000.18	6.6904	A	0.9
4	☐	1000.000	1035.852	4522233.05	12.7091	A	1.5
5	☐	10000.00	9856.495	42045198.86	119.355	A	1.4
6	☐	20000.00	20068.815	85407743.58	242.828	A	3.6
7	☐	100.000					

y = 0.0121 * x + 0.1850
R = 1.0000
DL = 1.034
BEC = 15.3

Weight: <None>
Min Conc: <None>

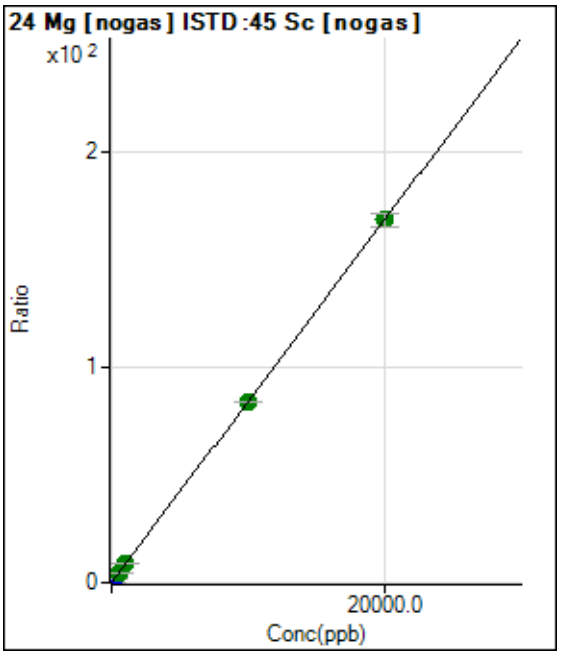
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3467.08	0.1174	P	6.6
2	☐	200.000	214.878	36885.26	1.2797	P	3.8
3	☐	500.000	521.511	87423.70	2.9384	P	0.7
4	☐	1000.000	1052.236	174307.43	5.8092	P	1.8
5	☐	10000.00	10081.109	1610580.50	54.6489	A	1.9
6	☐	20000.00	19956.147	3148098.91	108.065	A	1.3
7	☐	100.000					

y = 0.0054 * x + 0.1174
R = 1.0000
DL = 4.304
BEC = 21.7

Weight: <None>
Min Conc: <None>

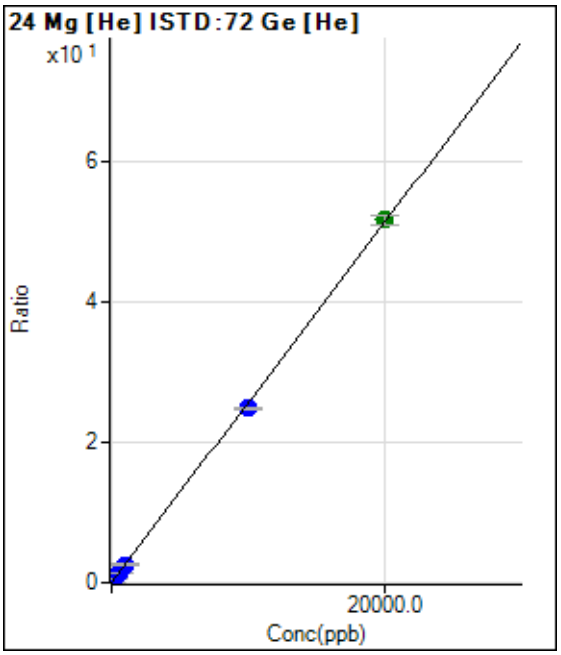


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2100.65	0.0060	P	69.4
2	☐	200.000	220.498	645769.06	1.8598	P	0.9
3	☐	500.000	550.671	1636029.07	4.6357	A	1.8
4	☐	1000.000	1062.372	3179377.29	8.9377	A	2.4
5	☐	10000.00	9980.488	29561655.87	83.9157	A	0.6
6	☐	20000.00	20005.166	59159561.74	168.197	A	3.4
7	☐	100.000					

y = 0.0084 * x + 0.0060
R = 1.0000
DL = 1.48
BEC = 0.7111

Weight: <None>
Min Conc: <None>

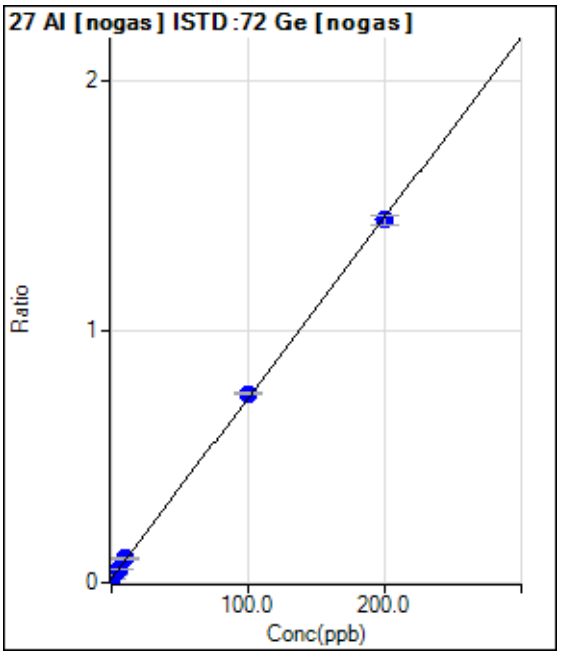
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36.67	0.0012	P	83.0
2	☐	200.000	203.031	15066.65	0.5229	P	5.5
3	☐	500.000	506.345	38742.82	1.3021	P	1.6
4	☐	1000.000	1010.580	77940.53	2.5976	P	1.9
5	☐	10000.00	9690.079	733773.40	24.8965	P	1.4
6	☐	20000.00	20154.243	1508187.01	51.7805	A	2.4
7	☐	100.000					

y = 0.0026 * x + 0.0012
R = 0.9998
DL = 1.201
BEC = 0.4821

Weight: <None>
Min Conc: <None>

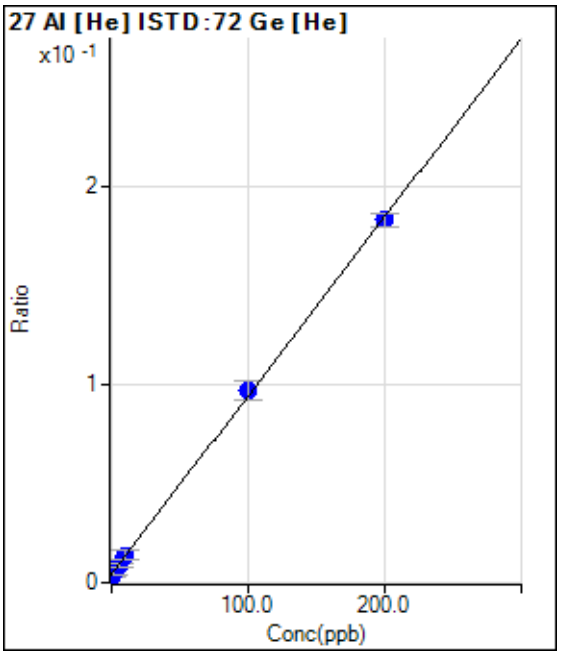


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8435.50	0.0161	P	3.5
2	☐	2.000	1.740	15070.09	0.0286	P	3.5
3	☐	5.000	5.111	28216.07	0.0529	P	1.2
4	☐	10.000	11.095	51040.65	0.0959	P	1.2
5	☐	100.000	102.543	397458.86	0.7534	P	0.9
6	☐	200.000	198.674	758098.66	1.4446	P	2.7
7	☐	1.000					

y = 0.0072 * x + 0.0161
R = 0.9999
DL = 0.2389
BEC = 2.244

Weight: <None>
Min Conc: <None>

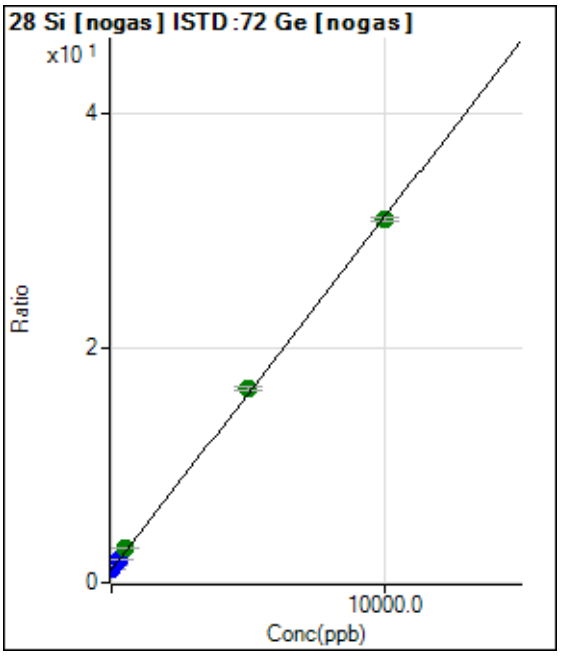
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-1.390	90.00	0.0030	P	38.4
2	☐	2.000	1.132	153.34	0.0053	P	48.8
3	☐	5.000	5.034	263.34	0.0088	P	25.4
4	☐	10.000	10.775	420.02	0.0140	P	33.7
5	☐	100.000	102.960	2866.96	0.0972	P	9.7
6	☐	200.000	198.489	5344.25	0.1834	P	3.7
7	☐	1.000					

y = 9.0223E-004 * x + 0.0043
R = 0.9998
DL = 3.89
BEC = 4.768

Weight: <None>
Min Conc: <None>

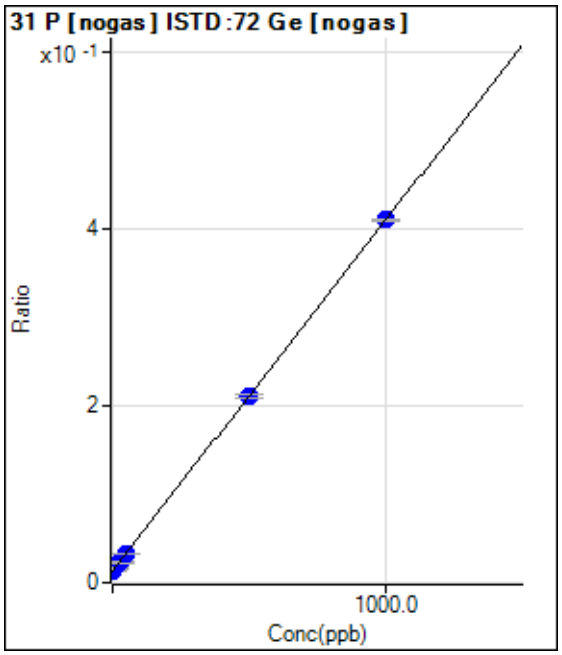


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	566648.29	1.0836	P	1.5
2	☐	100.000	108.729	742259.16	1.4111	P	1.2
3	☐	250.000	276.310	1022196.34	1.9158	P	0.2
4	☐	500.000	636.349	1596541.44	3.0001	A	1.3
5	☐	5000.000	5146.058	8746590.08	16.5818	A	2.2
6	☐	10000.00	9919.409	16246758.93	30.9574	A	1.1
7	☐	50.000					

y = 0.0030 * x + 1.0836
R = 0.9998
DL = 16.37
BEC = 359.8

Weight: <None>
Min Conc: <None>

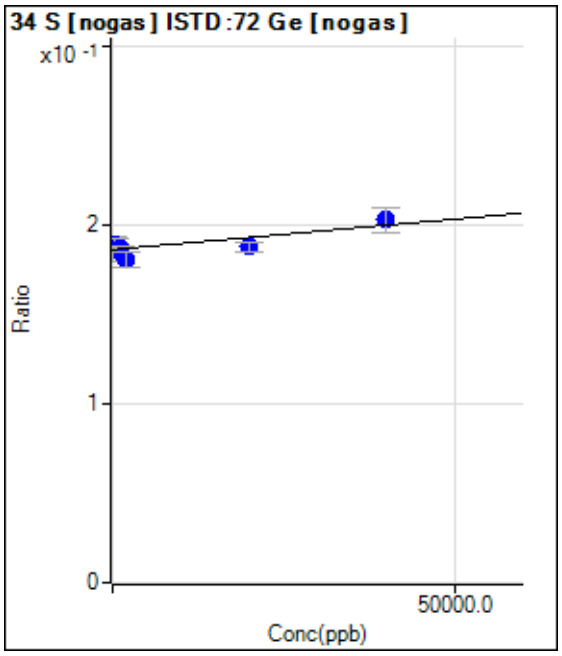
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6968.20	0.0133	P	5.9
2	☐	10.000	7.537	8575.62	0.0163	P	7.4
3	☐	25.000	24.100	12197.74	0.0229	P	4.3
4	☐	50.000	49.505	17518.98	0.0329	P	3.6
5	☐	500.000	497.367	110878.78	0.2102	P	1.8
6	☐	1000.000	1001.388	215033.89	0.4097	P	0.6
7	☐	5.000					

y = 3.9584E-004 * x + 0.0133
R = 1.0000
DL = 5.934
BEC = 33.66

Weight: <None>
Min Conc: <None>

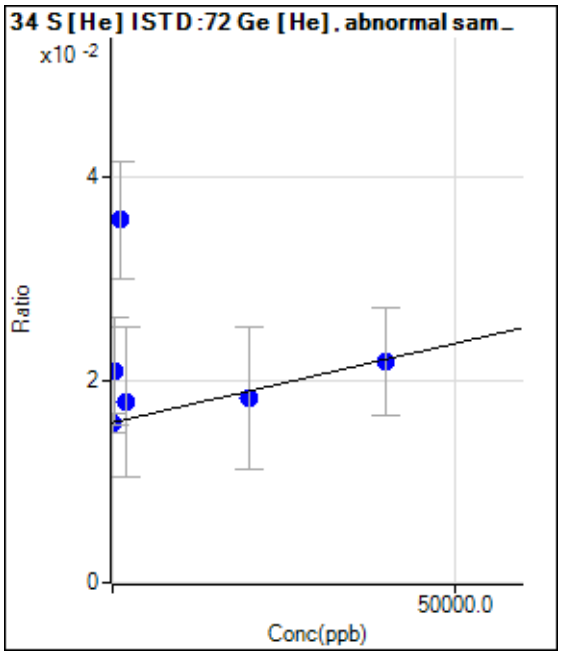


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	97522.72	0.1865	P	7.7
2	☐	400.000	7814.741	99468.60	0.1891	P	3.5
3	☐	1000.000	3392.791	100103.57	0.1876	P	0.5
4	☐	2000.000	-17073.366	96115.02	0.1806	P	4.5
5	☐	20000.00	4349.759	99130.86	0.1879	P	2.5
6	☐	40000.00	48644.821	106537.02	0.2030	P	6.8
7	☐	200.000					

y = 3.4108E-007 * x + 0.1865
R = 0.8456
DL = 1.26E+05
BEC = 5.467E+05

Weight: <None>
Min Conc: <None>

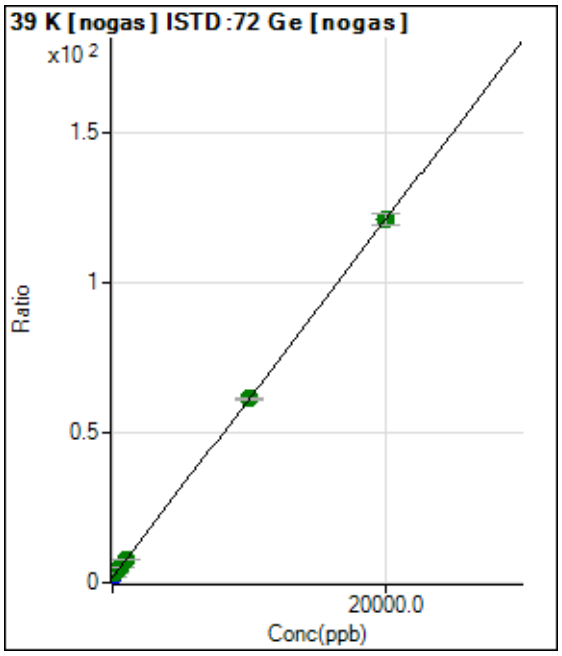
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	466.78	0.0158	P	12.5
2	☐	400.000	32927.848	600.16	0.0209	P	50.8
3	☐	1000.000	128286.117	1066.95	0.0358	P	32.4
4	☐	2000.000	12653.710	533.45	0.0178	P	83.5
5	☐	20000.00	15562.284	533.45	0.0182	P	77.3
6	☐	40000.00	38178.741	633.50	0.0218	P	48.7
7	☐	200.000					

y = 1.5592E-007 * x + 0.0158
R = -0.1055
DL = 3.793E+04
BEC = 1.014E+05

Weight: <None>
Min Conc: <None>

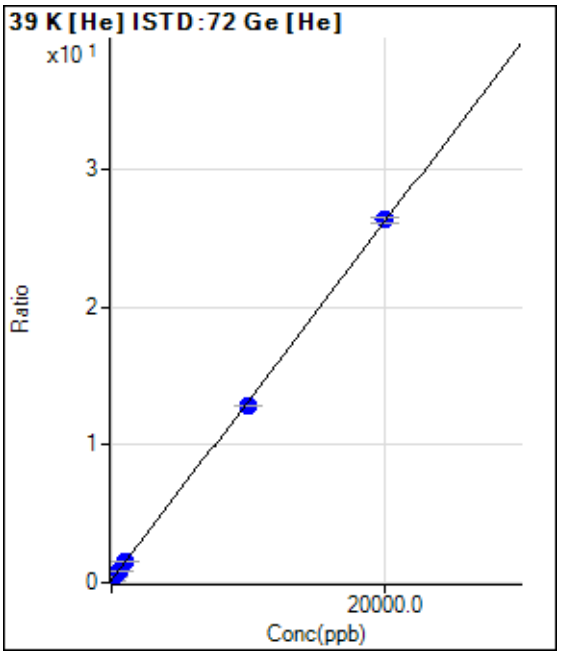


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	867942.57	1.6598	P	0.9
2	☐	200.000	221.809	1569294.34	2.9832	A	0.5
3	☐	500.000	541.887	2610670.56	4.8929	A	0.8
4	☐	1000.000	1059.215	4246746.45	7.9795	A	0.7
5	☐	10000.00	10003.895	32361531.97	61.3469	A	0.7
6	☐	20000.00	19993.826	63469378.50	120.950	A	3.0
7	☐	100.000					

y = 0.0060 * x + 1.6598
R = 1.0000
DL = 7.677
BEC = 278.2

Weight: <None>
Min Conc: <None>

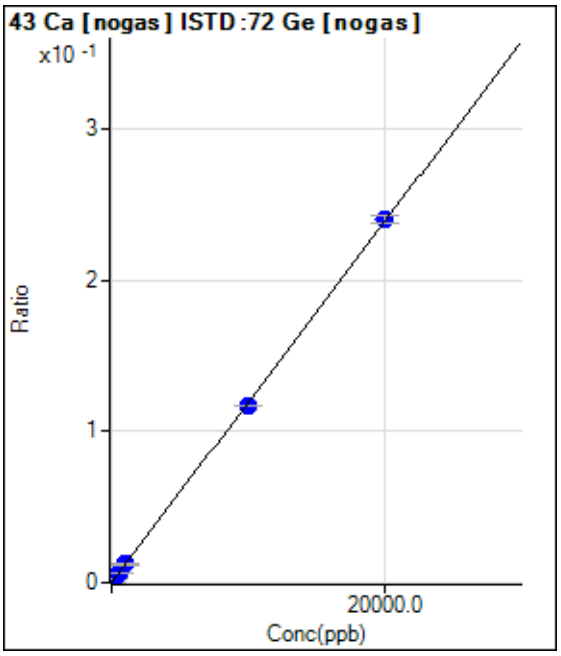
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5360.92	0.1816	P	5.5
2	☐	200.000	201.535	12788.24	0.4438	P	5.0
3	☐	500.000	503.154	24878.11	0.8362	P	3.7
4	☐	1000.000	1036.133	45886.97	1.5297	P	3.8
5	☐	10000.00	9751.885	379359.24	12.8698	P	0.8
6	☐	20000.00	20122.156	767878.24	26.3626	P	1.5
7	☐	100.000					

y = 0.0013 * x + 0.1816
R = 0.9999
DL = 22.95
BEC = 139.6

Weight: <None>
Min Conc: <None>

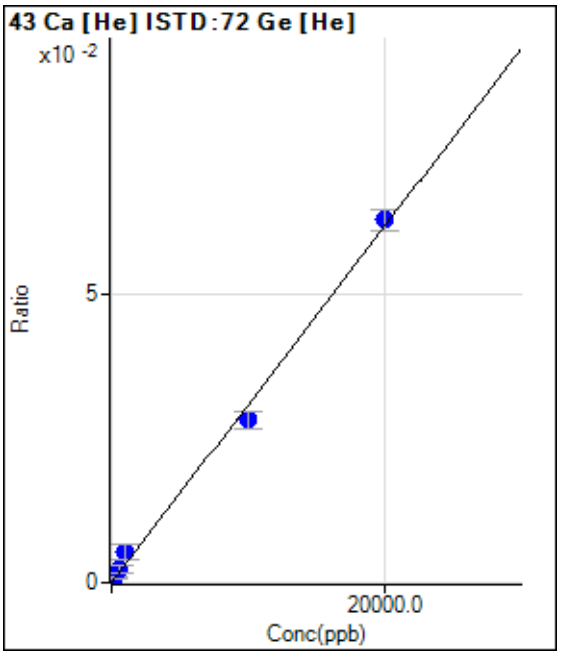


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	93.33	0.0002	P	60.9
2	☐	200.000	227.371	1520.10	0.0029	P	8.9
3	☐	500.000	537.611	3517.10	0.0066	P	1.7
4	☐	1000.000	1020.407	6571.38	0.0124	P	5.8
5	☐	10000.00	9775.512	61611.92	0.1168	P	0.4
6	☐	20000.00	20110.010	125990.07	0.2401	P	2.0
7	☐	100.000					

y = 1.1929E-005 * x + 1.7828E-004
R = 0.9999
DL = 27.3
BEC = 14.95

Weight: <None>
Min Conc: <None>

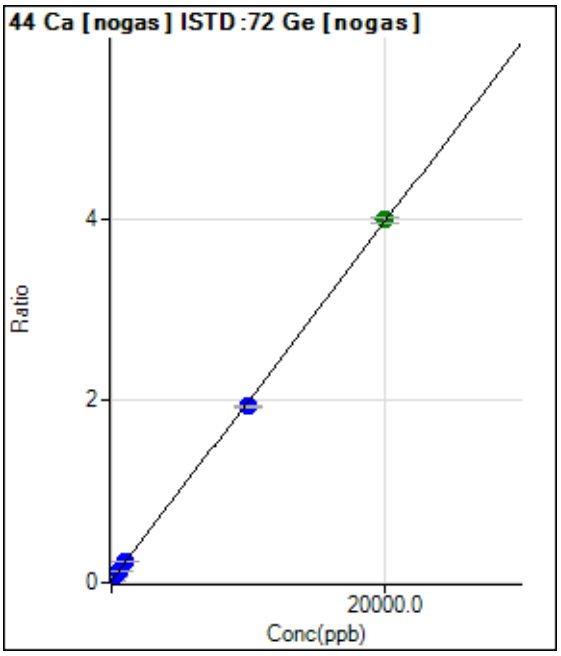
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	0.00	0.0000	P	
2	☐	200.000	262.321	23.33	0.0008	P	25.3
3	☐	500.000	763.804	70.00	0.0024	P	57.7
4	☐	1000.000	1685.717	156.67	0.0052	P	50.5
5	☐	10000.00	9168.473	833.37	0.0283	P	10.7
6	☐	20000.00	20374.259	1833.48	0.0629	P	6.1
7	☐	100.000					

y = 3.0875E-006 * x + 0.0000E+000
R = 0.9980
DL = 0
BEC = 0

Weight: <None>
Min Conc: <None>

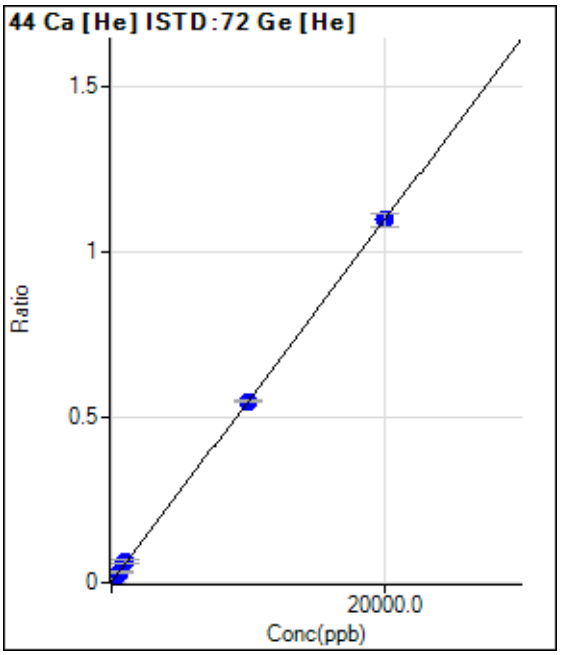


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11937.66	0.0228	P	1.7
2	☐	200.000	205.180	33262.01	0.0632	P	0.7
3	☐	500.000	511.366	65907.15	0.1235	P	1.1
4	☐	1000.000	1040.883	121231.10	0.2278	P	1.6
5	☐	10000.00	9735.714	1023329.96	1.9400	P	1.3
6	☐	20000.00	20129.763	2092636.74	3.9867	A	1.8
7	☐	100.000					

y = 1.9692E-004 * x + 0.0228
R = 0.9999
DL = 5.777
BEC = 115.9

Weight: <None>
Min Conc: <None>

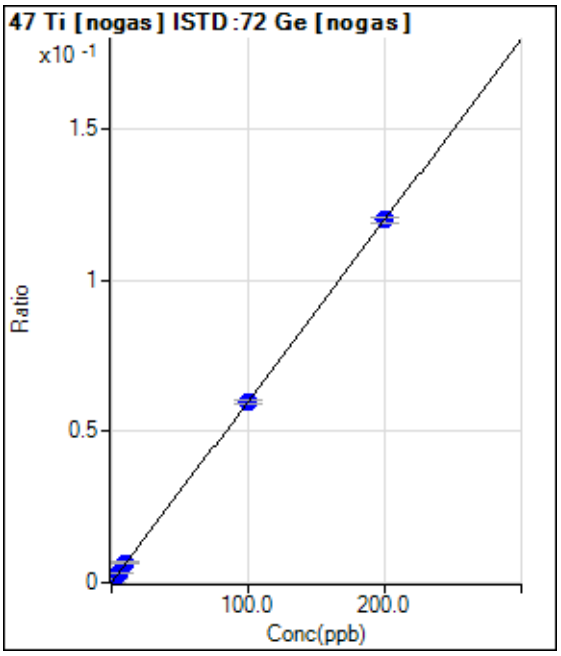
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43.33	0.0015	P	47.9
2	☐	200.000	226.471	400.02	0.0139	P	9.0
3	☐	500.000	526.936	903.37	0.0304	P	14.4
4	☐	1000.000	1120.431	1890.15	0.0629	P	14.9
5	☐	10000.00	9966.751	16154.44	0.5481	P	1.2
6	☐	20000.00	20009.665	32009.67	1.0989	P	3.8
7	☐	100.000					

y = 5.4846E-005 * x + 0.0015
R = 1.0000
DL = 38.47
BEC = 26.76

Weight: <None>
Min Conc: <None>

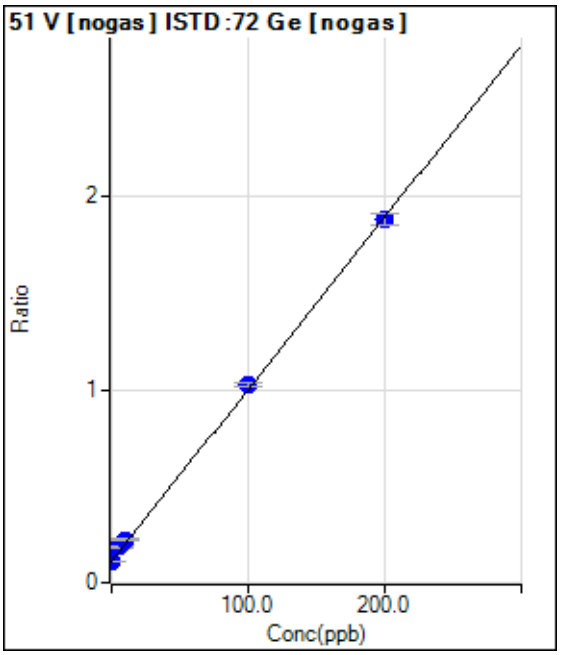


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26.67	0.0001	P	86.6
2	☐	2.000	1.994	656.70	0.0012	P	17.4
3	☐	5.000	5.217	1696.78	0.0032	P	7.7
4	☐	10.000	10.620	3417.07	0.0064	P	9.6
5	☐	100.000	99.671	31575.61	0.0599	P	1.5
6	☐	200.000	200.128	63043.89	0.1201	P	1.4
7	☐	1.000					

y = 6.0001E-004 * x + 5.0972E-005
R = 1.0000
DL = 0.2207
BEC = 0.08495

Weight: <None>
Min Conc: <None>

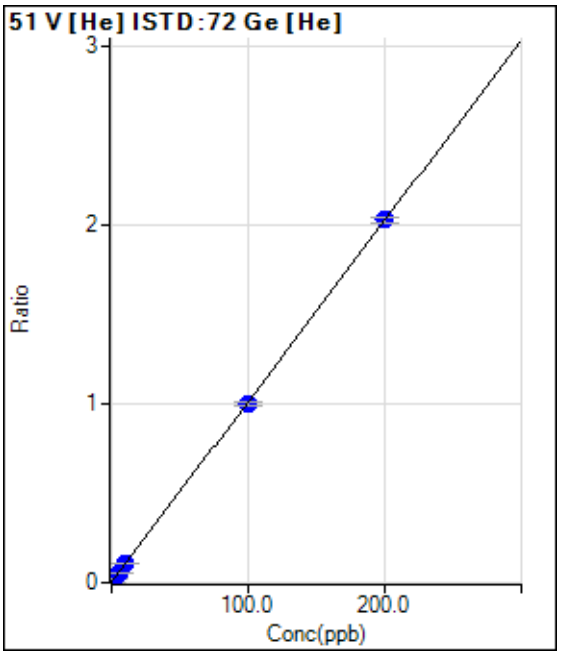
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	57974.87	0.1109	P	6.6
2	☐	2.000	7.365	92866.48	0.1765	P	1.6
3	☐	5.000	8.620	100142.64	0.1877	P	3.8
4	☐	10.000	12.588	118725.48	0.2231	P	1.4
5	☐	100.000	102.307	539562.55	1.0228	P	2.0
6	☐	200.000	198.573	987042.11	1.8809	P	3.2
7	☐	1.000					

y = 0.0089 * x + 0.1109
R = 0.9997
DL = 2.475
BEC = 12.44

Weight: <None>
Min Conc: <None>

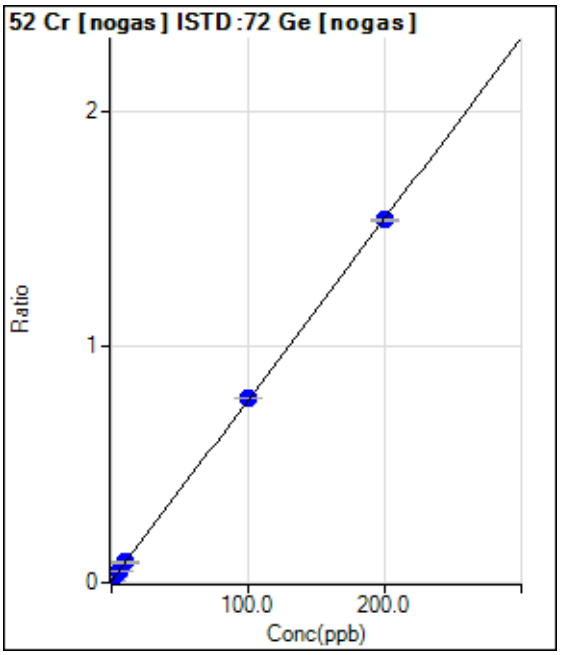


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.026	108.00	0.0037	P	14.3
2	☐	2.000	2.110	727.35	0.0253	P	9.6
3	☐	5.000	5.153	1666.75	0.0560	P	1.6
4	☐	10.000	10.375	3265.65	0.1088	P	0.7
5	☐	100.000	98.824	29558.30	1.0030	P	1.8
6	☐	200.000	200.564	59178.41	2.0316	P	1.3
7	☐	1.000					

y = 0.0101 * x + 0.0039
R = 1.0000
DL = 0.1557
BEC = 0.3881

Weight: <None>
Min Conc: <None>

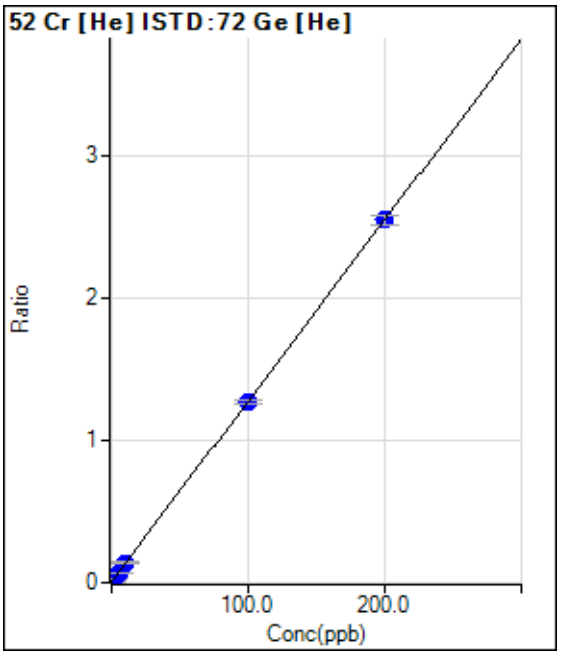
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3593.81	0.0069	P	5.1
2	☐	2.000	2.440	13465.47	0.0256	P	4.9
3	☐	5.000	5.477	26090.04	0.0489	P	2.1
4	☐	10.000	10.287	45667.08	0.0858	P	2.4
5	☐	100.000	100.955	412275.18	0.7815	P	0.6
6	☐	200.000	199.492	807025.46	1.5376	P	0.4
7	☐	1.000					

y = 0.0077 * x + 0.0069
R = 1.0000
DL = 0.1367
BEC = 0.8958

Weight: <None>
Min Conc: <None>

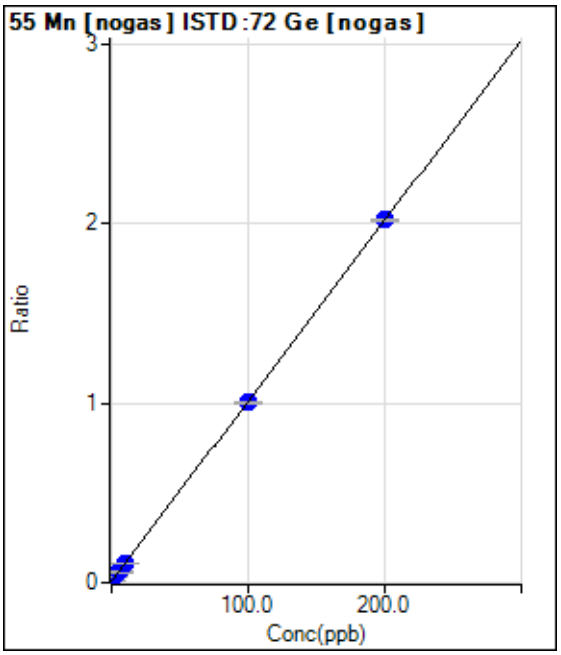


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	173.34	0.0059	P	39.8
2	☐	2.000	1.805	833.37	0.0288	P	13.3
3	☐	5.000	5.022	2073.50	0.0697	P	5.9
4	☐	10.000	10.391	4140.59	0.1379	P	6.5
5	☐	100.000	99.631	37497.55	1.2721	P	1.8
6	☐	200.000	200.166	74271.95	2.5499	P	2.8
7	☐	1.000					

y = 0.0127 * x + 0.0059
R = 1.0000
DL = 0.5522
BEC = 0.4625

Weight: <None>
Min Conc: <None>

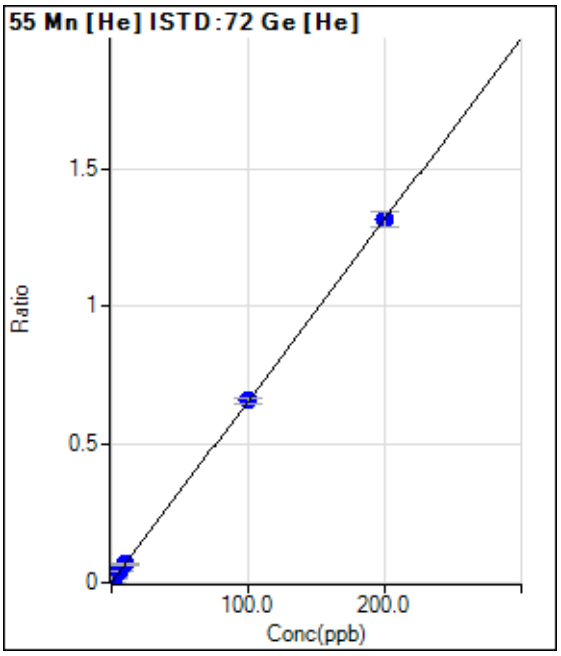
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3847.18	0.0074	P	1.1
2	☐	2.000	2.151	15226.90	0.0289	P	2.2
3	☐	5.000	5.222	31889.86	0.0598	P	4.8
4	☐	10.000	10.332	59107.54	0.1111	P	1.4
5	☐	100.000	99.043	528317.69	1.0015	P	0.8
6	☐	200.000	200.455	1059869.57	2.0195	P	0.6
7	☐	1.000					

y = 0.0100 * x + 0.0074
R = 1.0000
DL = 0.0246
BEC = 0.733

Weight: <None>
Min Conc: <None>

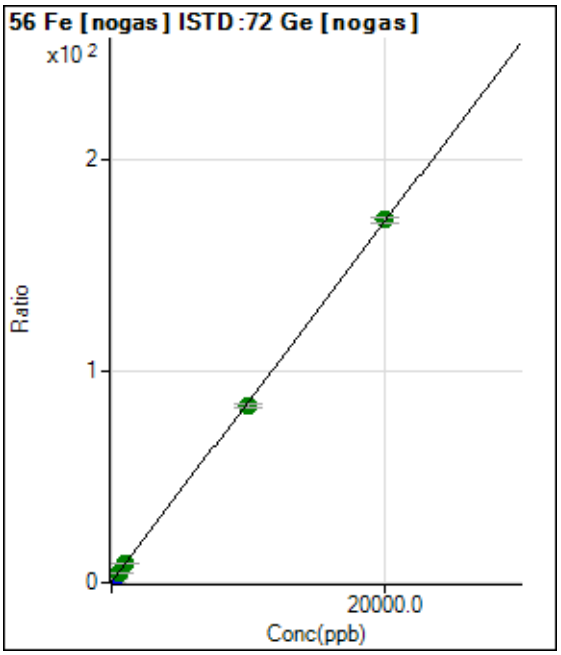


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0006	P	125.
2	☐	2.000	2.367	463.35	0.0161	P	31.0
3	☐	5.000	5.896	1170.07	0.0393	P	1.9
4	☐	10.000	10.075	2003.49	0.0668	P	9.5
5	☐	100.000	100.224	19437.99	0.6595	P	2.6
6	☐	200.000	199.858	38282.79	1.3146	P	4.3
7	☐	1.000					

y = 0.0066 * x + 5.6352E-004
R = 1.0000
DL = 0.3214
BEC = 0.08571

Weight: <None>
Min Conc: <None>

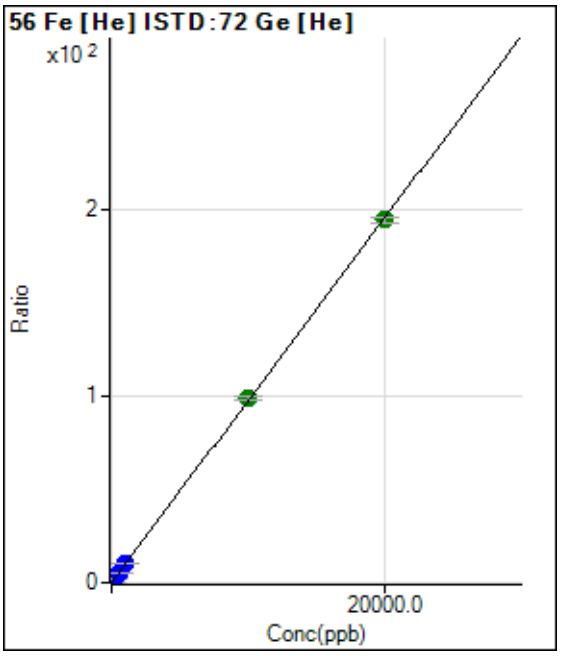
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	198494.62	0.3796	P	3.6
2	☐	200.000	209.144	1135214.28	2.1583	P	3.6
3	☐	500.000	524.956	2584526.10	4.8443	A	2.0
4	☐	1000.000	1037.992	4900068.99	9.2075	A	1.9
5	☐	10000.00	9755.454	43965425.98	83.3479	A	1.8
6	☐	20000.00	20119.658	90013012.43	171.493	A	1.5
7	☐	100.000					

y = 0.0085 * x + 0.3796
R = 0.9999
DL = 4.764
BEC = 44.63

Weight: <None>
Min Conc: <None>

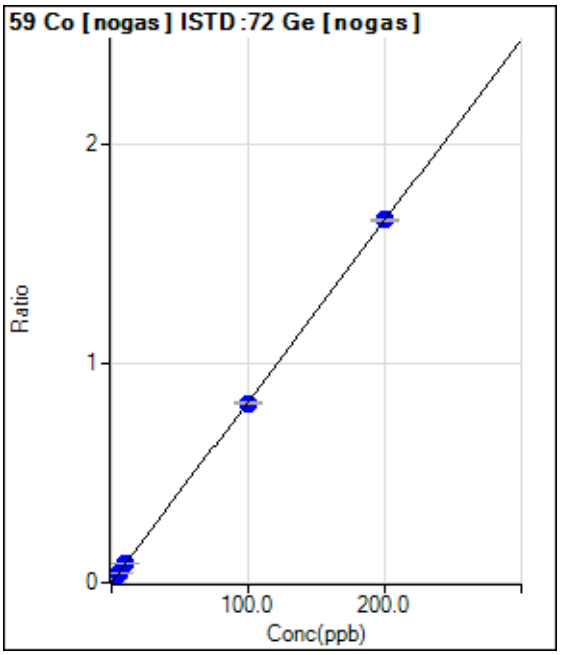


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	690.03	0.0234	P	15.2
2	☐	200.000	217.515	61887.21	2.1469	P	3.4
3	☐	500.000	535.413	156205.48	5.2505	P	1.7
4	☐	1000.000	1070.662	314350.17	10.4759	P	2.0
5	☐	10000.00	10168.334	2926201.21	99.2939	A	2.0
6	☐	20000.00	19911.239	5662790.75	194.411	A	1.5
7	☐	100.000					

y = 0.0098 * x + 0.0234
R = 1.0000
DL = 1.09
BEC = 2.395

Weight: <None>
Min Conc: <None>

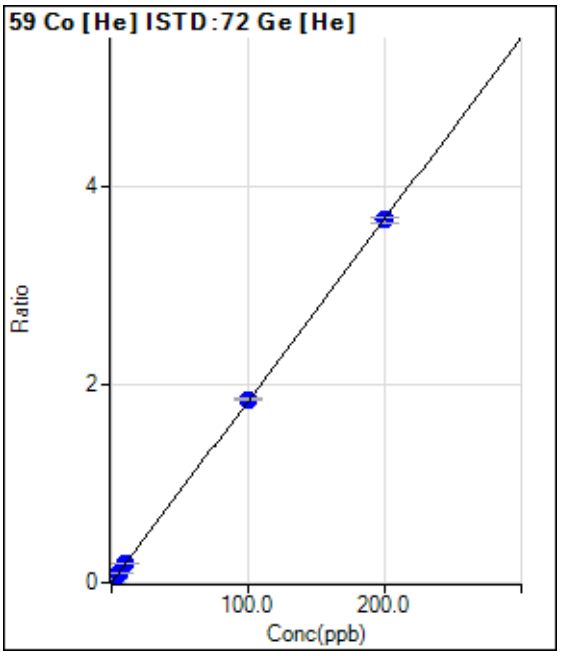
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	83.33	0.0002	P	18.3
2	☐	2.000	2.096	9175.96	0.0174	P	5.2
3	☐	5.000	5.156	22768.79	0.0427	P	2.0
4	☐	10.000	10.397	45700.82	0.0859	P	2.7
5	☐	100.000	99.153	431318.30	0.8176	P	1.1
6	☐	200.000	200.399	867237.88	1.6524	P	0.4
7	☐	1.000					

y = 0.0082 * x + 1.5935E-004
R = 1.0000
DL = 0.01061
BEC = 0.01933

Weight: <None>
Min Conc: <None>

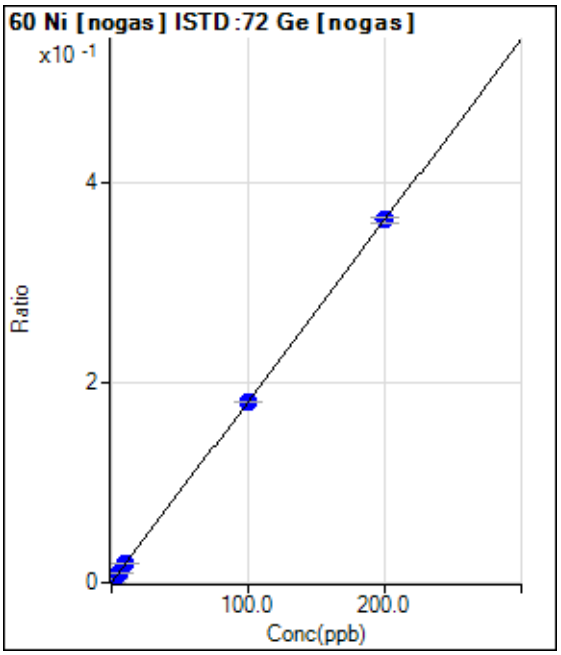


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13.33	0.0005	P	86.6
2	☐	2.000	2.419	1296.74	0.0449	P	9.7
3	☐	5.000	5.354	2943.64	0.0989	P	5.2
4	☐	10.000	10.300	5697.74	0.1899	P	4.9
5	☐	100.000	100.681	54603.31	1.8523	P	1.1
6	☐	200.000	199.631	106969.30	3.6722	P	1.4
7	☐	1.000					

y = 0.0184 * x + 4.5258E-004
R = 1.0000
DL = 0.06393
BEC = 0.02461

Weight: <None>
Min Conc: <None>

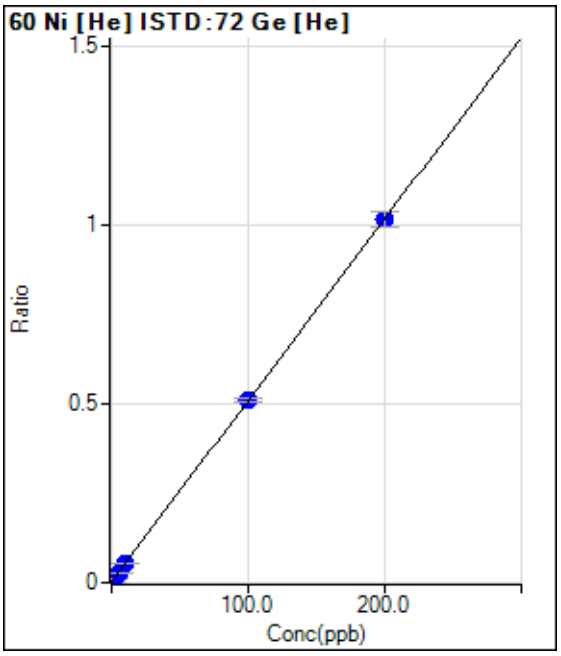
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.005	116.67	0.0002	P	21.7
2	☐	2.000	2.014	2036.83	0.0039	P	4.2
3	☐	5.000	5.039	4984.17	0.0093	P	1.7
4	☐	10.000	10.205	9939.69	0.0187	P	3.9
5	☐	100.000	99.516	95017.03	0.1801	P	0.6
6	☐	200.000	200.231	190102.05	0.3622	P	1.4
7	☐	1.000					

y = 0.0018 * x + 2.3158E-004
R = 1.0000
DL = 0.08051
BEC = 0.1281

Weight: <None>
Min Conc: <None>

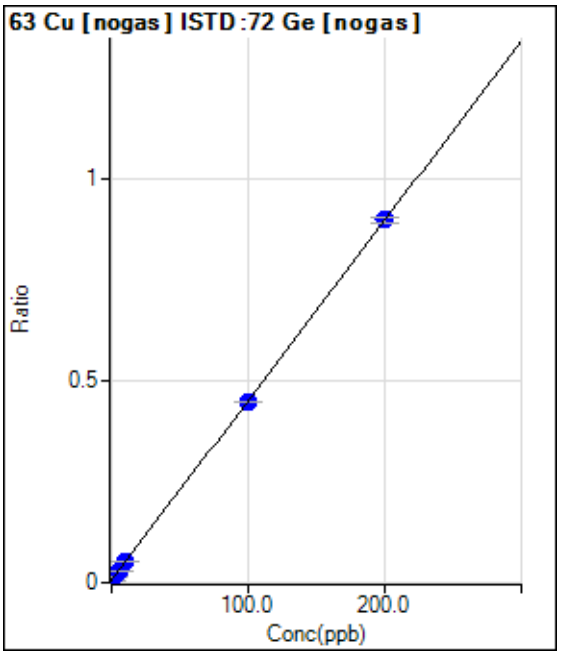


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.382	16.67	0.0006	P	124.
2	☐	2.000	1.703	320.01	0.0111	P	14.1
3	☐	5.000	4.950	820.04	0.0276	P	5.1
4	☐	10.000	10.378	1653.45	0.0551	P	4.6
5	☐	100.000	100.729	15113.52	0.5126	P	2.0
6	☐	200.000	199.621	29515.78	1.0135	P	4.3
7	☐	1.000					

y = 0.0051 * x + 0.0025
R = 1.0000
DL = 0.417
BEC = 0.4932

Weight: <None>
Min Conc: <None>

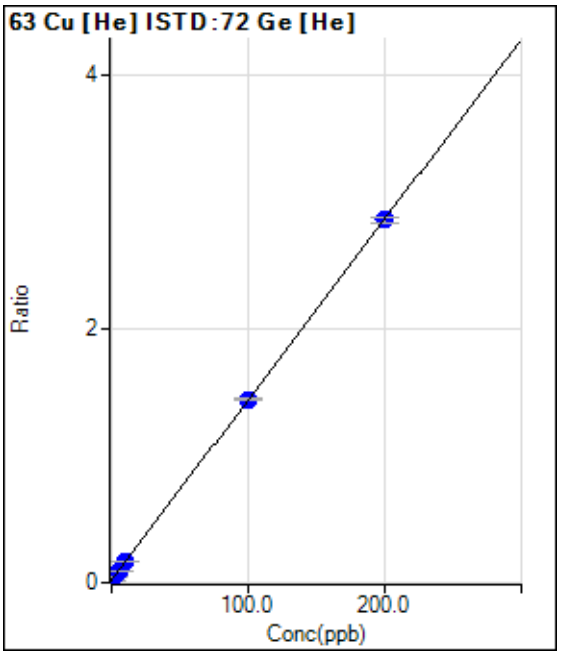
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3233.72	0.0062	P	7.9
2	☐	2.000	1.983	7905.28	0.0150	P	3.0
3	☐	5.000	5.127	15497.29	0.0291	P	6.9
4	☐	10.000	10.262	27652.61	0.0520	P	2.4
5	☐	100.000	99.154	236589.74	0.4485	P	1.0
6	☐	200.000	200.407	472440.06	0.9002	P	1.6
7	☐	1.000					

y = 0.0045 * x + 0.0062
R = 1.0000
DL = 0.3306
BEC = 1.386

Weight: <None>
Min Conc: <None>

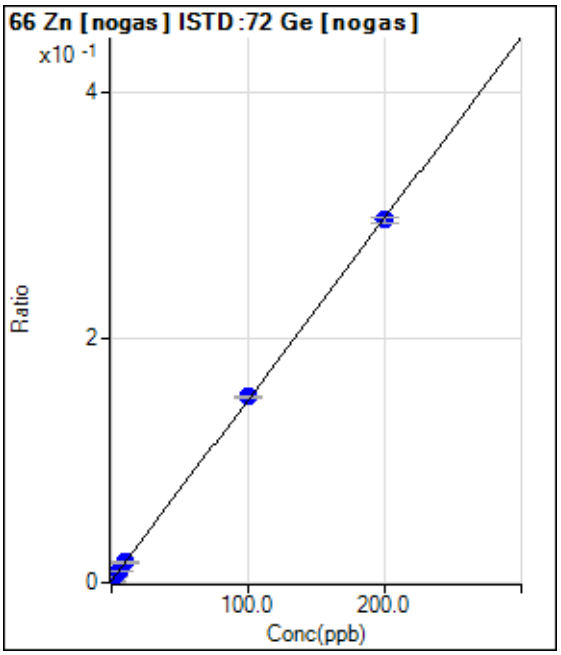


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.250	483.35	0.0164	P	18.5
2	☐	2.000	2.061	1416.76	0.0491	P	2.9
3	☐	5.000	4.728	2586.93	0.0869	P	4.5
4	☐	10.000	10.377	5010.85	0.1670	P	6.6
5	☐	100.000	100.190	42446.02	1.4402	P	1.2
6	☐	200.000	199.892	83116.89	2.8535	P	1.3
7	☐	1.000					

y = 0.0142 * x + 0.0199
R = 1.0000
DL = 0.6403
BEC = 1.404

Weight: <None>
Min Conc: <None>

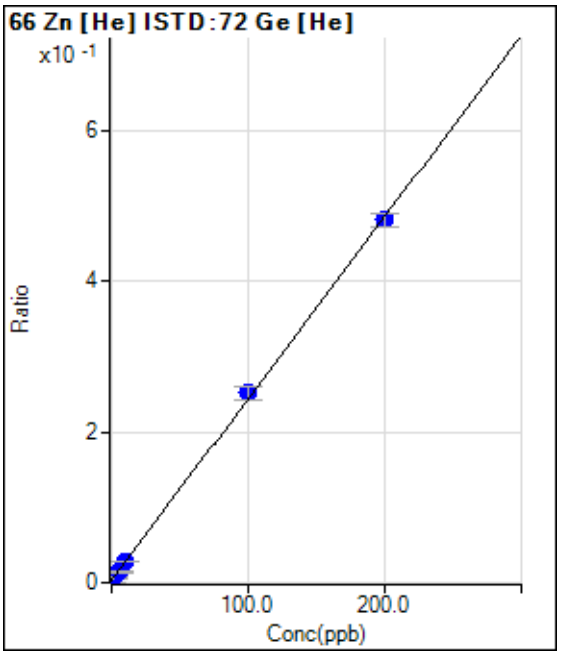
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.627	346.68	0.0007	P	48.6
2	☐	2.000	1.781	2223.53	0.0042	P	3.5
3	☐	5.000	4.928	4740.75	0.0089	P	3.4
4	☐	10.000	10.102	8805.77	0.0165	P	1.6
5	☐	100.000	101.636	80223.62	0.1521	P	1.0
6	☐	200.000	199.181	155591.80	0.2965	P	1.6
7	☐	1.000					

y = 0.0015 * x + 0.0016
R = 0.9999
DL = 0.652
BEC = 1.075

Weight: <None>
Min Conc: <None>

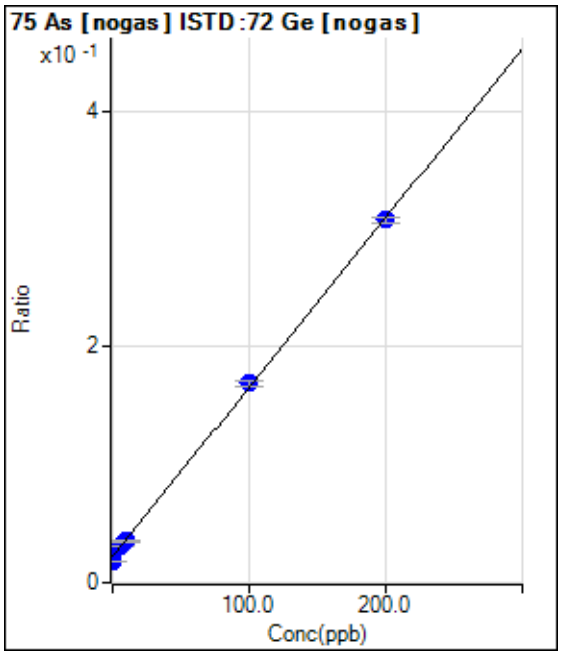


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-1.237	3.33	0.0001	P	173.
2	☐	2.000	1.370	183.34	0.0064	P	38.7
3	☐	5.000	4.986	450.01	0.0151	P	14.4
4	☐	10.000	10.359	843.37	0.0281	P	8.1
5	☐	100.000	103.066	7418.41	0.2519	P	6.8
6	☐	200.000	198.456	14049.38	0.4821	P	3.8
7	☐	1.000					

y = 0.0024 * x + 0.0031
R = 0.9998
DL = 0.242
BEC = 1.284

Weight: <None>
Min Conc: <None>

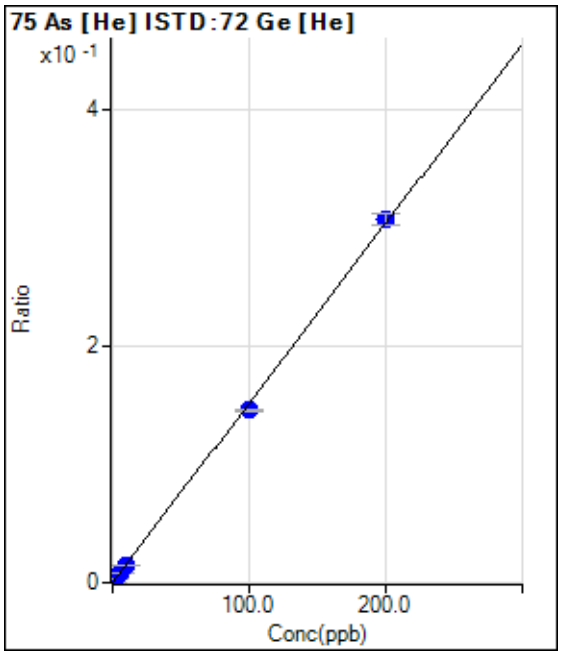
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-2.946	9506.19	0.0182	P	3.8
2	☐	2.000	3.628	14519.80	0.0276	P	0.9
3	☐	5.000	6.128	16638.41	0.0312	P	1.5
4	☐	10.000	9.135	18894.06	0.0355	P	5.9
5	☐	100.000	102.112	89034.89	0.1688	P	2.1
6	☐	200.000	198.943	161437.01	0.3076	P	1.4
7	☐	1.000					

y = 0.0014 * x + 0.0224
R = 0.9997
DL = 1.442
BEC = 15.62

Weight: <None>
Min Conc: <None>

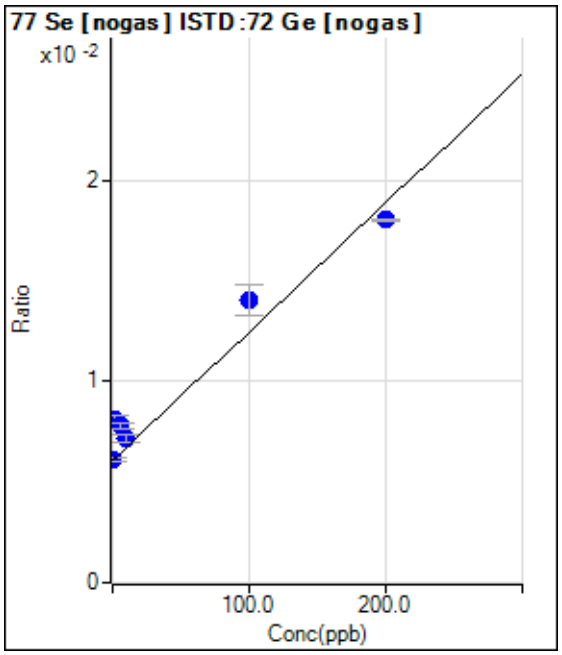


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4.44	0.0002	P	173.
2	☐	2.000	2.118	96.67	0.0034	P	16.7
3	☐	5.000	5.270	242.23	0.0081	P	9.0
4	☐	10.000	9.687	445.57	0.0148	P	2.9
5	☐	100.000	95.847	4289.46	0.1455	P	1.7
6	☐	200.000	202.084	8933.49	0.3067	P	3.2
7	☐	1.000					

y = 0.0015 * x + 1.5033E-004
R = 0.9997
DL = 0.515
BEC = 0.09911

Weight: <None>
Min Conc: <None>

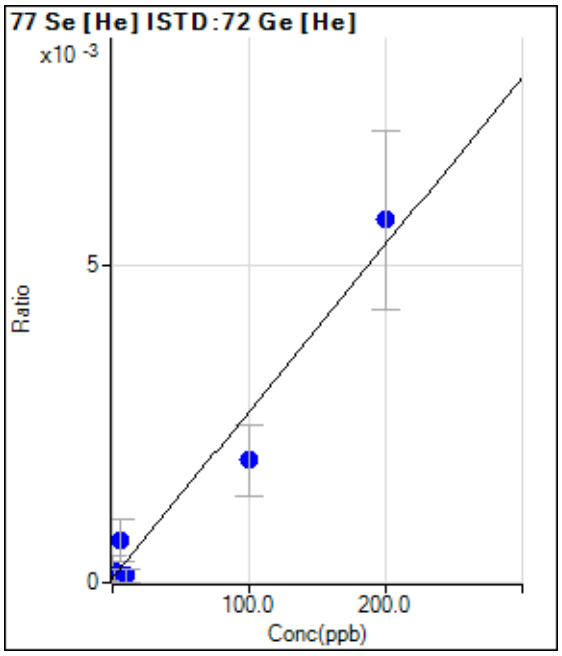
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3173.71	0.0061	P	3.0
2	☐	2.000	31.489	4253.97	0.0081	P	5.8
3	☐	5.000	27.186	4167.26	0.0078	P	3.4
4	☐	10.000	17.314	3820.51	0.0072	P	6.1
5	☐	100.000	124.208	7391.74	0.0140	P	10.8
6	☐	200.000	186.681	9456.11	0.0180	P	0.8
7	☐	1.000					

y = 6.4004E-005 * x + 0.0061
R = 0.9824
DL = 8.543
BEC = 94.82

Weight: <None>
Min Conc: <None>

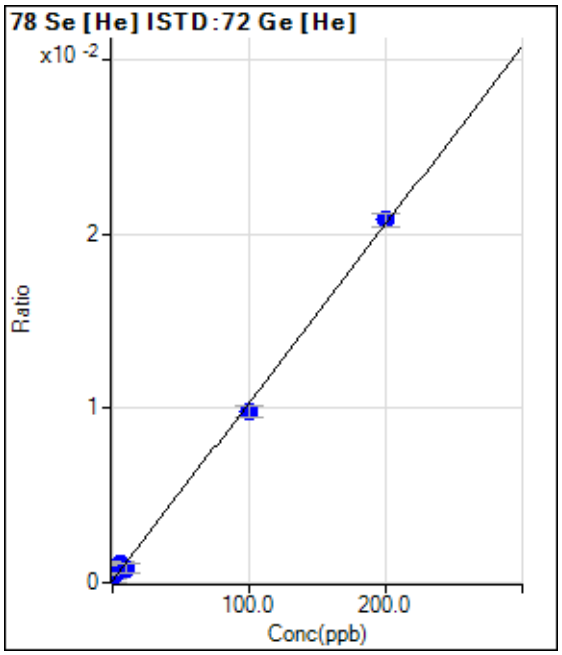


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	5.785	6.67	0.0002	P	173.
2	☐	2.000	1.663	3.33	0.0001	P	173.
3	☐	5.000	22.861	20.00	0.0007	P	100.
4	☐	10.000	1.426	3.33	0.0001	P	173.
5	☐	100.000	70.559	56.67	0.0019	P	57.2
6	☐	200.000	214.706	166.67	0.0057	P	49.0
7	☐	1.000					

y = 2.6363E-005 * x + 7.2283E-005
R = 0.9781
DL = 44.31
BEC = 2.742

Weight: <None>
Min Conc: <None>

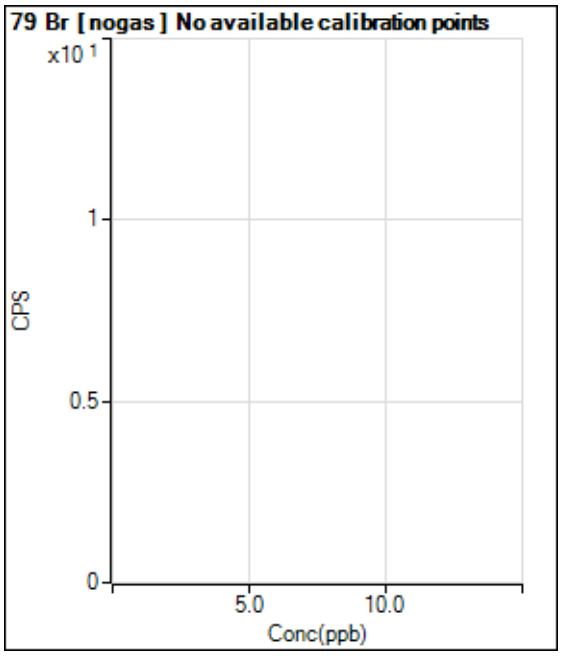
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0001	P	125.
2	☐	2.000	3.172	12.67	0.0004	P	21.7
3	☐	5.000	9.398	32.00	0.0011	P	18.2
4	☐	10.000	6.940	24.67	0.0008	P	56.5
5	☐	100.000	95.068	290.00	0.0098	P	6.0
6	☐	200.000	202.498	606.68	0.0208	P	3.8
7	☐	1.000					

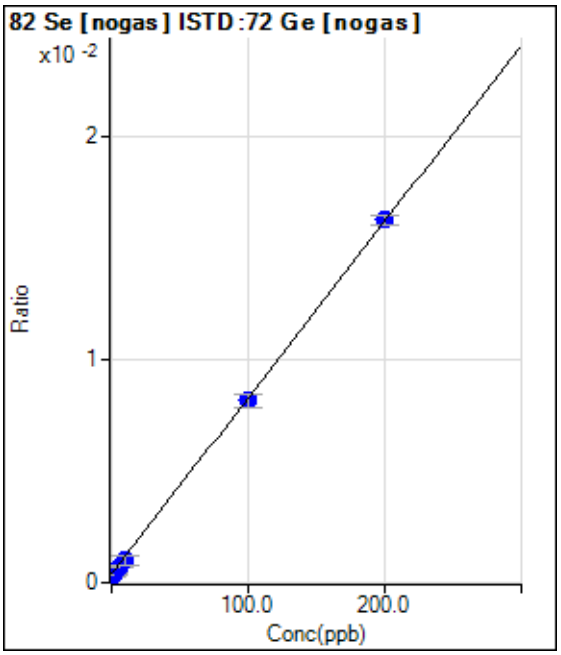
y = 1.0229E-004 * x + 1.1337E-004
R = 0.9991
DL = 4.16
BEC = 1.108

Weight: <None>
Min Conc: <None>



	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					

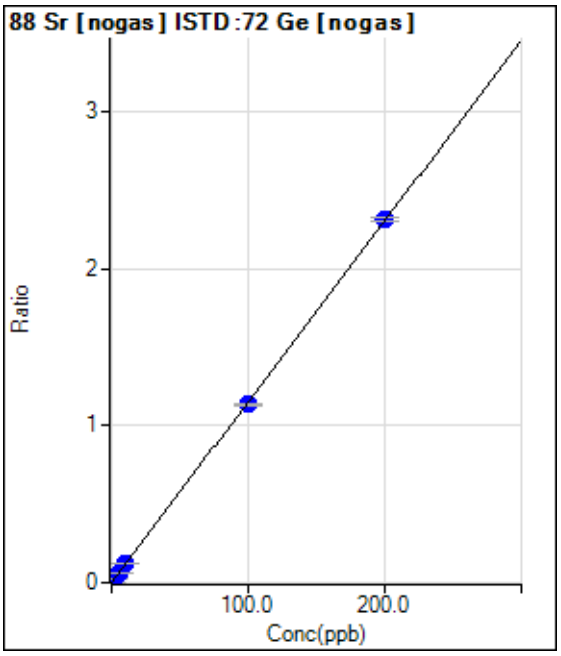
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	203.34	0.0004	P	46.1
2	☐	2.000	-0.035	203.34	0.0004	P	12.1
3	☐	5.000	4.258	386.68	0.0007	P	13.6
4	☐	10.000	7.999	543.36	0.0010	P	43.7
5	☐	100.000	98.340	4293.96	0.0081	P	8.0
6	☐	200.000	200.969	8519.00	0.0162	P	2.5
7	☐	1.000					

y = 7.8832E-005 * x + 3.8926E-004
R = 0.9999
DL = 6.83
BEC = 4.938

Weight: <None>
Min Conc: <None>

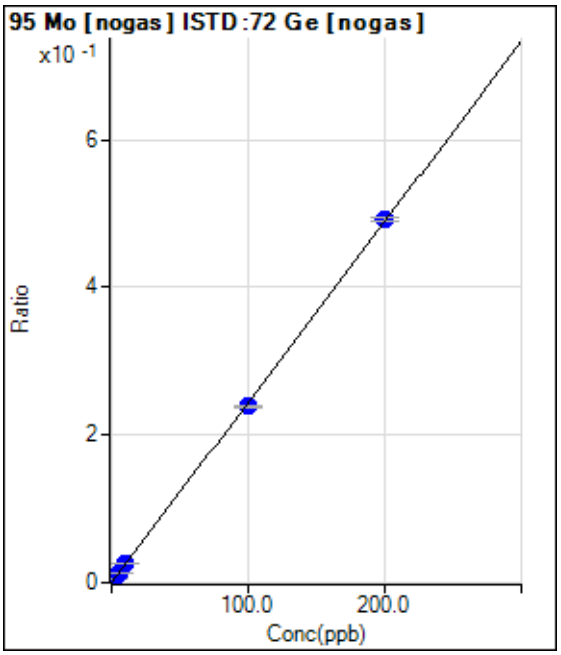


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	226.68	0.0004	P	13.7
2	☐	2.000	2.148	13235.43	0.0252	P	3.5
3	☐	5.000	5.026	31098.98	0.0583	P	3.2
4	☐	10.000	10.343	63596.53	0.1195	P	0.8
5	☐	100.000	98.486	598273.57	1.1342	P	1.1
6	☐	200.000	200.738	1212948.68	2.3112	P	1.2
7	☐	1.000					

y = 0.0115 * x + 4.3359E-004
R = 1.0000
DL = 0.01548
BEC = 0.03767

Weight: <None>
Min Conc: <None>

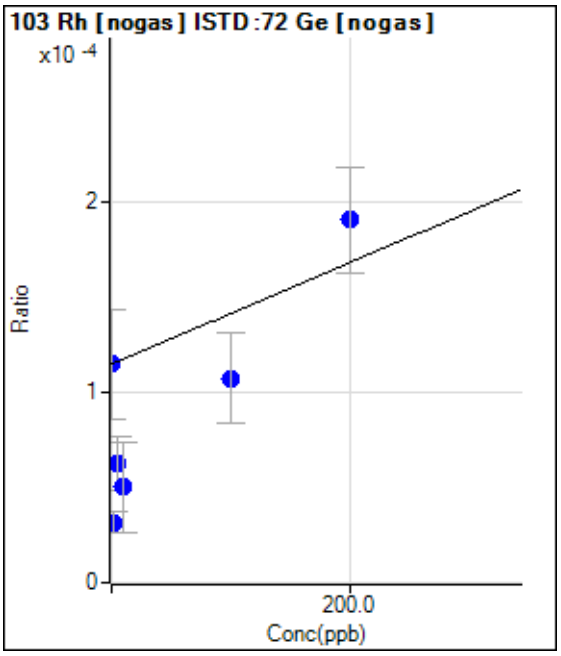
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	0.00	0.0000	P	
2	☐	2.000	2.145	2756.96	0.0052	P	7.5
3	☐	5.000	5.167	6734.86	0.0126	P	3.3
4	☐	10.000	10.437	13569.09	0.0255	P	3.9
5	☐	100.000	97.840	126093.54	0.2390	P	1.1
6	☐	200.000	201.053	257786.15	0.4912	P	1.1
7	☐	1.000					

y = 0.0024 * x + 0.0000E+000
R = 0.9999
DL = 0
BEC = 0

Weight: <None>
Min Conc: <None>

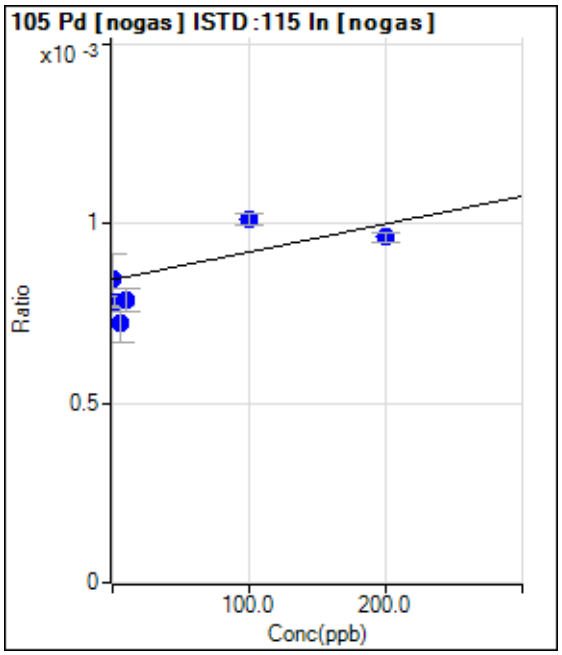


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	60.00	0.0001	P	49.6
2	☐	2.000	-311.999	16.67	0.0000	P	34.2
3	☐	5.000	-195.915	33.33	0.0001	P	45.7
4	☐	10.000	-243.225	26.67	0.0000	P	94.3
5	☐	100.000	-27.395	56.67	0.0001	P	44.2
6	☐	200.000	284.521	100.00	0.0002	P	29.0
7	☐	1.000					

y = 2.6577E-007 * x + 1.1456E-004
R = 0.8590
DL = 641
BEC = 431

Weight: <None>
Min Conc: <None>

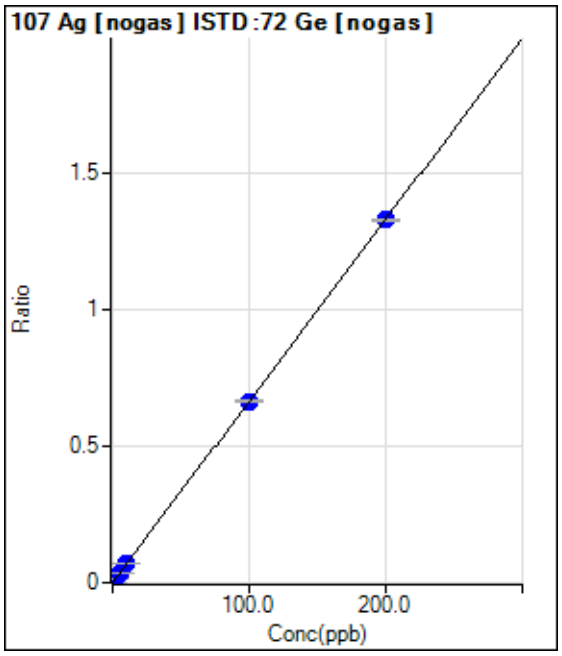
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	530.02	0.0008	P	16.8
2	☐	2.000	-77.618	496.69	0.0008	P	4.1
3	☐	5.000	-157.167	456.69	0.0007	P	14.1
4	☐	10.000	-72.493	510.02	0.0008	P	8.2
5	☐	100.000	214.370	643.36	0.0010	P	3.2
6	☐	200.000	151.790	606.69	0.0010	P	2.9
7	☐	1.000					

y = 7.7863E-007 * x + 8.4458E-004
R = 0.7965
DL = 547.1
BEC = 1085

Weight: <None>
Min Conc: <None>

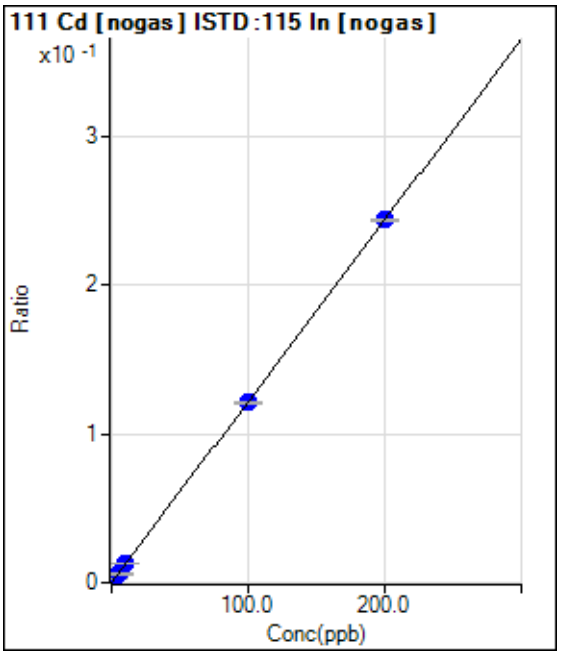


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	83.34	0.0002	P	77.3
2	☐	2.000	2.129	7531.88	0.0143	P	1.3
3	☐	5.000	5.405	19268.21	0.0361	P	2.4
4	☐	10.000	10.580	37532.84	0.0705	P	0.9
5	☐	100.000	100.103	351284.49	0.6660	P	1.7
6	☐	200.000	199.908	697919.03	1.3298	P	0.8
7	☐	1.000					

y = 0.0067 * x + 1.5936E-004
R = 1.0000
DL = 0.05553
BEC = 0.02396

Weight: <None>
Min Conc: <None>

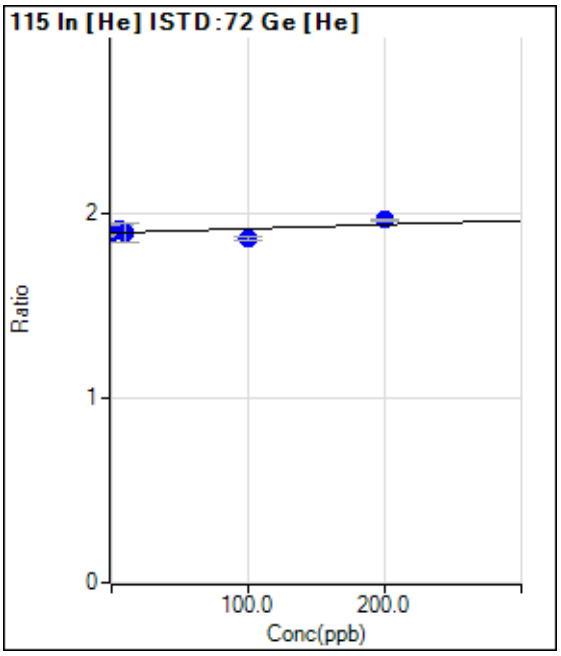
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	0.00	0.0000	P	
2	☐	2.000	2.212	1703.46	0.0027	P	12.4
3	☐	5.000	4.811	3707.16	0.0059	P	5.1
4	☐	10.000	10.512	8278.89	0.0128	P	0.8
5	☐	100.000	99.383	76864.74	0.1209	P	0.9
6	☐	200.000	200.285	153471.47	0.2436	P	0.9
7	☐	1.000					

y = 0.0012 * x + 0.0000E+000
R = 1.0000
DL = 0
BEC = 0

Weight: <None>
Min Conc: <None>

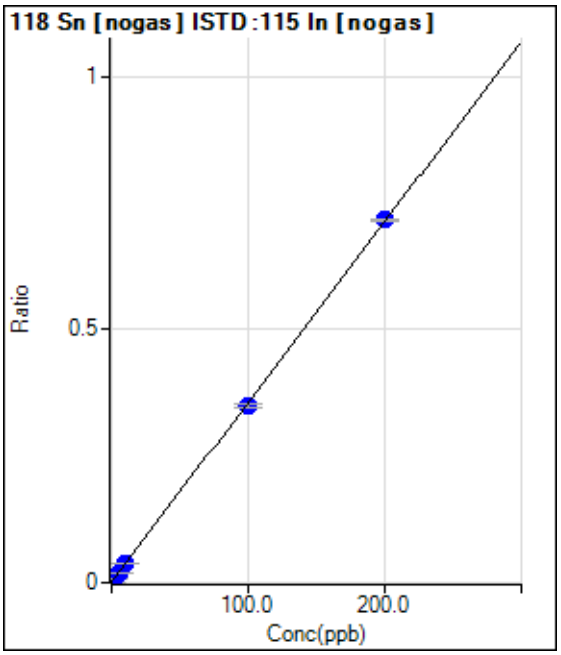


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	55908.11	1.8935	P	1.2
2	☐	2.000	51.981	54921.52	1.9052	P	3.3
3	☐	5.000	82.144	56891.72	1.9120	P	2.5
4	☐	10.000	4.566	56818.30	1.8945	P	5.2
5	☐	100.000	-124.842	54978.38	1.8654	P	1.3
6	☐	200.000	310.264	57202.54	1.9635	P	0.7
7	☐	1.000					

y = 2.2544E-004 * x + 1.8935
R = 0.5607
DL = 297.3
BEC = 8399

Weight: <None>
Min Conc: <None>

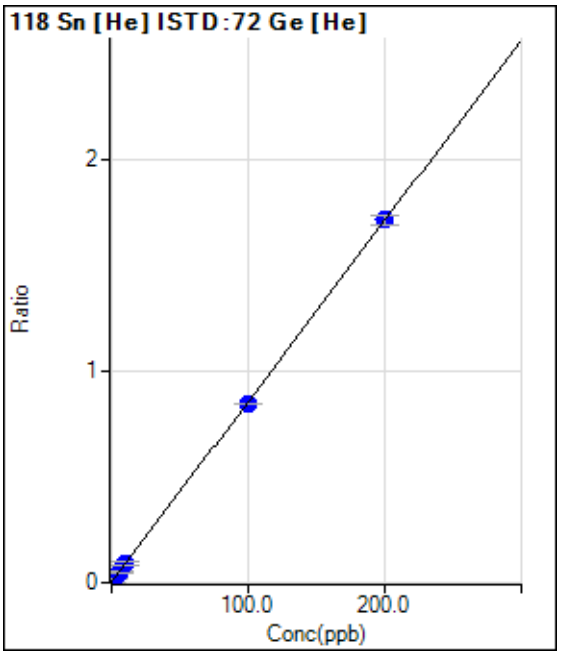
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	496.68	0.0008	P	9.8
2	☐	2.000	2.051	5124.28	0.0081	P	9.2
3	☐	5.000	5.259	12351.56	0.0195	P	7.1
4	☐	10.000	10.169	23957.78	0.0370	P	4.8
5	☐	100.000	97.799	221914.85	0.3491	P	2.3
6	☐	200.000	201.085	451637.57	0.7169	P	0.5
7	☐	1.000					

y = 0.0036 * x + 7.9095E-004
R = 0.9999
DL = 0.06545
BEC = 0.2221

Weight: <None>
Min Conc: <None>

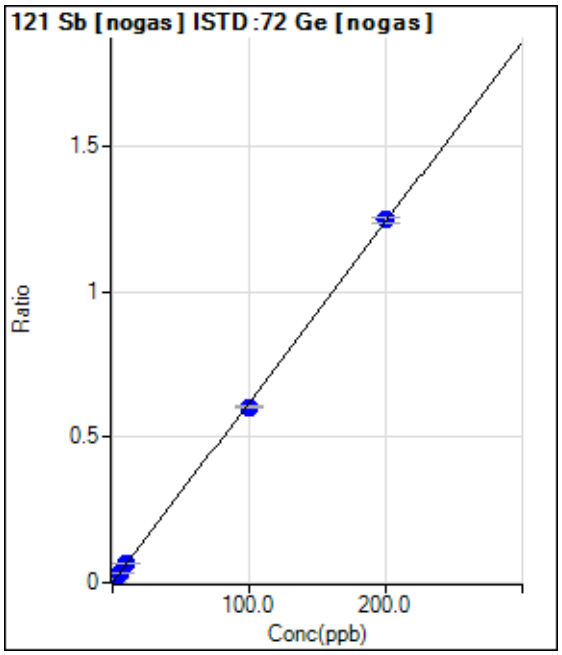


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	80.00	0.0027	P	12.6
2	☐	2.000	1.919	550.02	0.0191	P	13.8
3	☐	5.000	5.459	1470.10	0.0494	P	4.6
4	☐	10.000	10.339	2733.63	0.0911	P	17.6
5	☐	100.000	98.905	25016.03	0.8487	P	0.5
6	☐	200.000	200.520	50032.95	1.7179	P	2.6
7	☐	1.000					

y = 0.0086 * x + 0.0027
R = 1.0000
DL = 0.1201
BEC = 0.3168

Weight: <None>
Min Conc: <None>

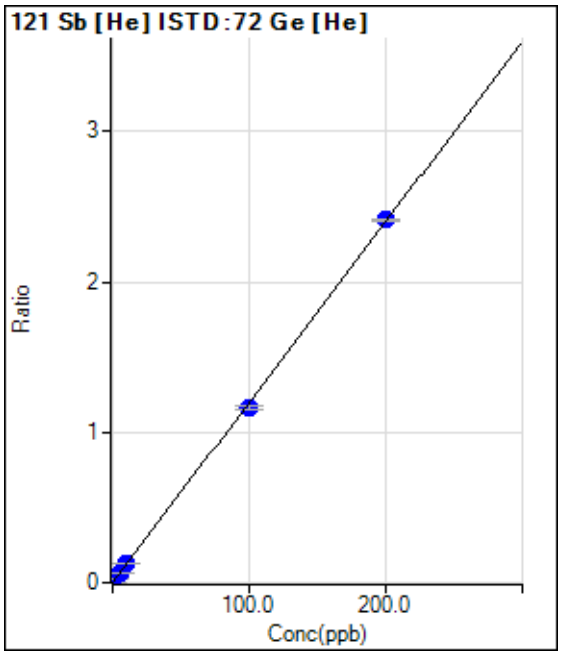
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	173.33	0.0003	P	12.5
2	☐	2.000	2.131	7115.06	0.0135	P	4.7
3	☐	5.000	5.246	17509.64	0.0328	P	3.3
4	☐	10.000	10.340	34256.04	0.0644	P	1.4
5	☐	100.000	97.374	318275.13	0.6034	P	0.9
6	☐	200.000	201.289	654400.39	1.2469	P	1.5
7	☐	1.000					

y = 0.0062 * x + 3.3161E-004
R = 0.9999
DL = 0.02004
BEC = 0.05355

Weight: <None>
Min Conc: <None>

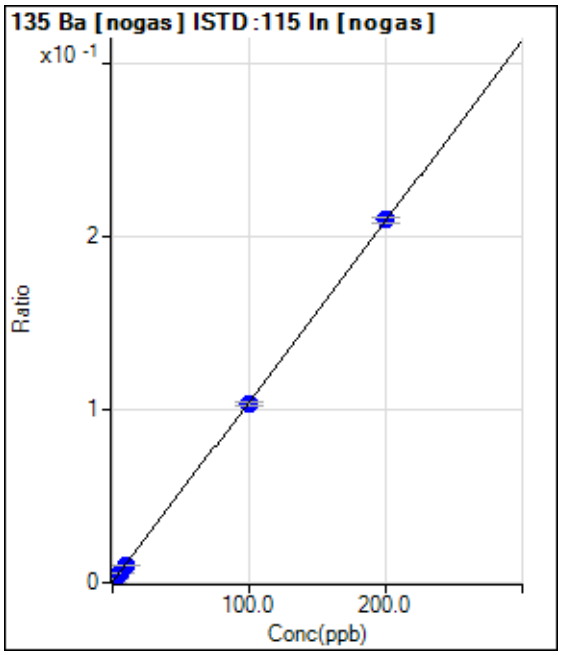


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0006	P	34.7
2	☐	2.000	2.625	923.38	0.0320	P	4.1
3	☐	5.000	5.320	1913.50	0.0643	P	13.6
4	☐	10.000	10.421	3763.84	0.1254	P	1.6
5	☐	100.000	97.419	34416.48	1.1678	P	2.1
6	☐	200.000	201.255	70263.52	2.4120	P	0.7
7	☐	1.000					

y = 0.0120 * x + 5.6460E-004
R = 0.9999
DL = 0.04907
BEC = 0.04712

Weight: <None>
Min Conc: <None>

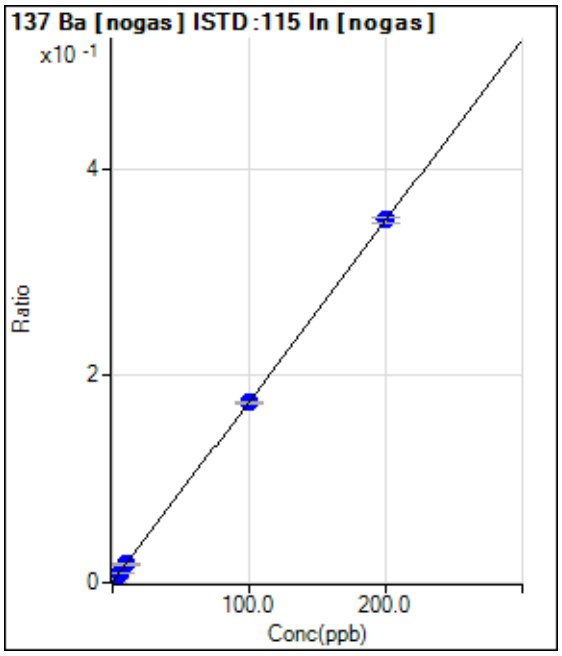
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	146.67	0.0002	P	32.6
2	☐	2.000	2.087	1526.77	0.0024	P	0.9
3	☐	5.000	4.986	3440.43	0.0054	P	7.3
4	☐	10.000	9.528	6588.13	0.0102	P	5.9
5	☐	100.000	98.673	65595.85	0.1031	P	2.1
6	☐	200.000	200.686	131994.15	0.2095	P	1.6
7	☐	1.000					

y = 0.0010 * x + 2.3380E-004
R = 1.0000
DL = 0.2193
BEC = 0.2242

Weight: <None>
Min Conc: <None>

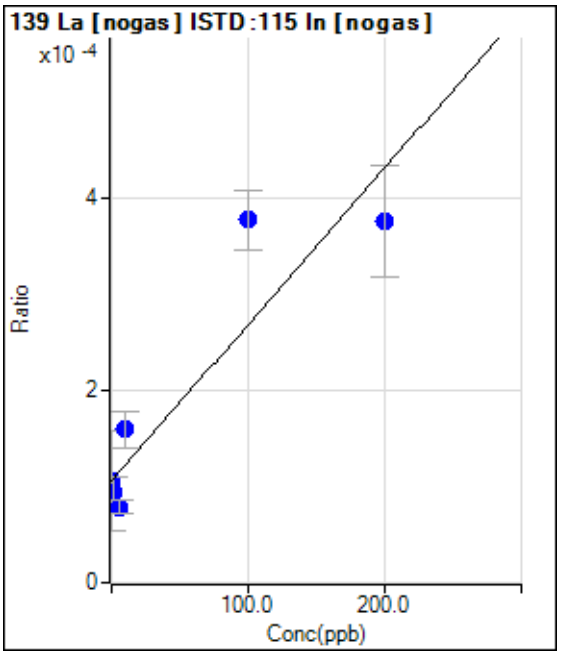


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	183.34	0.0003	P	20.5
2	☐	2.000	1.940	2333.55	0.0037	P	9.3
3	☐	5.000	5.008	5727.83	0.0090	P	1.2
4	☐	10.000	9.970	11470.93	0.0177	P	4.7
5	☐	100.000	99.249	110483.20	0.1738	P	1.0
6	☐	200.000	200.377	220816.95	0.3505	P	1.5
7	☐	1.000					

y = 0.0017 * x + 2.9197E-004
R = 1.0000
DL = 0.1029
BEC = 0.167

Weight: <None>
Min Conc: <None>

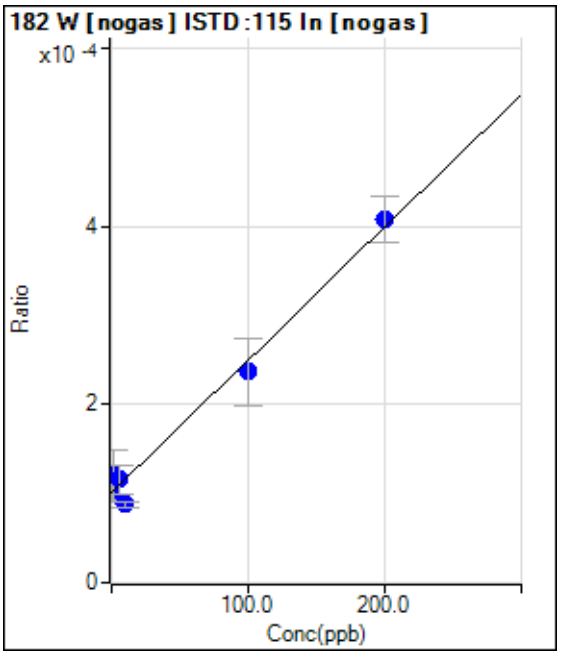
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	66.67	0.0001	P	99.5
2	☐	2.000	-7.042	60.00	0.0001	P	32.5
3	☐	5.000	-16.710	50.00	0.0001	P	18.7
4	☐	10.000	32.870	103.33	0.0002	P	23.4
5	☐	100.000	166.836	240.01	0.0004	P	16.7
6	☐	200.000	166.072	236.67	0.0004	P	31.0
7	☐	1.000					

y = 1.6240E-006 * x + 1.0596E-004
R = 0.9082
DL = 194.8
BEC = 65.24

Weight: <None>
Min Conc: <None>

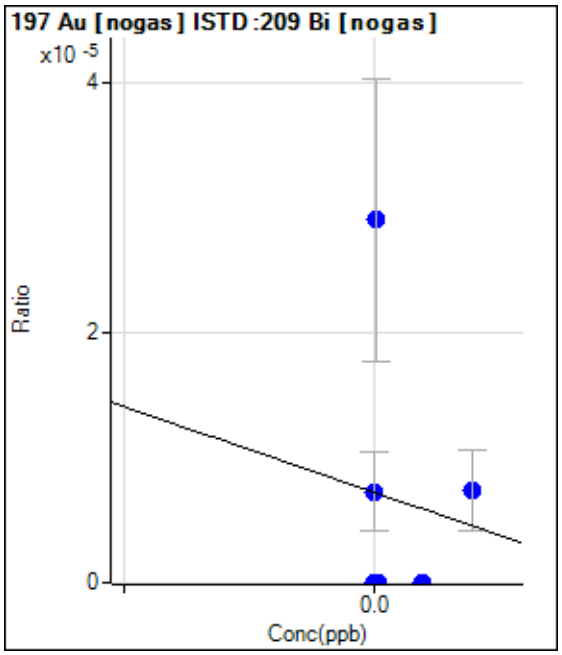


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	63.33	0.0001	P	18.2
2	☐	2.000	13.525	76.67	0.0001	P	45.5
3	☐	5.000	9.788	73.33	0.0001	P	27.1
4	☐	10.000	-8.995	56.67	0.0001	P	9.1
5	☐	100.000	90.881	150.00	0.0002	P	31.3
6	☐	200.000	205.274	256.68	0.0004	P	12.8
7	☐	1.000					

y = 1.4919E-006 * x + 1.0087E-004
R = 0.9911
DL = 36.88
BEC = 67.61

Weight: <None>
Min Conc: <None>

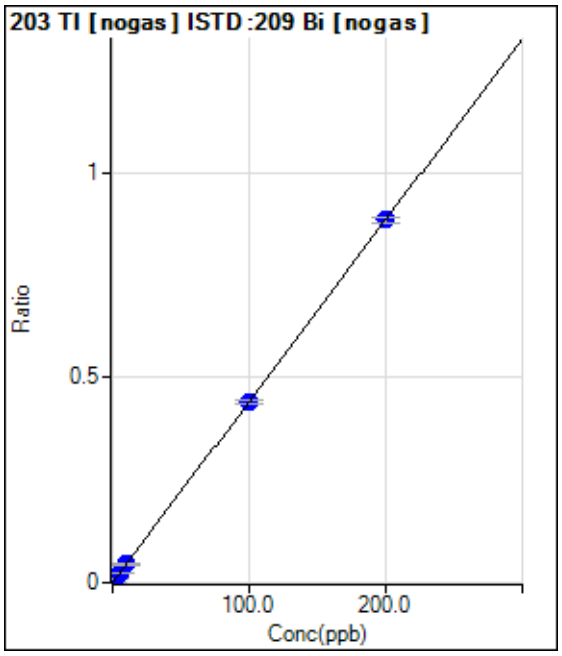
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6.67	0.0000	P	86.6
2	☐	2.000	532.665	0.00	0.0000	P	
3	☐	5.000	-1599.318	26.67	0.0000	P	78.2
4	☐	10.000	532.665	0.00	0.0000	P	
5	☐	100.000	532.665	0.00	0.0000	P	
6	☐	200.000	-7.664	6.67	0.0000	P	86.6
7	☐	1.000					

y = -1.3636E-008 * x + 7.2633E-006
R = -0.1500
DL = -1384
BEC = -532.7

Weight: <None>
Min Conc: <None>

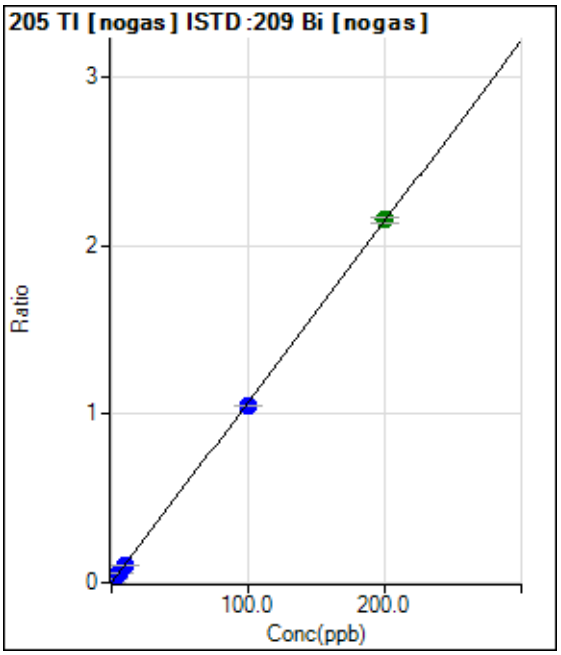


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	93.33	0.0001	P	22.0
2	☐	2.000	1.870	7728.77	0.0084	P	1.3
3	☐	5.000	5.190	21184.79	0.0230	P	1.8
4	☐	10.000	10.098	41272.47	0.0447	P	3.6
5	☐	100.000	99.659	398699.34	0.4406	P	1.4
6	☐	200.000	200.162	798329.57	0.8848	P	1.5
7	☐	1.000					

y = 0.0044 * x + 1.0190E-004
R = 1.0000
DL = 0.01521
BEC = 0.02305

Weight: <None>
Min Conc: <None>

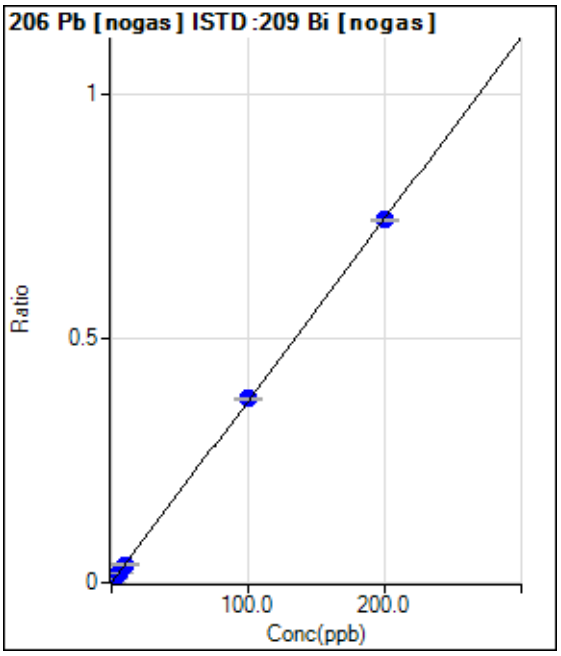
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	96.67	0.0001	P	32.0
2	☐	2.000	1.972	19606.15	0.0212	P	1.8
3	☐	5.000	4.973	49061.54	0.0534	P	1.7
4	☐	10.000	9.844	97345.49	0.1055	P	2.5
5	☐	100.000	98.395	953656.76	1.0538	P	0.1
6	☐	200.000	200.811	1940364.50	2.1505	A	1.8
7	☐	1.000					

y = 0.0107 * x + 1.0564E-004
R = 1.0000
DL = 0.009462
BEC = 0.009866

Weight: <None>
Min Conc: <None>

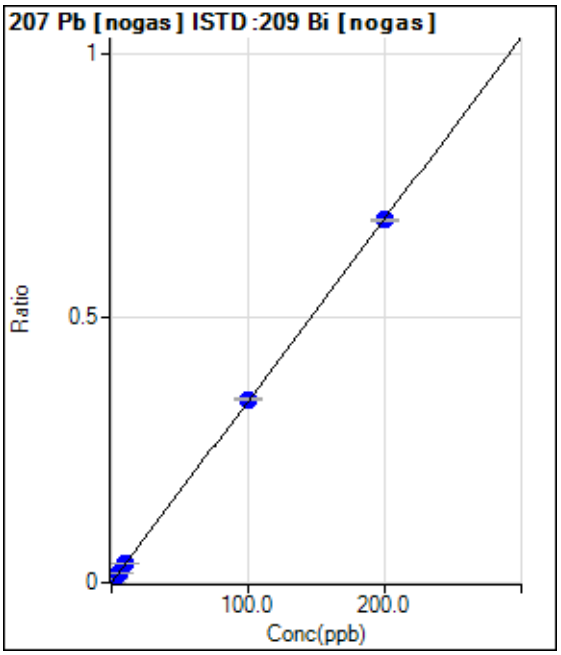


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	116.67	0.0001	P	4.5
2	☐	2.000	2.059	7198.52	0.0078	P	5.4
3	☐	5.000	5.142	17720.57	0.0193	P	2.8
4	☐	10.000	10.002	34472.25	0.0374	P	2.9
5	☐	100.000	100.974	340378.30	0.3761	P	1.0
6	☐	200.000	199.509	670409.91	0.7430	P	0.3
7	☐	1.000					

y = 0.0037 * x + 1.2741E-004
R = 1.0000
DL = 0.004664
BEC = 0.03422

Weight: <None>
Min Conc: <None>

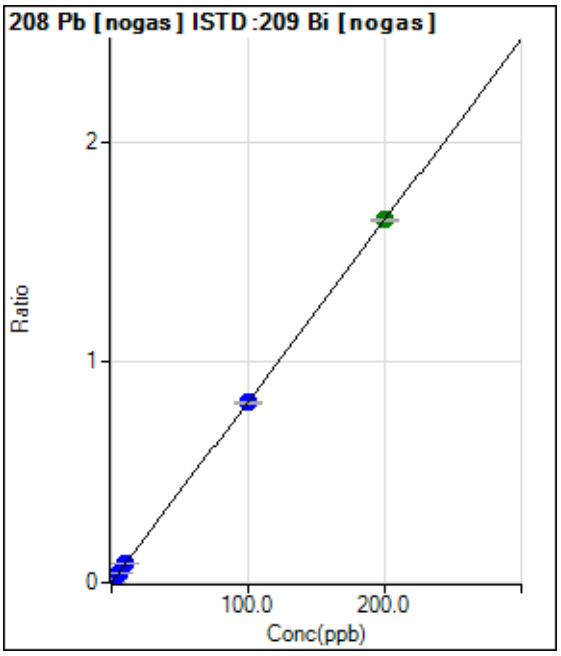
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	76.67	0.0001	P	40.2
2	☐	2.000	2.017	6468.17	0.0070	P	4.9
3	☐	5.000	5.287	16759.47	0.0182	P	3.6
4	☐	10.000	10.199	32357.65	0.0351	P	0.9
5	☐	100.000	100.735	312872.93	0.3457	P	0.8
6	☐	200.000	199.615	618036.52	0.6850	P	0.2
7	☐	1.000					

y = 0.0034 * x + 8.3799E-005
R = 1.0000
DL = 0.02948
BEC = 0.02442

Weight: <None>
Min Conc: <None>

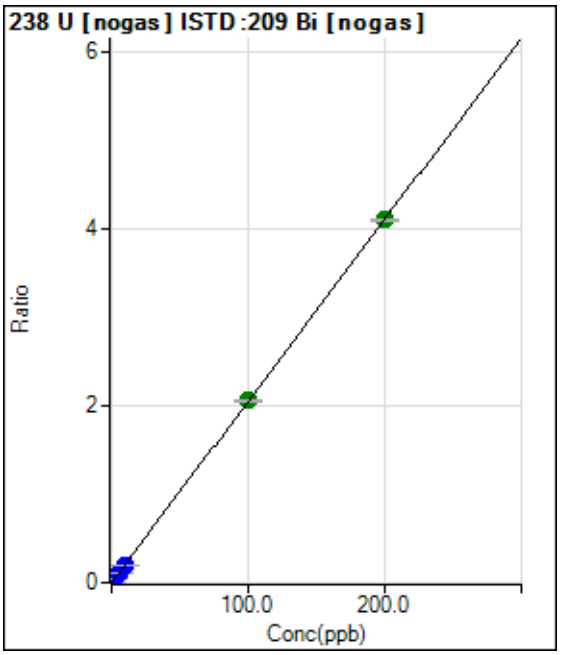


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	136.67	0.0001	P	40.9
2	☐	2.000	2.040	15644.98	0.0169	P	1.7
3	☐	5.000	5.105	38755.77	0.0421	P	0.9
4	☐	10.000	10.142	77115.74	0.0836	P	1.1
5	☐	100.000	99.489	740905.51	0.8187	P	0.8
6	☐	200.000	200.246	1486561.90	1.6477	A	0.8
7	☐	1.000					

y = 0.0082 * x + 1.4902E-004
R = 1.0000
DL = 0.02225
BEC = 0.01811

Weight: <None>
Min Conc: <None>

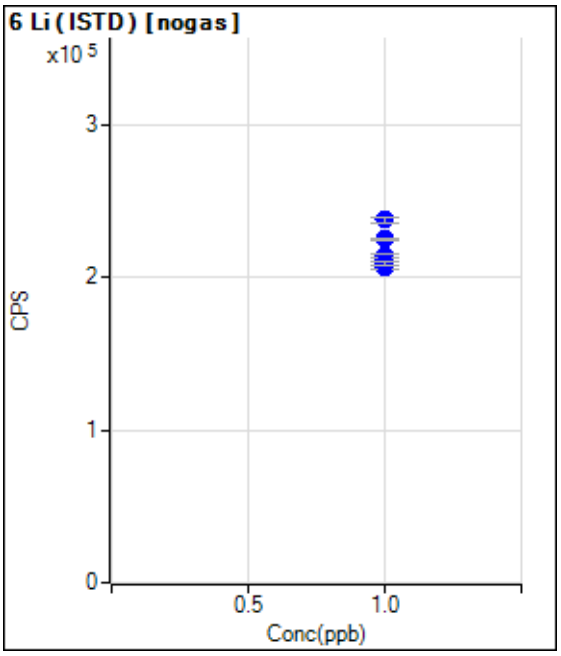
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	183.34	0.0002	P	16.9
2	☐	2.000	1.994	37921.31	0.0411	P	2.5
3	☐	5.000	4.932	93116.51	0.1013	P	0.5
4	☐	10.000	9.698	183531.20	0.1989	P	1.9
5	☐	100.000	100.167	1857839.30	2.0529	A	0.8
6	☐	200.000	199.934	3696956.92	4.0974	A	0.6
7	☐	1.000					

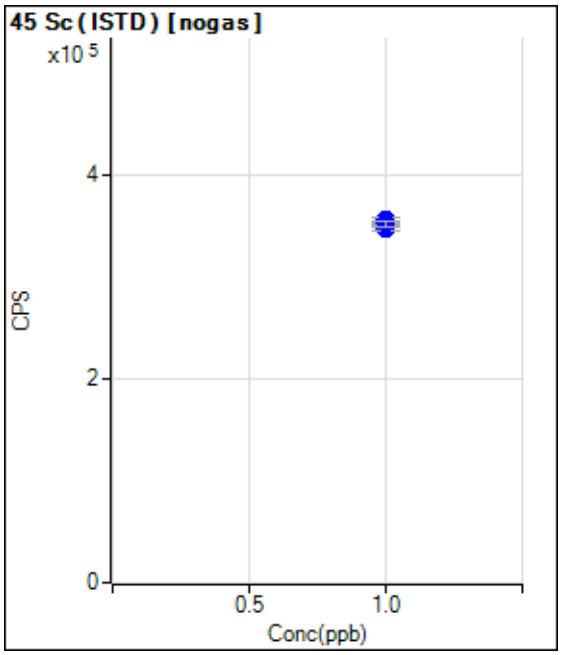
y = 0.0205 * x + 2.0010E-004
R = 1.0000
DL = 0.004943
BEC = 0.009765

Weight: <None>
Min Conc: <None>

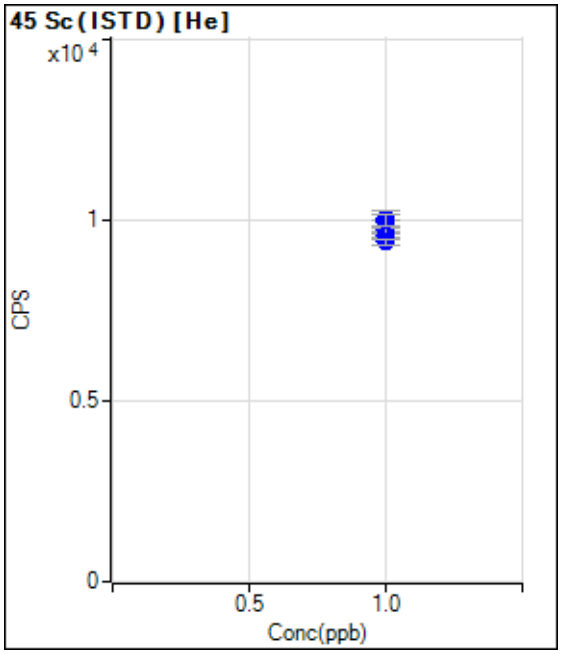


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		211472.98		P	1.2
2	☐	1.000		213696.99		P	1.3
3	☐	1.000		206727.51		P	1.2
4	☐	1.000		208600.64		P	1.2
5	☐	1.000		224973.24		P	0.7
6	☐	1.000		237495.61		P	1.8
7	☐	1.000					

Calibration for 026_ICV.d

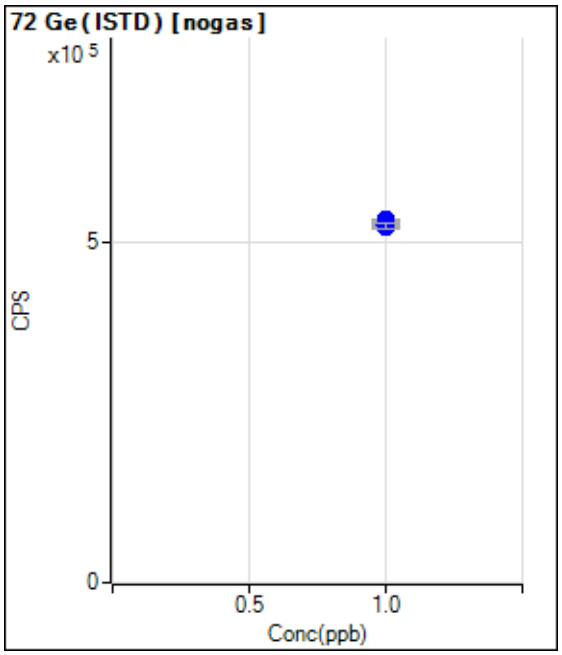


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		350142.61		P	0.8
2	☐	1.000		347216.18		P	0.8
3	☐	1.000		352895.09		P	0.8
4	☐	1.000		355790.48		P	1.4
5	☐	1.000		352282.42		P	0.9
6	☐	1.000		351845.05		P	1.6
7	☐	1.000					

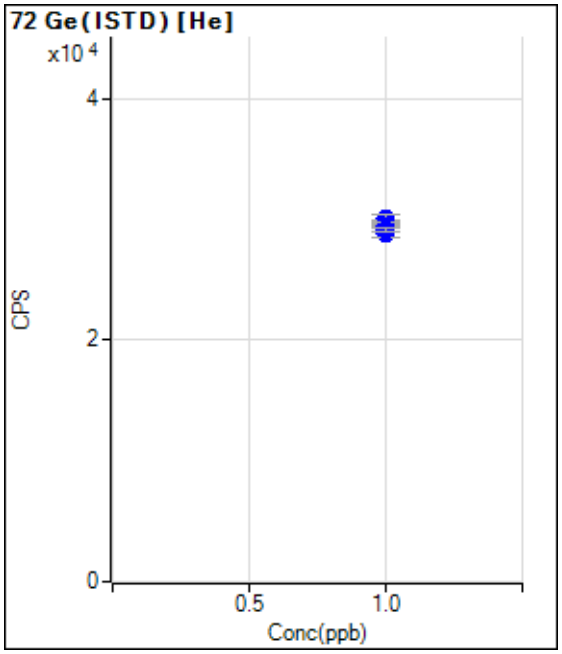


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		9936.34		P	6.5
2	☐	1.000		9592.79		P	1.9
3	☐	1.000		9749.62		P	5.2
4	☐	1.000		10043.10		P	4.7
5	☐	1.000		9996.37		P	3.2
6	☐	1.000		9399.39		P	1.7
7	☐	1.000					

Calibration for 026_ICV.d

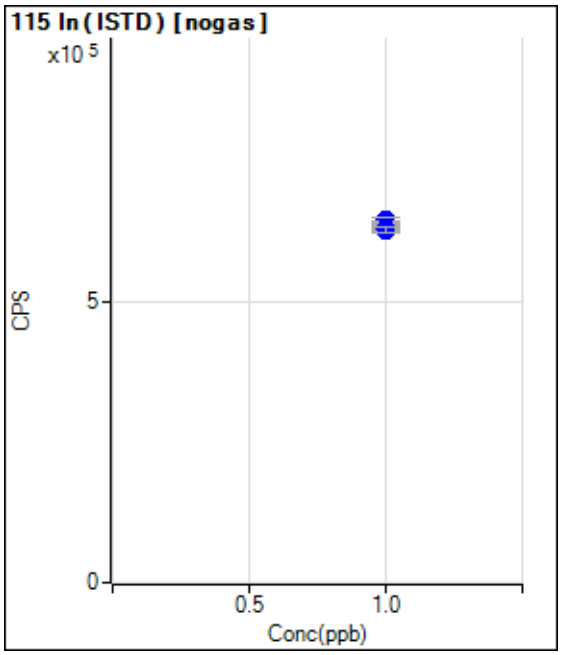


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		522917.04		P	0.5
2	☐	1.000		526041.14		P	0.8
3	☐	1.000		533572.43		P	0.7
4	☐	1.000		532193.24		P	0.6
5	☐	1.000		527534.89		P	0.7
6	☐	1.000		524852.33		P	1.2
7	☐	1.000					

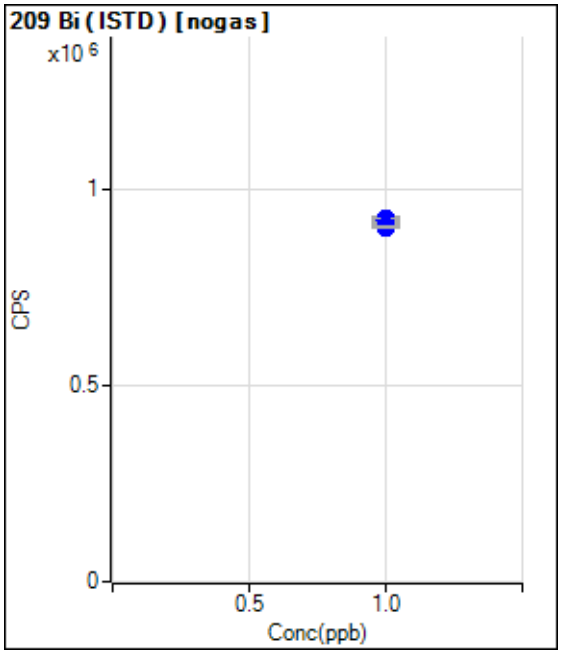


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		29525.91		P	0.5
2	☐	1.000		28844.75		P	3.0
3	☐	1.000		29753.00		P	0.7
4	☐	1.000		30013.25		P	2.2
5	☐	1.000		29475.73		P	1.7
6	☐	1.000		29131.82		P	1.5
7	☐	1.000					

Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		627838.27		P	0.4
2	☐	1.000		633423.32		P	1.1
3	☐	1.000		633286.92		P	1.6
4	☐	1.000		647527.19		P	1.2
5	☐	1.000		635889.14		P	1.7
6	☐	1.000		629998.78		P	1.3
7	☐	1.000					



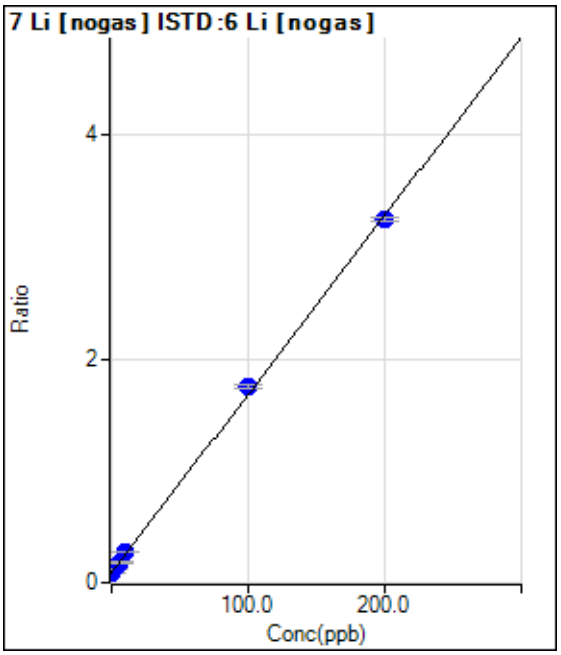
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		915562.43		P	0.6
2	☐	1.000		923823.89		P	1.4
3	☐	1.000		919580.12		P	1.0
4	☐	1.000		922494.52		P	1.0
5	☐	1.000		905004.75		P	0.8
6	☐	1.000		902242.88		P	0.6
7	☐	1.000					

Calibration for 242_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\010518A.b\
Analysis File: 010518A.batch.bin
DA Date-Time: 1/5/2018 10:38:02 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	236CALB.d	CAL BLK	1/5/2018 7:52:52 PM
2	237CALS.d	2/10/200	1/5/2018 7:55:04 PM
3	238CALS.d	5/25/500	1/5/2018 7:57:17 PM
4	239CALS.d	10/50/1000	1/5/2018 7:59:29 PM
5	240CALS.d	100/500/10K	1/5/2018 8:01:41 PM
6	241CALS.d	200/1000/20K	1/5/2018 8:03:52 PM
7			

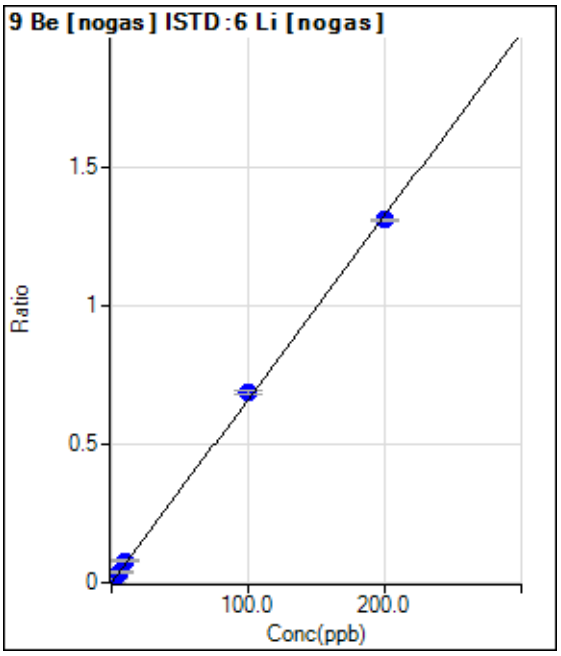
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	23575.72	0.0892	P	4.5
2	☐	2.000	2.279	32068.82	0.1256	P	1.2
3	☐	5.000	5.695	45698.35	0.1801	P	3.6
4	☐	10.000	11.618	67382.62	0.2746	P	1.7
5	☐	100.000	104.345	455859.20	1.7545	P	2.8
6	☐	200.000	197.726	864348.79	3.2449	P	1.1
7	☐	1.000					

y = 0.0160 * x + 0.0892
R = 0.9997
DL = 0.7577
BEC = 5.589

Weight: <None>
Min Conc: <None>

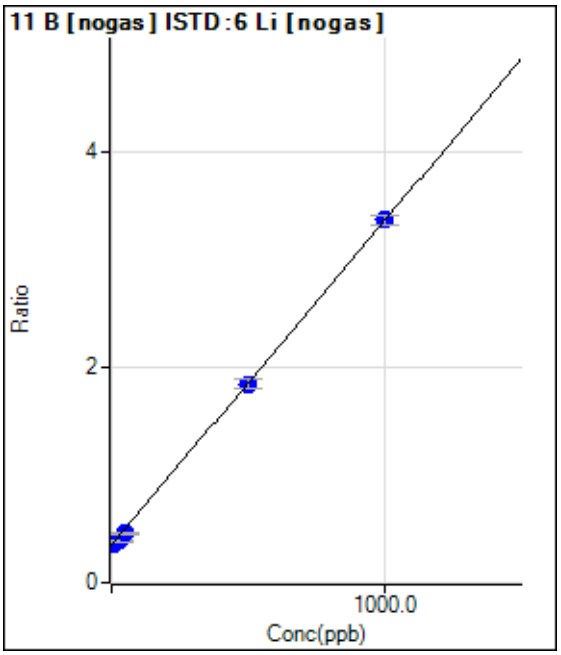


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0001	P	91.6
2	☐	2.000	2.247	3813.82	0.0149	P	3.8
3	☐	5.000	5.725	9632.78	0.0379	P	2.3
4	☐	10.000	11.940	19397.51	0.0791	P	2.9
5	☐	100.000	104.088	178987.13	0.6888	P	1.8
6	☐	200.000	197.838	348738.60	1.3091	P	0.4
7	☐	1.000					

y = 0.0066 * x + 6.3629E-005
R = 0.9997
DL = 0.02642
BEC = 0.009616

Weight: <None>
Min Conc: <None>

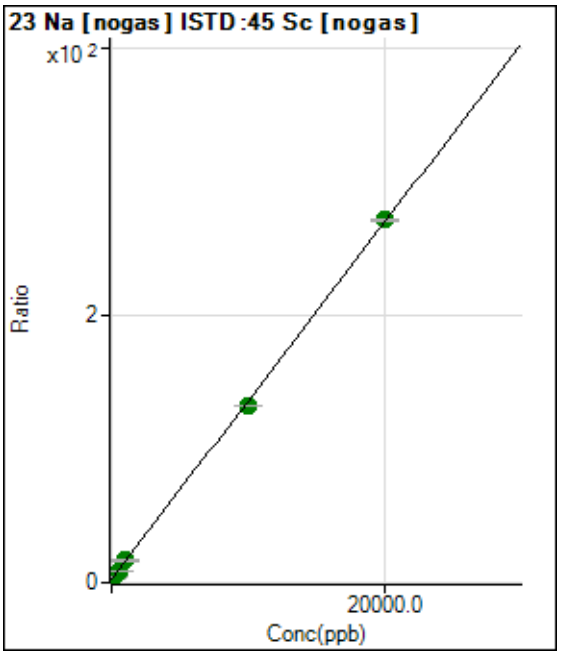
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	92627.33	0.3504	P	1.5
2	☐	10.000	1.083	90312.57	0.3536	P	1.6
3	☐	25.000	11.524	97740.83	0.3851	P	1.6
4	☐	50.000	35.979	112590.86	0.4589	P	1.8
5	☐	500.000	497.220	480446.41	1.8497	P	5.0
6	☐	1000.000	1002.517	898462.83	3.3735	P	2.6
7	☐	5.000					

y = 0.0030 * x + 0.3504
R = 0.9999
DL = 5.246
BEC = 116.2

Weight: <None>
Min Conc: <None>

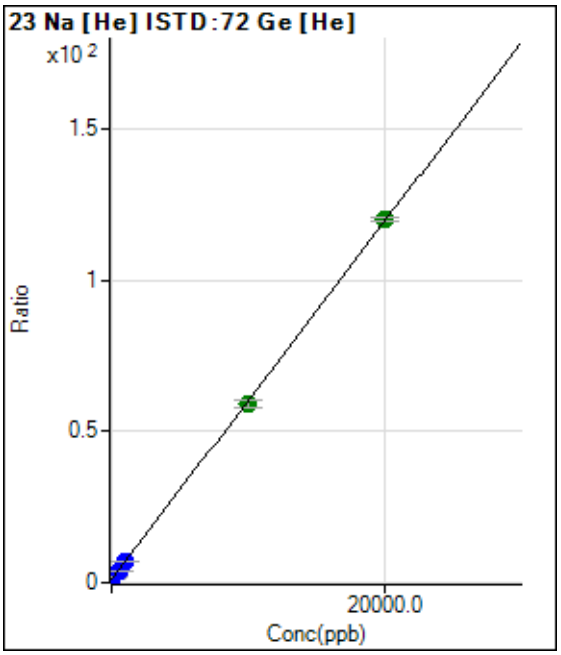


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1059452.43	2.5683	M	2.4
2	☐	200.000	183.123	2017824.65	5.0144	A	0.4
3	☐	500.000	462.585	3518150.21	8.7475	A	2.7
4	☐	1000.000	1071.312	6679776.45	16.8788	A	8.3
5	☐	10000.00	9716.111	50189163.62	132.355	A	0.9
6	☐	20000.00	20139.483	97251981.34	271.590	A	0.9
7	☐	100.000					

y = 0.0134 * x + 2.5683
R = 0.9998
DL = 14.08
BEC = 192.3

Weight: <None>
Min Conc: <None>

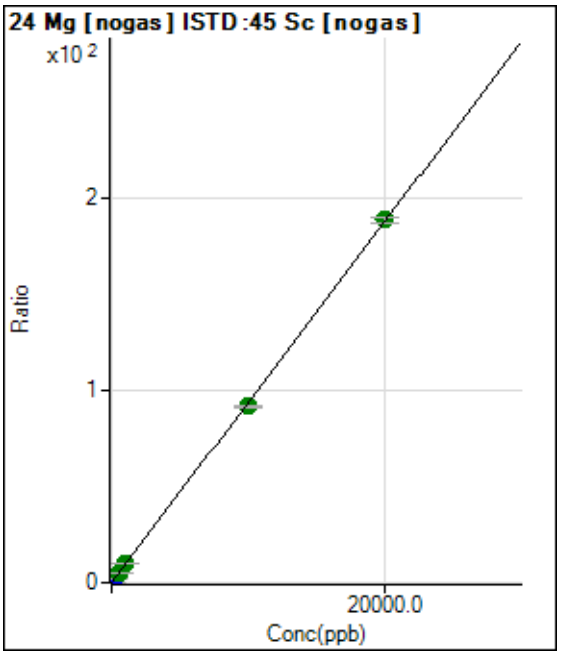
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36952.02	1.0517	P	3.8
2	☐	200.000	211.191	77648.75	2.3020	P	8.2
3	☐	500.000	489.237	130836.60	3.9481	P	6.6
4	☐	1000.000	1002.430	230771.95	6.9863	P	3.1
5	☐	10000.00	9807.064	1833375.75	59.1109	A	3.8
6	☐	20000.00	20096.504	3537211.72	120.025	A	1.0
7	☐	100.000					

y = 0.0059 * x + 1.0517
R = 0.9999
DL = 20.44
BEC = 177.7

Weight: <None>
Min Conc: <None>

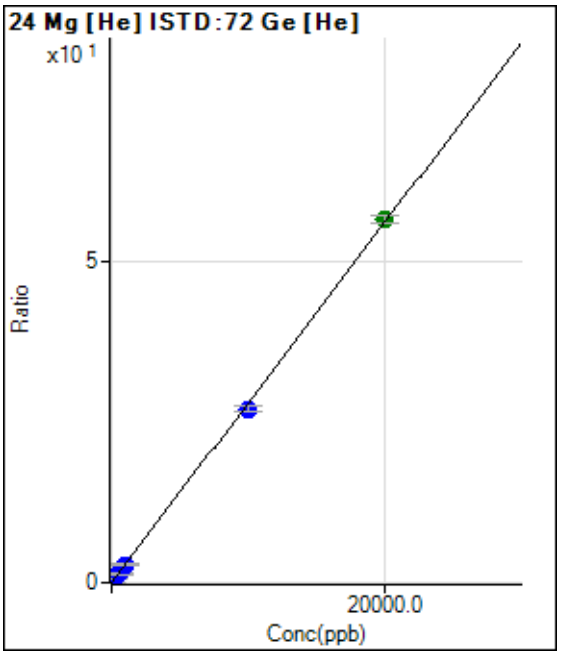


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4301.49	0.0105	P	27.1
2	☐	200.000	202.565	770533.81	1.9149	P	0.7
3	☐	500.000	509.983	1932693.92	4.8050	A	2.4
4	☐	1000.000	1046.423	3892180.94	9.8483	A	3.1
5	☐	10000.00	9778.074	34863466.40	91.9379	A	0.6
6	☐	20000.00	20108.367	67695232.76	189.057	A	1.4
7	☐	100.000					

y = 0.0094 * x + 0.0105
R = 0.9999
DL = 0.9055
BEC = 1.114

Weight: <None>
Min Conc: <None>

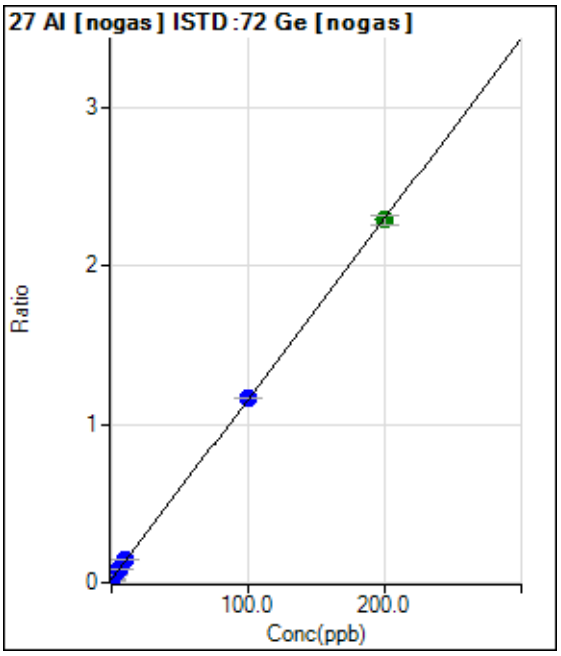
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	80.00	0.0023	P	18.4
2	☐	200.000	203.818	19357.63	0.5738	P	4.0
3	☐	500.000	491.252	45762.51	1.3799	P	4.7
4	☐	1000.000	1011.258	93779.45	2.8382	P	1.8
5	☐	10000.00	9663.563	840700.25	27.1024	P	3.0
6	☐	20000.00	20167.836	1666636.07	56.5601	A	2.3
7	☐	100.000					

y = 0.0028 * x + 0.0023
R = 0.9998
DL = 0.4458
BEC = 0.8084

Weight: <None>
Min Conc: <None>

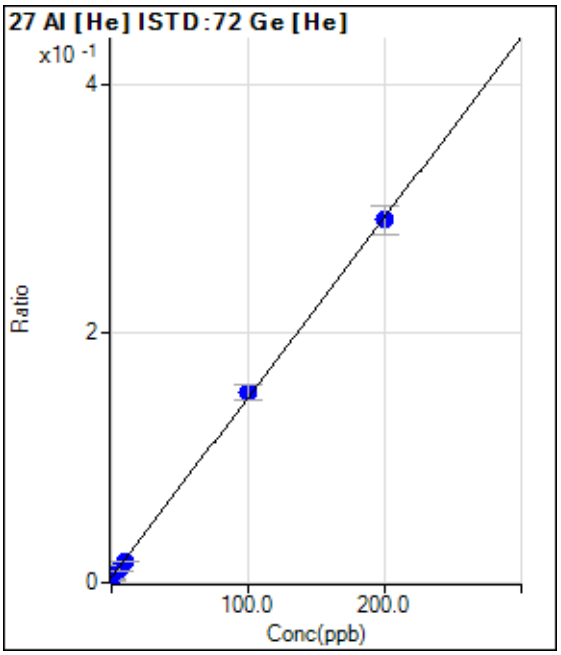


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11150.45	0.0184	P	4.3
2	☐	2.000	2.793	29895.61	0.0502	P	1.3
3	☐	5.000	5.766	49369.09	0.0841	P	2.1
4	☐	10.000	11.275	85522.54	0.1468	P	2.7
5	☐	100.000	100.747	647488.87	1.1662	P	0.7
6	☐	200.000	199.536	1226715.29	2.2917	A	2.6
7	☐	1.000					

y = 0.0114 * x + 0.0184
R = 1.0000
DL = 0.2067
BEC = 1.614

Weight: <None>
Min Conc: <None>

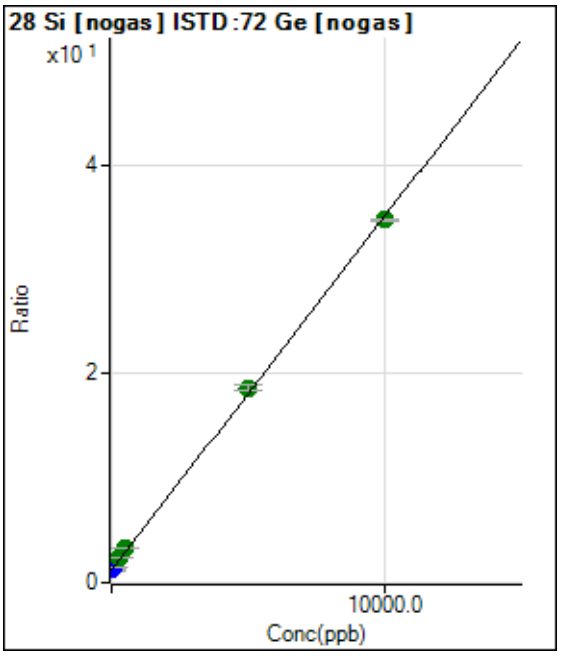
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.961	100.00	0.0028	P	43.0
2	☐	2.000	2.619	270.01	0.0080	P	17.0
3	☐	5.000	4.946	373.35	0.0114	P	39.7
4	☐	10.000	8.933	566.69	0.0171	P	5.9
5	☐	100.000	102.829	4737.40	0.1528	P	8.1
6	☐	200.000	198.634	8578.94	0.2913	P	8.1
7	☐	1.000					

y = 0.0014 * x + 0.0042
R = 0.9998
DL = 2.527
BEC = 2.922

Weight: <None>
Min Conc: <None>

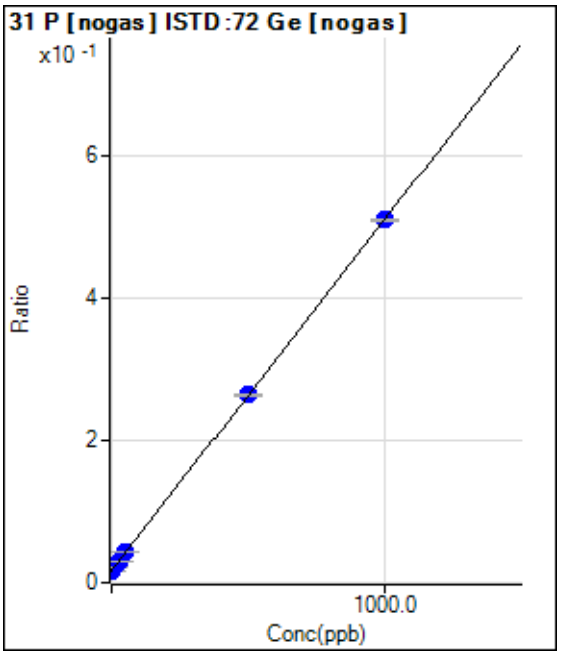


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	727909.57	1.2005	P	1.0
2	☐	100.000	103.360	923219.83	1.5505	P	0.2
3	☐	250.000	342.641	1386129.72	2.3608	A	1.3
4	☐	500.000	610.721	1903846.59	3.2686	A	1.3
5	☐	5000.000	5166.154	10379634.84	18.6943	A	2.0
6	☐	10000.00	9909.037	18606203.89	34.7548	A	0.8
7	☐	50.000					

y = 0.0034 * x + 1.2005
R = 0.9998
DL = 10.41
BEC = 354.5

Weight: <None>
Min Conc: <None>

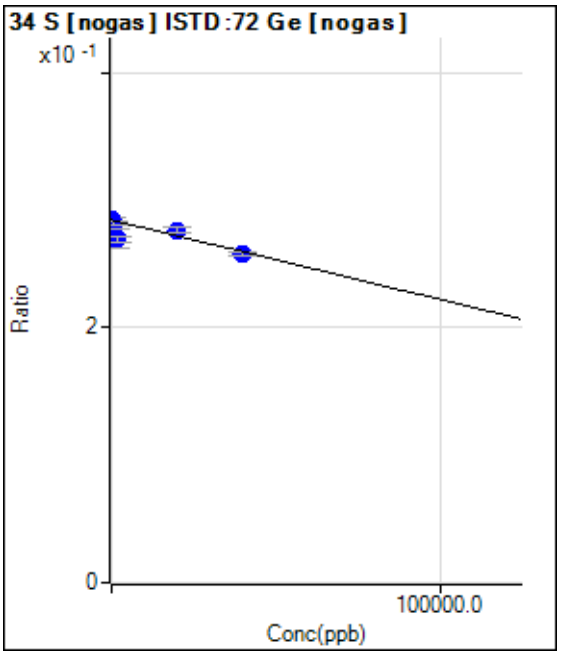
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10246.53	0.0169	P	1.8
2	☐	10.000	10.224	13068.39	0.0220	P	2.8
3	☐	25.000	25.418	17295.45	0.0295	P	2.7
4	☐	50.000	53.520	25245.05	0.0433	P	0.2
5	☐	500.000	500.227	146569.31	0.2640	P	0.8
6	☐	1000.000	999.698	273396.58	0.5107	P	0.8
7	☐	5.000					

y = 4.9393E-004 * x + 0.0169
R = 1.0000
DL = 1.897
BEC = 34.22

Weight: <None>
Min Conc: <None>

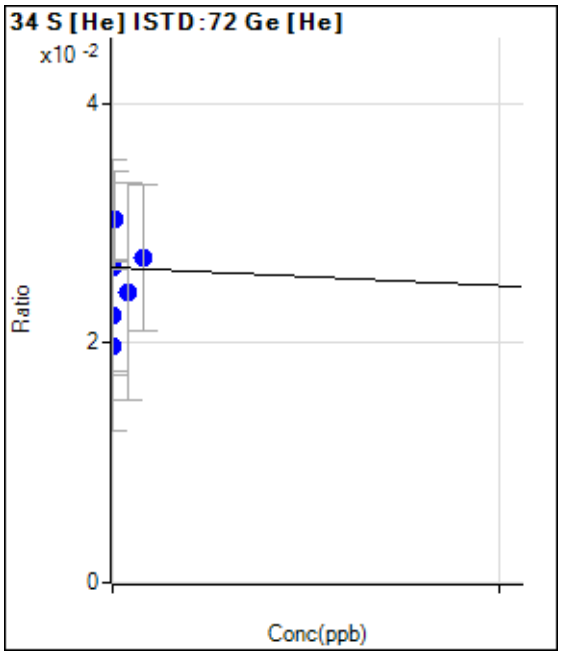


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	172438.58	0.2844	P	1.9
2	☐	400.000	3978.898	167851.21	0.2819	P	1.3
3	☐	1000.000	23232.450	158434.93	0.2699	P	5.9
4	☐	2000.000	23984.155	156985.88	0.2695	P	1.5
5	☐	20000.00	12919.280	153429.49	0.2763	P	1.6
6	☐	40000.00	41849.552	138301.39	0.2583	P	1.1
7	☐	200.000					

y = -6.2282E-007 * x + 0.2844
R = -0.7061
DL = -2.617E+04
BEC = -4.566E+05

Weight: <None>
Min Conc: <None>

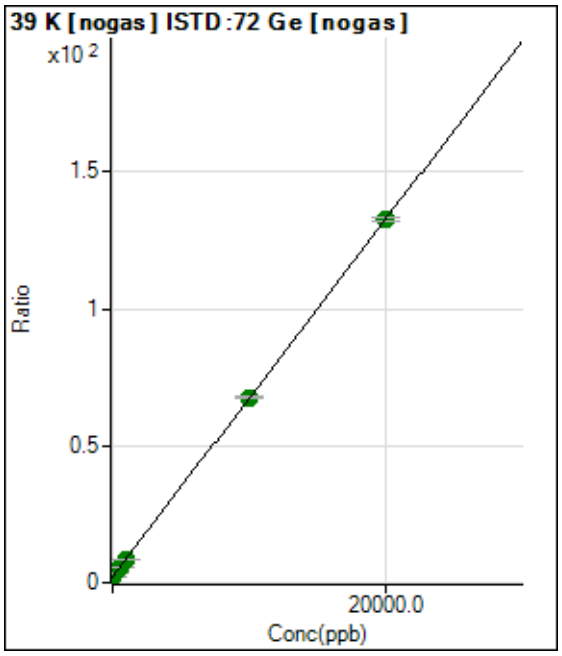
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	933.59	0.0263	P	67.9
2	☐	400.000	2147527.17	666.83	0.0198	P	71.8
3	☐	1000.000	1331465.19	733.51	0.0223	P	41.3
4	☐	2000.000	-1307228.14	1000.22	0.0303	P	26.7
5	☐	20000.00	673274.453	766.91	0.0243	P	74.6
6	☐	40000.00	-275908.721	800.19	0.0271	P	44.8
7	☐	200.000					

y = -3.0356E-009 * x + 0.0263
R = 0.2509
DL = -1.765E+07
BEC = -8.666E+06

Weight: <None>
Min Conc: <None>

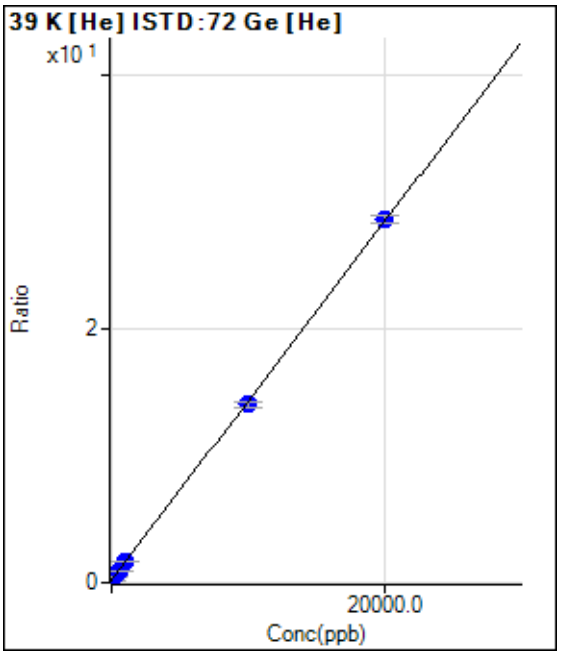


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1313118.45	2.1658	A	1.6
2	☐	200.000	191.056	2031133.70	3.4116	A	3.0
3	☐	500.000	489.953	3147265.57	5.3607	A	1.1
4	☐	1000.000	997.167	5049235.53	8.6682	A	0.9
5	☐	10000.00	10038.874	37548694.59	67.6281	A	0.9
6	☐	20000.00	19981.045	70909957.84	132.459	A	1.1
7	☐	100.000					

y = 0.0065 * x + 2.1658
R = 1.0000
DL = 15.66
BEC = 332.1

Weight: <None>
Min Conc: <None>

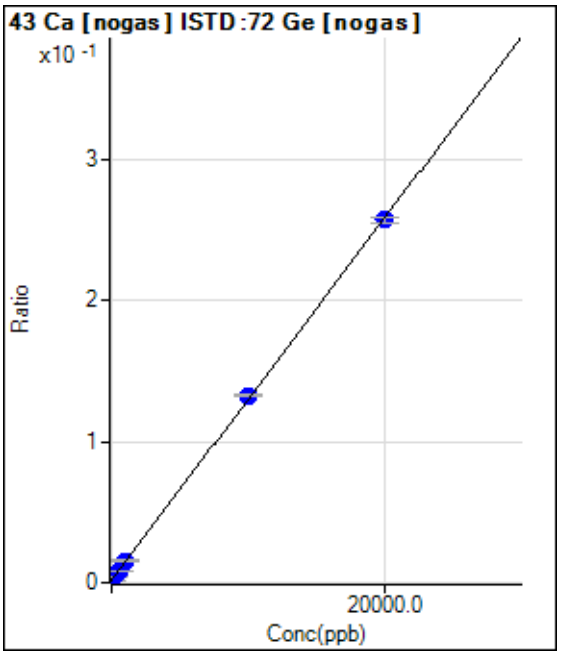
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7181.61	0.2043	P	3.1
2	☐	200.000	215.526	17181.93	0.5091	P	1.0
3	☐	500.000	498.293	30146.23	0.9089	P	4.0
4	☐	1000.000	1010.779	53969.80	1.6336	P	2.7
5	☐	10000.00	9803.591	436369.91	14.0670	P	2.9
6	☐	20000.00	20097.553	843437.10	28.6232	P	2.2
7	☐	100.000					

y = 0.0014 * x + 0.2043
R = 0.9999
DL = 13.43
BEC = 144.5

Weight: <None>
Min Conc: <None>

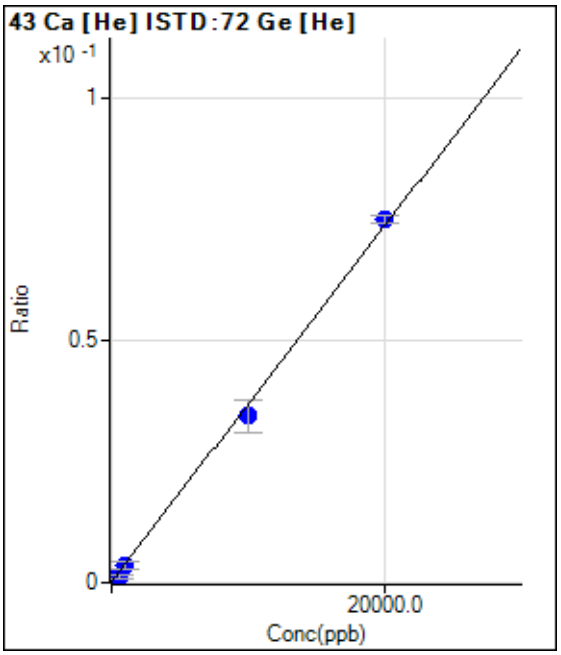


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	996.72	0.0016	P	11.8
2	☐	200.000	208.586	2573.59	0.0043	P	2.6
3	☐	500.000	510.245	4810.76	0.0082	P	7.6
4	☐	1000.000	1082.439	9052.49	0.0155	P	4.8
5	☐	10000.00	10183.866	73527.64	0.1324	P	0.9
6	☐	20000.00	19903.603	137717.44	0.2573	P	1.5
7	☐	100.000					

y = 1.2842E-005 * x + 0.0016
R = 0.9999
DL = 45.36
BEC = 128

Weight: <None>
Min Conc: <None>

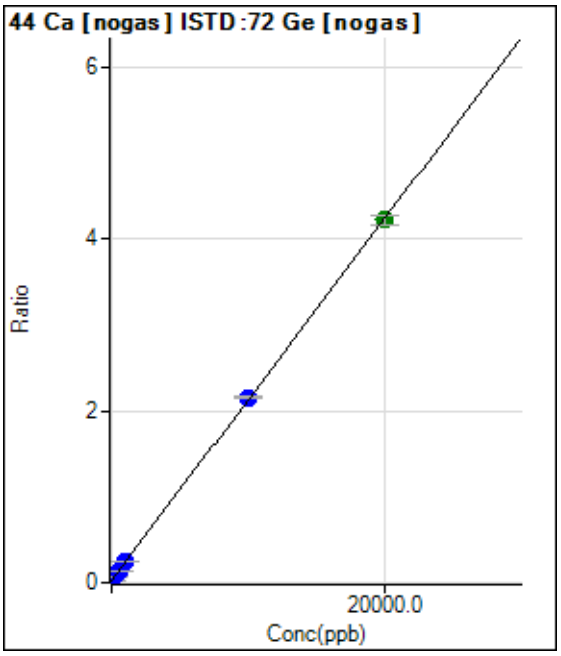
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6.67	0.0002	P	173.
2	☐	200.000	133.658	23.33	0.0007	P	62.9
3	☐	500.000	308.847	43.33	0.0013	P	58.2
4	☐	1000.000	944.660	120.00	0.0037	P	46.1
5	☐	10000.00	9304.797	1063.39	0.0344	P	19.4
6	☐	20000.00	20355.811	2210.19	0.0750	P	2.3
7	☐	100.000					

y = 3.6750E-006 * x + 1.9232E-004
R = 0.9992
DL = 271.9
BEC = 52.33

Weight: <None>
Min Conc: <None>

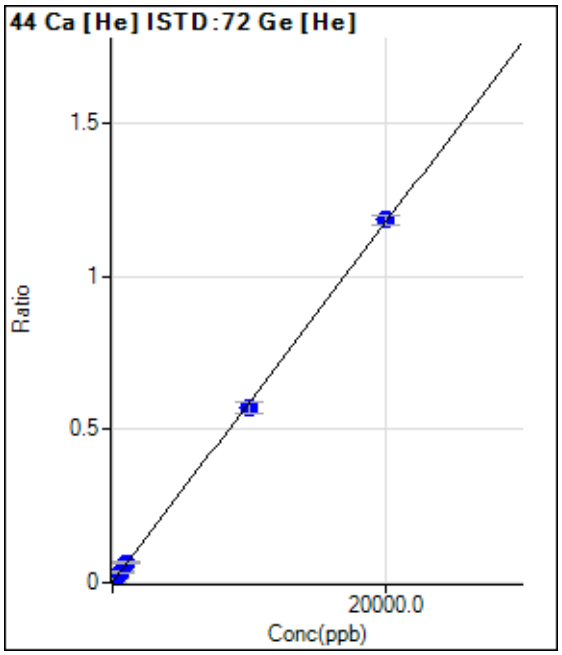


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	15340.39	0.0253	P	4.4
2	☐	200.000	206.226	40874.79	0.0687	P	2.9
3	☐	500.000	512.365	78097.46	0.1330	P	2.0
4	☐	1000.000	1026.035	140378.08	0.2410	P	2.2
5	☐	10000.00	10121.028	1195280.14	2.1528	P	1.0
6	☐	20000.00	19937.813	2257035.96	4.2164	A	2.5
7	☐	100.000					

y = 2.1021E-004 * x + 0.0253
R = 1.0000
DL = 15.89
BEC = 120.4

Weight: <None>
Min Conc: <None>

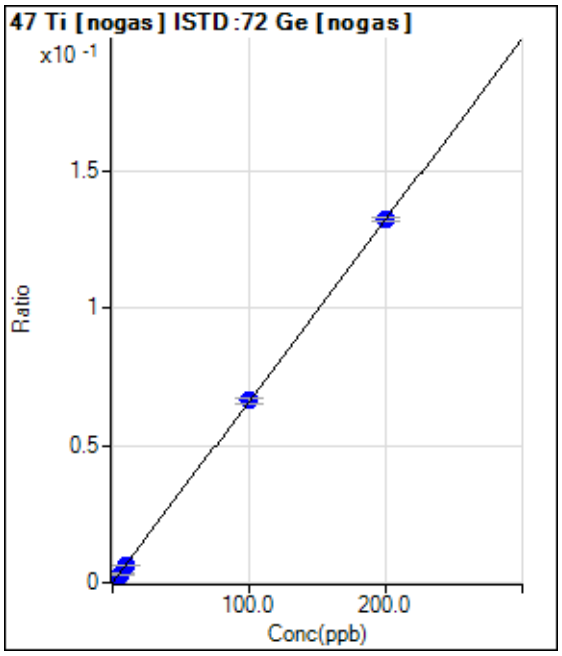
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	40.00	0.0011	P	66.6
2	☐	200.000	156.824	350.01	0.0104	P	9.1
3	☐	500.000	532.422	1073.40	0.0325	P	15.0
4	☐	1000.000	1089.639	2156.85	0.0653	P	2.8
5	☐	10000.00	9706.692	17739.42	0.5723	P	6.0
6	☐	20000.00	20141.793	34955.41	1.1863	P	2.8
7	☐	100.000					

y = 5.8841E-005 * x + 0.0011
R = 0.9998
DL = 38.55
BEC = 19.29

Weight: <None>
Min Conc: <None>

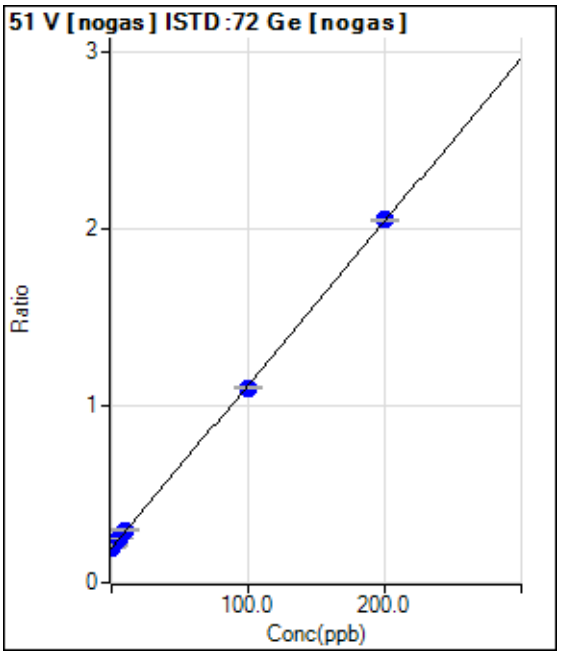


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0000	P	125.
2	☐	2.000	1.993	800.04	0.0013	P	5.4
3	☐	5.000	4.669	1826.81	0.0031	P	4.9
4	☐	10.000	9.234	3567.11	0.0061	P	2.7
5	☐	100.000	100.143	36732.21	0.0662	P	2.5
6	☐	200.000	199.975	70706.53	0.1321	P	0.9
7	☐	1.000					

y = 6.6034E-004 * x + 2.7560E-005
R = 1.0000
DL = 0.1569
BEC = 0.04174

Weight: <None>
Min Conc: <None>

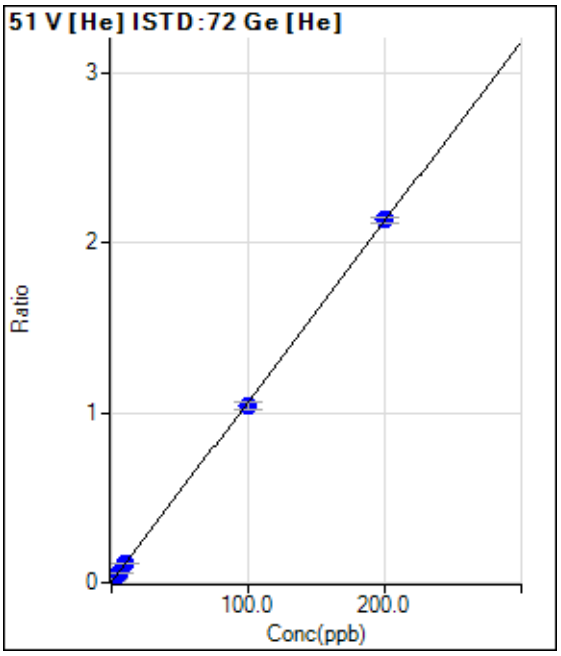
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	118455.74	0.1954	P	1.8
2	☐	2.000	1.889	126651.34	0.2128	P	7.0
3	☐	5.000	5.812	146170.04	0.2490	P	1.8
4	☐	10.000	11.190	173873.21	0.2985	P	2.6
5	☐	100.000	97.885	609639.63	1.0980	P	1.1
6	☐	200.000	200.979	1096874.76	2.0487	P	0.9
7	☐	1.000					

y = 0.0092 * x + 0.1954
R = 0.9999
DL = 1.125
BEC = 21.19

Weight: <None>
Min Conc: <None>

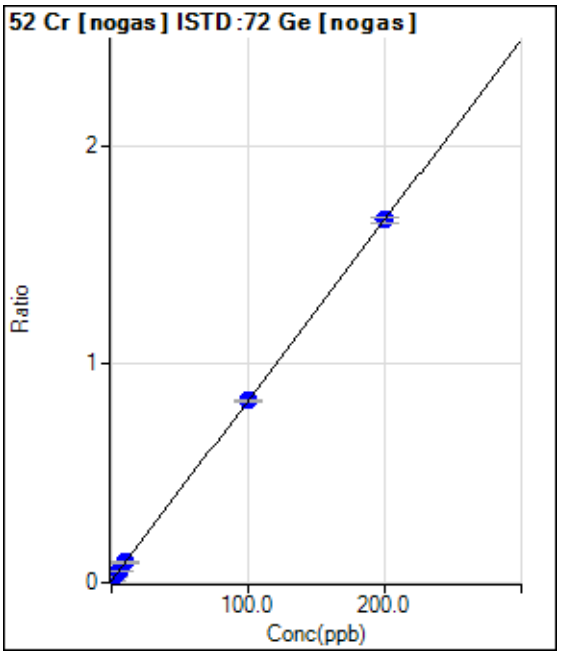


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.237	224.00	0.0064	P	6.0
2	☐	2.000	2.163	904.03	0.0268	P	3.1
3	☐	5.000	5.162	1942.12	0.0586	P	6.1
4	☐	10.000	10.455	3788.42	0.1147	P	5.0
5	☐	100.000	98.023	32347.24	1.0431	P	4.1
6	☐	200.000	200.960	62899.16	2.1344	P	1.4
7	☐	1.000					

y = 0.0106 * x + 0.0039
R = 0.9999
DL = 0.1087
BEC = 0.3642

Weight: <None>
Min Conc: <None>

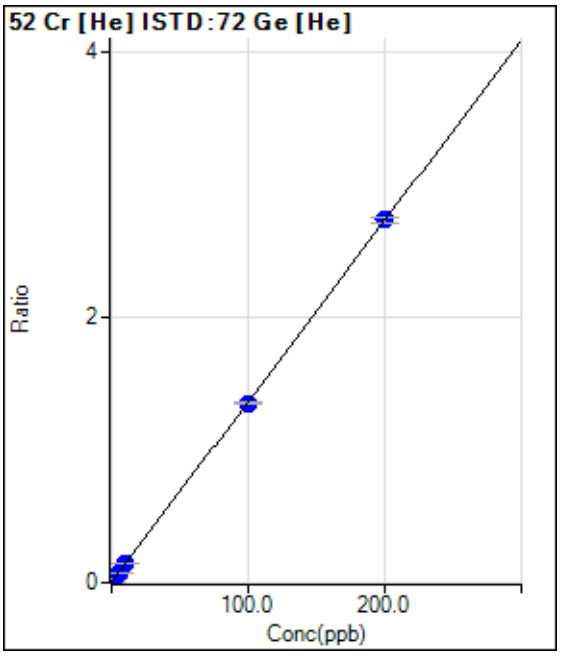
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5391.03	0.0089	P	7.7
2	☐	2.000	1.900	14626.48	0.0246	P	1.3
3	☐	5.000	5.081	29825.98	0.0508	P	3.6
4	☐	10.000	10.188	54138.09	0.0929	P	1.3
5	☐	100.000	99.711	461587.39	0.8314	P	1.8
6	☐	200.000	200.134	888462.20	1.6597	P	1.8
7	☐	1.000					

y = 0.0082 * x + 0.0089
R = 1.0000
DL = 0.2495
BEC = 1.078

Weight: <None>
Min Conc: <None>

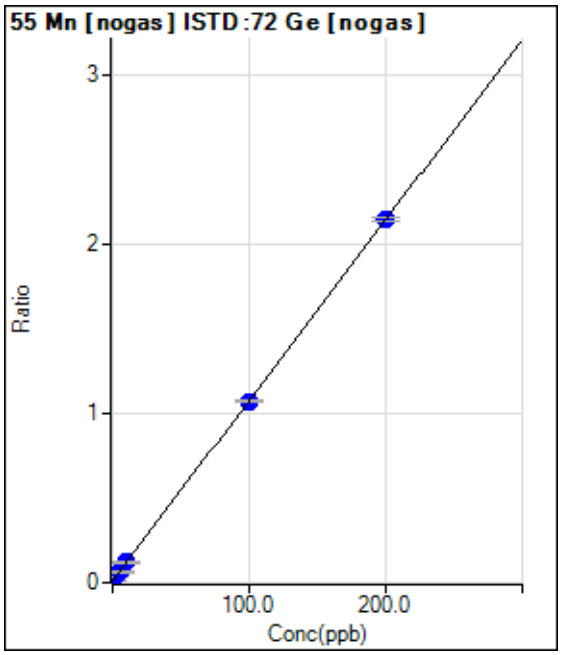


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	113.34	0.0033	P	76.1
2	☐	2.000	1.838	956.71	0.0283	P	23.5
3	☐	5.000	4.719	2240.20	0.0676	P	5.0
4	☐	10.000	10.481	4824.12	0.1461	P	5.7
5	☐	100.000	98.766	41874.09	1.3493	P	1.1
6	☐	200.000	200.602	80670.06	2.7372	P	1.6
7	☐	1.000					

y = 0.0136 * x + 0.0033
R = 1.0000
DL = 0.5451
BEC = 0.2386

Weight: <None>
Min Conc: <None>

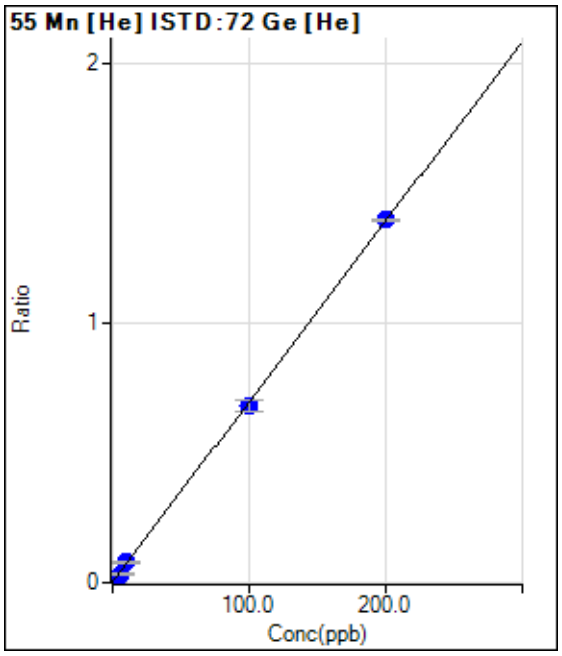
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6254.59	0.0103	P	5.9
2	☐	2.000	2.074	19291.08	0.0324	P	2.2
3	☐	5.000	4.953	37016.76	0.0631	P	3.7
4	☐	10.000	10.248	69565.94	0.1194	P	0.8
5	☐	100.000	99.570	594345.78	1.0705	P	0.7
6	☐	200.000	200.203	1146660.71	2.1420	P	1.2
7	☐	1.000					

y = 0.0106 * x + 0.0103
R = 1.0000
DL = 0.1718
BEC = 0.9688

Weight: <None>
Min Conc: <None>

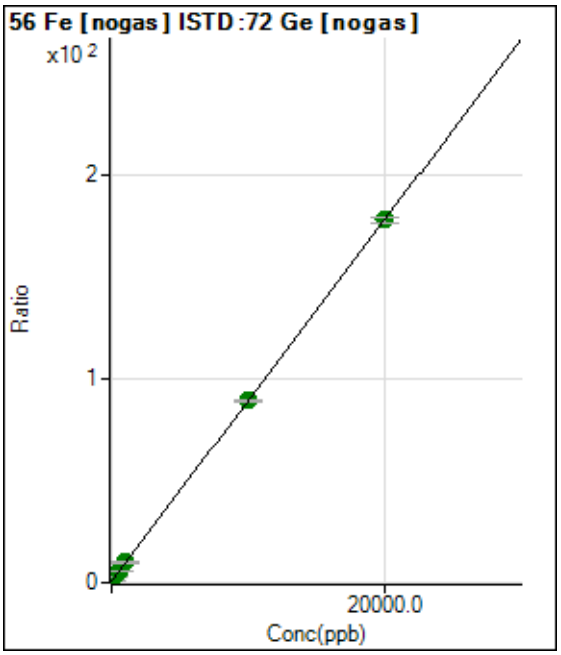


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	76.67	0.0022	P	32.9
2	☐	2.000	2.215	590.02	0.0175	P	21.3
3	☐	5.000	4.462	1100.05	0.0331	P	9.2
4	☐	10.000	10.920	2573.59	0.0779	P	6.7
5	☐	100.000	97.977	21136.53	0.6818	P	5.8
6	☐	200.000	200.977	41152.39	1.3963	P	0.8
7	☐	1.000					

y = 0.0069 * x + 0.0022
R = 0.9999
DL = 0.3098
BEC = 0.314

Weight: <None>
Min Conc: <None>

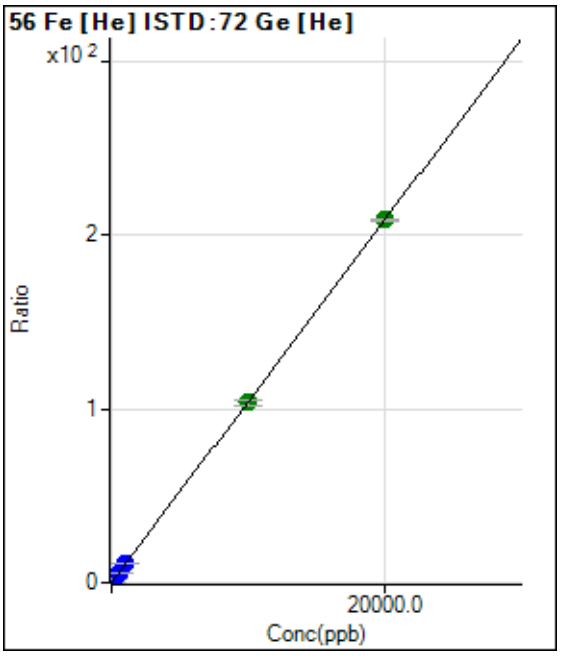
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	399310.82	0.6585	P	2.3
2	☐	200.000	216.181	1535235.13	2.5787	A	2.1
3	☐	500.000	519.904	3097710.29	5.2763	A	1.8
4	☐	1000.000	1049.515	5813246.62	9.9804	A	1.6
5	☐	10000.00	9986.471	49613313.61	89.3591	A	1.2
6	☐	20000.00	20003.629	95461575.05	178.332	A	1.8
7	☐	100.000					

y = 0.0089 * x + 0.6585
R = 1.0000
DL = 5.041
BEC = 74.14

Weight: <None>
Min Conc: <None>

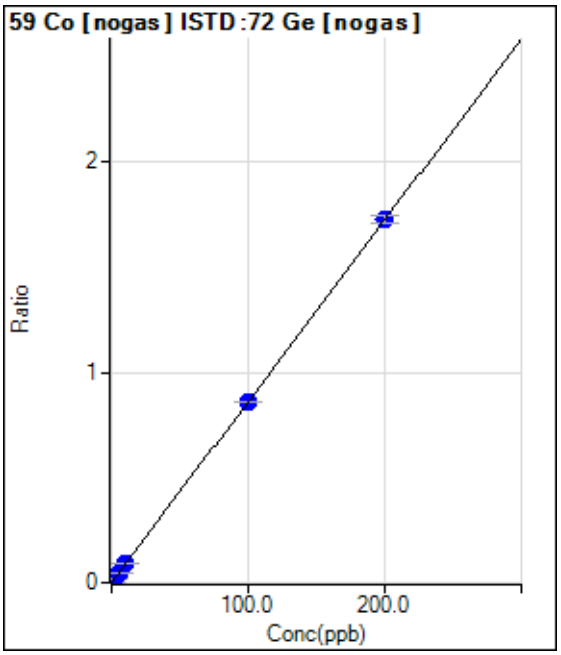


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1136.73	0.0324	P	15.0
2	☐	200.000	207.986	74205.15	2.1991	P	2.7
3	☐	500.000	511.466	177689.34	5.3606	P	5.9
4	☐	1000.000	1037.557	358176.96	10.8412	P	2.6
5	☐	10000.00	9933.940	3211257.77	103.519	A	2.9
6	☐	20000.00	20030.786	6151302.62	208.703	A	0.6
7	☐	100.000					

y = 0.0104 * x + 0.0324
R = 1.0000
DL = 1.402
BEC = 3.111

Weight: <None>
Min Conc: <None>

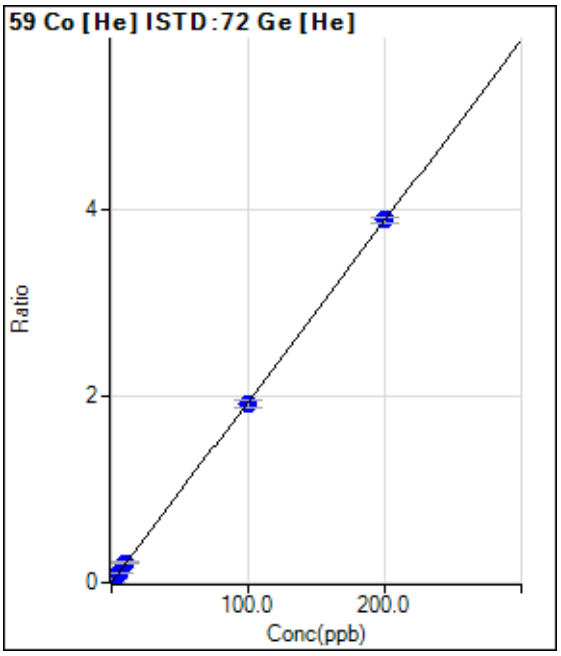
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	80.00	0.0001	P	25.2
2	☐	2.000	2.062	10643.50	0.0179	P	4.9
3	☐	5.000	5.118	25939.85	0.0442	P	2.0
4	☐	10.000	10.315	51791.07	0.0889	P	1.6
5	☐	100.000	99.412	475198.43	0.8559	P	0.2
6	☐	200.000	200.275	922886.37	1.7241	P	2.2
7	☐	1.000					

y = 0.0086 * x + 1.3198E-004
R = 1.0000
DL = 0.01161
BEC = 0.01533

Weight: <None>
Min Conc: <None>

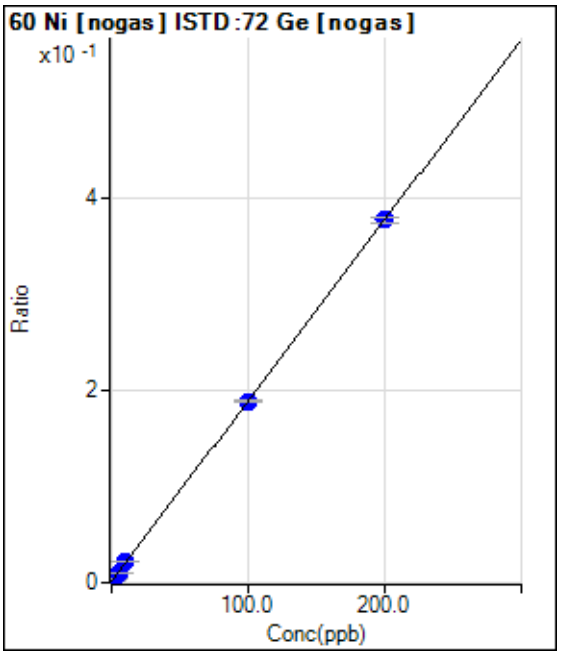


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0003	P	101.
2	☐	2.000	1.805	1190.06	0.0353	P	6.7
3	☐	5.000	5.128	3303.72	0.0997	P	7.3
4	☐	10.000	10.910	6994.87	0.2118	P	5.0
5	☐	100.000	98.777	59392.07	1.9154	P	4.5
6	☐	200.000	200.565	114611.50	3.8889	P	1.4
7	☐	1.000					

y = 0.0194 * x + 2.8392E-004
R = 1.0000
DL = 0.04465
BEC = 0.01464

Weight: <None>
Min Conc: <None>

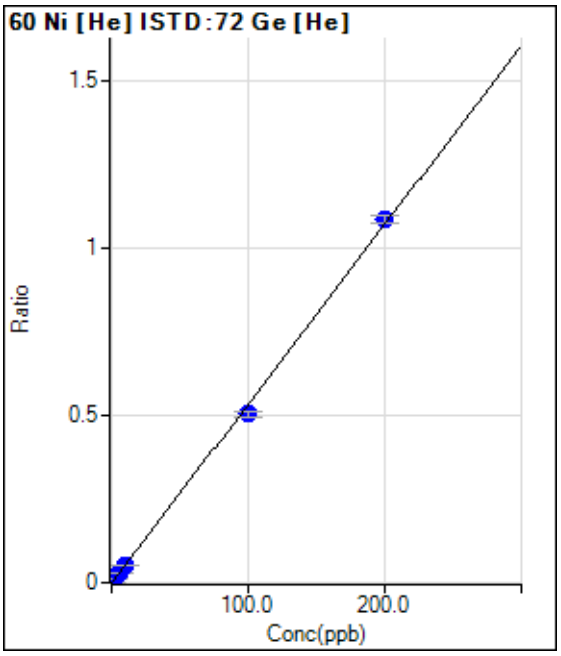
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.020	910.04	0.0015	P	14.1
2	☐	2.000	1.702	2823.62	0.0047	P	8.5
3	☐	5.000	4.837	6244.57	0.0106	P	4.3
4	☐	10.000	10.751	12681.57	0.0218	P	5.8
5	☐	100.000	99.520	104802.81	0.1888	P	1.0
6	☐	200.000	200.209	202445.86	0.3782	P	1.7
7	☐	1.000					

y = 0.0019 * x + 0.0015
R = 1.0000
DL = 0.3372
BEC = 0.8179

Weight: <None>
Min Conc: <None>

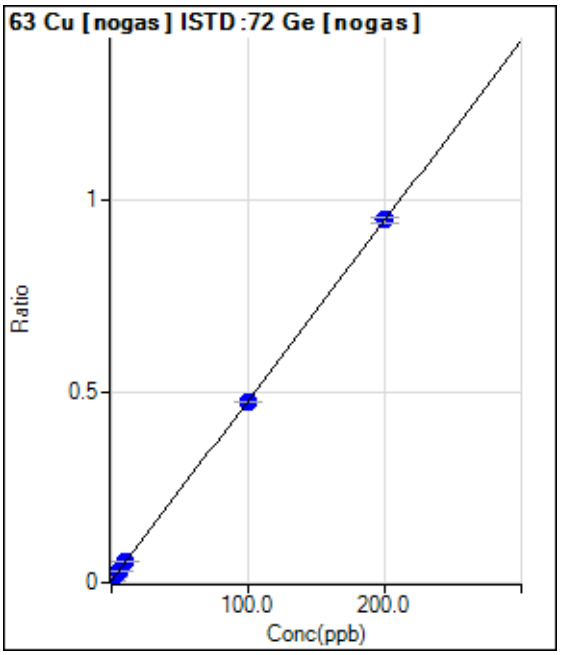


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.786	66.67	0.0019	P	14.1
2	☐	2.000	2.702	413.35	0.0122	P	35.0
3	☐	5.000	6.145	1016.72	0.0306	P	3.6
4	☐	10.000	10.227	1736.79	0.0526	P	6.2
5	☐	100.000	94.376	15637.42	0.5041	P	3.0
6	☐	200.000	202.765	32003.48	1.0857	P	2.0
7	☐	1.000					

y = 0.0054 * x - 0.0023
R = 0.9994
DL = 0.149
BEC = -0.4334

Weight: <None>
Min Conc: <None>

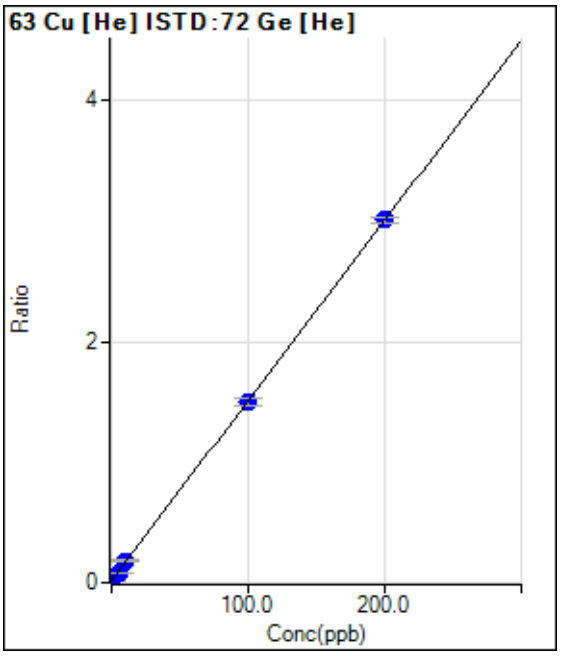
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3073.67	0.0051	P	8.1
2	☐	2.000	2.574	10236.59	0.0172	P	2.7
3	☐	5.000	4.888	16494.86	0.0281	P	0.9
4	☐	10.000	10.586	32000.11	0.0549	P	2.0
5	☐	100.000	99.289	262499.80	0.4728	P	0.6
6	☐	200.000	200.323	507882.21	0.9487	P	1.3
7	☐	1.000					

y = 0.0047 * x + 0.0051
R = 1.0000
DL = 0.2606
BEC = 1.076

Weight: <None>
Min Conc: <None>

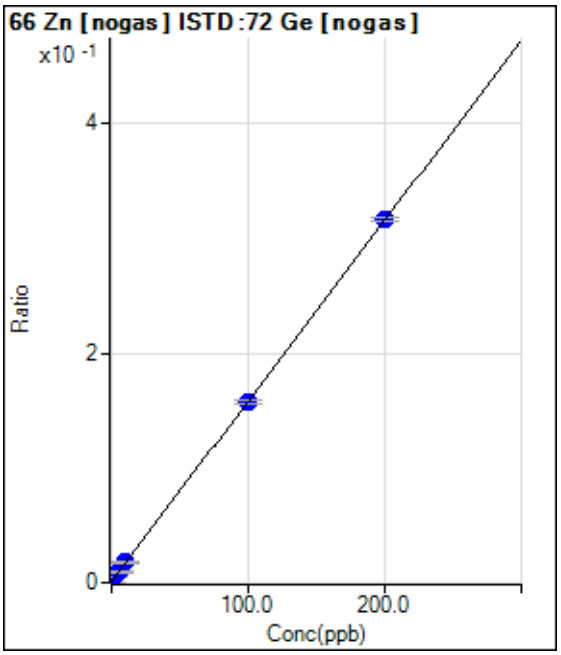


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.305	400.01	0.0114	P	6.9
2	☐	2.000	2.429	1763.47	0.0522	P	7.4
3	☐	5.000	4.451	2733.60	0.0824	P	1.6
4	☐	10.000	10.836	5864.44	0.1777	P	7.5
5	☐	100.000	99.242	46429.60	1.4975	P	5.0
6	☐	200.000	200.347	88613.74	3.0070	P	1.5
7	☐	1.000					

y = 0.0149 * x + 0.0159
R = 1.0000
DL = 0.1583
BEC = 1.066

Weight: <None>
Min Conc: <None>

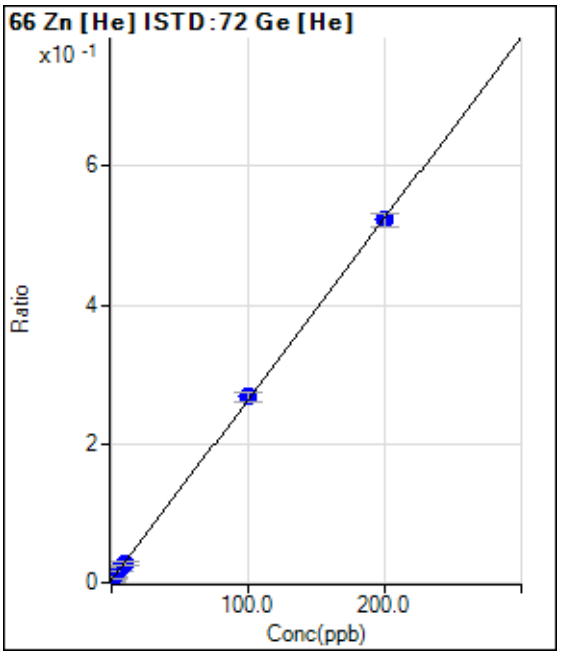
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.308	463.35	0.0008	P	15.6
2	☐	2.000	2.009	2620.25	0.0044	P	8.9
3	☐	5.000	5.262	5581.02	0.0095	P	8.1
4	☐	10.000	10.490	10326.65	0.0177	P	5.0
5	☐	100.000	99.157	87133.95	0.1569	P	1.8
6	☐	200.000	200.390	169117.45	0.3159	P	1.0
7	☐	1.000					

y = 0.0016 * x + 0.0012
R = 1.0000
DL = 0.2282
BEC = 0.7944

Weight: <None>
Min Conc: <None>

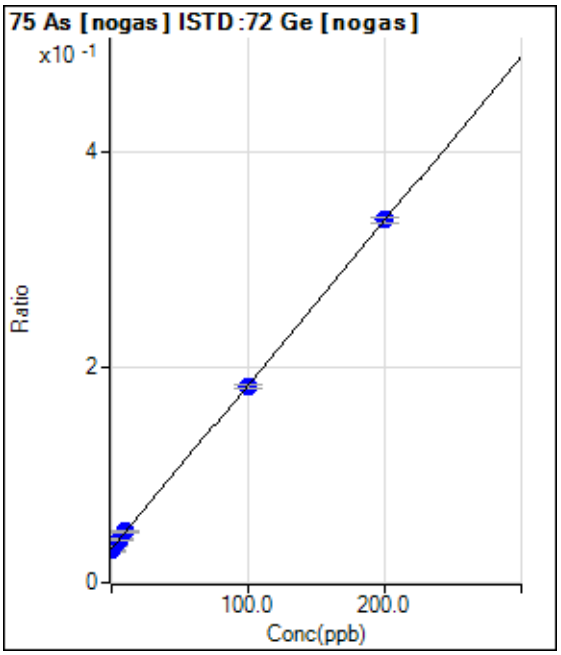


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.651	53.33	0.0015	P	62.2
2	☐	2.000	1.528	243.34	0.0072	P	17.7
3	☐	5.000	5.933	616.69	0.0187	P	30.8
4	☐	10.000	9.355	916.71	0.0276	P	22.0
5	☐	100.000	101.641	8318.80	0.2683	P	5.3
6	☐	200.000	199.193	15407.21	0.5227	P	3.5
7	☐	1.000					

y = 0.0026 * x + 0.0032
R = 0.9999
DL = 1.096
BEC = 1.238

Weight: <None>
Min Conc: <None>

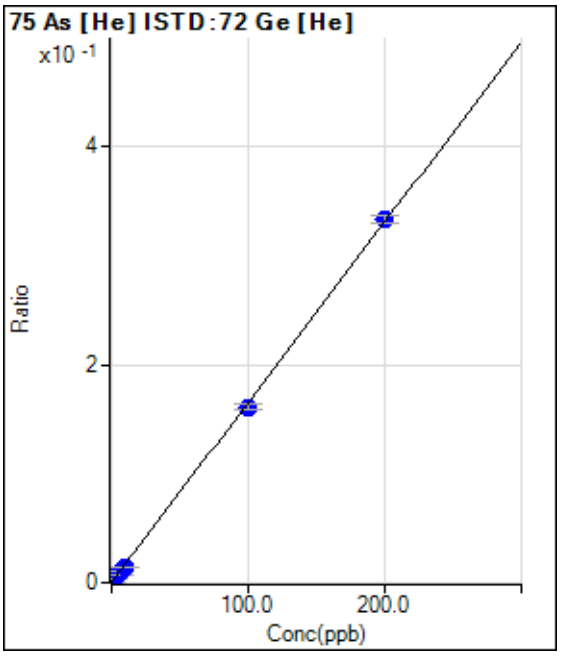
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-1.094	18083.17	0.0298	P	2.2
2	☐	2.000	2.153	20706.29	0.0348	P	2.7
3	☐	5.000	5.563	23476.58	0.0400	P	1.9
4	☐	10.000	10.992	28116.97	0.0483	P	3.8
5	☐	100.000	98.905	101345.83	0.1825	P	2.0
6	☐	200.000	200.482	180754.65	0.3376	P	1.5
7	☐	1.000					

y = 0.0015 * x + 0.0315
R = 0.9999
DL = 1.29
BEC = 20.62

Weight: <None>
Min Conc: <None>

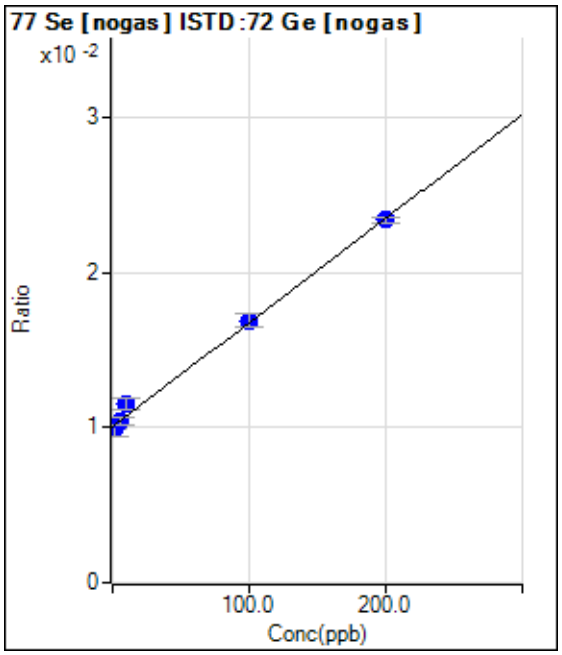


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	12.22	0.0003	P	75.5
2	☐	2.000	1.941	120.00	0.0035	P	14.7
3	☐	5.000	5.107	291.12	0.0088	P	24.0
4	☐	10.000	8.248	461.12	0.0140	P	7.3
5	☐	100.000	97.475	5006.32	0.1614	P	3.1
6	☐	200.000	201.348	9813.96	0.3330	P	2.1
7	☐	1.000					

y = 0.0017 * x + 3.4243E-004
R = 0.9999
DL = 0.4697
BEC = 0.2072

Weight: <None>
Min Conc: <None>

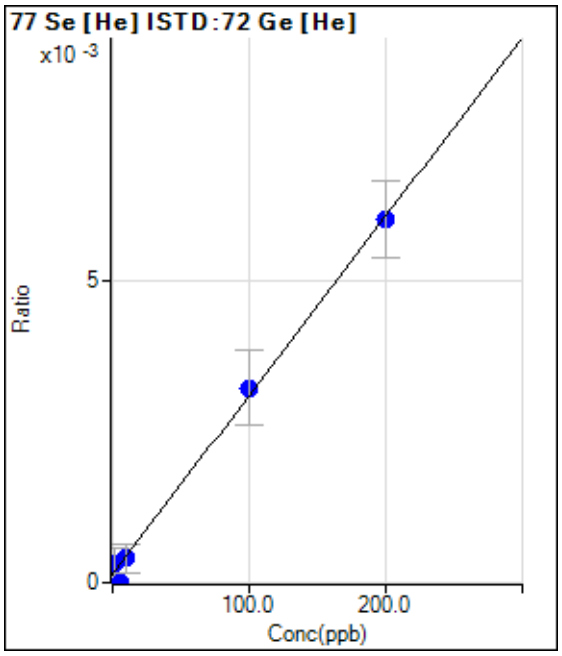
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6114.58	0.0101	P	3.4
2	☐	2.000	-2.884	5891.14	0.0099	P	9.9
3	☐	5.000	5.024	6117.87	0.0104	P	4.7
4	☐	10.000	21.884	6728.14	0.0116	P	6.4
5	☐	100.000	101.819	9396.11	0.0169	P	5.1
6	☐	200.000	198.545	12541.49	0.0234	P	1.7
7	☐	1.000					

y = 6.7187E-005 * x + 0.0101
R = 0.9976
DL = 15.29
BEC = 150.1

Weight: <None>
Min Conc: <None>

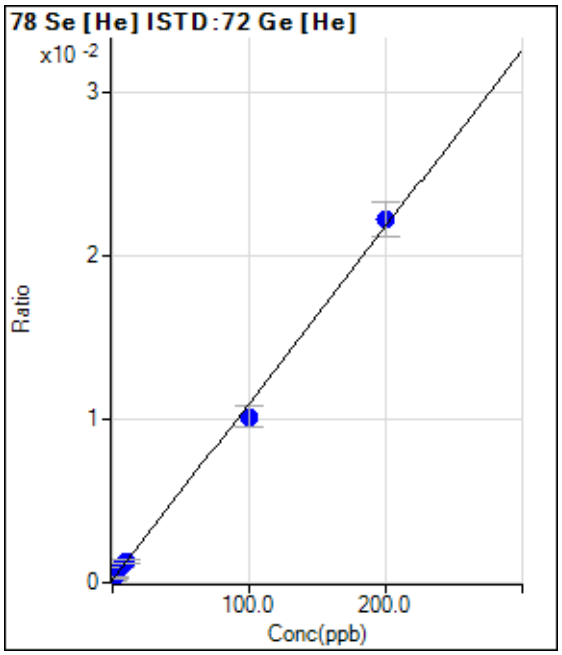


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	4.856	10.00	0.0003	P	3.0
2	☐	2.000	5.464	10.00	0.0003	P	173.
3	☐	5.000	-4.781	0.00	0.0000	P	
4	☐	10.000	9.050	13.33	0.0004	P	116.
5	☐	100.000	104.307	100.00	0.0032	P	39.0
6	☐	200.000	198.104	176.67	0.0060	P	21.1
7	☐	1.000					

y = 2.9531E-005 * x + 1.4118E-004
R = 0.9977
DL = 0.8667
BEC = 4.781

Weight: <None>
Min Conc: <None>

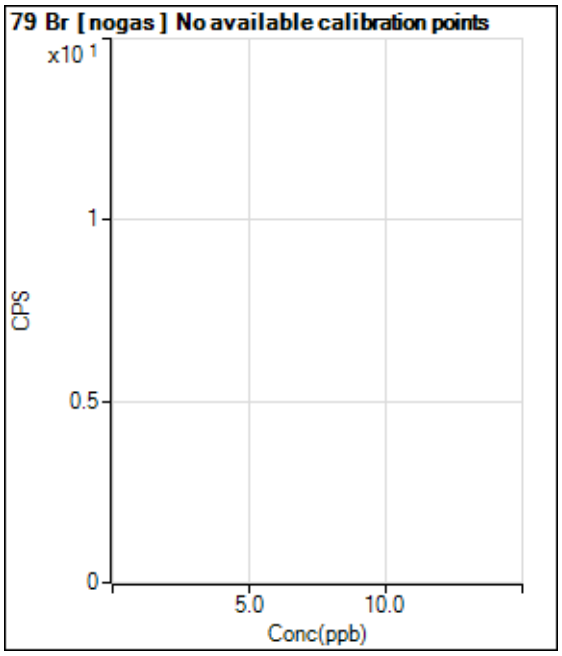
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6.00	0.0002	P	89.1
2	☐	2.000	1.152	10.00	0.0003	P	31.7
3	☐	5.000	6.798	30.00	0.0009	P	4.4
4	☐	10.000	10.327	42.67	0.0013	P	26.1
5	☐	100.000	92.290	314.00	0.0101	P	12.7
6	☐	200.000	203.802	654.02	0.0222	P	9.5
7	☐	1.000					

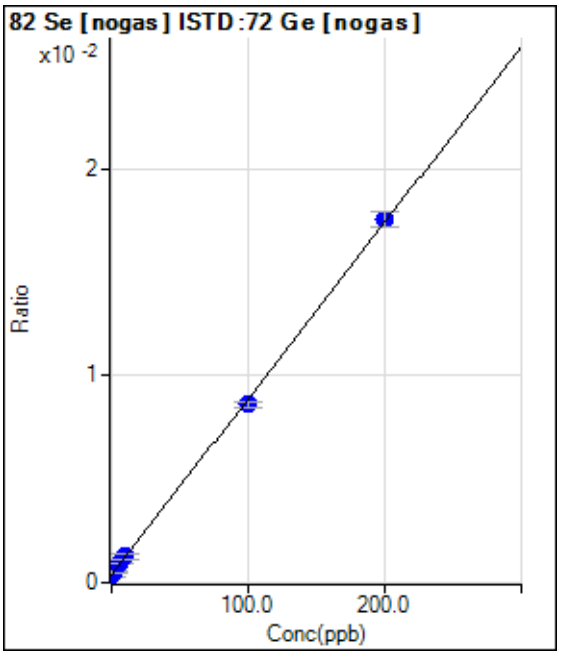
y = 1.0806E-004 * x + 1.7011E-004
R = 0.9989
DL = 4.206
BEC = 1.574

Weight: <None>
Min Conc: <None>



	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					

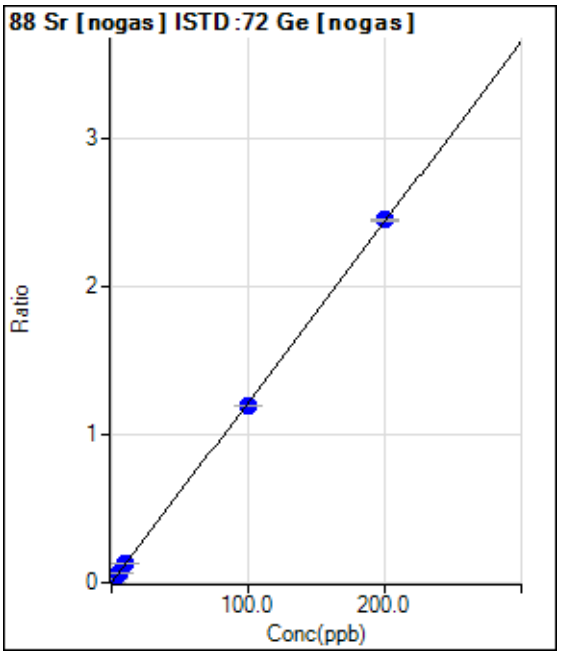
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	233.34	0.0004	P	54.4
2	☐	2.000	1.267	293.34	0.0005	P	19.8
3	☐	5.000	6.353	543.36	0.0009	P	6.8
4	☐	10.000	10.512	743.36	0.0013	P	20.3
5	☐	100.000	96.644	4774.13	0.0086	P	2.6
6	☐	200.000	201.626	9379.46	0.0175	P	4.2
7	☐	1.000					

y = 8.4981E-005 * x + 3.8528E-004
R = 0.9998
DL = 7.404
BEC = 4.534

Weight: <None>
Min Conc: <None>

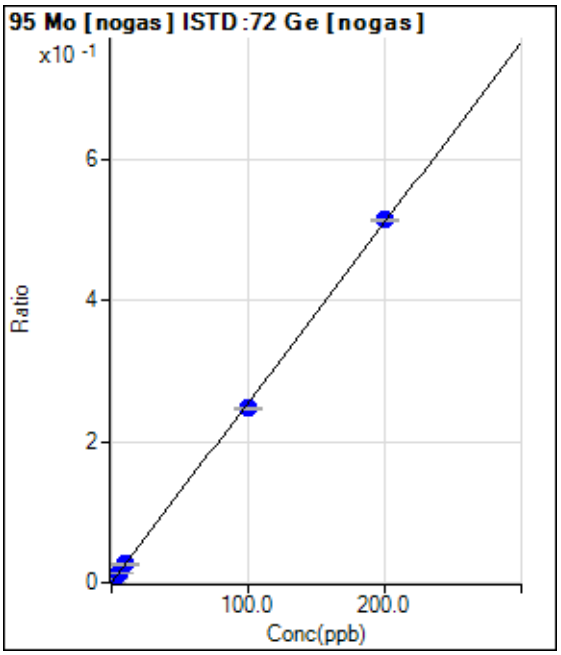


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	506.68	0.0008	P	36.6
2	☐	2.000	2.080	15607.43	0.0262	P	0.1
3	☐	5.000	4.918	35711.55	0.0608	P	1.3
4	☐	10.000	10.135	72505.51	0.1245	P	1.3
5	☐	100.000	97.903	663481.48	1.1950	P	0.3
6	☐	200.000	201.043	1313235.21	2.4530	P	0.5
7	☐	1.000					

y = 0.0122 * x + 8.3681E-004
R = 0.9999
DL = 0.07537
BEC = 0.06861

Weight: <None>
Min Conc: <None>

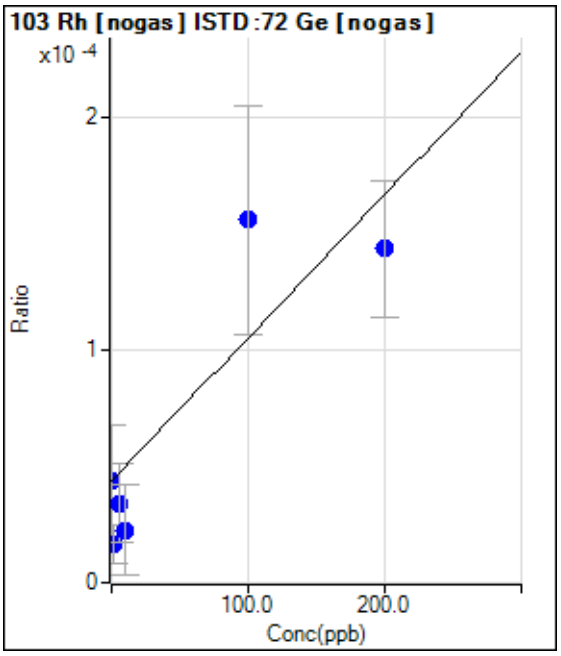
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13.33	0.0000	P	114.
2	☐	2.000	1.886	2880.31	0.0048	P	6.8
3	☐	5.000	4.903	7361.72	0.0125	P	2.9
4	☐	10.000	10.257	15263.83	0.0262	P	4.7
5	☐	100.000	96.976	137467.66	0.2476	P	1.1
6	☐	200.000	201.503	275400.37	0.5144	P	0.8
7	☐	1.000					

y = 0.0026 * x + 2.1915E-005
R = 0.9998
DL = 0.0294
BEC = 0.008584

Weight: <None>
Min Conc: <None>

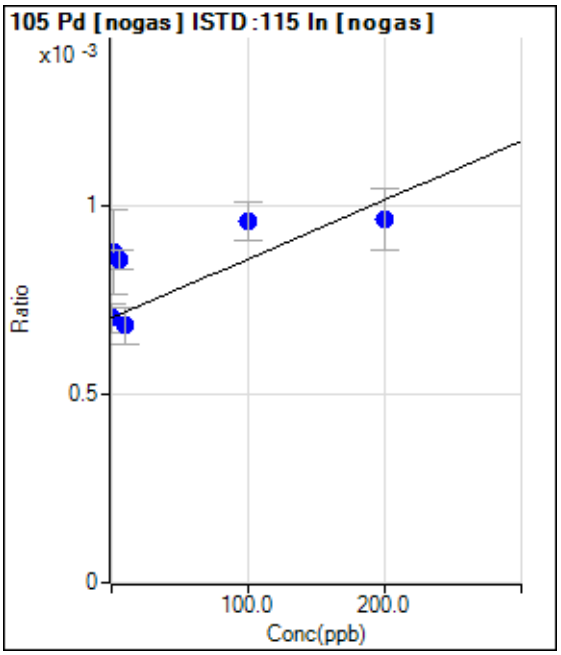


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26.67	0.0000	P	107.
2	☐	2.000	-44.008	10.00	0.0000	P	100.
3	☐	5.000	-15.686	20.00	0.0000	P	99.9
4	☐	10.000	-34.694	13.33	0.0000	P	173.
5	☐	100.000	182.297	86.67	0.0002	P	63.2
6	☐	200.000	162.064	76.67	0.0001	P	40.7
7	☐	1.000					

y = 6.1486E-007 * x + 4.3811E-005
R = 0.8822
DL = 230.4
BEC = 71.25

Weight: <None>
Min Conc: <None>

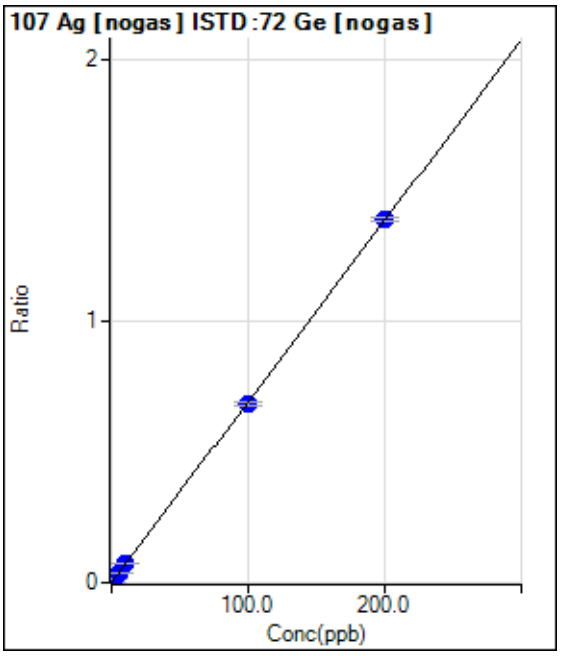
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	503.35	0.0007	P	10.9
2	☐	2.000	110.669	616.69	0.0009	P	25.7
3	☐	5.000	99.178	603.36	0.0009	P	5.7
4	☐	10.000	-13.325	473.35	0.0007	P	14.5
5	☐	100.000	163.257	636.69	0.0010	P	10.9
6	☐	200.000	166.097	616.69	0.0010	P	16.9
7	☐	1.000					

y = 1.5639E-006 * x + 7.0190E-004
R = 0.7013
DL = 146.6
BEC = 448.8

Weight: <None>
Min Conc: <None>

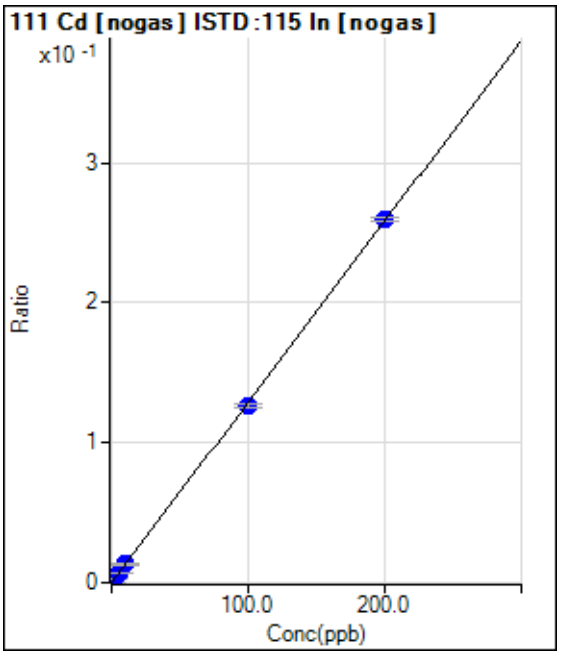


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.67	0.0001	P	20.5
2	☐	2.000	2.071	8599.07	0.0144	P	0.6
3	☐	5.000	5.085	20730.00	0.0353	P	7.4
4	☐	10.000	10.363	41866.35	0.0719	P	0.7
5	☐	100.000	98.926	380504.83	0.6853	P	1.5
6	☐	200.000	200.516	743589.73	1.3890	P	1.1
7	☐	1.000					

y = 0.0069 * x + 9.3477E-005
R = 1.0000
DL = 0.008306
BEC = 0.01349

Weight: <None>
Min Conc: <None>

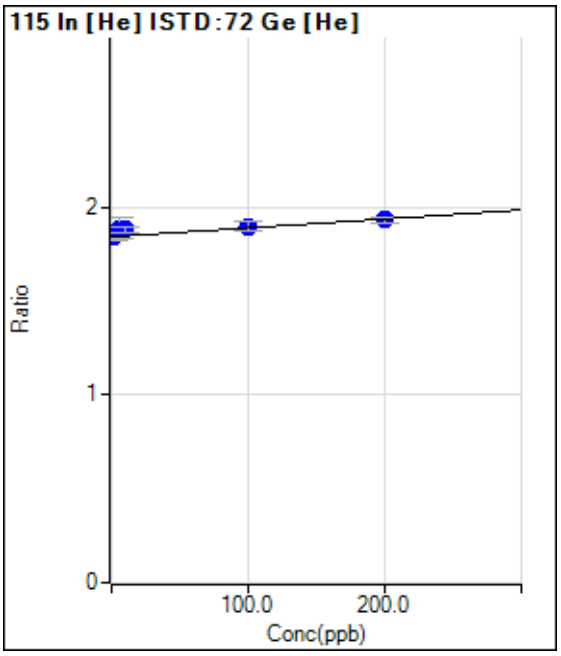
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.
2	☐	2.000	2.015	1836.81	0.0026	P	9.4
3	☐	5.000	5.181	4710.76	0.0067	P	1.4
4	☐	10.000	10.219	9172.75	0.0132	P	2.2
5	☐	100.000	98.320	84347.28	0.1268	P	2.2
6	☐	200.000	200.824	166288.65	0.2591	P	0.9
7	☐	1.000					

y = 0.0013 * x + 4.5521E-006
R = 0.9999
DL = 0.01834
BEC = 0.003529

Weight: <None>
Min Conc: <None>

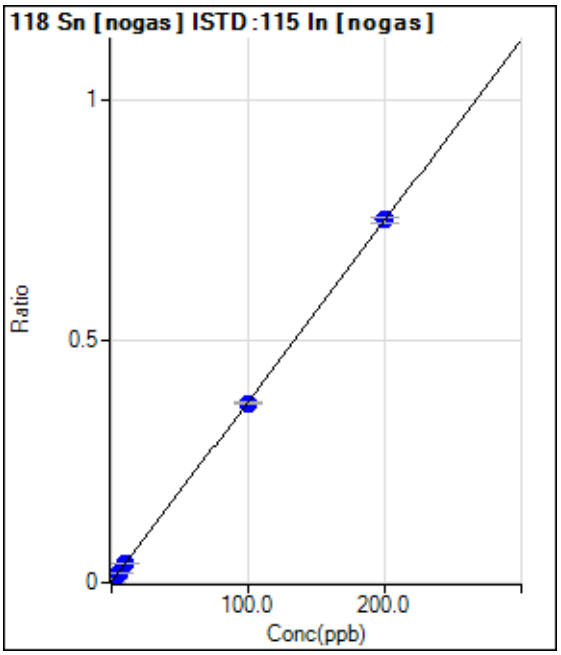


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	64810.37	1.8439	P	1.7
2	☐	2.000	8.759	62361.30	1.8481	P	2.2
3	☐	5.000	93.222	62595.50	1.8884	P	5.9
4	☐	10.000	79.764	62183.51	1.8820	P	1.7
5	☐	100.000	116.959	58928.75	1.8997	P	3.0
6	☐	200.000	185.759	56948.58	1.9326	P	2.0
7	☐	1.000					

y = 4.7740E-004 * x + 1.8439
R = 0.8632
DL = 197.7
BEC = 3862

Weight: <None>
Min Conc: <None>

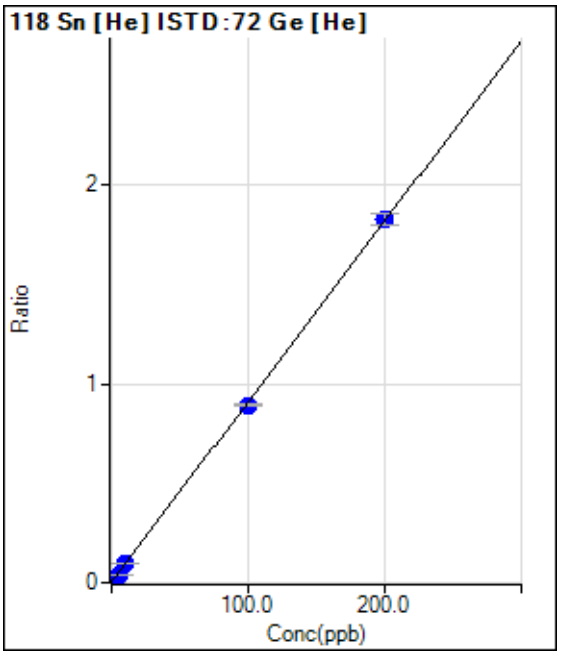
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	590.02	0.0008	P	12.1
2	☐	2.000	2.087	6087.95	0.0086	P	6.3
3	☐	5.000	4.973	13682.62	0.0194	P	2.2
4	☐	10.000	10.328	27456.64	0.0395	P	2.0
5	☐	100.000	99.177	247317.82	0.3719	P	1.7
6	☐	200.000	200.395	481795.33	0.7506	P	1.7
7	☐	1.000					

y = 0.0037 * x + 8.2088E-004
R = 1.0000
DL = 0.0797
BEC = 0.2194

Weight: <None>
Min Conc: <None>

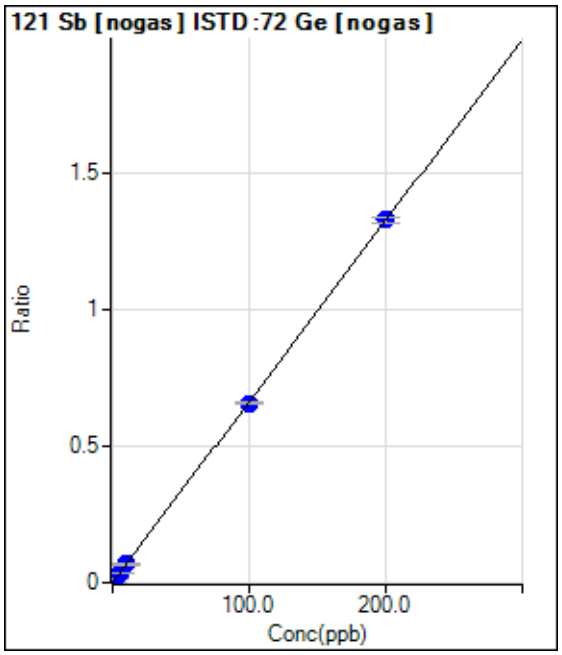


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	66.67	0.0019	P	49.8
2	☐	2.000	2.130	720.03	0.0213	P	20.3
3	☐	5.000	4.370	1380.09	0.0416	P	5.6
4	☐	10.000	10.112	3097.02	0.0937	P	1.8
5	☐	100.000	98.332	27770.55	0.8948	P	2.0
6	☐	200.000	200.843	53794.61	1.8257	P	3.0
7	☐	1.000					

y = 0.0091 * x + 0.0019
R = 0.9999
DL = 0.3152
BEC = 0.2109

Weight: <None>
Min Conc: <None>

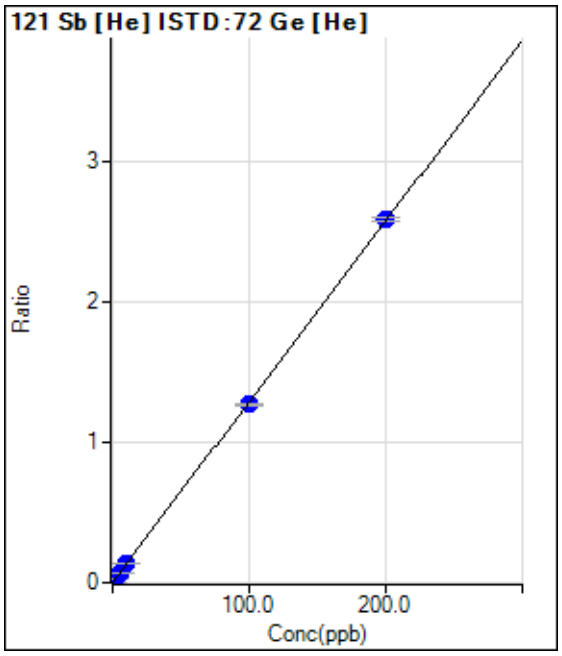
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	433.35	0.0007	P	17.1
2	☐	2.000	1.958	8135.50	0.0137	P	6.7
3	☐	5.000	5.025	19939.10	0.0340	P	1.8
4	☐	10.000	10.036	39086.75	0.0671	P	2.4
5	☐	100.000	99.151	364576.73	0.6566	P	1.4
6	☐	200.000	200.423	710132.70	1.3266	P	1.4
7	☐	1.000					

y = 0.0066 * x + 7.1430E-004
R = 1.0000
DL = 0.05549
BEC = 0.108

Weight: <None>
Min Conc: <None>

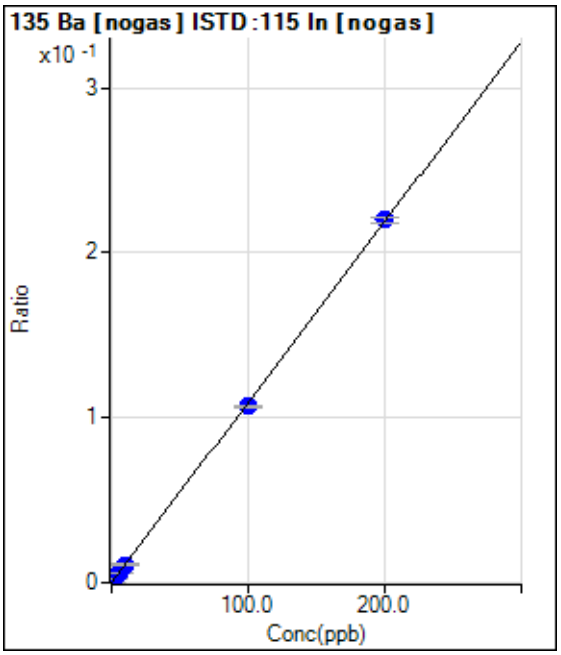


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	70.00	0.0020	P	36.4
2	☐	2.000	1.811	853.38	0.0253	P	14.2
3	☐	5.000	4.823	2126.85	0.0642	P	7.4
4	☐	10.000	10.710	4627.42	0.1401	P	2.0
5	☐	100.000	98.455	39447.79	1.2713	P	1.7
6	☐	200.000	200.743	76329.66	2.5900	P	0.9
7	☐	1.000					

y = 0.0129 * x + 0.0020
R = 0.9999
DL = 0.1681
BEC = 0.1539

Weight: <None>
Min Conc: <None>

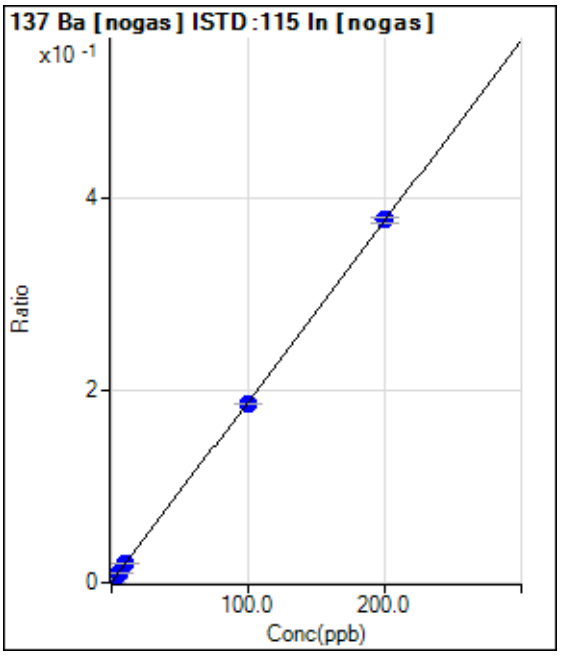
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	130.00	0.0002	P	28.0
2	☐	2.000	2.089	1736.80	0.0025	P	12.9
3	☐	5.000	5.441	4314.00	0.0061	P	3.6
4	☐	10.000	9.900	7648.66	0.0110	P	6.7
5	☐	100.000	97.531	70978.15	0.1067	P	0.1
6	☐	200.000	201.227	141204.42	0.2200	P	1.7
7	☐	1.000					

y = 0.0011 * x + 1.8165E-004
R = 0.9999
DL = 0.1397
BEC = 0.1663

Weight: <None>
Min Conc: <None>

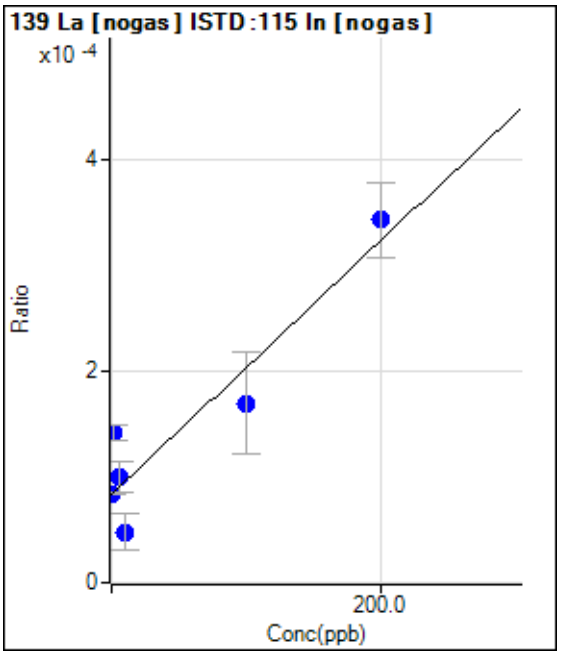


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	233.34	0.0003	P	10.5
2	☐	2.000	2.150	3080.38	0.0044	P	3.6
3	☐	5.000	4.989	6831.60	0.0097	P	4.9
4	☐	10.000	10.184	13545.84	0.0195	P	1.9
5	☐	100.000	98.671	123582.78	0.1858	P	0.5
6	☐	200.000	200.654	242331.36	0.3775	P	1.4
7	☐	1.000					

y = 0.0019 * x + 3.2517E-004
R = 1.0000
DL = 0.05448
BEC = 0.173

Weight: <None>
Min Conc: <None>

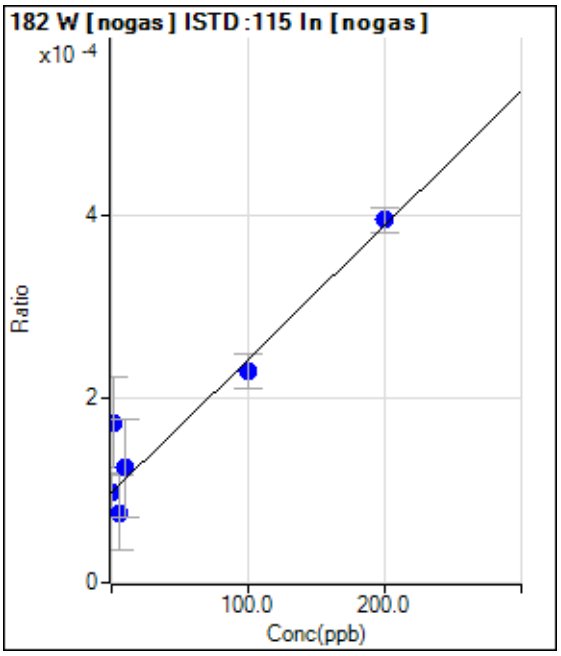
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	60.00	0.0001	P	1.8
2	☐	2.000	48.340	100.00	0.0001	P	10.3
3	☐	5.000	13.306	70.00	0.0001	P	29.6
4	☐	10.000	-29.456	33.33	0.0000	P	70.2
5	☐	100.000	71.549	113.33	0.0002	P	56.2
6	☐	200.000	215.527	220.01	0.0003	P	20.7
7	☐	1.000					

y = 1.2044E-006 * x + 8.3586E-005
R = 0.9343
DL = 3.68
BEC = 69.4

Weight: <None>
Min Conc: <None>

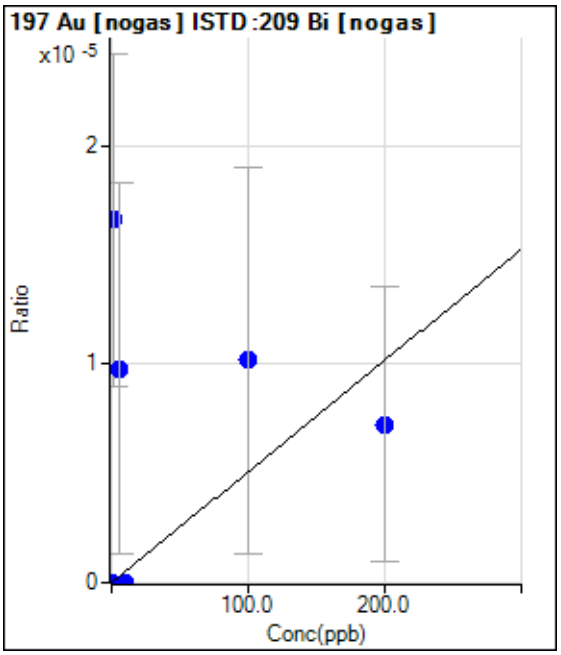


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	70.00	0.0001	P	43.7
2	☐	2.000	52.880	123.34	0.0002	P	56.5
3	☐	5.000	-15.100	53.33	0.0001	P	108.
4	☐	10.000	18.628	86.67	0.0001	P	85.0
5	☐	100.000	91.173	153.34	0.0002	P	15.9
6	☐	200.000	203.976	253.34	0.0004	P	6.6
7	☐	1.000					

y = 1.4566E-006 * x + 9.7645E-005
R = 0.9552
DL = 87.93
BEC = 67.04

Weight: <None>
Min Conc: <None>

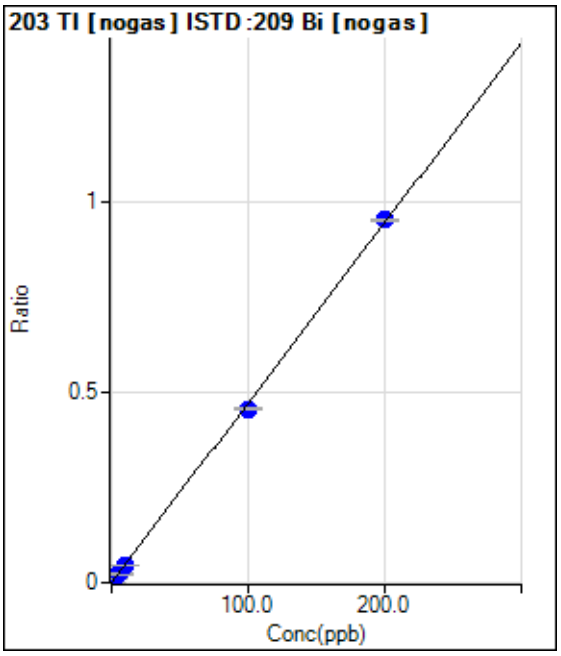
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	0.00	0.0000	P	
2	☐	2.000	326.449	16.67	0.0000	P	91.9
3	☐	5.000	192.683	10.00	0.0000	P	173.
4	☐	10.000	0.000	0.00	0.0000	P	
5	☐	100.000	199.914	10.00	0.0000	P	173.
6	☐	200.000	142.607	6.67	0.0000	P	173.
7	☐	1.000					

y = 5.0885E-008 * x + 0.0000E+000
R = 0.0890
DL = 0
BEC = 0

Weight: <None>
Min Conc: <None>

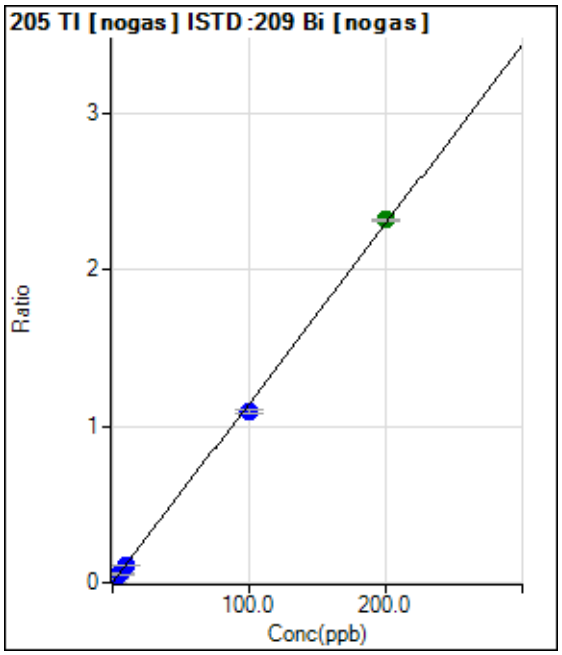


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43.33	0.0000	P	48.5
2	☐	2.000	1.908	9172.90	0.0091	P	6.4
3	☐	5.000	4.808	23047.40	0.0228	P	2.2
4	☐	10.000	9.835	46958.09	0.0465	P	2.0
5	☐	100.000	96.516	440349.67	0.4562	P	1.4
6	☐	200.000	201.756	873131.50	0.9537	P	0.4
7	☐	1.000					

y = 0.0047 * x + 4.2146E-005
R = 0.9998
DL = 0.01298
BEC = 0.008917

Weight: <None>
Min Conc: <None>

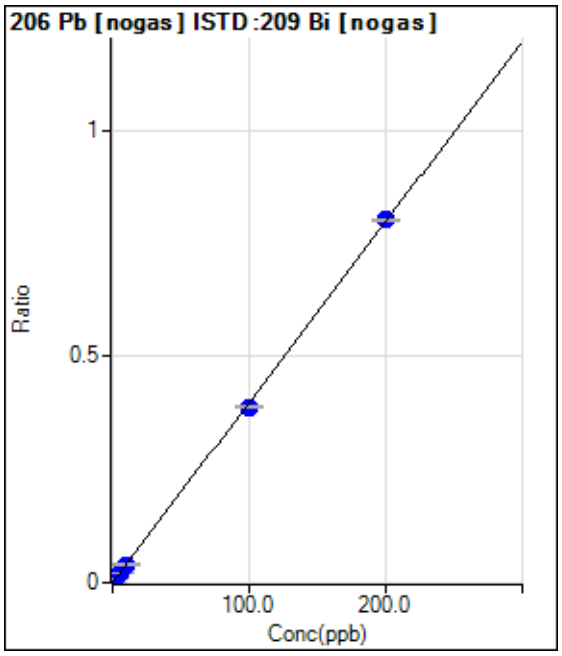
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	63.33	0.0001	P	17.4
2	☐	2.000	1.926	22423.38	0.0221	P	3.4
3	☐	5.000	4.832	56162.25	0.0555	P	1.9
4	☐	10.000	9.894	114578.37	0.1135	P	1.3
5	☐	100.000	95.418	1056258.66	1.0944	P	1.5
6	☐	200.000	202.301	2124261.06	2.3201	A	0.6
7	☐	1.000					

y = 0.0115 * x + 6.1433E-005
R = 0.9996
DL = 0.002797
BEC = 0.005357

Weight: <None>
Min Conc: <None>

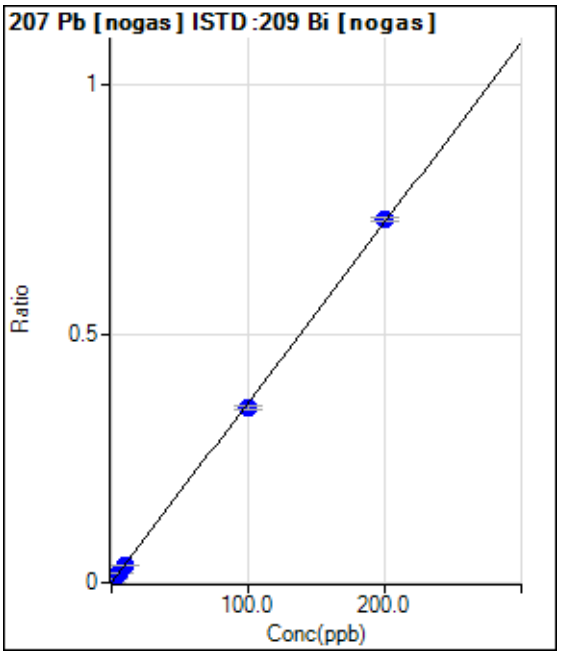


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	130.00	0.0001	P	30.4
2	☐	2.000	2.063	8449.17	0.0083	P	3.7
3	☐	5.000	5.034	20443.76	0.0202	P	0.5
4	☐	10.000	9.953	40172.78	0.0398	P	3.4
5	☐	100.000	97.498	375275.94	0.3888	P	1.4
6	☐	200.000	201.252	734674.02	0.8024	P	0.6
7	☐	1.000					

y = 0.0040 * x + 1.2618E-004
R = 0.9999
DL = 0.02885
BEC = 0.03165

Weight: <None>
Min Conc: <None>

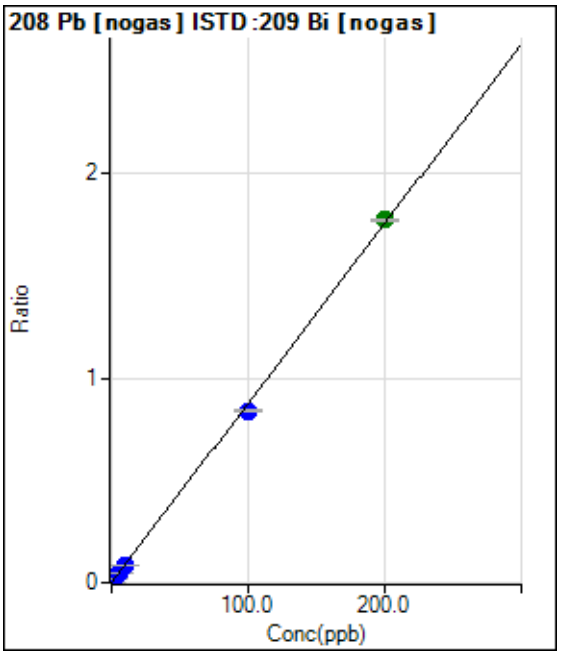
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	146.67	0.0001	P	30.2
2	☐	2.000	1.975	7371.89	0.0073	P	1.8
3	☐	5.000	4.870	17970.75	0.0178	P	2.0
4	☐	10.000	10.021	36713.89	0.0364	P	0.7
5	☐	100.000	97.005	338703.33	0.3509	P	1.5
6	☐	200.000	201.500	667199.94	0.7288	P	1.0
7	☐	1.000					

y = 0.0036 * x + 1.4221E-004
R = 0.9998
DL = 0.03562
BEC = 0.03933

Weight: <None>
Min Conc: <None>

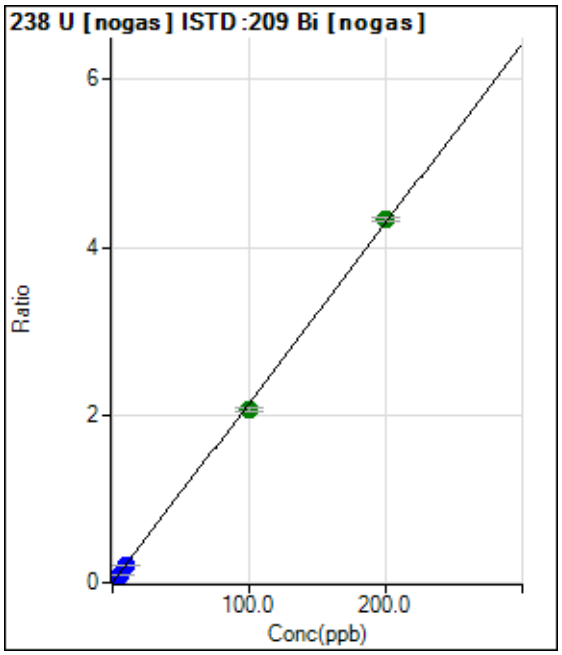


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	230.01	0.0002	P	7.8
2	☐	2.000	1.994	17934.14	0.0177	P	1.5
3	☐	5.000	4.837	43180.98	0.0427	P	1.2
4	☐	10.000	9.799	86974.48	0.0862	P	1.5
5	☐	100.000	95.701	810564.94	0.8397	P	1.1
6	☐	200.000	202.164	1623815.13	1.7736	A	0.7
7	☐	1.000					

y = 0.0088 * x + 2.2339E-004
R = 0.9997
DL = 0.005989
BEC = 0.02547

Weight: <None>
Min Conc: <None>

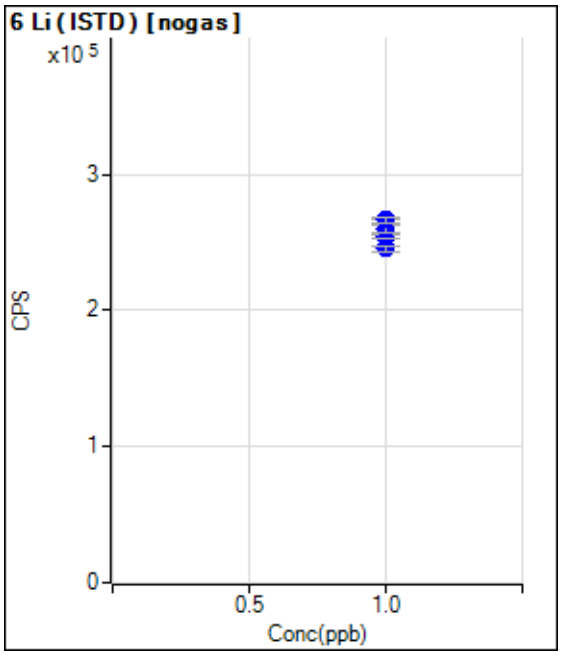
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	190.01	0.0002	P	8.4
2	☐	2.000	1.835	40009.96	0.0395	P	1.9
3	☐	5.000	4.755	103398.89	0.1021	P	0.9
4	☐	10.000	9.659	209184.48	0.2073	P	2.0
5	☐	100.000	96.258	1991903.56	2.0639	A	2.0
6	☐	200.000	201.896	3963182.75	4.3286	A	1.0
7	☐	1.000					

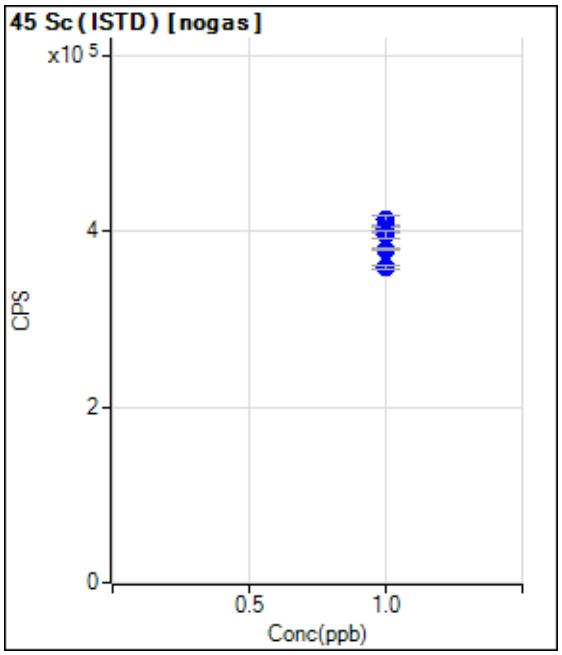
y = 0.0214 * x + 1.8444E-004
R = 0.9998
DL = 0.002173
BEC = 0.008603

Weight: <None>
Min Conc: <None>

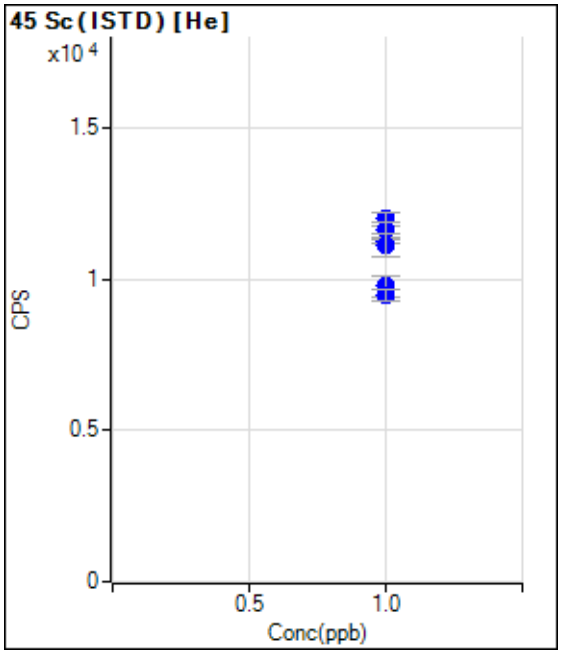


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		264394.01		P	1.7
2	☐	1.000		255390.61		P	0.1
3	☐	1.000		253820.91		P	1.2
4	☐	1.000		245389.53		P	1.6
5	☐	1.000		259926.08		P	2.3
6	☐	1.000		266400.46		P	1.5
7	☐	1.000					

Calibration for 242_ICV.d

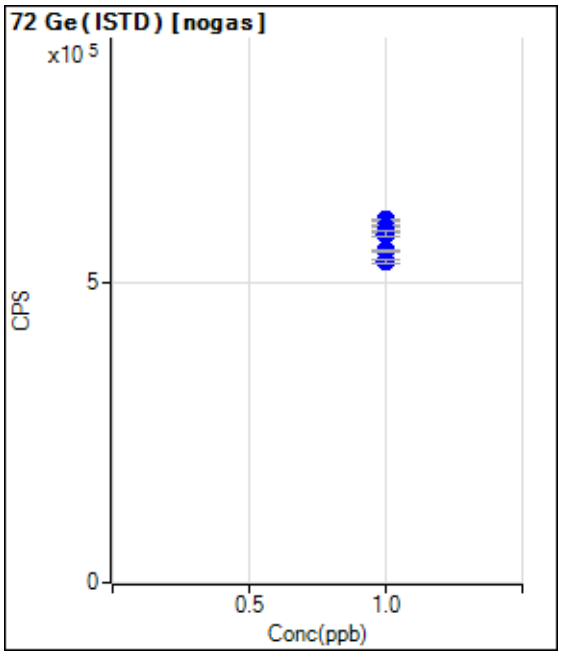


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		412577.66		P	2.5
2	☐	1.000		402409.53		P	1.6
3	☐	1.000		402307.88		P	1.6
4	☐	1.000		395378.36		P	2.0
5	☐	1.000		379213.91		P	0.9
6	☐	1.000		358095.65		P	1.0
7	☐	1.000					

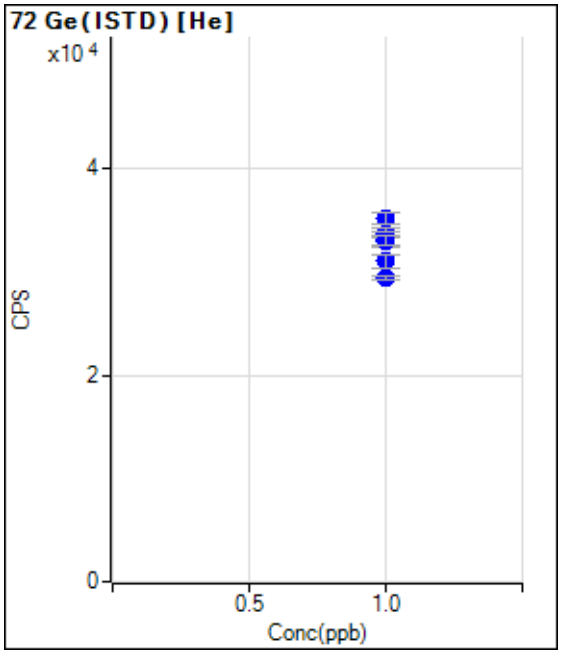


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		12000.99		P	3.4
2	☐	1.000		11277.21		P	1.2
3	☐	1.000		11650.74		P	4.2
4	☐	1.000		11127.11		P	7.3
5	☐	1.000		9773.02		P	6.8
6	☐	1.000		9492.78		P	4.4
7	☐	1.000					

Calibration for 242_ICV.d

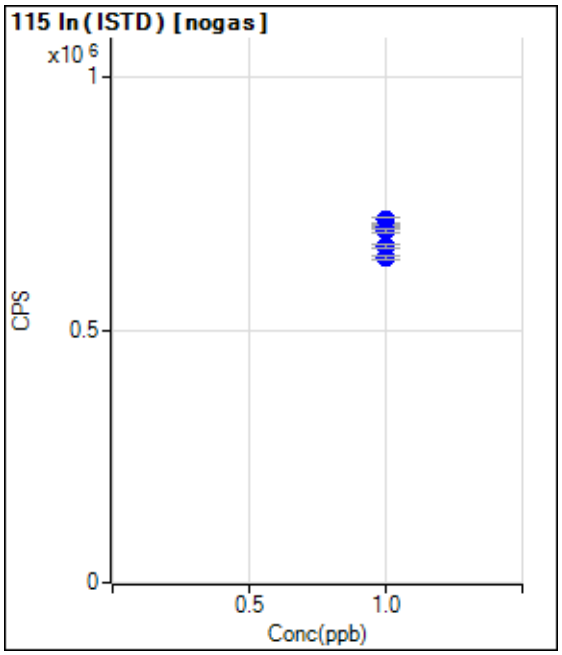


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		606325.55		P	0.6
2	☐	1.000		595420.84		P	0.7
3	☐	1.000		587119.54		P	0.6
4	☐	1.000		582546.33		P	1.6
5	☐	1.000		555223.95		P	0.3
6	☐	1.000		535379.52		P	1.3
7	☐	1.000					

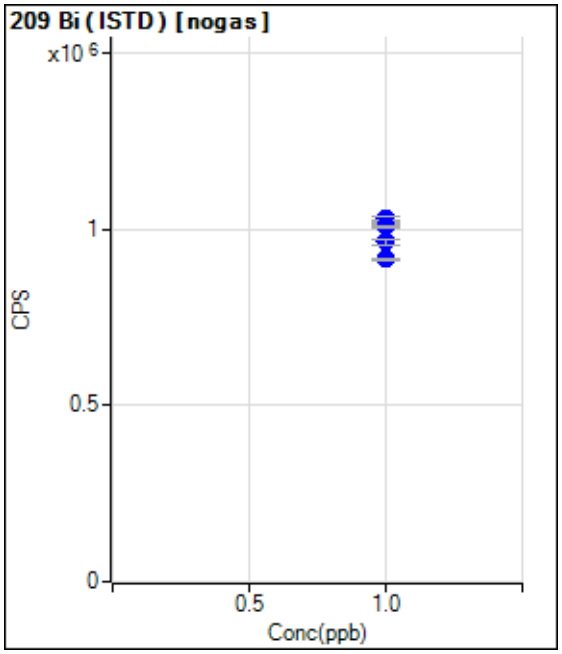


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		35159.85		P	3.0
2	☐	1.000		33757.03		P	2.7
3	☐	1.000		33202.67		P	4.3
4	☐	1.000		33052.44		P	3.0
5	☐	1.000		31041.90		P	3.7
6	☐	1.000		29472.42		P	1.3
7	☐	1.000					

Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		717977.80		P	1.8
2	☐	1.000		705386.68		P	0.8
3	☐	1.000		704285.62		P	1.1
4	☐	1.000		695680.82		P	1.0
5	☐	1.000		665089.08		P	1.0
6	☐	1.000		641952.97		P	1.4
7	☐	1.000					



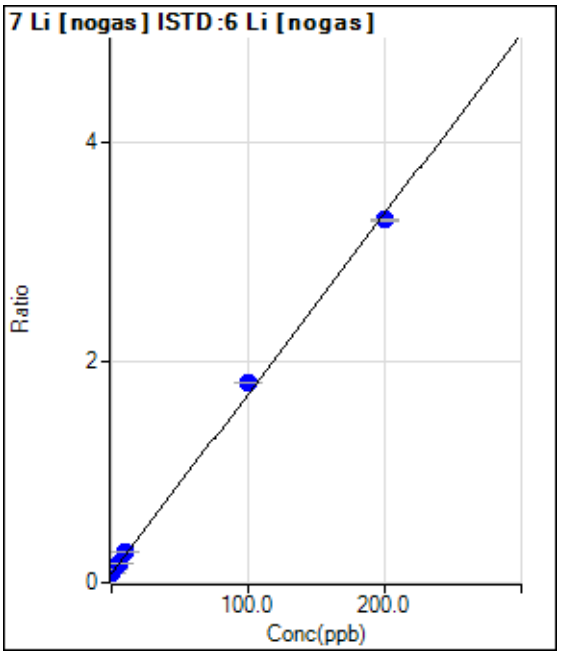
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1029814.13		P	1.0
2	☐	1.000		1012391.50		P	1.5
3	☐	1.000		1012410.24		P	0.7
4	☐	1.000		1009274.67		P	0.6
5	☐	1.000		965320.35		P	1.6
6	☐	1.000		915562.54		P	0.8
7	☐	1.000					

Calibration for 295_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\010518A.b\
Analysis File: 010518A.batch.bin
DA Date-Time: 1/5/2018 10:38:02 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	289CALB.d	CAL BLK	1/5/2018 9:57:44 PM
2	290CALS.d	2/10/200	1/5/2018 9:59:56 PM
3	291CALS.d	5/25/500	1/5/2018 10:02:08 PM
4	292CALS.d	10/50/1000	1/5/2018 10:04:20 PM
5	293CALS.d	100/500/10K	1/5/2018 10:06:32 PM
6	294CALS.d	200/1000/20K	1/5/2018 10:08:42 PM
7			

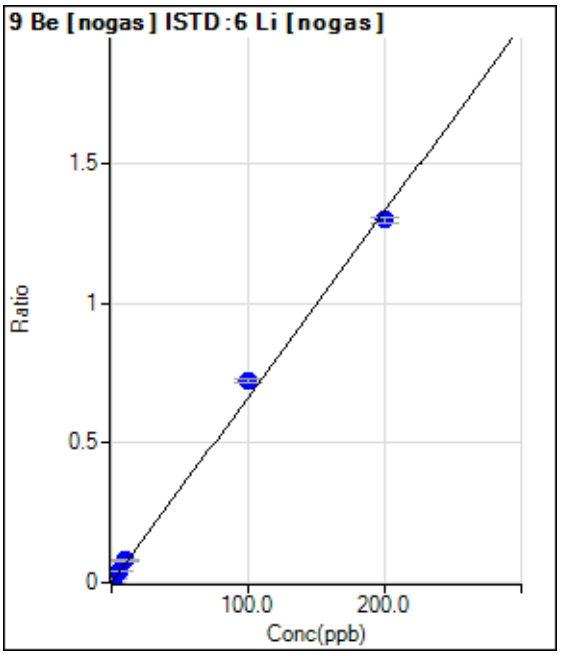
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20915.79	0.0815	P	1.9
2	☐	2.000	2.572	31584.80	0.1235	P	3.8
3	☐	5.000	5.947	44675.69	0.1787	P	1.2
4	☐	10.000	12.265	70005.74	0.2820	P	0.4
5	☐	100.000	106.408	483696.61	1.8205	P	0.4
6	☐	200.000	196.653	953094.60	3.2953	P	0.3
7	☐	1.000					

y = 0.0163 * x + 0.0815
R = 0.9993
DL = 0.2883
BEC = 4.988

Weight: <None>
Min Conc: <None>

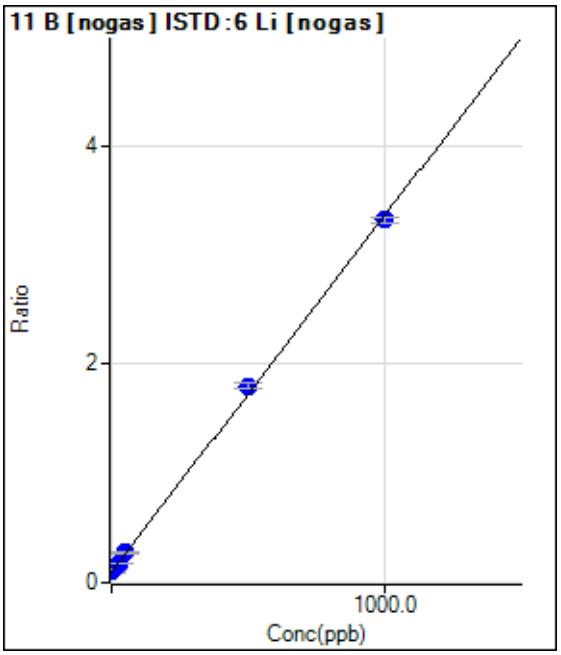


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.
2	☐	2.000	2.263	3850.50	0.0151	P	4.2
3	☐	5.000	6.000	9976.27	0.0399	P	6.1
4	☐	10.000	11.991	19794.57	0.0797	P	1.4
5	☐	100.000	108.729	192051.74	0.7228	P	1.6
6	☐	200.000	195.508	375886.61	1.2998	P	1.5
7	☐	1.000					

y = 0.0066 * x + 1.2777E-005
R = 0.9987
DL = 0.009987
BEC = 0.001922

Weight: <None>
Min Conc: <None>

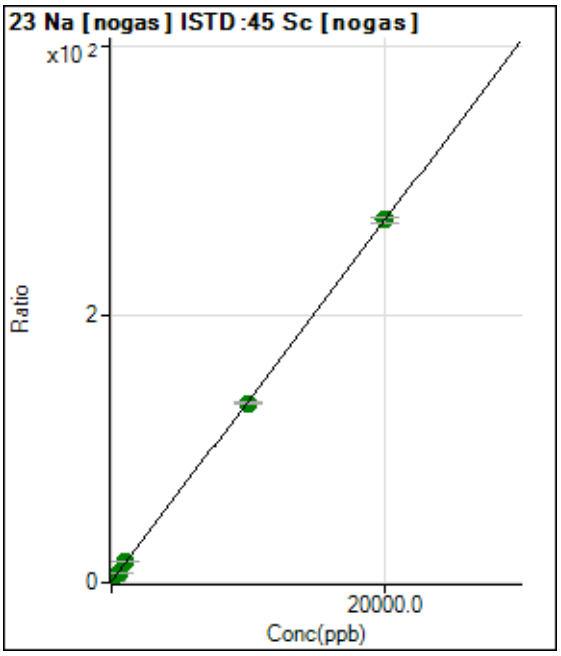
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	25258.19	0.0985	P	4.9
2	☐	10.000	9.461	33057.44	0.1293	P	2.3
3	☐	25.000	23.176	43482.83	0.1739	P	2.3
4	☐	50.000	53.480	67677.52	0.2726	P	1.9
5	☐	500.000	522.756	478365.38	1.8007	P	3.5
6	☐	1000.000	988.499	959344.83	3.3174	P	1.8
7	☐	5.000					

y = 0.0033 * x + 0.0985
R = 0.9996
DL = 4.41
BEC = 30.24

Weight: <None>
Min Conc: <None>

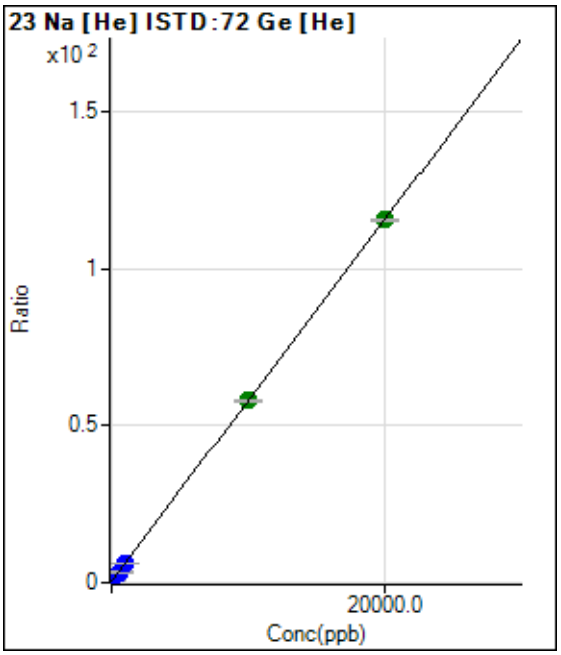


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	372879.77	0.9234	P	1.3
2	☐	200.000	210.289	1517573.44	3.7523	A	1.4
3	☐	500.000	510.761	3092712.51	7.7944	A	0.3
4	☐	1000.000	1077.385	6010891.28	15.4168	A	0.9
5	☐	10000.00	9874.710	52277038.67	133.761	A	1.2
6	☐	20000.00	20058.404	104315639.8	270.755	A	1.8
7	☐	100.000					

y = 0.0135 * x + 0.9234
R = 1.0000
DL = 2.767
BEC = 68.65

Weight: <None>
Min Conc: <None>

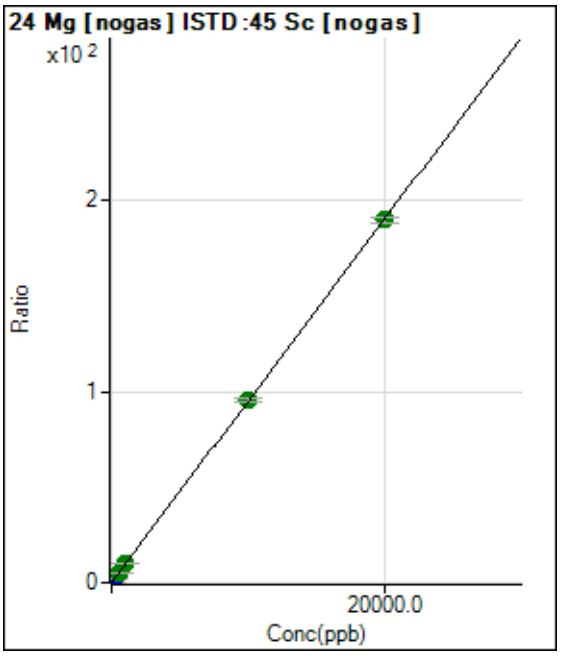
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16030.85	0.4631	P	8.0
2	☐	200.000	198.717	55897.78	1.6053	P	1.7
3	☐	500.000	502.449	113657.98	3.3511	P	3.6
4	☐	1000.000	1028.079	217934.19	6.3723	P	1.3
5	☐	10000.00	9992.363	1905282.89	57.8970	A	1.8
6	☐	20000.00	20002.366	3705892.24	115.432	A	0.6
7	☐	100.000					

y = 0.0057 * x + 0.4631
R = 1.0000
DL = 19.23
BEC = 80.57

Weight: <None>
Min Conc: <None>

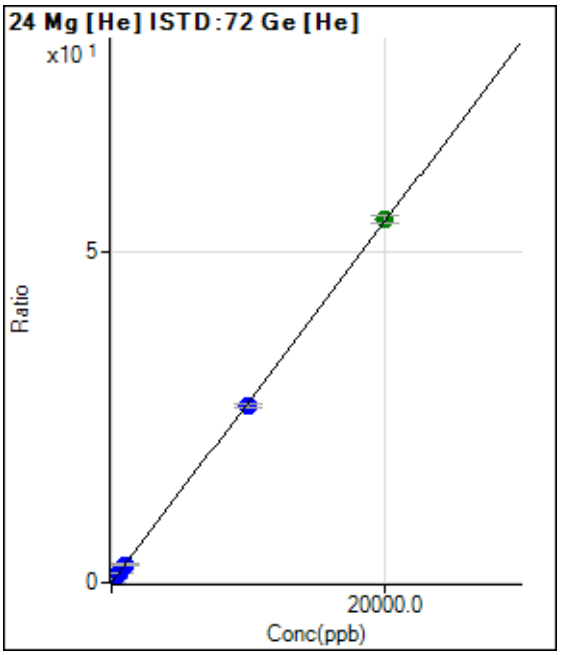


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4334.65	0.0107	P	18.5
2	☐	200.000	211.708	817941.96	2.0224	P	2.0
3	☐	500.000	522.967	1976086.11	4.9801	A	1.5
4	☐	1000.000	1090.617	4044206.73	10.3740	A	1.2
5	☐	10000.00	10060.512	37360443.54	95.6081	A	2.4
6	☐	20000.00	19964.522	73096309.97	189.718	A	1.5
7	☐	100.000					

y = 0.0095 * x + 0.0107
R = 1.0000
DL = 0.6274
BEC = 1.131

Weight: <None>
Min Conc: <None>

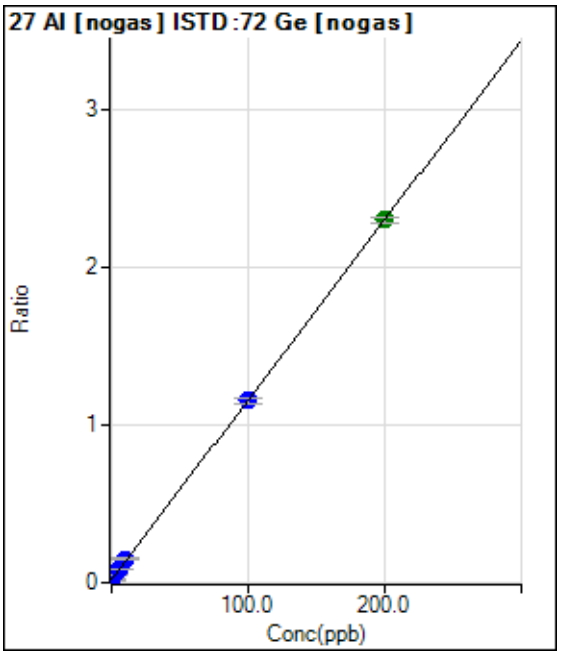
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	93.33	0.0027	P	32.7
2	☐	200.000	197.945	18907.10	0.5431	P	2.4
3	☐	500.000	498.708	46260.46	1.3641	P	4.5
4	☐	1000.000	1005.396	93956.95	2.7474	P	1.9
5	☐	10000.00	9783.137	879076.16	26.7102	P	1.6
6	☐	20000.00	20108.215	1762038.20	54.8971	A	2.2
7	☐	100.000					

y = 0.0027 * x + 0.0027
R = 0.9999
DL = 0.9679
BEC = 0.9875

Weight: <None>
Min Conc: <None>

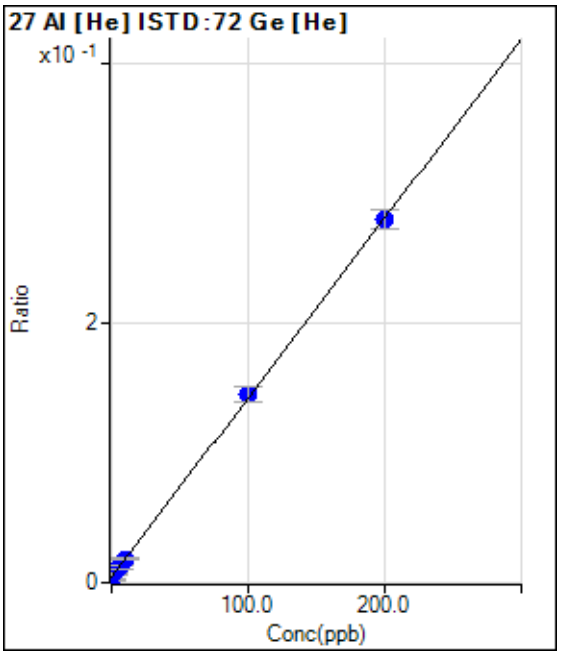


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11240.42	0.0184	P	1.8
2	☐	2.000	2.868	31404.86	0.0512	P	1.7
3	☐	5.000	5.619	49359.22	0.0826	P	1.1
4	☐	10.000	11.641	90118.77	0.1513	P	2.8
5	☐	100.000	99.474	685576.21	1.1539	P	2.5
6	☐	200.000	200.157	1341766.91	2.3032	A	1.9
7	☐	1.000					

y = 0.0114 * x + 0.0184
R = 1.0000
DL = 0.0876
BEC = 1.613

Weight: <None>
Min Conc: <None>

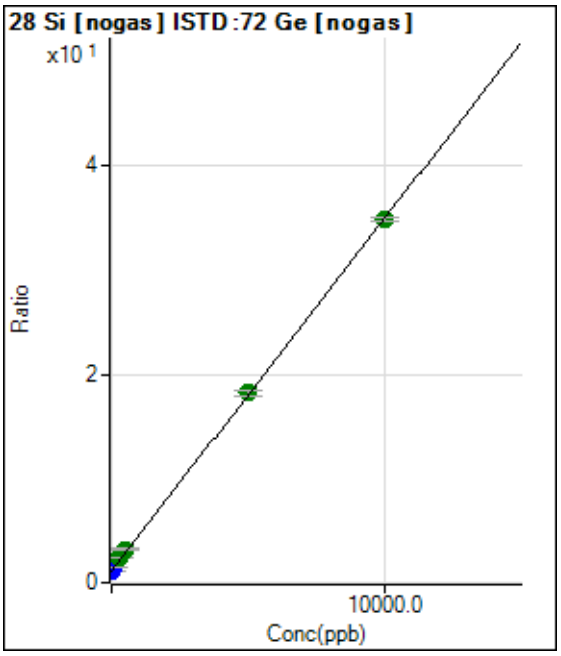
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-1.306	86.67	0.0025	P	51.5
2	☐	2.000	1.790	236.68	0.0068	P	16.2
3	☐	5.000	5.488	403.35	0.0119	P	23.6
4	☐	10.000	10.275	633.36	0.0185	P	7.7
5	☐	100.000	101.554	4764.08	0.1447	P	8.2
6	☐	200.000	199.199	8972.45	0.2797	P	5.3
7	☐	1.000					

y = 0.0014 * x + 0.0043
R = 0.9999
DL = 2.808
BEC = 3.122

Weight: <None>
Min Conc: <None>

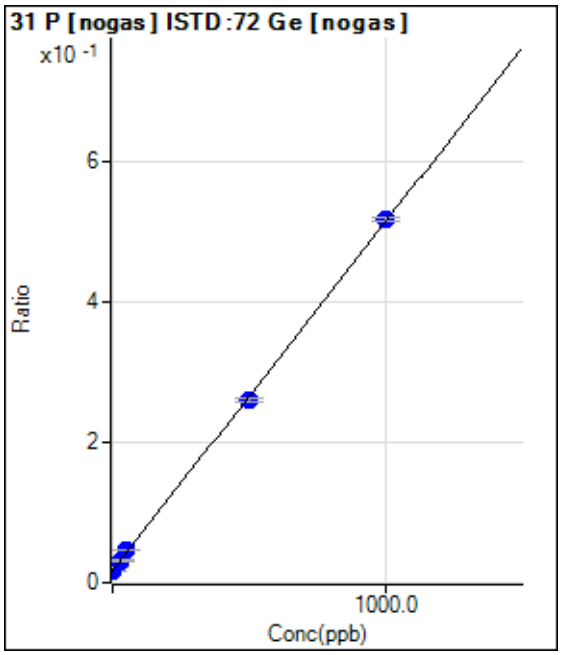


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	686723.50	1.1256	P	2.7
2	☐	100.000	95.865	890153.73	1.4501	P	1.1
3	☐	250.000	363.890	1409246.65	2.3574	A	3.0
4	☐	500.000	617.457	1915602.68	3.2157	A	1.2
5	☐	5000.000	5055.549	10835214.84	18.2389	A	3.1
6	☐	10000.00	9963.547	20304043.03	34.8527	A	1.2
7	☐	50.000					

y = 0.0034 * x + 1.1256
R = 0.9999
DL = 26.65
BEC = 332.5

Weight: <None>
Min Conc: <None>

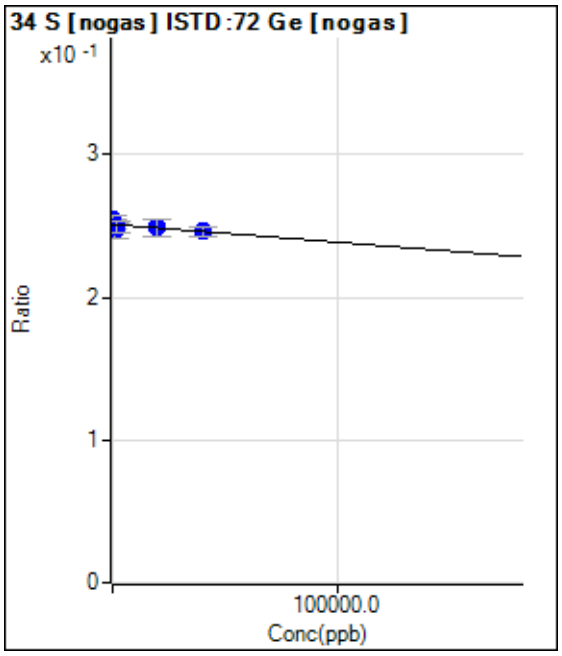
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10566.74	0.0173	P	5.0
2	☐	10.000	12.452	14432.77	0.0235	P	2.4
3	☐	25.000	28.036	18690.20	0.0313	P	3.1
4	☐	50.000	57.243	27278.06	0.0458	P	1.3
5	☐	500.000	487.979	154533.25	0.2600	P	2.5
6	☐	1000.000	1005.548	301457.83	0.5175	P	0.9
7	☐	5.000					

y = 4.9738E-004 * x + 0.0173
R = 0.9999
DL = 5.215
BEC = 34.82

Weight: <None>
Min Conc: <None>

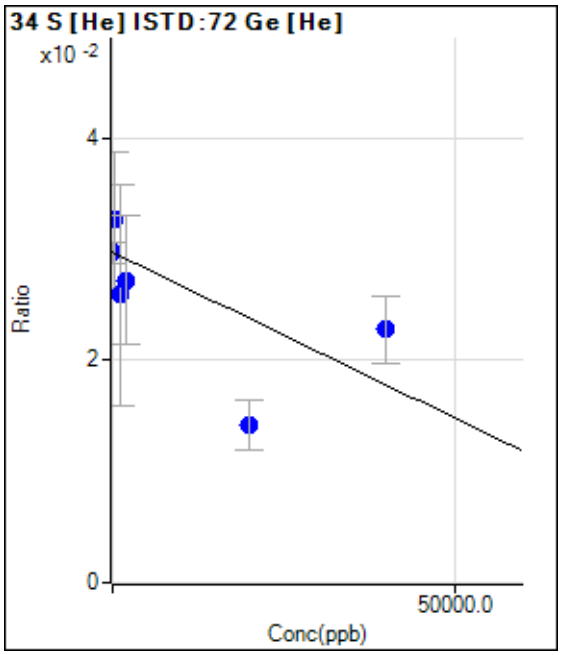


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	153270.51	0.2512	P	2.6
2	☐	400.000	-24921.606	156149.49	0.2544	P	2.5
3	☐	1000.000	37042.950	147413.18	0.2466	P	4.5
4	☐	2000.000	15641.443	148479.04	0.2493	P	3.2
5	☐	20000.00	19302.673	147809.65	0.2488	P	5.2
6	☐	40000.00	39018.734	143513.20	0.2464	P	2.8
7	☐	200.000					

y = -1.2539E-007 * x + 0.2512
R = -0.5569
DL = -1.576E+05
BEC = -2.004E+06

Weight: <None>
Min Conc: <None>

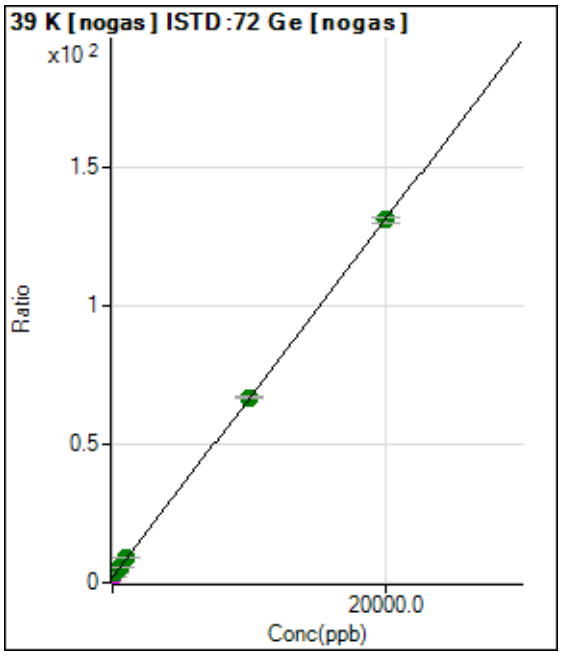
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1033.61	0.0297	P	6.3
2	☐	400.000	-9748.612	1133.67	0.0326	P	37.8
3	☐	1000.000	12806.713	866.92	0.0259	P	76.5
4	☐	2000.000	8403.145	933.56	0.0272	P	42.5
5	☐	20000.00	52265.294	466.78	0.0142	P	32.0
6	☐	40000.00	23353.514	733.53	0.0228	P	26.8
7	☐	200.000					

y = -2.9766E-007 * x + 0.0297
R = -0.6135
DL = -1.901E+04
BEC = -9.983E+04

Weight: <None>
Min Conc: <None>

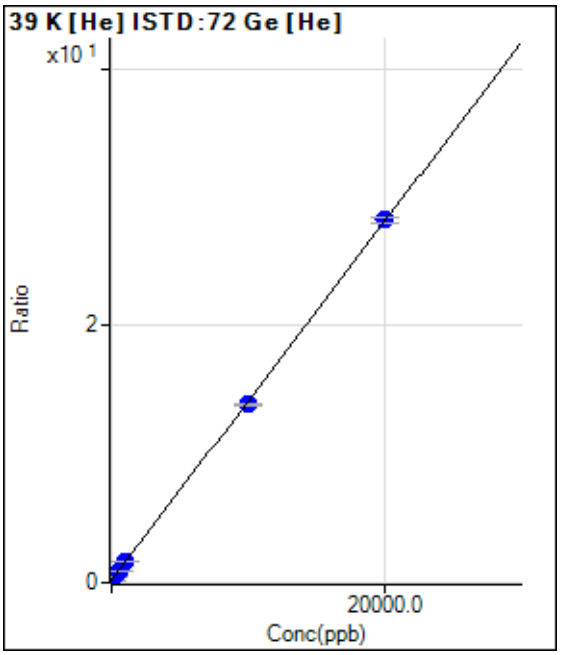


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1205251.13	1.9752	M	2.8
2	☐	200.000	207.393	2035034.03	3.3154	A	2.2
3	☐	500.000	524.963	3209157.69	5.3676	A	0.6
4	☐	1000.000	1050.404	5219796.73	8.7631	A	1.4
5	☐	10000.00	10038.511	39720021.72	66.8458	A	1.4
6	☐	20000.00	19977.526	76357922.54	131.073	A	1.9
7	☐	100.000					

y = 0.0065 * x + 1.9752
R = 1.0000
DL = 25.61
BEC = 305.7

Weight: <None>
Min Conc: <None>

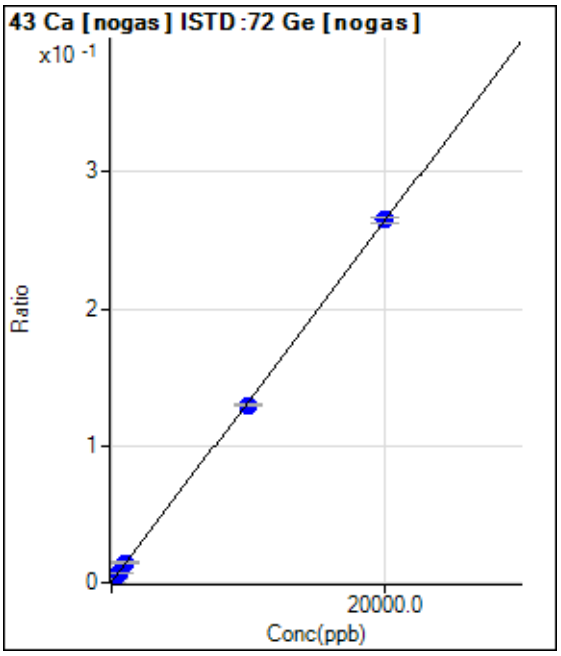
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6654.74	0.1919	P	10.8
2	☐	200.000	195.368	16164.37	0.4645	P	5.0
3	☐	500.000	507.121	30516.85	0.8995	P	1.8
4	☐	1000.000	1008.304	54678.66	1.5988	P	1.3
5	☐	10000.00	9802.684	456472.40	13.8698	P	1.0
6	☐	20000.00	20098.111	906363.89	28.2353	P	1.5
7	☐	100.000					

y = 0.0014 * x + 0.1919
R = 0.9999
DL = 44.36
BEC = 137.5

Weight: <None>
Min Conc: <None>

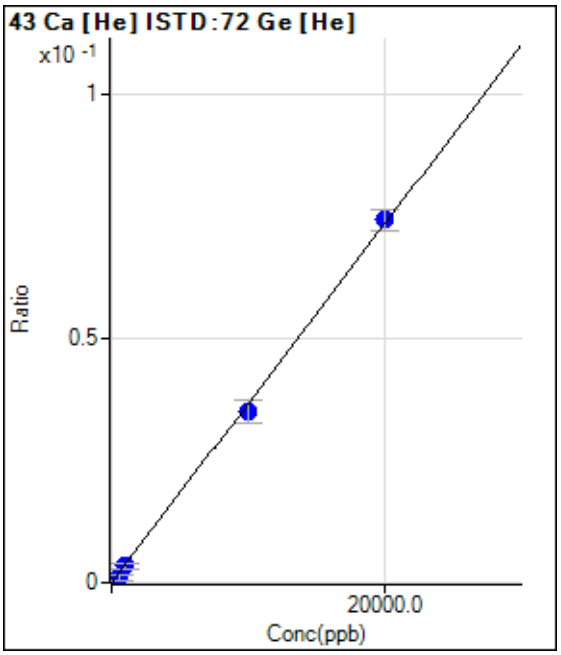


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	276.68	0.0005	P	33.8
2	☐	200.000	203.433	1923.48	0.0031	P	4.0
3	☐	500.000	510.056	4287.30	0.0072	P	2.3
4	☐	1000.000	1077.988	8725.63	0.0146	P	2.7
5	☐	10000.00	9825.834	77166.33	0.1298	P	1.8
6	☐	20000.00	20082.898	154321.19	0.2649	P	1.6
7	☐	100.000					

y = 1.3168E-005 * x + 4.5472E-004
R = 0.9999
DL = 35.05
BEC = 34.53

Weight: <None>
Min Conc: <None>

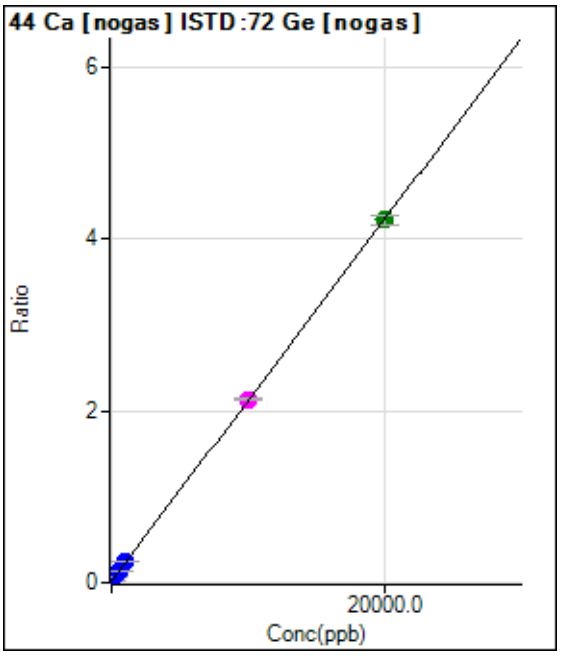
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	0.00	0.0000	P	
2	☐	200.000	157.550	20.00	0.0006	P	87.7
3	☐	500.000	318.904	40.00	0.0012	P	101.
4	☐	1000.000	927.931	116.67	0.0034	P	26.7
5	☐	10000.00	9531.021	1150.06	0.0350	P	13.0
6	☐	20000.00	20243.045	2383.55	0.0743	P	5.9
7	☐	100.000					

y = 3.6696E-006 * x + 0.0000E+000
R = 0.9996
DL = 0
BEC = 0

Weight: <None>
Min Conc: <None>

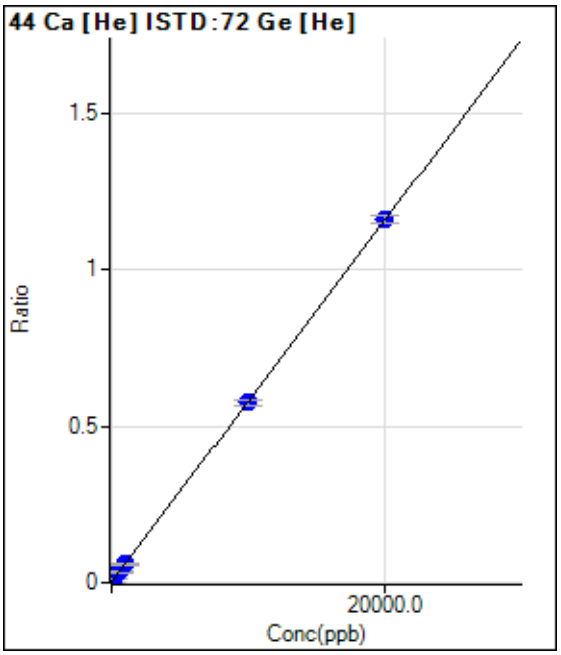


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10556.70	0.0173	P	3.8
2	☐	200.000	212.838	38138.71	0.0621	P	1.3
3	☐	500.000	529.088	76982.55	0.1288	P	0.5
4	☐	1000.000	1071.872	144809.13	0.2431	P	0.4
5	☐	10000.00	10046.736	1268095.76	2.1338	M	1.2
6	☐	20000.00	19972.183	2461116.94	4.2247	A	2.5
7	☐	100.000					

y = 2.1066E-004 * x + 0.0173
R = 1.0000
DL = 9.281
BEC = 82.09

Weight: <None>
Min Conc: <None>

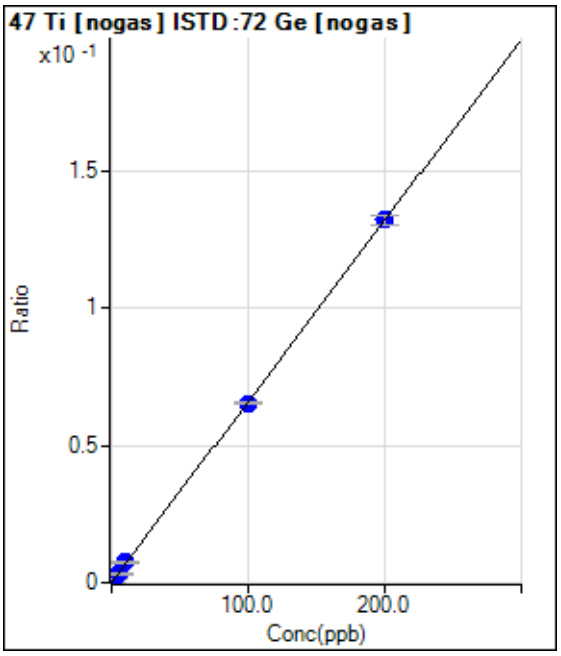
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	70.00	0.0020	P	63.5
2	☐	200.000	179.450	430.01	0.0123	P	3.2
3	☐	500.000	553.949	1153.41	0.0340	P	4.9
4	☐	1000.000	1000.173	2043.50	0.0597	P	10.4
5	☐	10000.00	9914.984	18900.50	0.5742	P	3.2
6	☐	20000.00	20041.356	37190.12	1.1586	P	2.0
7	☐	100.000					

y = 5.7711E-005 * x + 0.0020
R = 1.0000
DL = 65.67
BEC = 34.47

Weight: <None>
Min Conc: <None>

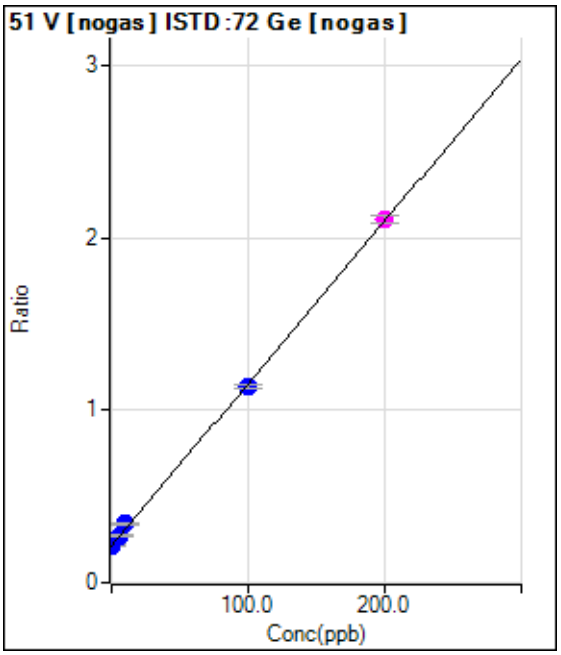


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36.67	0.0001	P	55.0
2	☐	2.000	1.772	753.37	0.0012	P	10.9
3	☐	5.000	4.721	1896.81	0.0032	P	8.5
4	☐	10.000	11.126	4403.99	0.0074	P	1.5
5	☐	100.000	99.147	38863.84	0.0654	P	1.4
6	☐	200.000	200.380	76973.05	0.1321	P	2.4
7	☐	1.000					

y = 6.5909E-004 * x + 5.9714E-005
R = 1.0000
DL = 0.1496
BEC = 0.0906

Weight: <None>
Min Conc: <None>

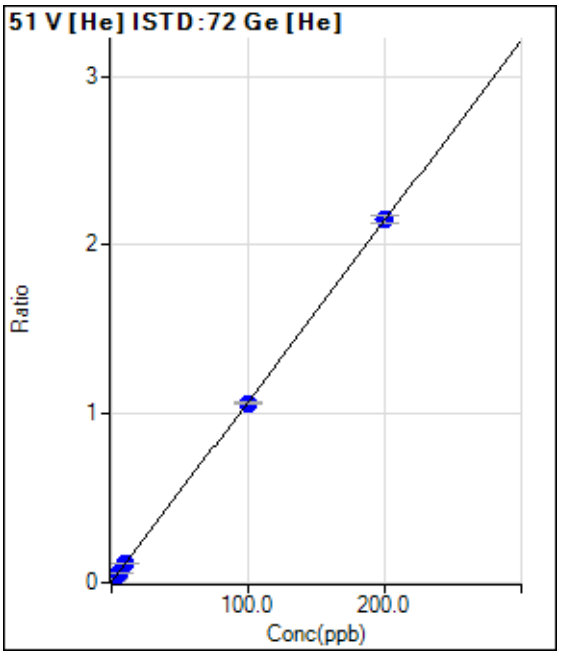
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	130742.90	0.2143	P	3.2
2	☐	2.000	3.301	150641.36	0.2454	P	2.1
3	☐	5.000	6.242	163260.30	0.2731	P	1.9
4	☐	10.000	13.701	204455.42	0.3433	P	2.7
5	☐	100.000	97.924	675005.63	1.1361	P	2.0
6	☐	200.000	200.809	1226033.79	2.1046	M	2.2
7	☐	1.000					

y = 0.0094 * x + 0.2143
R = 0.9998
DL = 2.202
BEC = 22.76

Weight: <None>
Min Conc: <None>

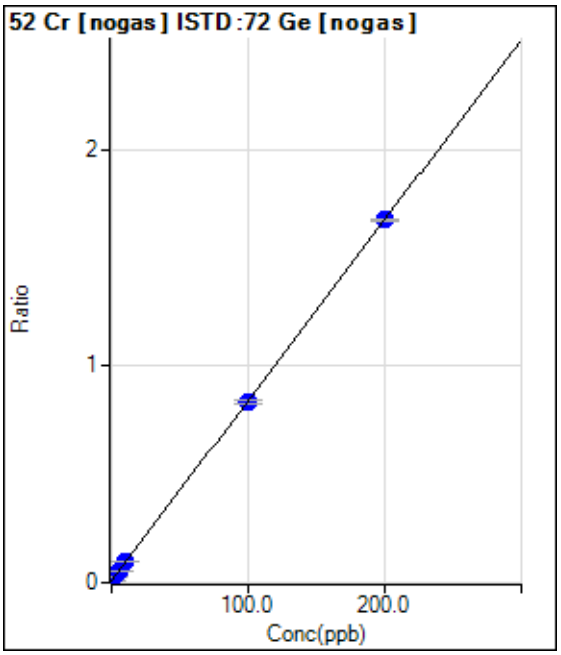


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.203	226.67	0.0065	P	13.3
2	☐	2.000	2.155	952.36	0.0274	P	5.8
3	☐	5.000	5.063	1982.79	0.0585	P	5.3
4	☐	10.000	10.174	3868.44	0.1131	P	2.7
5	☐	100.000	98.833	34916.82	1.0610	P	1.1
6	☐	200.000	200.572	68982.19	2.1486	P	2.2
7	☐	1.000					

y = 0.0107 * x + 0.0043
R = 1.0000
DL = 0.2423
BEC = 0.4054

Weight: <None>
Min Conc: <None>

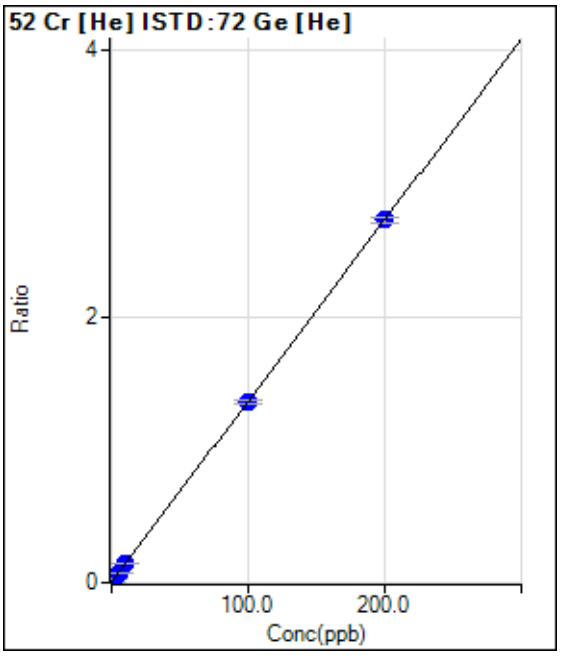
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6231.26	0.0102	P	8.0
2	☐	2.000	2.129	17132.15	0.0279	P	1.8
3	☐	5.000	5.020	31061.50	0.0519	P	1.1
4	☐	10.000	10.490	58043.79	0.0974	P	0.4
5	☐	100.000	99.569	497996.33	0.8382	P	2.1
6	☐	200.000	200.189	975744.85	1.6749	P	0.7
7	☐	1.000					

y = 0.0083 * x + 0.0102
R = 1.0000
DL = 0.2955
BEC = 1.228

Weight: <None>
Min Conc: <None>

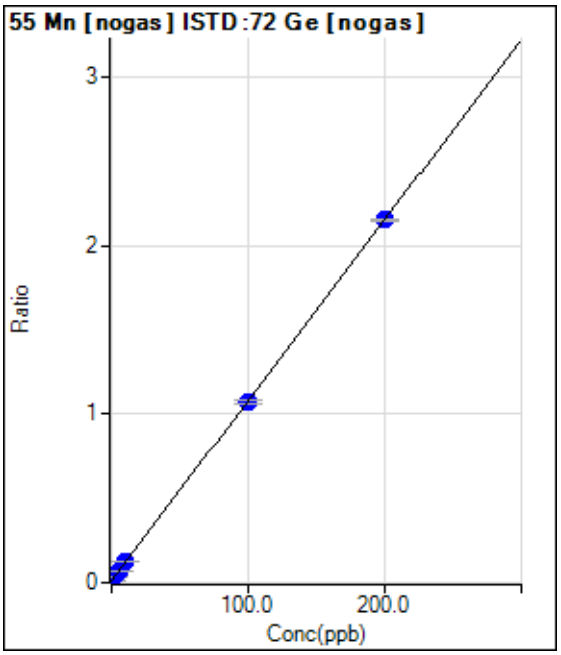


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	136.67	0.0040	P	26.6
2	☐	2.000	2.063	1113.40	0.0320	P	10.0
3	☐	5.000	5.113	2490.22	0.0735	P	9.3
4	☐	10.000	10.559	5044.18	0.1475	P	4.4
5	☐	100.000	99.555	44674.66	1.3575	P	1.3
6	☐	200.000	200.191	87502.66	2.7258	P	1.8
7	☐	1.000					

y = 0.0136 * x + 0.0040
R = 1.0000
DL = 0.2327
BEC = 0.2914

Weight: <None>
Min Conc: <None>

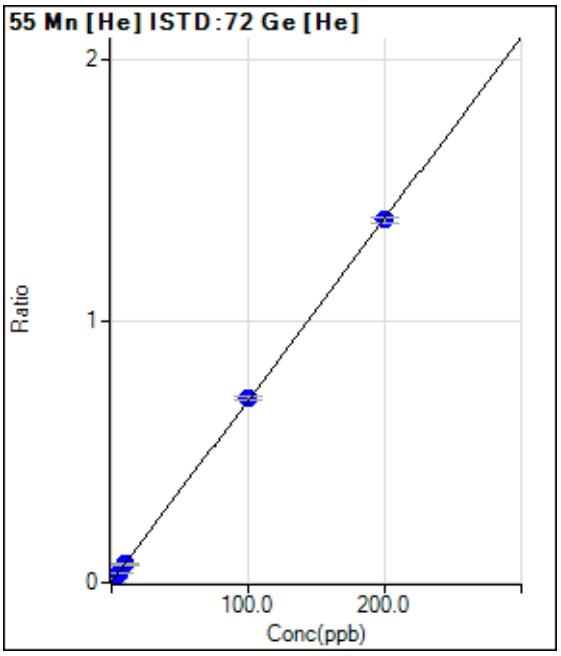
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5921.13	0.0097	P	4.3
2	☐	2.000	1.979	18964.01	0.0309	P	2.7
3	☐	5.000	5.222	39244.89	0.0656	P	1.5
4	☐	10.000	10.666	73840.55	0.1240	P	1.2
5	☐	100.000	99.438	638711.97	1.0750	P	2.4
6	☐	200.000	200.242	1255403.31	2.1549	P	0.5
7	☐	1.000					

y = 0.0107 * x + 0.0097
R = 1.0000
DL = 0.1165
BEC = 0.9054

Weight: <None>
Min Conc: <None>

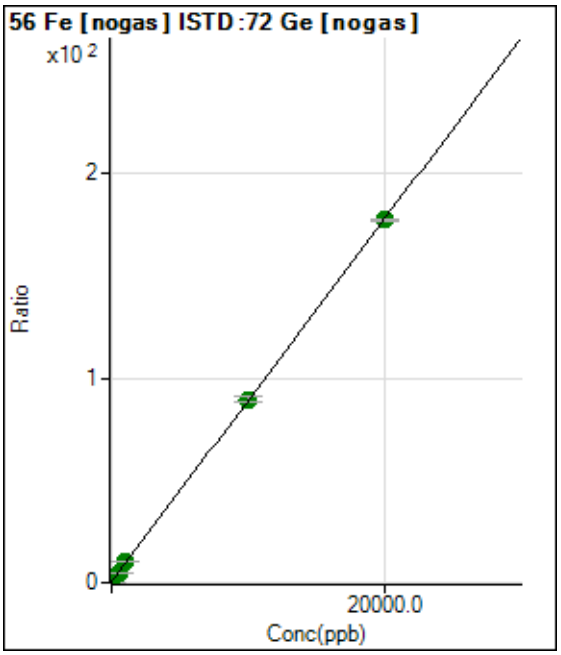


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	63.33	0.0018	P	7.0
2	☐	2.000	1.959	536.69	0.0154	P	18.6
3	☐	5.000	5.088	1263.41	0.0372	P	9.6
4	☐	10.000	10.131	2473.58	0.0723	P	7.7
5	☐	100.000	101.301	23249.36	0.7063	P	1.5
6	☐	200.000	199.341	44561.03	1.3882	P	1.8
7	☐	1.000					

y = 0.0070 * x + 0.0018
R = 1.0000
DL = 0.05506
BEC = 0.2623

Weight: <None>
Min Conc: <None>

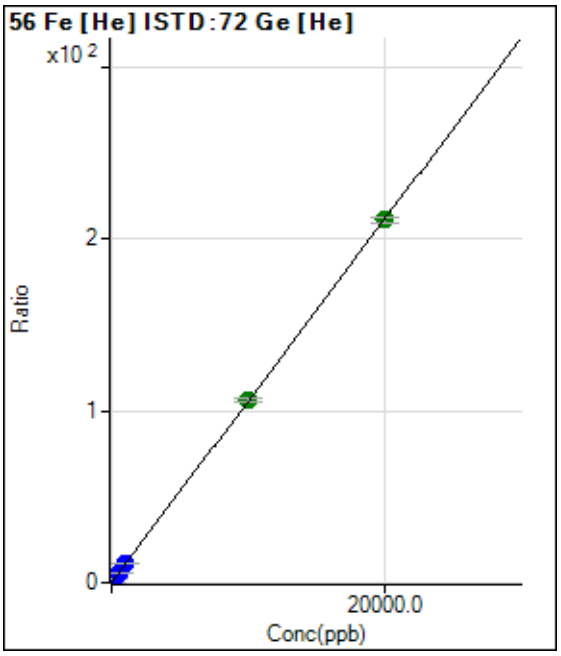
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	273959.23	0.4490	P	1.4
2	☐	200.000	217.455	1458623.01	2.3761	A	0.5
3	☐	500.000	526.841	3059961.72	5.1179	A	0.4
4	☐	1000.000	1082.346	5981100.52	10.0409	A	0.9
5	☐	10000.00	10073.710	53307572.03	89.7233	A	2.3
6	☐	20000.00	19958.182	103302510.6	177.320	A	0.8
7	☐	100.000					

y = 0.0089 * x + 0.4490
R = 1.0000
DL = 2.139
BEC = 50.67

Weight: <None>
Min Conc: <None>

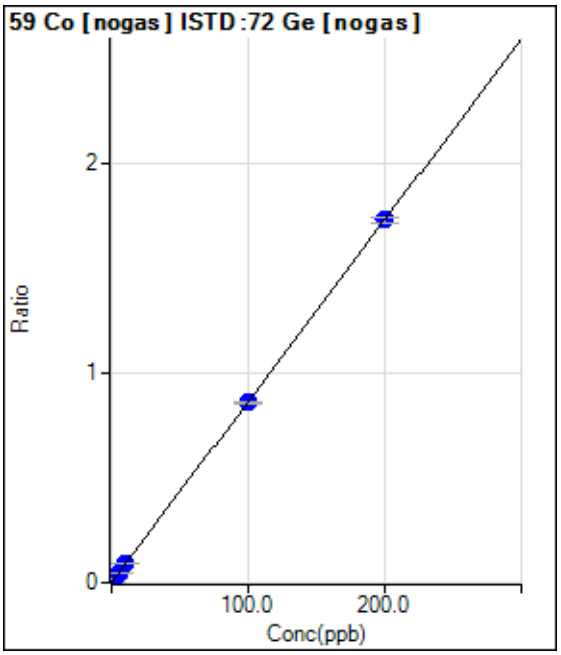


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1243.41	0.0359	P	11.8
2	☐	200.000	202.122	75648.19	2.1728	P	2.7
3	☐	500.000	503.719	181911.70	5.3613	P	1.5
4	☐	1000.000	1028.178	373005.28	10.9060	P	1.4
5	☐	10000.00	10035.870	3492631.92	106.137	A	2.3
6	☐	20000.00	19980.542	6783462.19	211.274	A	1.5
7	☐	100.000					

y = 0.0106 * x + 0.0359
R = 1.0000
DL = 1.197
BEC = 3.394

Weight: <None>
Min Conc: <None>

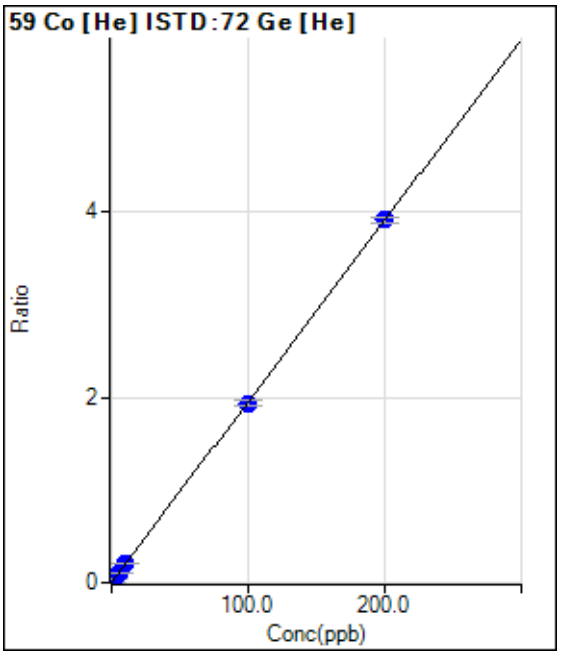
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	86.67	0.0001	P	39.4
2	☐	2.000	2.171	11617.49	0.0189	P	5.6
3	☐	5.000	5.177	26864.68	0.0449	P	2.1
4	☐	10.000	10.567	54550.03	0.0916	P	1.4
5	☐	100.000	99.443	511407.27	0.8606	P	1.2
6	☐	200.000	200.244	1009523.58	1.7329	P	1.3
7	☐	1.000					

y = 0.0087 * x + 1.4168E-004
R = 1.0000
DL = 0.01936
BEC = 0.01637

Weight: <None>
Min Conc: <None>

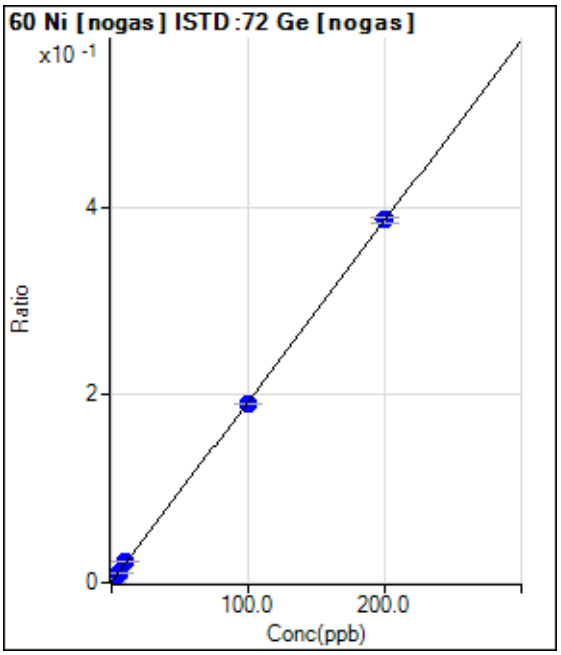


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0005	P	65.8
2	☐	2.000	1.954	1343.42	0.0386	P	12.4
3	☐	5.000	4.993	3327.07	0.0980	P	3.6
4	☐	10.000	10.640	7121.60	0.2083	P	3.3
5	☐	100.000	99.172	63754.64	1.9372	P	2.6
6	☐	200.000	200.382	125650.49	3.9136	P	1.5
7	☐	1.000					

y = 0.0195 * x + 4.7393E-004
R = 1.0000
DL = 0.04792
BEC = 0.02427

Weight: <None>
Min Conc: <None>

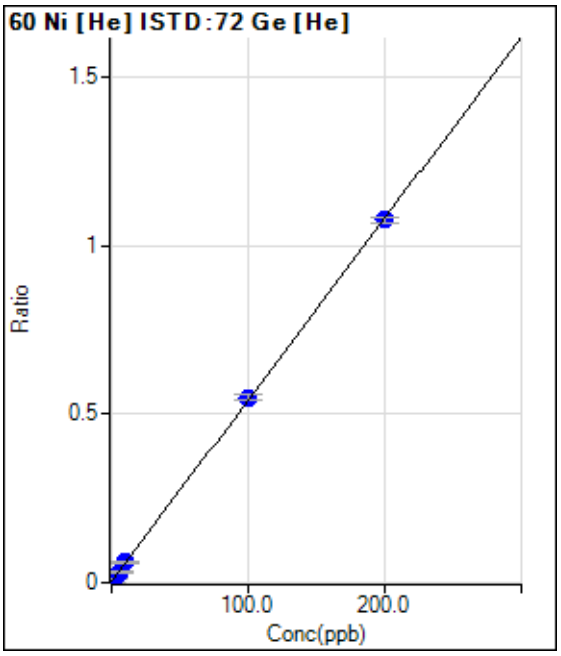
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.016	453.35	0.0007	P	22.6
2	☐	2.000	1.674	2453.57	0.0040	P	10.7
3	☐	5.000	4.824	6014.51	0.0101	P	7.0
4	☐	10.000	11.164	13255.34	0.0223	P	2.4
5	☐	100.000	98.809	113437.04	0.1909	P	0.3
6	☐	200.000	200.545	225225.96	0.3866	P	1.8
7	☐	1.000					

y = 0.0019 * x + 7.7523E-004
R = 1.0000
DL = 0.262
BEC = 0.4029

Weight: <None>
Min Conc: <None>

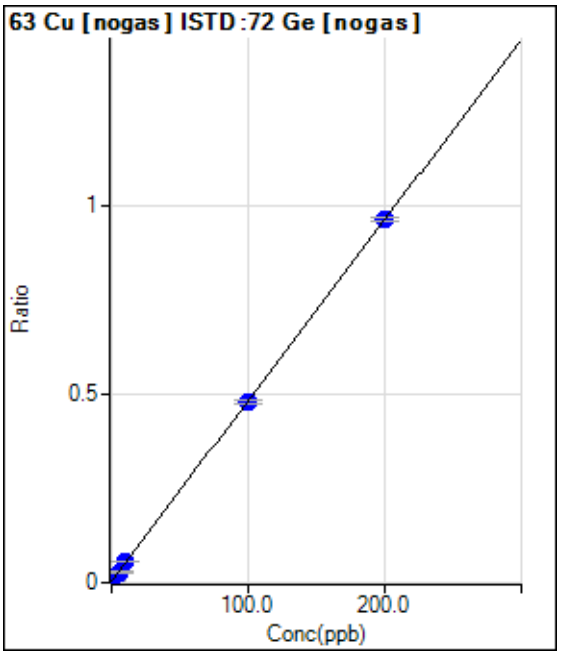


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.546	23.33	0.0007	P	22.9
2	☐	2.000	1.625	430.02	0.0124	P	27.2
3	☐	5.000	4.751	993.38	0.0292	P	20.3
4	☐	10.000	10.500	2056.83	0.0602	P	8.5
5	☐	100.000	101.373	18089.89	0.5497	P	2.8
6	☐	200.000	199.299	34591.83	1.0772	P	1.6
7	☐	1.000					

y = 0.0054 * x + 0.0036
R = 1.0000
DL = 0.08556
BEC = 0.6709

Weight: <None>
Min Conc: <None>

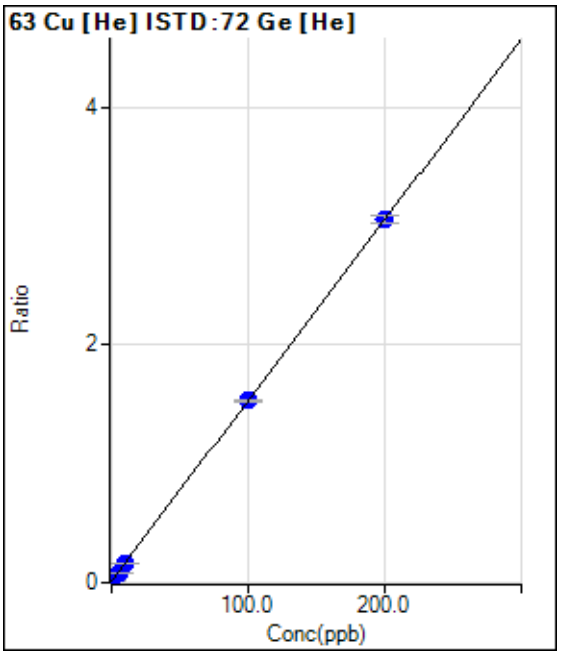
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2456.90	0.0040	P	6.8
2	☐	2.000	2.799	10683.45	0.0174	P	3.5
3	☐	5.000	4.995	16681.72	0.0279	P	3.2
4	☐	10.000	10.700	32861.73	0.0552	P	2.7
5	☐	100.000	99.536	285028.56	0.4797	P	2.2
6	☐	200.000	200.189	559720.55	0.9608	P	0.9
7	☐	1.000					

y = 0.0048 * x + 0.0040
R = 1.0000
DL = 0.173
BEC = 0.8428

Weight: <None>
Min Conc: <None>

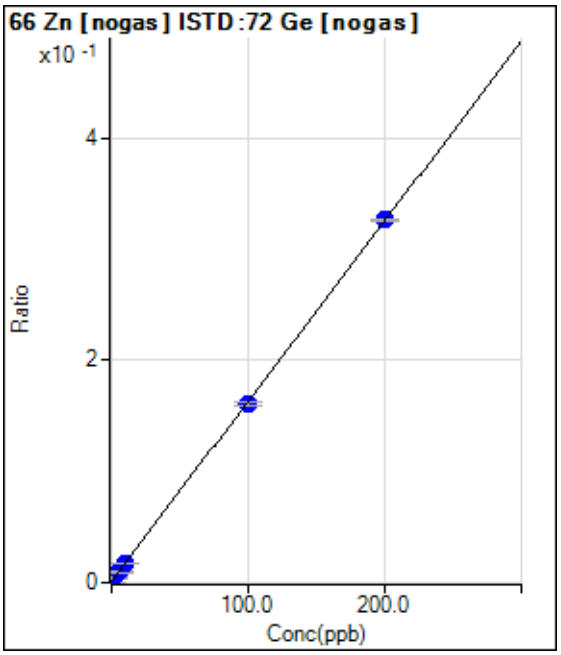


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.014	450.02	0.0129	P	7.6
2	☐	2.000	2.569	1816.80	0.0522	P	2.0
3	☐	5.000	4.573	2803.61	0.0826	P	2.4
4	☐	10.000	9.884	5584.35	0.1633	P	5.0
5	☐	100.000	99.953	50414.20	1.5317	P	1.2
6	☐	200.000	200.034	97971.17	3.0522	P	2.0
7	☐	1.000					

y = 0.0152 * x + 0.0131
R = 1.0000
DL = 0.1937
BEC = 0.8653

Weight: <None>
Min Conc: <None>

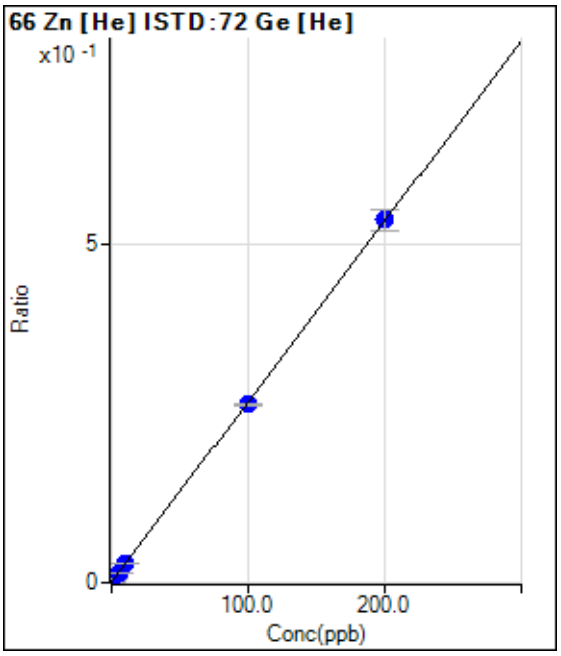
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.113	470.02	0.0008	P	10.5
2	☐	2.000	2.288	2863.65	0.0047	P	16.9
3	☐	5.000	5.324	5731.10	0.0096	P	5.1
4	☐	10.000	10.225	10443.37	0.0175	P	6.5
5	☐	100.000	98.597	95544.82	0.1608	P	1.3
6	☐	200.000	200.679	190086.78	0.3263	P	0.9
7	☐	1.000					

y = 0.0016 * x + 9.5255E-004
R = 1.0000
DL = 0.1499
BEC = 0.5876

Weight: <None>
Min Conc: <None>

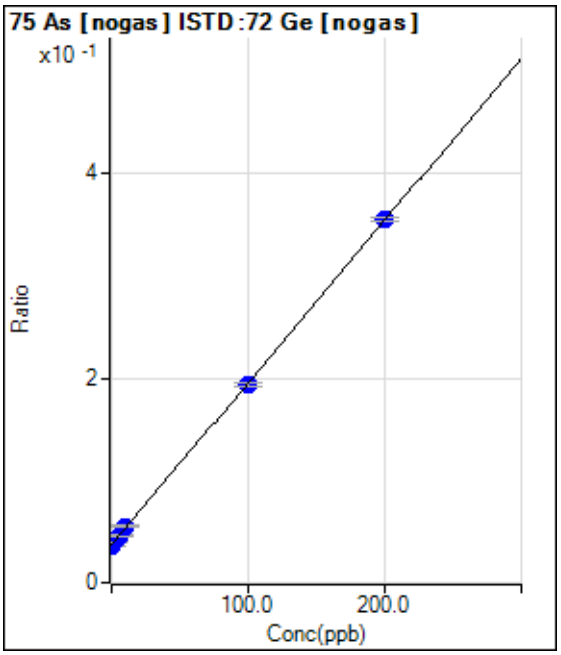


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.218	53.33	0.0016	P	49.1
2	☐	2.000	2.439	260.01	0.0075	P	11.2
3	☐	5.000	5.086	493.35	0.0145	P	10.4
4	☐	10.000	10.029	946.71	0.0277	P	3.4
5	☐	100.000	98.471	8658.99	0.2631	P	1.5
6	☐	200.000	200.756	17175.58	0.5354	P	6.0
7	☐	1.000					

y = 0.0027 * x + 9.8107E-004
R = 1.0000
DL = 0.8647
BEC = 0.3685

Weight: <None>
Min Conc: <None>

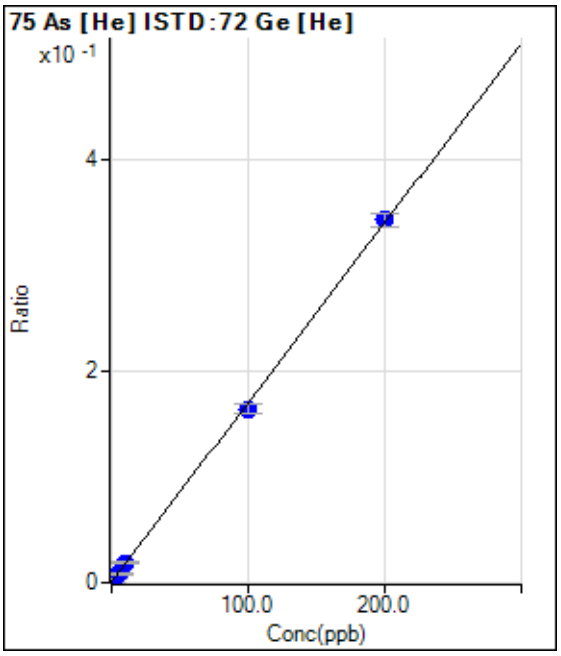
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-1.147	21584.11	0.0354	P	0.6
2	☐	2.000	1.726	24511.23	0.0399	P	2.6
3	☐	5.000	5.550	27499.24	0.0460	P	1.9
4	☐	10.000	11.425	32948.87	0.0553	P	3.4
5	☐	100.000	99.060	115468.91	0.1944	P	2.3
6	☐	200.000	200.388	206881.88	0.3551	P	0.9
7	☐	1.000					

y = 0.0016 * x + 0.0372
R = 0.9999
DL = 0.4189
BEC = 23.44

Weight: <None>
Min Conc: <None>

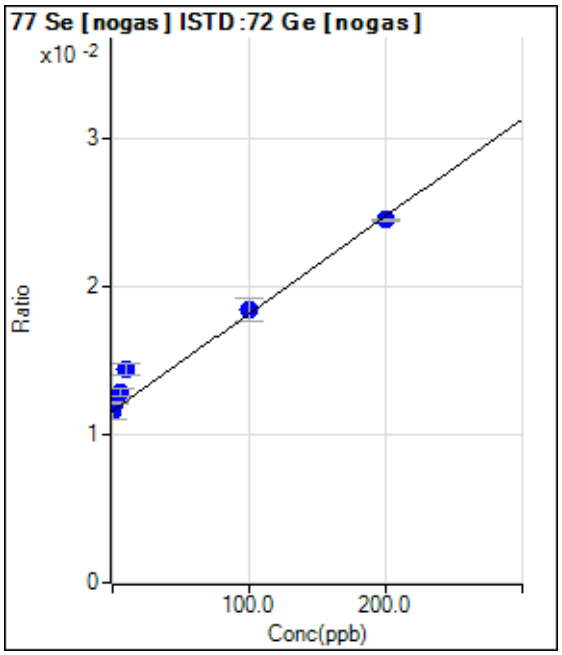


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0005	P	77.2
2	☐	2.000	1.662	115.56	0.0033	P	6.3
3	☐	5.000	4.714	288.89	0.0085	P	16.1
4	☐	10.000	10.893	648.91	0.0190	P	16.1
5	☐	100.000	96.376	5402.00	0.1642	P	5.2
6	☐	200.000	201.778	11015.85	0.3432	P	3.6
7	☐	1.000					

y = 0.0017 * x + 4.9224E-004
R = 0.9998
DL = 0.6712
BEC = 0.2898

Weight: <None>
Min Conc: <None>

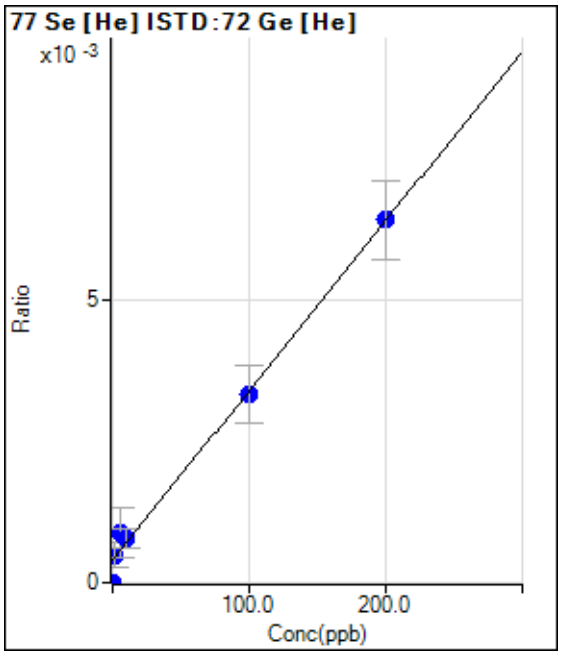
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7068.30	0.0116	P	10.8
2	☐	2.000	7.581	7425.15	0.0121	P	1.5
3	☐	5.000	19.198	7685.23	0.0129	P	4.6
4	☐	10.000	42.782	8579.01	0.0144	P	4.8
5	☐	100.000	103.629	10923.72	0.0184	P	8.1
6	☐	200.000	196.136	14252.82	0.0245	P	0.4
7	☐	1.000					

y = 6.5604E-005 * x + 0.0116
R = 0.9886
DL = 57.39
BEC = 176.8

Weight: <None>
Min Conc: <None>

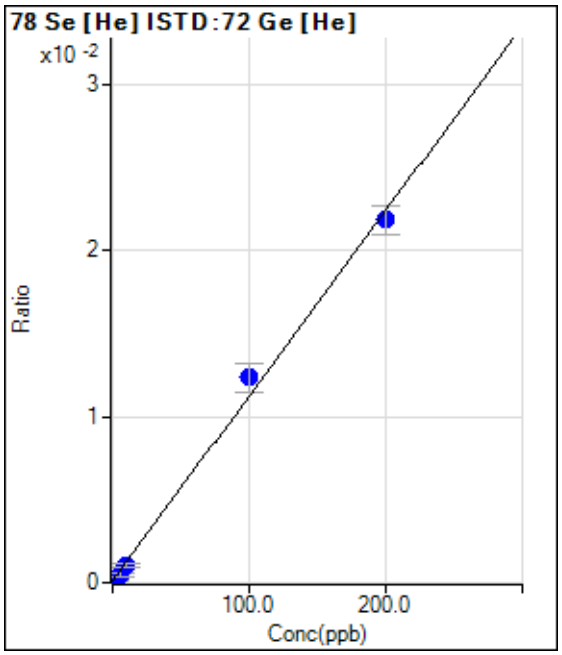


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-13.324	0.00	0.0000	P	
2	☐	2.000	2.797	16.67	0.0005	P	91.7
3	☐	5.000	16.340	30.00	0.0009	P	101.
4	☐	10.000	12.703	26.67	0.0008	P	44.4
5	☐	100.000	97.821	110.00	0.0033	P	31.1
6	☐	200.000	200.663	206.68	0.0064	P	21.6
7	☐	1.000					

y = 3.0040E-005 * x + 4.0026E-004
R = 0.9953
DL = 0
BEC = 13.32

Weight: <None>
Min Conc: <None>

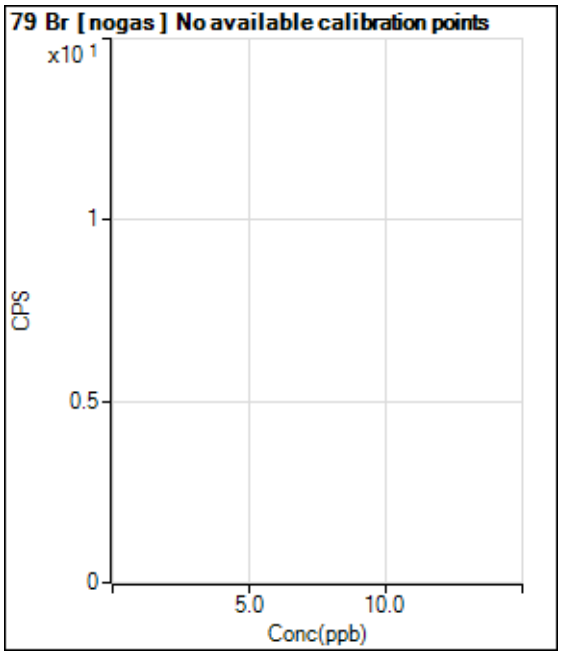
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4.00	0.0001	P	5.3
2	☐	2.000	0.345	5.33	0.0002	P	115.
3	☐	5.000	3.232	16.00	0.0005	P	44.9
4	☐	10.000	8.443	36.00	0.0011	P	28.8
5	☐	100.000	109.947	406.01	0.0123	P	13.7
6	☐	200.000	195.165	700.02	0.0218	P	7.7
7	☐	1.000					

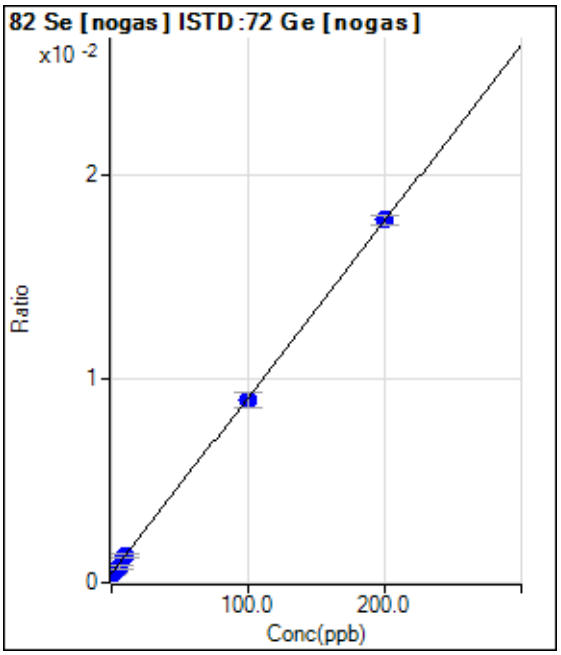
y = 1.1125E-004 * x + 1.1545E-004
R = 0.9980
DL = 0.1643
BEC = 1.038

Weight: <None>
Min Conc: <None>



	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					

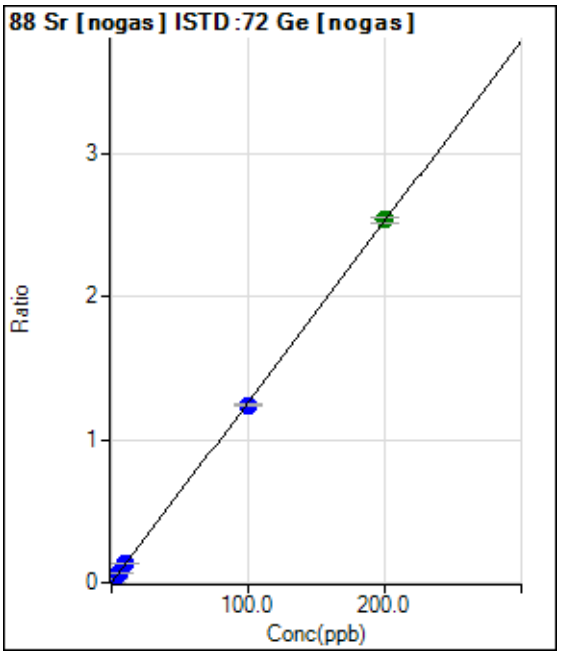
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	276.68	0.0005	P	18.6
2	☐	2.000	0.647	313.34	0.0005	P	14.4
3	☐	5.000	3.376	446.68	0.0007	P	18.3
4	☐	10.000	9.685	770.03	0.0013	P	16.0
5	☐	100.000	98.683	5340.94	0.0090	P	8.6
6	☐	200.000	200.729	10383.35	0.0178	P	2.9
7	☐	1.000					

y = 8.6524E-005 * x + 4.5428E-004
R = 1.0000
DL = 2.937
BEC = 5.25

Weight: <None>
Min Conc: <None>

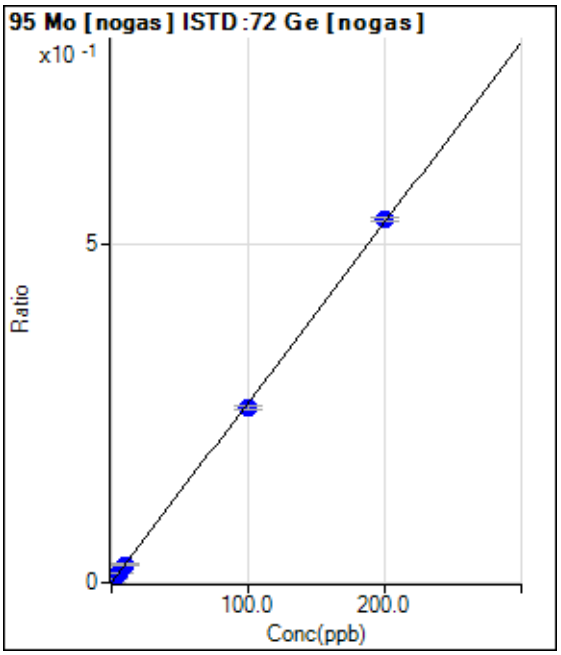


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	386.68	0.0006	P	13.8
2	☐	2.000	2.051	16271.43	0.0265	P	3.7
3	☐	5.000	4.966	37812.89	0.0633	P	3.2
4	☐	10.000	10.241	77307.20	0.1298	P	1.9
5	☐	100.000	98.230	736431.45	1.2392	P	0.8
6	☐	200.000	200.873	1476024.04	2.5335	A	1.8
7	☐	1.000					

y = 0.0126 * x + 6.3298E-004
R = 0.9999
DL = 0.02079
BEC = 0.0502

Weight: <None>
Min Conc: <None>

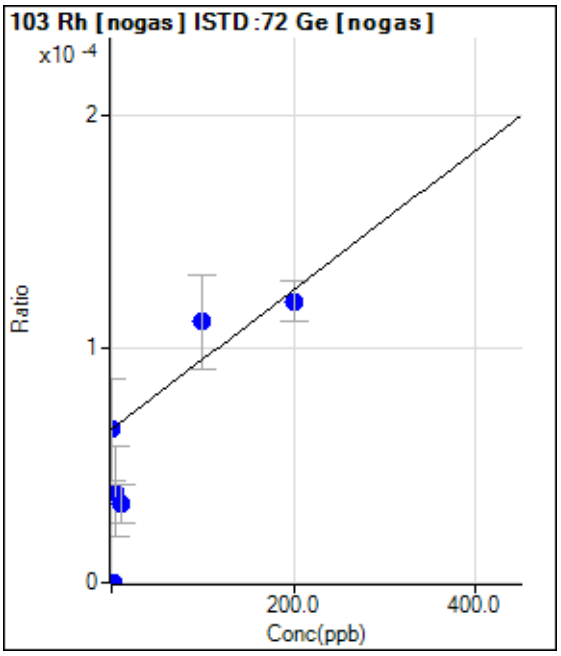
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	66.67	0.0001	P	18.8
2	☐	2.000	1.918	3200.37	0.0052	P	2.0
3	☐	5.000	4.905	7868.66	0.0132	P	2.4
4	☐	10.000	10.004	15924.54	0.0267	P	2.1
5	☐	100.000	96.970	153384.29	0.2582	P	1.8
6	☐	200.000	201.518	312469.25	0.5364	P	1.0
7	☐	1.000					

y = 0.0027 * x + 1.0944E-004
R = 0.9998
DL = 0.02314
BEC = 0.04113

Weight: <None>
Min Conc: <None>

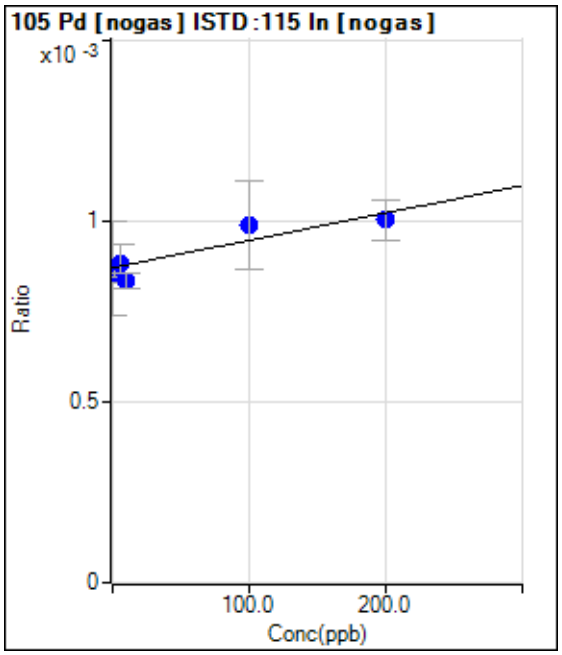


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	40.00	0.0001	P	66.5
2	☐	2.000	-219.860	0.00	0.0000	P	
3	☐	5.000	-89.490	23.33	0.0000	P	98.4
4	☐	10.000	-107.143	20.00	0.0000	P	50.4
5	☐	100.000	154.442	66.67	0.0001	P	36.0
6	☐	200.000	183.217	70.00	0.0001	P	14.6
7	☐	1.000					

y = 2.9818E-007 * x + 6.5558E-005
R = 0.8432
DL = 438.5
BEC = 219.9

Weight: <None>
Min Conc: <None>

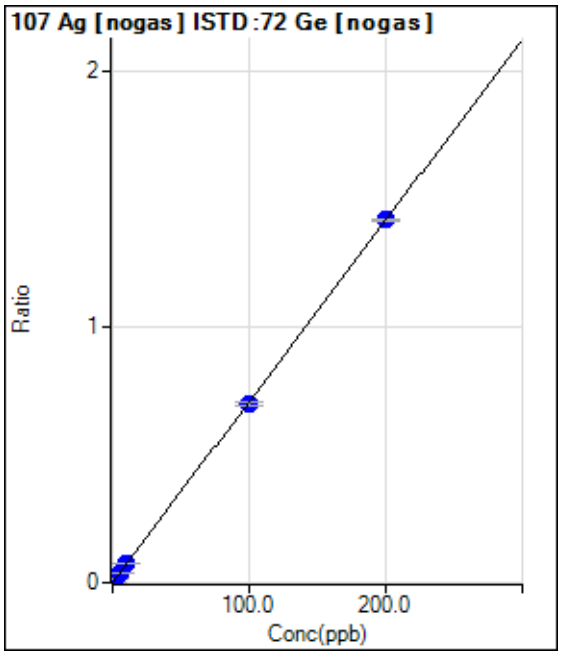
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	646.70	0.0009	P	29.9
2	☐	2.000	-18.466	636.69	0.0009	P	3.0
3	☐	5.000	15.117	640.03	0.0009	P	12.5
4	☐	10.000	-47.938	596.69	0.0008	P	4.8
5	☐	100.000	157.266	703.37	0.0010	P	24.7
6	☐	200.000	174.216	703.37	0.0010	P	11.0
7	☐	1.000					

y = 7.5752E-007 * x + 8.7131E-004
R = 0.9128
DL = 1031
BEC = 1150

Weight: <None>
Min Conc: <None>

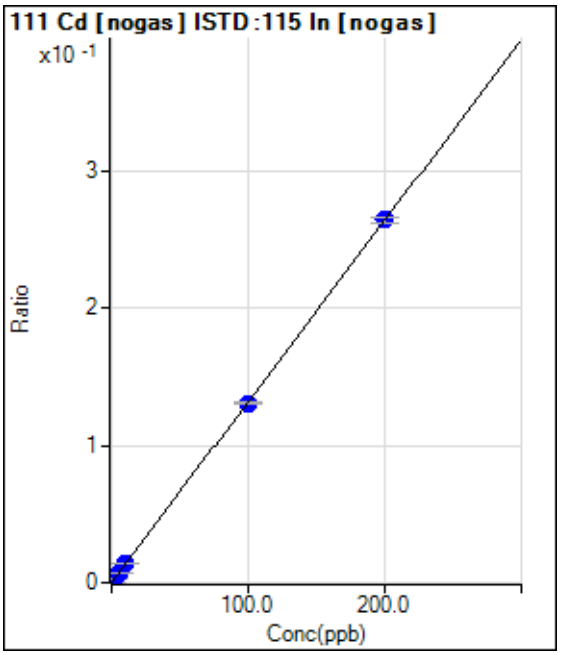


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	53.33	0.0001	P	38.3
2	☐	2.000	2.042	8935.93	0.0146	P	0.9
3	☐	5.000	5.056	21464.27	0.0359	P	4.1
4	☐	10.000	10.404	43954.97	0.0738	P	1.2
5	☐	100.000	99.217	417676.47	0.7030	P	2.1
6	☐	200.000	200.370	827004.28	1.4196	P	0.7
7	☐	1.000					

y = 0.0071 * x + 8.7261E-005
R = 1.0000
DL = 0.01417
BEC = 0.01232

Weight: <None>
Min Conc: <None>

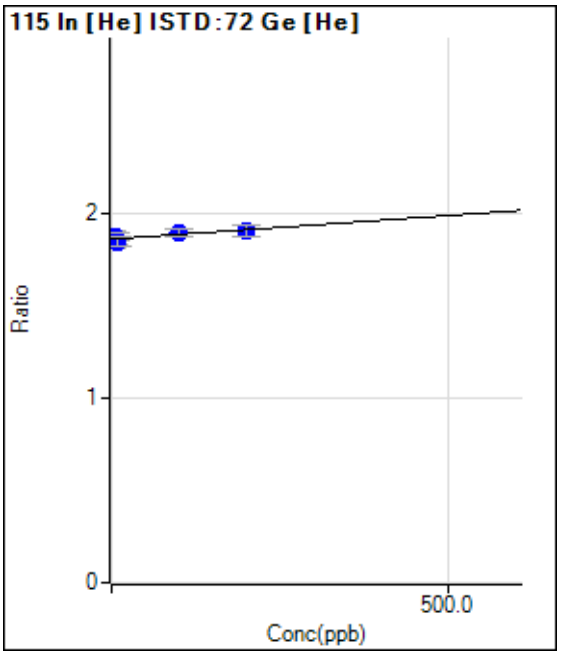
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6.67	0.0000	P	173.
2	☐	2.000	1.854	1823.47	0.0025	P	10.4
3	☐	5.000	5.240	5020.88	0.0069	P	5.0
4	☐	10.000	10.340	9763.13	0.0137	P	3.1
5	☐	100.000	99.004	92956.20	0.1307	P	1.4
6	☐	200.000	200.476	185456.60	0.2647	P	1.5
7	☐	1.000					

y = 0.0013 * x + 8.9476E-006
R = 1.0000
DL = 0.03522
BEC = 0.006777

Weight: <None>
Min Conc: <None>

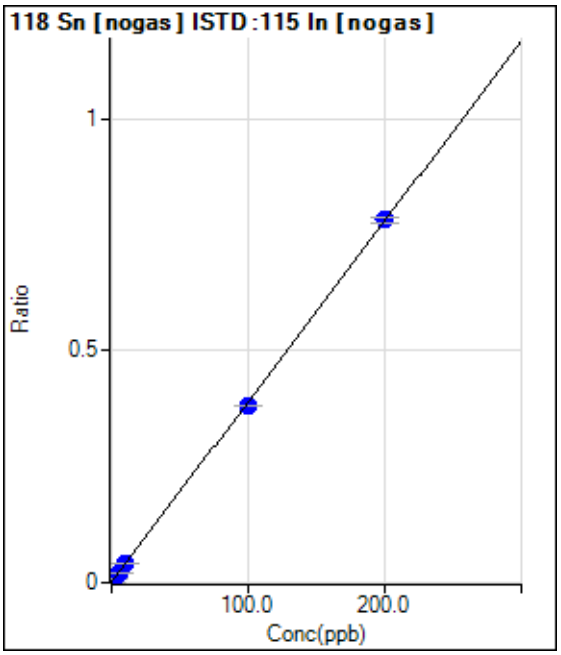


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	64372.25	1.8576	P	5.0
2	☐	2.000	-9.581	64586.17	1.8552	P	2.2
3	☐	5.000	50.654	63455.52	1.8706	P	2.4
4	☐	10.000	-56.072	63030.22	1.8433	P	3.1
5	☐	100.000	144.486	62347.78	1.8946	P	1.9
6	☐	200.000	180.035	61092.94	1.9037	P	3.4
7	☐	1.000					

y = 2.5585E-004 * x + 1.8576
R = 0.8902
DL = 1082
BEC = 7261

Weight: <None>
Min Conc: <None>

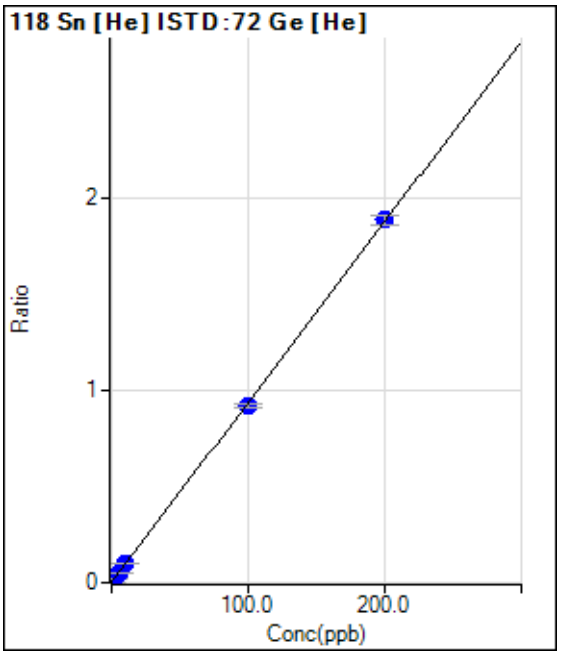
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	766.70	0.0010	P	7.5
2	☐	2.000	1.998	6538.17	0.0088	P	3.9
3	☐	5.000	4.921	14626.73	0.0202	P	3.6
4	☐	10.000	10.457	29810.61	0.0417	P	2.5
5	☐	100.000	98.028	271920.28	0.3824	P	0.5
6	☐	200.000	200.965	548508.47	0.7828	P	1.6
7	☐	1.000					

y = 0.0039 * x + 0.0010
R = 0.9999
DL = 0.0601
BEC = 0.2655

Weight: <None>
Min Conc: <None>

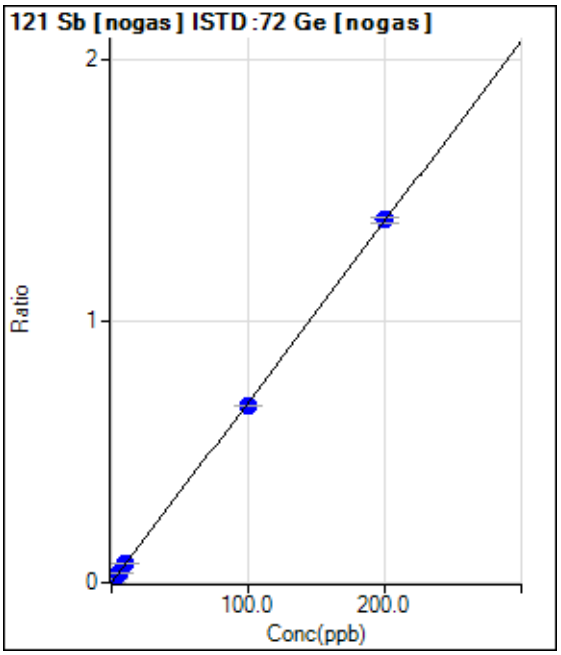


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	60.00	0.0017	P	73.7
2	☐	2.000	1.635	593.35	0.0170	P	7.7
3	☐	5.000	5.446	1793.48	0.0528	P	2.9
4	☐	10.000	10.653	3477.11	0.1017	P	5.5
5	☐	100.000	97.853	30288.19	0.9203	P	1.5
6	☐	200.000	201.033	60628.30	1.8890	P	2.6
7	☐	1.000					

y = 0.0094 * x + 0.0017
R = 0.9999
DL = 0.3985
BEC = 0.1803

Weight: <None>
Min Conc: <None>

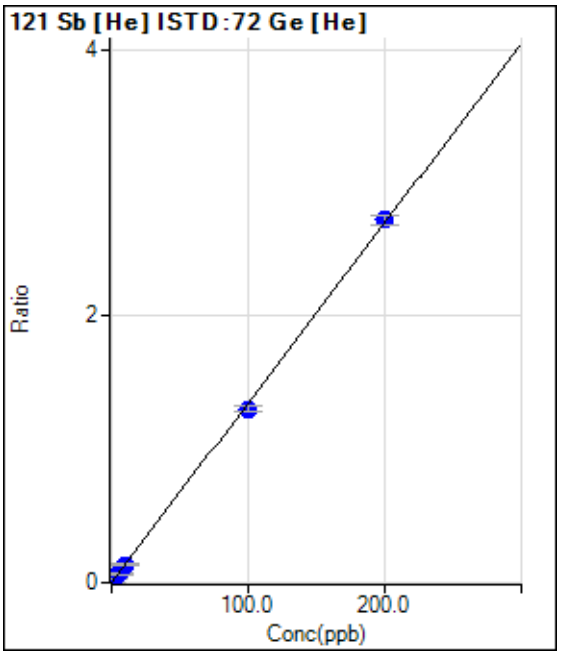
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	573.35	0.0009	P	6.9
2	☐	2.000	1.961	8872.54	0.0145	P	4.0
3	☐	5.000	5.155	21798.15	0.0365	P	1.9
4	☐	10.000	10.238	42575.40	0.0715	P	3.2
5	☐	100.000	98.010	401883.47	0.6763	P	0.7
6	☐	200.000	200.980	807352.10	1.3858	P	1.3
7	☐	1.000					

y = 0.0069 * x + 9.3913E-004
R = 0.9999
DL = 0.02826
BEC = 0.1363

Weight: <None>
Min Conc: <None>

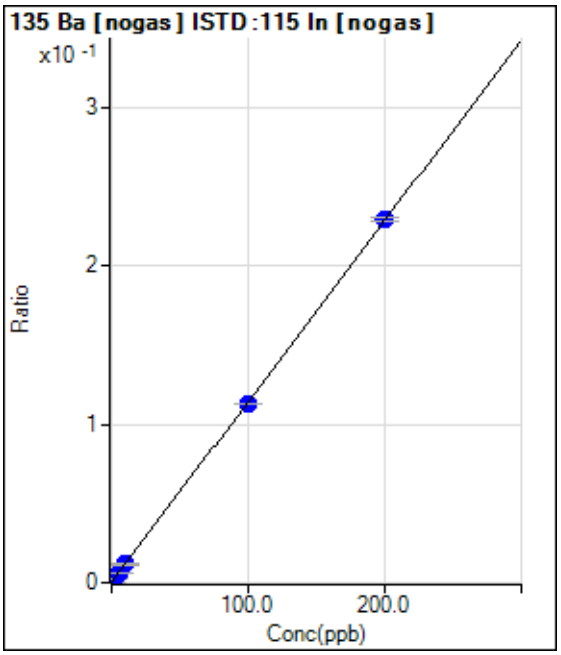


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.67	0.0016	P	43.5
2	☐	2.000	2.030	1010.05	0.0290	P	4.2
3	☐	5.000	4.728	2216.87	0.0654	P	10.1
4	☐	10.000	9.899	4620.76	0.1351	P	4.3
5	☐	100.000	96.369	42822.99	1.3009	P	3.6
6	☐	200.000	201.827	87387.98	2.7227	P	2.3
7	☐	1.000					

y = 0.0135 * x + 0.0016
R = 0.9998
DL = 0.1581
BEC = 0.1213

Weight: <None>
Min Conc: <None>

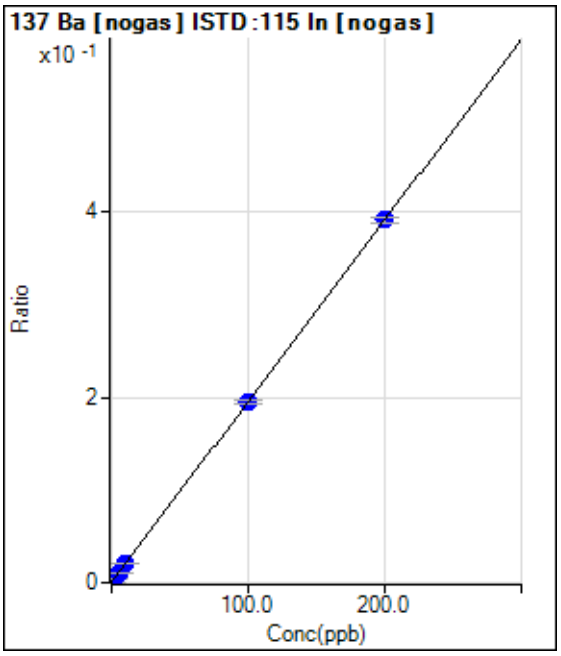
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	143.33	0.0002	P	39.6
2	☐	2.000	2.219	2020.18	0.0027	P	8.5
3	☐	5.000	5.016	4280.66	0.0059	P	6.2
4	☐	10.000	10.159	8405.70	0.0118	P	6.2
5	☐	100.000	98.691	80063.37	0.1126	P	0.5
6	☐	200.000	200.644	160245.87	0.2287	P	1.0
7	☐	1.000					

y = 0.0011 * x + 1.9371E-004
R = 1.0000
DL = 0.2023
BEC = 0.1701

Weight: <None>
Min Conc: <None>

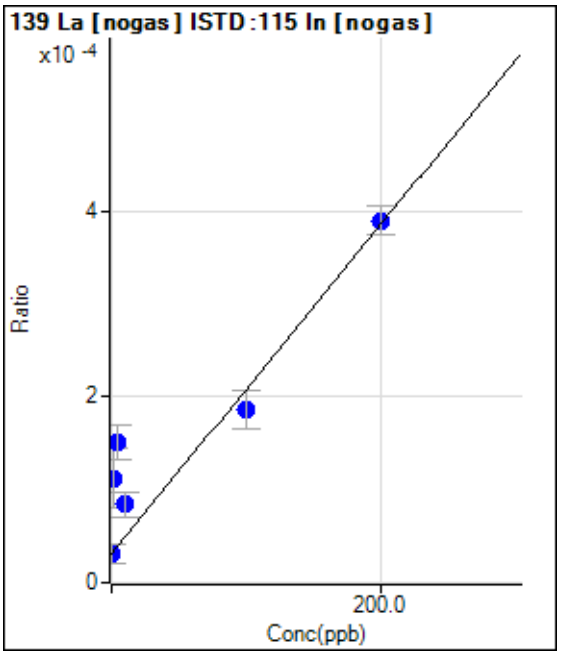


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	283.34	0.0004	P	6.7
2	☐	2.000	1.899	3033.69	0.0041	P	5.1
3	☐	5.000	5.100	7488.56	0.0103	P	5.1
4	☐	10.000	10.251	14566.89	0.0204	P	3.4
5	☐	100.000	99.405	138131.91	0.1943	P	2.2
6	☐	200.000	200.283	273984.87	0.3910	P	1.8
7	☐	1.000					

y = 0.0020 * x + 3.8206E-004
R = 1.0000
DL = 0.03919
BEC = 0.1959

Weight: <None>
Min Conc: <None>

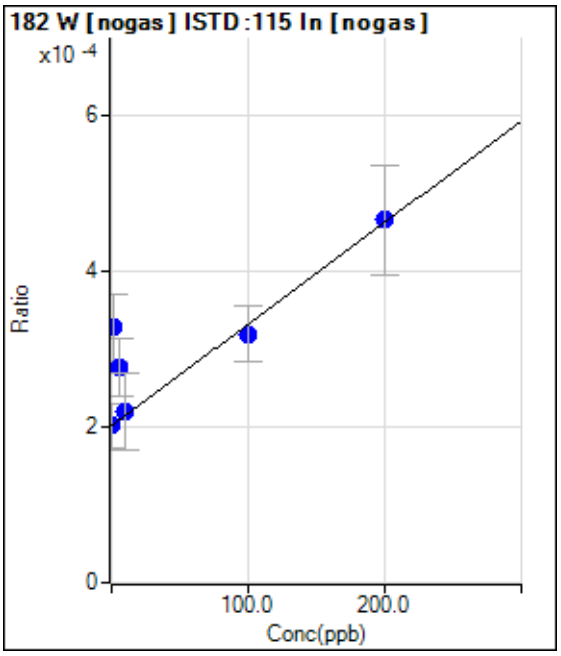
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	23.33	0.0000	P	65.1
2	☐	2.000	45.795	83.33	0.0001	P	56.9
3	☐	5.000	68.118	110.00	0.0002	P	24.4
4	☐	10.000	29.797	60.00	0.0001	P	33.5
5	☐	100.000	88.148	133.34	0.0002	P	22.0
6	☐	200.000	202.920	273.34	0.0004	P	7.9
7	☐	1.000					

y = 1.7683E-006 * x + 3.1339E-005
R = 0.9389
DL = 34.62
BEC = 17.72

Weight: <None>
Min Conc: <None>

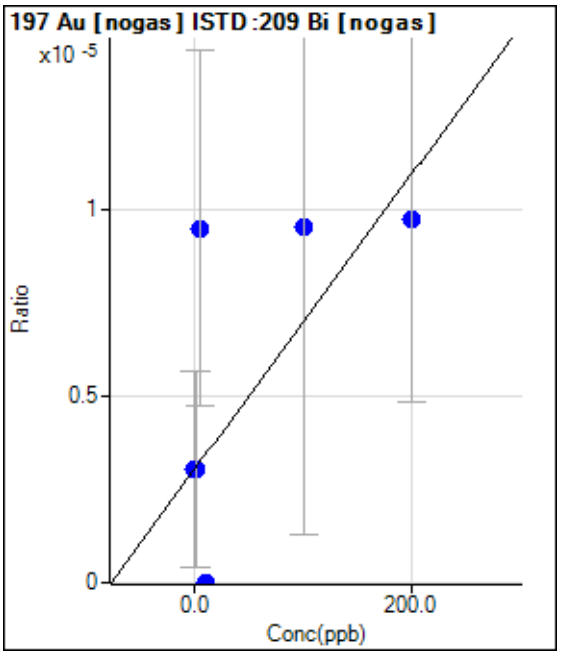


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	150.01	0.0002	P	27.9
2	☐	2.000	96.604	243.34	0.0003	P	26.5
3	☐	5.000	57.182	200.01	0.0003	P	27.0
4	☐	10.000	13.004	156.67	0.0002	P	45.2
5	☐	100.000	90.215	226.68	0.0003	P	22.0
6	☐	200.000	202.492	326.68	0.0005	P	30.4
7	☐	1.000					

y = 1.3039E-006 * x + 2.0163E-004
R = 0.8656
DL = 129.6
BEC = 154.6

Weight: <None>
Min Conc: <None>

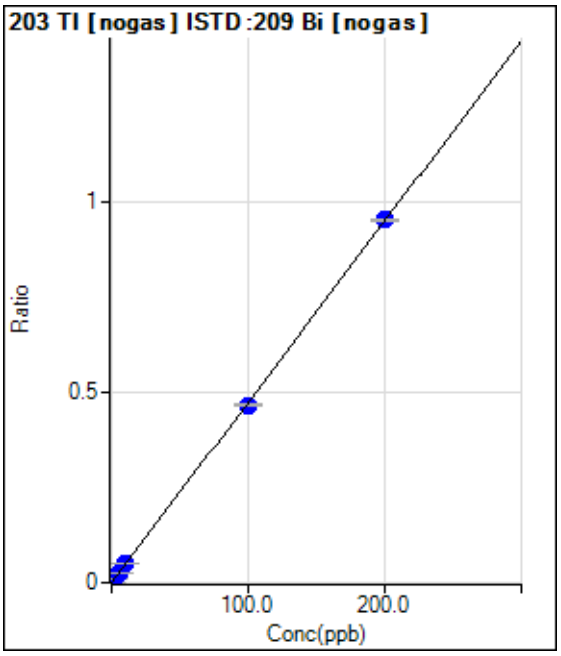
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.
2	☐	2.000	0.050	3.33	0.0000	P	173.
3	☐	5.000	162.770	10.00	0.0000	P	100.
4	☐	10.000	-76.571	0.00	0.0000	P	
5	☐	100.000	163.691	10.00	0.0000	P	173.
6	☐	200.000	168.559	10.00	0.0000	P	100.
7	☐	1.000					

y = 3.9730E-008 * x + 3.0422E-006
R = 0.6347
DL = 397.9
BEC = 76.57

Weight: <None>
Min Conc: <None>

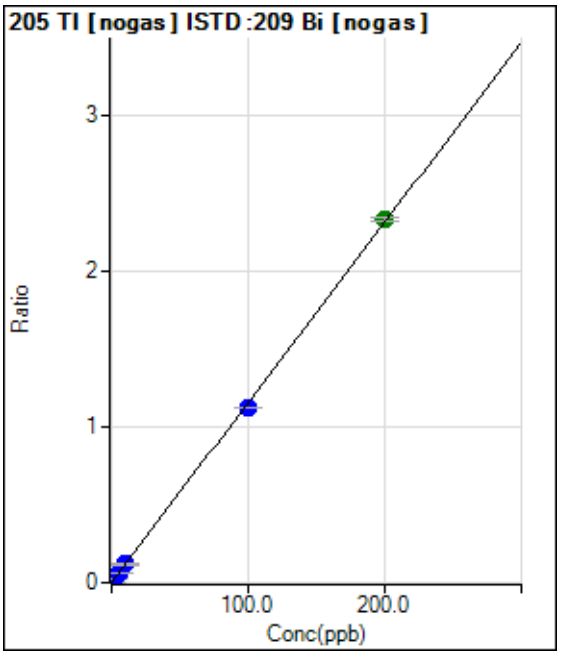


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	73.33	0.0001	P	15.6
2	☐	2.000	1.938	10120.16	0.0093	P	2.9
3	☐	5.000	5.033	25307.64	0.0240	P	4.6
4	☐	10.000	10.179	51054.42	0.0484	P	1.3
5	☐	100.000	98.111	490180.39	0.4659	P	0.8
6	☐	200.000	200.935	981620.46	0.9541	P	0.3
7	☐	1.000					

y = 0.0047 * x + 6.6692E-005
R = 0.9999
DL = 0.006559
BEC = 0.01405

Weight: <None>
Min Conc: <None>

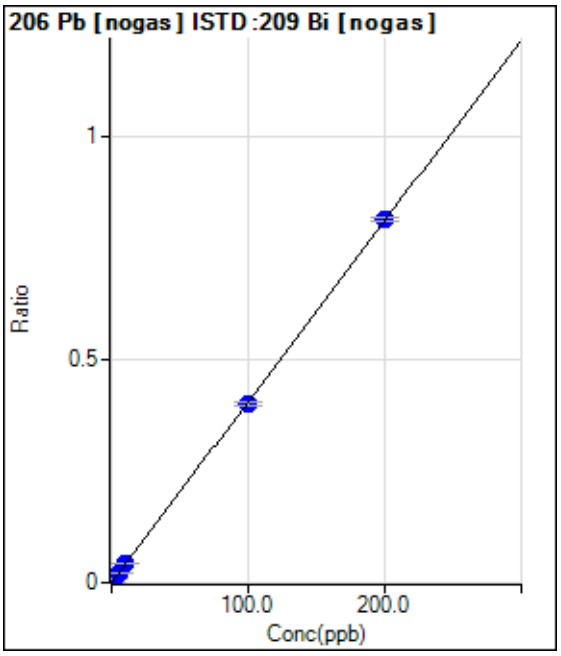
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	130.00	0.0001	P	27.7
2	☐	2.000	1.950	24767.01	0.0227	P	2.4
3	☐	5.000	4.875	59729.17	0.0565	P	2.8
4	☐	10.000	10.175	124376.69	0.1179	P	0.8
5	☐	100.000	97.092	1182631.59	1.1241	P	0.3
6	☐	200.000	201.449	2399284.97	2.3321	A	1.1
7	☐	1.000					

y = 0.0116 * x + 1.1822E-004
R = 0.9998
DL = 0.008474
BEC = 0.01021

Weight: <None>
Min Conc: <None>

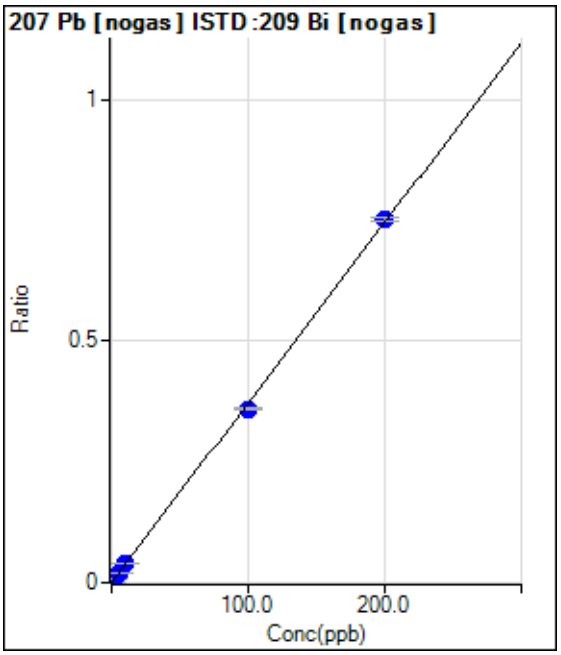


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	116.67	0.0001	P	30.2
2	☐	2.000	2.030	9112.83	0.0083	P	6.3
3	☐	5.000	5.145	22166.35	0.0210	P	2.3
4	☐	10.000	10.545	45260.14	0.0429	P	1.2
5	☐	100.000	98.593	421041.56	0.4002	P	1.7
6	☐	200.000	200.672	837881.24	0.8145	P	1.1
7	☐	1.000					

y = 0.0041 * x + 1.0612E-004
R = 1.0000
DL = 0.02369
BEC = 0.02615

Weight: <None>
Min Conc: <None>

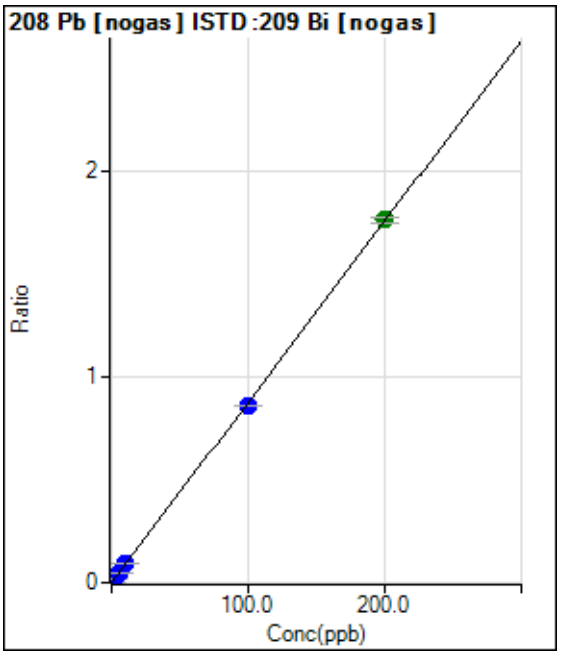
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	60.00	0.0001	P	44.4
2	☐	2.000	1.999	8179.06	0.0075	P	5.6
3	☐	5.000	4.901	19339.07	0.0183	P	3.8
4	☐	10.000	10.462	41148.69	0.0390	P	2.1
5	☐	100.000	96.598	378473.35	0.3597	P	0.5
6	☐	200.000	201.680	772568.82	0.7510	P	1.1
7	☐	1.000					

y = 0.0037 * x + 5.4655E-005
R = 0.9998
DL = 0.01955
BEC = 0.01468

Weight: <None>
Min Conc: <None>

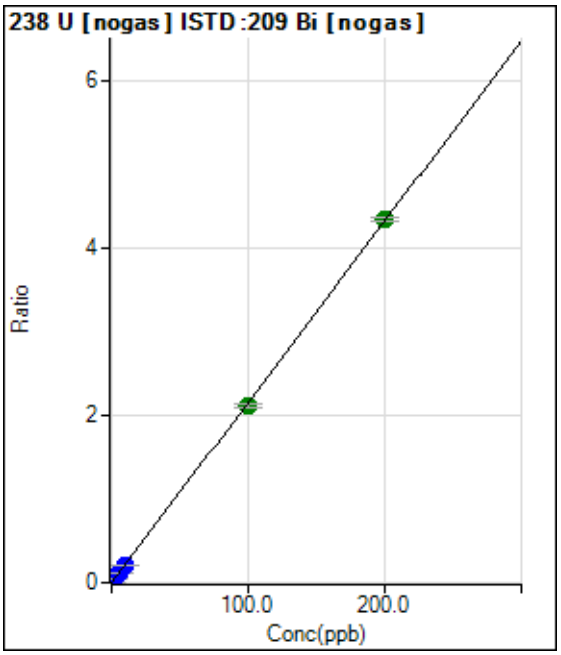


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	263.34	0.0002	P	22.2
2	☐	2.000	2.059	19983.25	0.0183	P	2.1
3	☐	5.000	5.027	46851.82	0.0443	P	2.1
4	☐	10.000	10.253	95155.15	0.0902	P	1.8
5	☐	100.000	98.174	906562.88	0.8617	P	0.5
6	☐	200.000	200.899	1813710.96	1.7630	A	1.4
7	☐	1.000					

y = 0.0088 * x + 2.3962E-004
R = 0.9999
DL = 0.01815
BEC = 0.02731

Weight: <None>
Min Conc: <None>

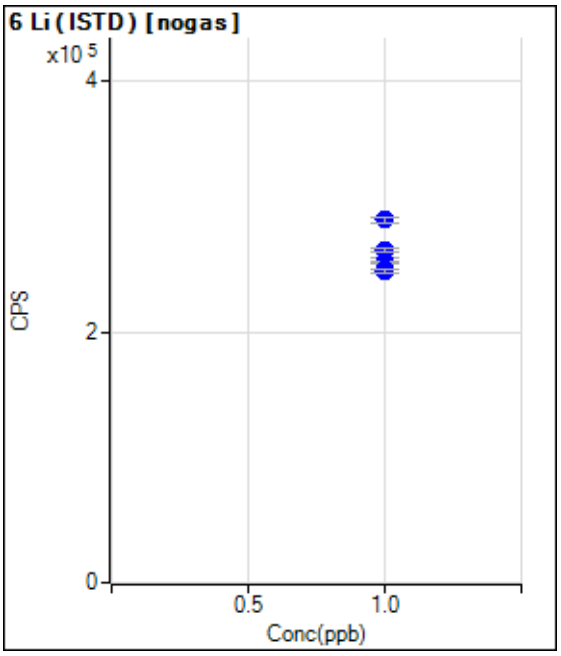
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	213.34	0.0002	P	26.2
2	☐	2.000	1.962	46481.87	0.0426	P	2.8
3	☐	5.000	4.977	113842.91	0.1078	P	1.2
4	☐	10.000	10.014	228543.04	0.2167	P	0.9
5	☐	100.000	98.059	2229952.52	2.1197	A	2.8
6	☐	200.000	200.971	4469162.02	4.3441	A	1.1
7	☐	1.000					

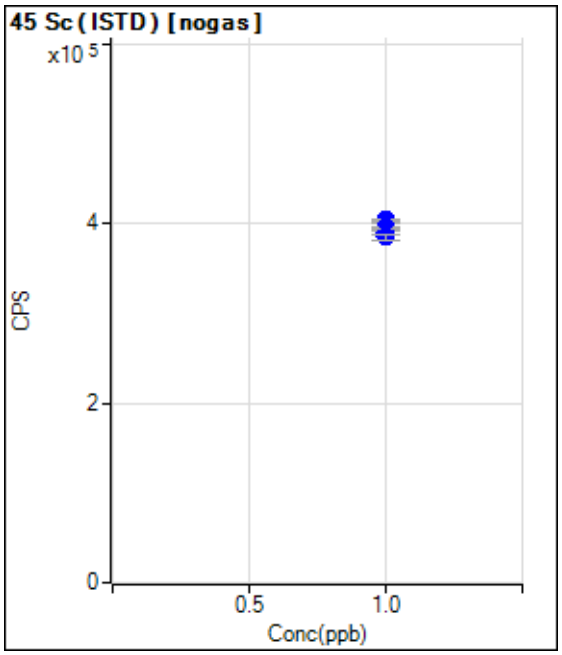
y = 0.0216 * x + 1.9419E-004
R = 0.9999
DL = 0.007051
BEC = 0.008984

Weight: <None>
Min Conc: <None>

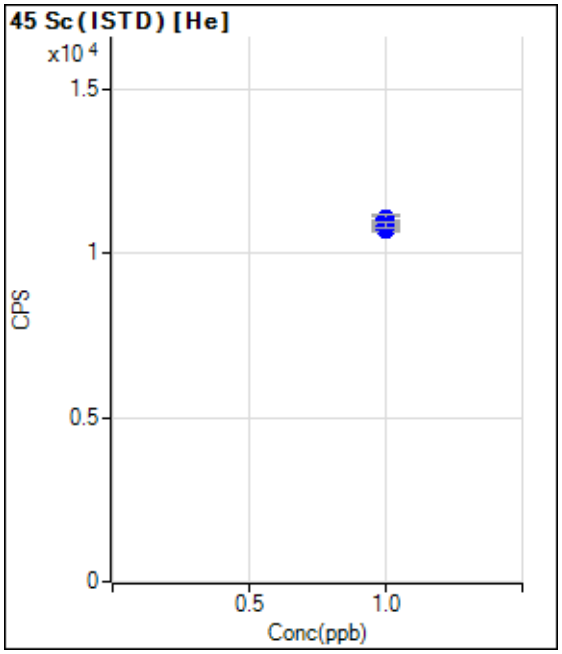


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		256544.27		P	1.5
2	☐	1.000		255710.48		P	0.7
3	☐	1.000		250003.05		P	0.4
4	☐	1.000		248281.58		P	0.9
5	☐	1.000		265704.48		P	1.0
6	☐	1.000		289233.18		P	1.3
7	☐	1.000					

Calibration for 295_ICV.d

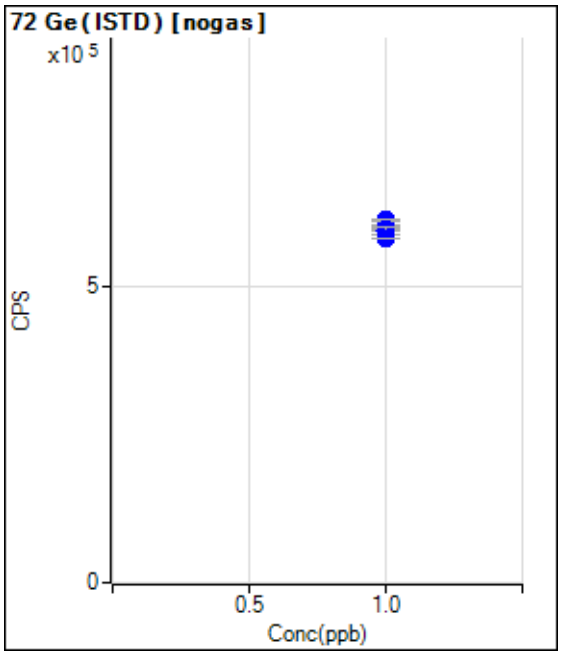


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		403828.52		P	1.0
2	☐	1.000		404447.22		P	0.3
3	☐	1.000		396790.24		P	0.4
4	☐	1.000		389870.03		P	1.0
5	☐	1.000		390860.33		P	1.5
6	☐	1.000		385353.55		P	1.7
7	☐	1.000					

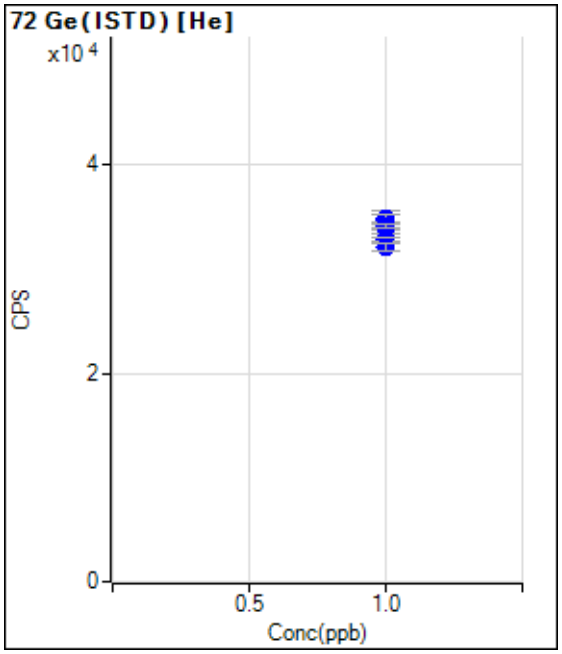


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		11063.74		P	1.2
2	☐	1.000		10960.35		P	4.6
3	☐	1.000		10980.33		P	0.9
4	☐	1.000		10746.86		P	1.4
5	☐	1.000		11013.73		P	3.2
6	☐	1.000		10876.92		P	2.1
7	☐	1.000					

Calibration for 295_ICV.d

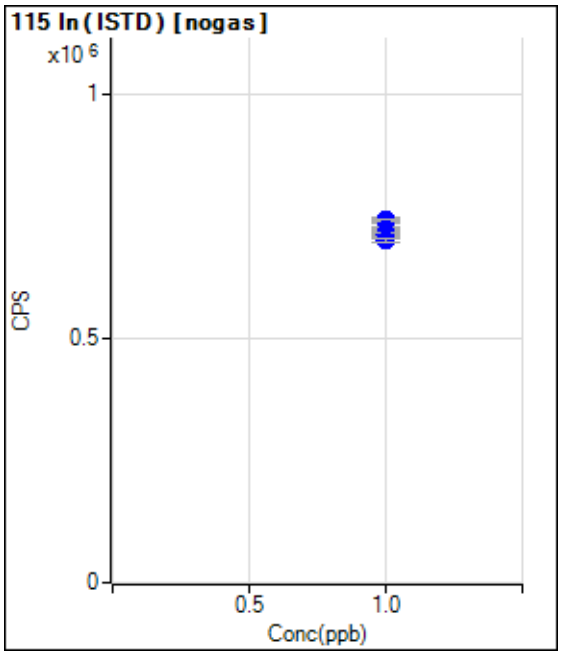


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		610208.71		P	1.7
2	☐	1.000		613880.47		P	0.8
3	☐	1.000		597887.01		P	0.8
4	☐	1.000		595685.58		P	0.6
5	☐	1.000		594314.31		P	2.1
6	☐	1.000		582579.52		P	0.3
7	☐	1.000					

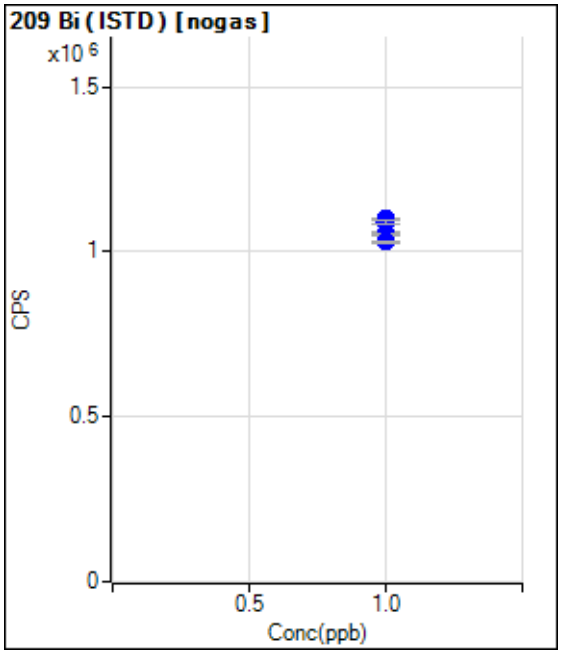


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		34709.15		P	5.1
2	☐	1.000		34822.64		P	2.0
3	☐	1.000		33937.65		P	2.7
4	☐	1.000		34201.21		P	1.1
5	☐	1.000		32912.14		P	1.1
6	☐	1.000		32107.37		P	2.3
7	☐	1.000					

Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		742038.66		P	1.4
2	☐	1.000		742625.69		P	0.5
3	☐	1.000		725017.46		P	0.7
4	☐	1.000		714768.87		P	1.1
5	☐	1.000		711132.39		P	1.1
6	☐	1.000		700722.00		P	0.7
7	☐	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1099360.56		P	0.5
2	☐	1.000		1091480.38		P	1.1
3	☐	1.000		1056382.51		P	0.8
4	☐	1.000		1054936.34		P	0.9
5	☐	1.000		1052113.50		P	0.5
6	☐	1.000		1028798.97		P	0.6
7	☐	1.000					

Wet Chemistry Raw Data

Bhate Environmental Associates, Inc.
Project: GROUNDWATER TREATMENT PLANT
QUARTERLY EFFLUENT SAMPLES
ALS WO# HS17121168

Sequence: 010818 HS17121168
Operator: alshs.nouser

Printed: 1/18/2018 2:38:39 PM

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\01-2018
Timebase: ICS2100
#Samples: 91

Created: 1/8/2018 11:01:32 AM by alshs.nouser
Last Update: 1/18/2018 2:34:02 PM by alshs.nouser

No.	Name	Comment	Type	Pos.	Dil. Factor	Inj. Vol.	*Initial_Vol_Wt	*Final_Volume
1	STD1		Standard	1	1.0000	10.0	1.00	1.00
2	STD2		Standard	2	1.0000	10.0	1.00	1.00
3	STD3		Standard	3	1.0000	10.0	1.00	1.00
4	STD4		Standard	4	1.0000	10.0	1.00	1.00
5	STD5		Standard	5	1.0000	10.0	1.00	1.00
6	STD6		Standard	6	1.0000	10.0	1.00	1.00
7	ICV		Unknown	7	1.0000	10.0	1.00	1.00
8	ICB		Unknown	8	1.0000	10.0	1.00	1.00
9	CCV		Unknown	1	1.0000	10.0	1.00	1.00
10	CCB		Unknown	2	1.0000	10.0	1.00	1.00
11	LCS-124066	9056_S	Unknown	6	1.0000	10.0	1.00	1.00
12	LCSD-124066	9056_S	Unknown	7	1.0000	10.0	1.00	1.00
13	MBLK-124066	9056_S	Unknown	5	1.0000	10.0	1.00	1.00
14	HS18010050-02	9056_S	Unknown	8	1.0000	10.0	1.00	1.00
15	HS18010050-04	9056_S	Unknown	9	1.0000	10.0	1.00	1.00
16	HS17121056-02DF5	RR CL 300_W	Unknown	18	5.0000	10.0	1.00	1.00
17	HS17121071-11DF200	RR CL 9056_W	Unknown	19	200.0000	10.0	1.00	1.00
18	HS17121071-16DF100	RR CL 9056_W	Unknown	20	100.0000	10.0	1.00	1.00
19	HS17121071-06DF20	RR CL 9056_W	Unknown	21	20.0000	10.0	1.00	1.00
20	CCV1		Unknown	3	1.0000	10.0	1.00	1.00
21	CCB		Unknown	4	1.0000	10.0	1.00	1.00
22	HS17121071-04	RR SO4 ONLY	Unknown	22	1.0000	10.0	1.00	1.00
23	HS17121071-08	RR SO4 ONLY	Unknown	23	1.0000	10.0	1.00	1.00
24	CCV		Unknown	1	1.0000	10.0	1.00	1.00
25	CCB		Unknown	2	1.0000	10.0	1.00	1.00
26	CCV		Unknown	1	1.0000	10.0	1.00	1.00
27	CCB		Unknown	2	1.0000	10.0	1.00	1.00
28	HS18010050-01DF20	9056_S	Unknown	10	20.0000	10.0	1.00	1.00
29	HS18010050-03DF50	9056_S	Unknown	11	50.0000	10.0	1.00	1.00
30	HS17121435-03	9056_S	Unknown	13	1.0000	10.0	1.00	1.00
31	HS17121435-03MS	9056_S	Unknown	14	1.0000	10.0	1.00	1.00
32	HS17121435-03MSD	9056_S	Unknown	15	1.0000	10.0	1.00	1.00
33	DI H2O		Unknown	25	1.0000	10.0	1.00	1.00
34	WLCSW1-010818		Unknown	26	1.0000	10.0	1.00	1.00
35	WLCSDW1-010818		Unknown	27	1.0000	10.0	1.00	1.00
36	WBLKW1-010818	RR	Unknown	28	1.0000	10.0	1.00	1.00
37	HS17121168-01DF20	9056_W	Unknown	29	20.0000	10.0	1.00	1.00
38	CCV1		Unknown	3	1.0000	10.0	1.00	1.00
39	CCB		Unknown	4	1.0000	10.0	1.00	1.00
40	HS17121168-01DF5		Unknown	30	5.0000	10.0	1.00	1.00
41	HS17121169-01DF5	9056_W	Unknown	31	5.0000	10.0	1.00	1.00
42	HS17121169-01DF20		Unknown	32	20.0000	10.0	1.00	1.00

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Sequence: 010818
Operator: alshs.nouser

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\01-2018
Timebase: ICS2100
#Samples: 91

Created: 1/8/2018 11:01:32 AM by alshs.nouser
Last Update: 1/18/2018 2:34:02 PM by alshs.nouser

No.	Name	Method	Status	Inj. Date/Time	Program
1	STD1	091117	Finished	9/11/2017 1:39:59 PM	Anions Gradient Program
2	STD2	091117	Finished	9/11/2017 1:54:32 PM	Anions Gradient Program
3	STD3	091117	Finished	9/11/2017 2:09:04 PM	Anions Gradient Program
4	STD4	091117	Finished	9/11/2017 2:23:37 PM	Anions Gradient Program
5	STD5	091117	Finished	9/11/2017 2:38:10 PM	Anions Gradient Program
6	STD6	091117	Finished	9/11/2017 2:52:43 PM	Anions Gradient Program
7	ICV	091117	Finished	9/11/2017 3:07:16 PM	Anions Gradient Program
8	ICB	091117	Finished	9/11/2017 3:21:49 PM	Anions Gradient Program
9	CCV	091117	Finished	1/8/2018 11:35:43 AM	Anions Gradient Program
10	CCB	091117	Finished	1/8/2018 12:01:20 PM	Anions Gradient Program
11	LCS-124066	091117	Finished	1/8/2018 12:30:25 PM	Anions Gradient Program
12	LCSD-124066	091117	Finished	1/8/2018 12:59:15 PM	Anions Gradient Program
13	MBLK-124066	091117	Finished	1/8/2018 1:13:47 PM	Anions Gradient Program
14	HS18010050-02	091117	Finished	1/8/2018 1:28:20 PM	Anions Gradient Program
15	HS18010050-04	091117	Finished	1/8/2018 1:42:53 PM	Anions Gradient Program
16	HS17121056-02DF5	091117	Finished	1/8/2018 2:08:32 PM	Anions Gradient Program
17	HS17121071-11DF200	091117	Finished	1/8/2018 2:23:05 PM	Anions Gradient Program
18	HS17121071-16DF100	091117	Finished	1/8/2018 2:37:37 PM	Anions Gradient Program
19	HS17121071-06DF20	091117	Finished	1/8/2018 2:52:10 PM	Anions Gradient Program
20	CCV1	091117	Finished	1/8/2018 3:06:43 PM	Anions Gradient Program
21	CCB	091117	Finished	1/8/2018 3:21:15 PM	Anions Gradient Program
22	HS17121071-04	091117	Finished	1/8/2018 3:35:48 PM	Anions Gradient Program
23	HS17121071-08	091117	Finished	1/8/2018 4:25:38 PM	Anions Gradient Program
24	CCV	091117	Finished	1/8/2018 4:44:18 PM	Anions Gradient Program
25	CCB	091117	Finished	1/8/2018 4:58:51 PM	Anions Gradient Program
26	CCV	091117	Finished	1/8/2018 7:09:15 PM	Anions Gradient Program
27	CCB	091117	Finished	1/8/2018 7:43:13 PM	Anions Gradient Program
28	HS18010050-01DF20	091117	Finished	1/8/2018 7:57:46 PM	Anions Gradient Program
29	HS18010050-03DF50	091117	Finished	1/8/2018 8:12:19 PM	Anions Gradient Program
30	HS17121435-03	091117	Finished	1/8/2018 8:26:52 PM	Anions Gradient Program
31	HS17121435-03MS	091117	Finished	1/8/2018 8:41:25 PM	Anions Gradient Program
32	HS17121435-03MSD	091117	Finished	1/8/2018 8:55:57 PM	Anions Gradient Program
33	DI H2O	091117	Finished	1/8/2018 9:10:30 PM	Anions Gradient Program
34	WLCSW1-010818	091117	Finished	1/8/2018 9:25:03 PM	Anions Gradient Program
35	WLCSDW1-010818	091117	Finished	1/8/2018 9:39:36 PM	Anions Gradient Program
36	WBLKW1-010818	091117	Finished	1/8/2018 9:54:09 PM	Anions Gradient Program
37	HS17121168-01DF20	091117	Finished	1/8/2018 10:08:42 PM	Anions Gradient Program
38	CCV1	091117	Finished	1/8/2018 10:23:14 PM	Anions Gradient Program
39	CCB	091117	Finished	1/8/2018 10:37:47 PM	Anions Gradient Program
40	HS17121168-01DF5	091117	Finished	1/8/2018 10:52:20 PM	Anions Gradient Program
41	HS17121169-01DF5	091117	Finished	1/8/2018 11:06:52 PM	Anions Gradient Program
42	HS17121169-01DF20	091117	Finished	1/8/2018 11:21:25 PM	Anions Gradient Program

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\01-2018
Timebase: ICS2100 Created: 1/8/2018 11:01:32 AM by alshs.nouser
#Samples: 91 Last Update: 1/18/2018 2:34:02 PM by alshs.nouser

No.	Name	GUID
1	STD1	ff1d63be-971f-11e7-b6d6-dc3e14f594d5
2	STD2	846d1ada-9722-11e7-b6d6-dc3e14f594d5
3	STD3	8c2e4184-9724-11e7-b6d6-dc3e14f594d5
4	STD4	9479af70-9726-11e7-b6d6-dc3e14f594d5
5	STD5	9cd5cdaf-9728-11e7-b6d6-dc3e14f594d5
6	STD6	a51c76f1-972a-11e7-b6d6-dc3e14f594d5
7	ICV	ad54d235-972c-11e7-b6d6-dc3e14f594d5
8	ICB	b59dddcc-972e-11e7-b6d6-dc3e14f594d5
9	CCV	bbc35e6a-f499-11e7-b6d8-a1ac6b506e3a
10	CCB	50390d14-f49d-11e7-b6d8-a1ac6b506e3a
11	LCS-124066	dcccfddc-f4a1-11e7-b6d8-a1ac6b506e3a
12	LCSD-124066	677b53b0-f4a5-11e7-b6d8-a1ac6b506e3a
13	MBLK-124066	ebd534cc-f4a7-11e7-b6d8-a1ac6b506e3a
14	HS18010050-02	f437cc3f-f4a9-11e7-b6d8-a1ac6b506e3a
15	HS18010050-04	fc8029f5-f4ab-11e7-b6d8-a1ac6b506e3a
16	HS17121056-02DF5	14be2fc9-f4af-11e7-b6d8-a1ac6b506e3a
17	HS17121071-11DF200	99d469be-f4b1-11e7-b6d8-a1ac6b506e3a
18	HS17121071-16DF100	a22fda2c-f4b3-11e7-b6d8-a1ac6b506e3a
19	HS17121071-06DF20	aa7837e2-f4b5-11e7-b6d8-a1ac6b506e3a
20	CCV1	b27dd414-f4b7-11e7-b6d8-a1ac6b506e3a
21	CCB	ba6dfb37-f4b9-11e7-b6d8-a1ac6b506e3a
22	HS17121071-04	c26c7064-f4bb-11e7-b6d8-a1ac6b506e3a
23	HS17121071-08	3c897eda-f4c2-11e7-b6d8-a1ac6b506e3a
24	CCV	d771c310-f4c4-11e7-b6d8-a1ac6b506e3a
25	CCB	5cf0e3f9-f4c7-11e7-b6d8-a1ac6b506e3a
26	CCV	170567b7-f4d9-11e7-b6d8-a1ac6b506e3a
27	CCB	d66dfb5d-f4dd-11e7-b6d8-a1ac6b506e3a
28	HS18010050-01DF20	5b8b659f-f4e0-11e7-b6d8-a1ac6b506e3a
29	HS18010050-03DF50	63dddec3-f4e2-11e7-b6d8-a1ac6b506e3a
30	HS17121435-03	6c396b7b-f4e4-11e7-b6d8-a1ac6b506e3a
31	HS17121435-03MS	74226b99-f4e6-11e7-b6d8-a1ac6b506e3a
32	HS17121435-03MSD	7c17576a-f4e8-11e7-b6d8-a1ac6b506e3a
33	DI H2O	84621777-f4ea-11e7-b6d8-a1ac6b506e3a
34	WLCSW1-010818	8cacd784-f4ec-11e7-b6d8-a1ac6b506e3a
35	WLCSDW1-010818	94f79791-f4ee-11e7-b6d8-a1ac6b506e3a
36	WBLKW1-010818	9d5307ff-f4f0-11e7-b6d8-a1ac6b506e3a
37	HS17121168-01DF20	a59dc80c-f4f2-11e7-b6d8-a1ac6b506e3a
38	CCV1	ade88819-f4f4-11e7-b6d8-a1ac6b506e3a
39	CCB	b6334826-f4f6-11e7-b6d8-a1ac6b506e3a
40	HS17121168-01DF5	be8eb894-f4f8-11e7-b6d8-a1ac6b506e3a
41	HS17121169-01DF5	c675565b-f4fa-11e7-b6d8-a1ac6b506e3a
42	HS17121169-01DF20	ce8e0545-f4fc-11e7-b6d8-a1ac6b506e3a

Sequence: 010818
Operator: alshs.nouser

Printed: 1/18/2018 2:38:39 PM

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\01-2018
Timebase: ICS2100
#Samples: 91

Created: 1/8/2018 11:01:32 AM by alshs.nouser
Last Update: 1/18/2018 2:34:02 PM by alshs.nouser

No.	Name	Comment	Type	Pos.	Dil. Factor	Inj. Vol.	*Initial_Vol_Wt	*Final_Volume
43	HS17121169-01MSDF20		Unknown	33	20.0000	10.0	1.00	1.00
44	HS17121169-01MSDDF20		Unknown	34	20.0000	10.0	1.00	1.00
45	DI H2O		Unknown	25	1.0000	10.0	1.00	1.00
46	HS17121151-01DF200	9056_W CL	Unknown	35	100.0000	10.0	1.00	1.00
47	HS17121151-04DF100	9056_W CL	Unknown	36	100.0000	10.0	1.00	1.00
48	HS17121151-06DF100	9056_W CL	Unknown	37	100.0000	10.0	1.00	1.00
49	HS17121151-07DF100	9056_W CL	Unknown	38	100.0000	10.0	1.00	1.00
50	CCV		Unknown	1	1.0000	10.0	1.00	1.00
51	CCB		Unknown	2	1.0000	10.0	1.00	1.00
52	HS17121151-09DF100	9056_W CL	Unknown	39	100.0000	10.0	1.00	1.00
53	HS17121151-10DF10	9056_W CL	Unknown	40	10.0000	10.0	1.00	1.00
54	HS17121151-10MSDF10		Unknown	41	10.0000	10.0	1.00	1.00
55	HS17121151-10MSDDF10		Unknown	42	10.0000	10.0	1.00	1.00
56	DI H2O		Unknown	25	10.0000	10.0	1.00	1.00
57	HS18010227-01	300_W NO3	Unknown	43	1.0000	10.0	1.00	1.00
58	HS18010233-01	300_W NO2/3X2	Unknown	44	1.0000	10.0	1.00	1.00
59	HS18010233-02	300_W NO2/3X2	Unknown	45	1.0000	10.0	1.00	1.00
60	HS18010245-01	300_W NO3 CL SO4 F	Unknown	46	1.0000	10.0	1.00	1.00
61	HS18010253-01DF5	300_W NO3 CL SO4 F	Unknown	47	5.0000	10.0	1.00	1.00
62	CCV1		Unknown	3	1.0000	10.0	1.00	1.00
63	CCB		Unknown	4	1.0000	10.0	1.00	1.00
64	HS18010253-01	300_W NO3 CL SO4 F	Unknown	48	1.0000	10.0	1.00	1.00
65	HS17121132-01DF10	9056_W RR CL	Unknown	49	10.0000	10.0	1.00	1.00
66	HS17121132-03DF10		Unknown	50	10.0000	10.0	1.00	1.00
67	HS17121132-12		Unknown	51	1.0000	10.0	1.00	1.00
68	HS17121132-13DF20		Unknown	52	20.0000	10.0	1.00	1.00
69	HS17121132-14DF10		Unknown	53	10.0000	10.0	1.00	1.00
70	HS17121150-01		Unknown	54	1.0000	10.0	1.00	1.00
71	HS17121150-02DF20		Unknown	55	20.0000	10.0	1.00	1.00
72	HS17121150-03		Unknown	56	1.0000	10.0	1.00	1.00
73	DI H2O		Unknown	25	1.0000	10.0	1.00	1.00
74	CCV		Unknown	1	1.0000	10.0	1.00	1.00
75	CCB		Unknown	2	1.0000	10.0	1.00	1.00
76	HS17121150-04	9056_W CL RR	Unknown	57	1.0000	10.0	1.00	1.00
77	HS17121150-05	OFF	Unknown	58	1.0000	10.0	1.00	1.00
78	HS17121150-05DF5	KEEP	Unknown	59	5.0000	10.0	1.00	1.00
79	HS17121151-02DF200		Unknown	60	200.0000	10.0	1.00	1.00
80	HS17121151-03DF200		Unknown	61	200.0000	10.0	1.00	1.00
81	HS17121151-05DF200		Unknown	62	200.0000	10.0	1.00	1.00
82	DI H2O		Unknown	25	1.0000	10.0	1.00	1.00
83	CCV1		Unknown	3	1.0000	10.0	1.00	1.00
84	CCB		Unknown	4	1.0000	10.0	1.00	1.00

Sequence: 010818
Operator: alshs.nouser

Printed: 1/18/2018 2:38:39 PM

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\01-2018
Timebase: ICS2100
#Samples: 91

Created: 1/8/2018 11:01:32 AM by alshs.nouser
Last Update: 1/18/2018 2:34:02 PM by alshs.nouser

No.	Name	Method	Status	Inj. Date/Time	Program
43	HS17121169-01MSDF20	091117	Finished	1/8/2018 11:35:58 PM	Anions Gradient Program
44	HS17121169-01MSDDF20	091117	Finished	1/8/2018 11:50:30 PM	Anions Gradient Program
45	DI H2O	091117	Finished	1/9/2018 12:05:03 AM	Anions Gradient Program
46	HS17121151-01DF200	091117	Finished	1/9/2018 12:19:36 AM	Anions Gradient Program
47	HS17121151-04DF100	091117	Finished	1/9/2018 12:34:09 AM	Anions Gradient Program
48	HS17121151-06DF100	091117	Finished	1/9/2018 12:48:42 AM	Anions Gradient Program
49	HS17121151-07DF100	091117	Finished	1/9/2018 1:03:14 AM	Anions Gradient Program
50	CCV	091117	Finished	1/9/2018 1:17:47 AM	Anions Gradient Program
51	CCB	091117	Finished	1/9/2018 1:32:20 AM	Anions Gradient Program
52	HS17121151-09DF100	091117	Finished	1/9/2018 1:46:53 AM	Anions Gradient Program
53	HS17121151-10DF10	091117	Finished	1/9/2018 2:01:25 AM	Anions Gradient Program
54	HS17121151-10MSDF10	091117	Finished	1/9/2018 2:15:58 AM	Anions Gradient Program
55	HS17121151-10MSDDF10	091117	Finished	1/9/2018 2:30:31 AM	Anions Gradient Program
56	DI H2O	091117	Finished	1/9/2018 2:45:03 AM	Anions Gradient Program
57	HS18010227-01	091117	Finished	1/9/2018 2:59:36 AM	Anions Gradient Program
58	HS18010233-01	091117	Finished	1/9/2018 3:14:09 AM	Anions Gradient Program
59	HS18010233-02	091117	Finished	1/9/2018 3:28:42 AM	Anions Gradient Program
60	HS18010245-01	091117	Finished	1/9/2018 3:43:15 AM	Anions Gradient Program
61	HS18010253-01DF5	091117	Finished	1/9/2018 3:57:47 AM	Anions Gradient Program
62	CCV1	091117	Finished	1/9/2018 4:12:20 AM	Anions Gradient Program
63	CCB	091117	Finished	1/9/2018 4:26:53 AM	Anions Gradient Program
64	HS18010253-01	091117	Finished	1/9/2018 4:41:26 AM	Anions Gradient Program
65	HS17121132-01DF10	091117	Finished	1/9/2018 4:55:59 AM	Anions Gradient Program
66	HS17121132-03DF10	091117	Finished	1/9/2018 5:10:32 AM	Anions Gradient Program
67	HS17121132-12	091117	Finished	1/9/2018 5:25:04 AM	Anions Gradient Program
68	HS17121132-13DF20	091117	Finished	1/9/2018 5:39:37 AM	Anions Gradient Program
69	HS17121132-14DF10	091117	Finished	1/9/2018 5:54:10 AM	Anions Gradient Program
70	HS17121150-01	091117	Finished	1/9/2018 6:08:42 AM	Anions Gradient Program
71	HS17121150-02DF20	091117	Finished	1/9/2018 6:23:15 AM	Anions Gradient Program
72	HS17121150-03	091117	Finished	1/9/2018 6:37:48 AM	Anions Gradient Program
73	DI H2O	091117	Finished	1/9/2018 6:52:21 AM	Anions Gradient Program
74	CCV	091117	Finished	1/9/2018 7:06:54 AM	Anions Gradient Program
75	CCB	091117	Finished	1/9/2018 7:21:27 AM	Anions Gradient Program
76	HS17121150-04	091117	Finished	1/9/2018 7:36:00 AM	Anions Gradient Program
77	HS17121150-05	091117	Finished	1/9/2018 7:50:32 AM	Anions Gradient Program
78	HS17121150-05DF5	091117	Finished	1/9/2018 8:05:05 AM	Anions Gradient Program
79	HS17121151-02DF200	091117	Finished	1/9/2018 8:19:38 AM	Anions Gradient Program
80	HS17121151-03DF200	091117	Finished	1/9/2018 8:34:11 AM	Anions Gradient Program
81	HS17121151-05DF200	091117	Finished	1/9/2018 8:48:42 AM	Anions Gradient Program
82	DI H2O	091117	Finished	1/9/2018 9:03:15 AM	Anions Gradient Program
83	CCV1	091117	Finished	1/9/2018 9:17:48 AM	Anions Gradient Program
84	CCB	091117	Finished	1/9/2018 9:32:21 AM	Anions Gradient Program

Sequence: 010818
Operator: alshs.nouser

Printed: 1/18/2018 2:38:39 PM

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\01-2018
Timebase: ICS2100
#Samples: 91

Created: 1/8/2018 11:01:32 AM by alshs.nouser
Last Update: 1/18/2018 2:34:02 PM by alshs.nouser

No.	Name	GUID
43	HS17121169-01MSDF20	d6e975b3-f4fe-11e7-b6d8-a1ac6b506e3a
44	HS17121169-01MSDDF20	deea4d37-f500-11e7-b6d8-a1ac6b506e3a
45	DI H2O	e6d5afac-f502-11e7-b6d8-a1ac6b506e3a
46	HS17121151-01DF200	ef1221af-f504-11e7-b6d8-a1ac6b506e3a
47	HS17121151-04DF100	f75ce1bc-f506-11e7-b6d8-a1ac6b506e3a
48	HS17121151-06DF100	ffaa0420-f508-11e7-b6d8-a1ac6b506e3a
49	HS17121151-07DF100	07f72684-f50b-11e7-b6d8-a1ac6b506e3a
50	CCV	104448e8-f50d-11e7-b6d8-a1ac6b506e3a
51	CCB	1880baeb-f50f-11e7-b6d8-a1ac6b506e3a
52	HS17121151-09DF100	207a6b6a-f511-11e7-b6d8-a1ac6b506e3a
53	HS17121151-10DF10	2871b992-f513-11e7-b6d8-a1ac6b506e3a
54	HS17121151-10MSDF10	30bc799f-f515-11e7-b6d8-a1ac6b506e3a
55	HS17121151-10MSDDF10	38f6894b-f517-11e7-b6d8-a1ac6b506e3a
56	DI H2O	40edd773-f519-11e7-b6d8-a1ac6b506e3a
57	HS18010227-01	49389780-f51b-11e7-b6d8-a1ac6b506e3a
58	HS18010233-01	5172a72c-f51d-11e7-b6d8-a1ac6b506e3a
59	HS18010233-02	59ce179a-f51f-11e7-b6d8-a1ac6b506e3a
60	HS18010245-01	6218d7a7-f521-11e7-b6d8-a1ac6b506e3a
61	HS18010253-01DF5	6a6397b4-f523-11e7-b6d8-a1ac6b506e3a
62	CCV1	72ae57c1-f525-11e7-b6d8-a1ac6b506e3a
63	CCB	7af917ce-f527-11e7-b6d8-a1ac6b506e3a
64	HS18010253-01	8333277a-f529-11e7-b6d8-a1ac6b506e3a
65	HS17121132-01DF10	8b3b2603-f52b-11e7-b6d8-a1ac6b506e3a
66	HS17121132-03DF10	93ea9e56-f52d-11e7-b6d8-a1ac6b506e3a
67	HS17121132-12	9bc08bbc-f52f-11e7-b6d8-a1ac6b506e3a
68	HS17121132-13DF20	a3d93aa6-f531-11e7-b6d8-a1ac6b506e3a
69	HS17121132-14DF10	ac23fab3-f533-11e7-b6d8-a1ac6b506e3a
70	HS17121150-01	b41b48db-f535-11e7-b6d8-a1ac6b506e3a
71	HS17121150-02DF20	bc6608e8-f537-11e7-b6d8-a1ac6b506e3a
72	HS17121150-03	c4b0c8f5-f539-11e7-b6d8-a1ac6b506e3a
73	DI H2O	ccfb8902-f53b-11e7-b6d8-a1ac6b506e3a
74	CCV	d546490f-f53d-11e7-b6d8-a1ac6b506e3a
75	CCB	dd82bb12-f53f-11e7-b6d8-a1ac6b506e3a
76	HS17121150-04	e5dbc929-f541-11e7-b6d8-a1ac6b506e3a
77	HS17121150-05	ee268936-f543-11e7-b6d8-a1ac6b506e3a
78	HS17121150-05DF5	f66098e2-f545-11e7-b6d8-a1ac6b506e3a
79	HS17121151-02DF200	fe499900-f547-11e7-b6d8-a1ac6b506e3a
80	HS17121151-03DF200	06b5b9cf-f54a-11e7-b6d8-a1ac6b506e3a
81	HS17121151-05DF200	0e848030-f54c-11e7-b6d8-a1ac6b506e3a
82	DI H2O	169d2f1a-f54e-11e7-b6d8-a1ac6b506e3a
83	CCV1	1edc0374-f550-11e7-b6d8-a1ac6b506e3a
84	CCB	273e9ae7-f552-11e7-b6d8-a1ac6b506e3a

Sequence: 010818
Operator: alshs.nouser

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Title
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Timebase: ICS2100
#Samples: 91

Created: 1/8/2018 11:01:32 AM by alshs.nouser
Last Update: 1/18/2018 2:34:02 PM by alshs.nouser

No.	Name	Comment	Type	Pos.	Dil. Factor	Inj. Vol.	*Initial_Vol_Wt	*Final_Volume
85	CCV		Unknown	1	1.0000	10.0	1.00	1.00
86	CCB		Unknown	2	1.0000	10.0	1.00	1.00
87	WBLKW1-010818		Unknown	28	1.0000	10.0	1.00	1.00
88	HS18010245-01DF5		Unknown	7	5.0000	10.0	1.00	1.00
89	DI H2O		Unknown	25	1.0000	10.0	1.00	1.00
90	CCV		Unknown	1	1.0000	10.0	1.00	1.00
91	CCB		Unknown	2	1.0000	10.0	1.00	1.00

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\01-2018
Timebase: ICS2100 Created: 1/8/2018 11:01:32 AM by alshs.nouser
#Samples: 91 Last Update: 1/18/2018 2:34:02 PM by alshs.nouser

No.	Name	Method	Status	Inj. Date/Time	Program
85	CCV	091117	Finished	1/9/2018 11:28:00 AM	Anions Gradient Program
86	CCB	091117	Finished	1/9/2018 11:42:33 AM	Anions Gradient Program
87	WBLKW1-010818	091117	Finished	1/9/2018 12:00:35 PM	Anions Gradient Program
88	HS18010245-01DF5	091117	Finished	1/9/2018 12:15:08 PM	Anions Gradient Program
89	DI H2O	091117	Finished	1/9/2018 12:29:40 PM	Anions Gradient Program
90	CCV	091117	Finished	1/9/2018 12:44:13 PM	Anions Gradient Program
91	CCB	091117	Finished	1/9/2018 12:58:45 PM	Anions Gradient Program

Sequence: 010818
Operator: alshs.nouser
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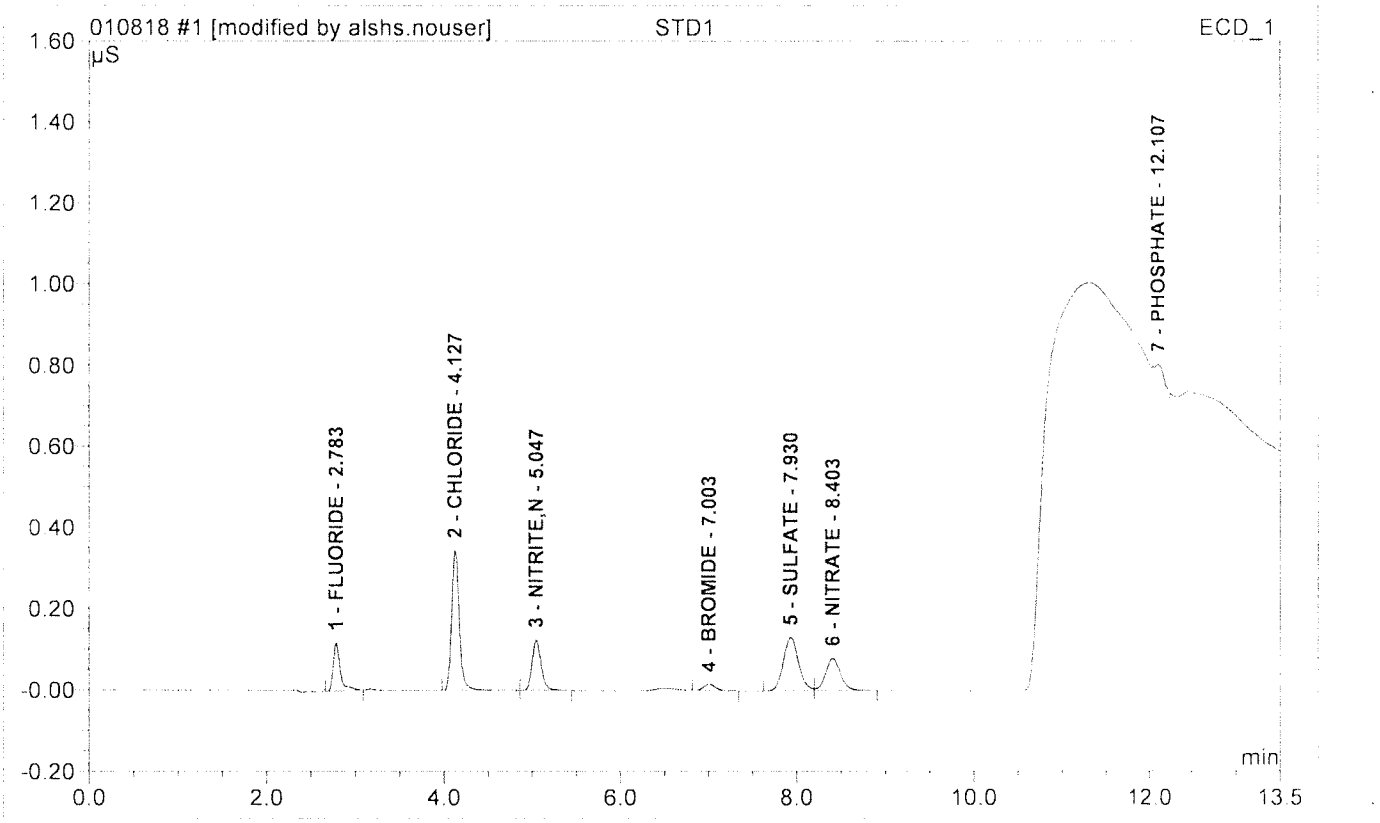
Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\01-2018
Timebase: ICS2100
#Samples: 91
Created: 1/8/2018 11:01:32 AM by alshs.nouser
Last Update: 1/18/2018 2:34:02 PM by alshs.nouser

No.	Name	GUID
85	CCV	4f40a492-f562-11e7-b6d8-a1ac6b506e3a
86	CCB	578b649f-f564-11e7-b6d8-a1ac6b506e3a
87	WBLKW1-010818	5f720266-f566-11e7-b6d8-a1ac6b506e3a
88	HS18010245-01DF5	e4883c5b-f568-11e7-b6d8-a1ac6b506e3a
89	DI H2O	ec81ecda-f56a-11e7-b6d8-a1ac6b506e3a
90	CCV	f4ca4a90-f56c-11e7-b6d8-a1ac6b506e3a
91	CCB	fcc198b8-f56e-11e7-b6d8-a1ac6b506e3a

1 STD1

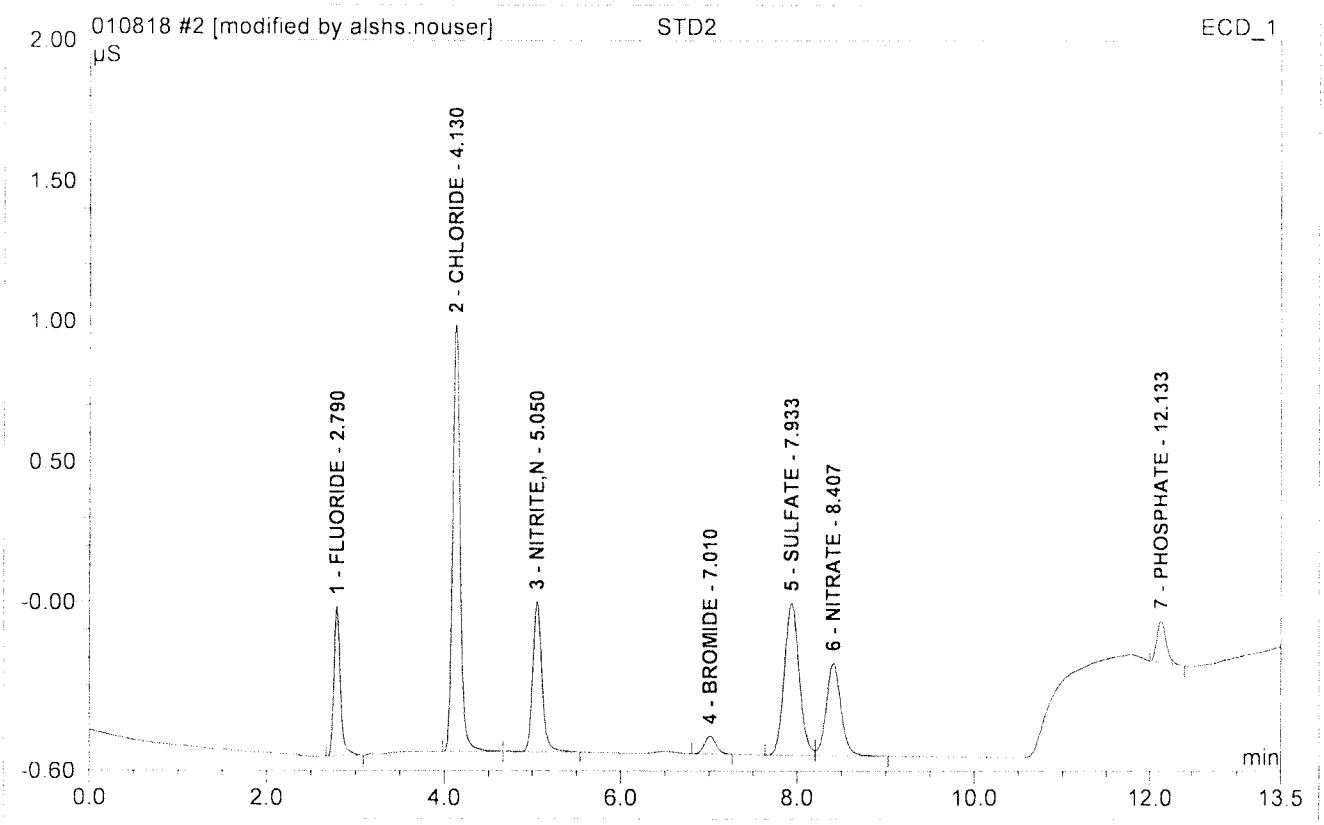
Sample Name:	**STD1**	*Injection Volume:*	**10.0**
Vial Number:	**1**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 13:39**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.78	FLUORIDE	0.118	0.011	10.04	0.105	1
2	4.13	CHLORIDE	0.344	0.035	32.38	0.538	1.
3	5.05	NITRITE,N	0.123	0.015	13.85	0.095	1.
4	7.00	BROMIDE	0.016	0.002	2.28	0.131	1
5	7.93	SULFATE	0.131	0.026	24.31	0.559	1.
6	8.40	NITRATE	0.079	0.015	14.45	0.119	1.
7	12.11	PHOSPHATE	0.028	0.003	2.70	0.119	1.
Total:			0.838	0.107	100.00	1.668	

2 STD2

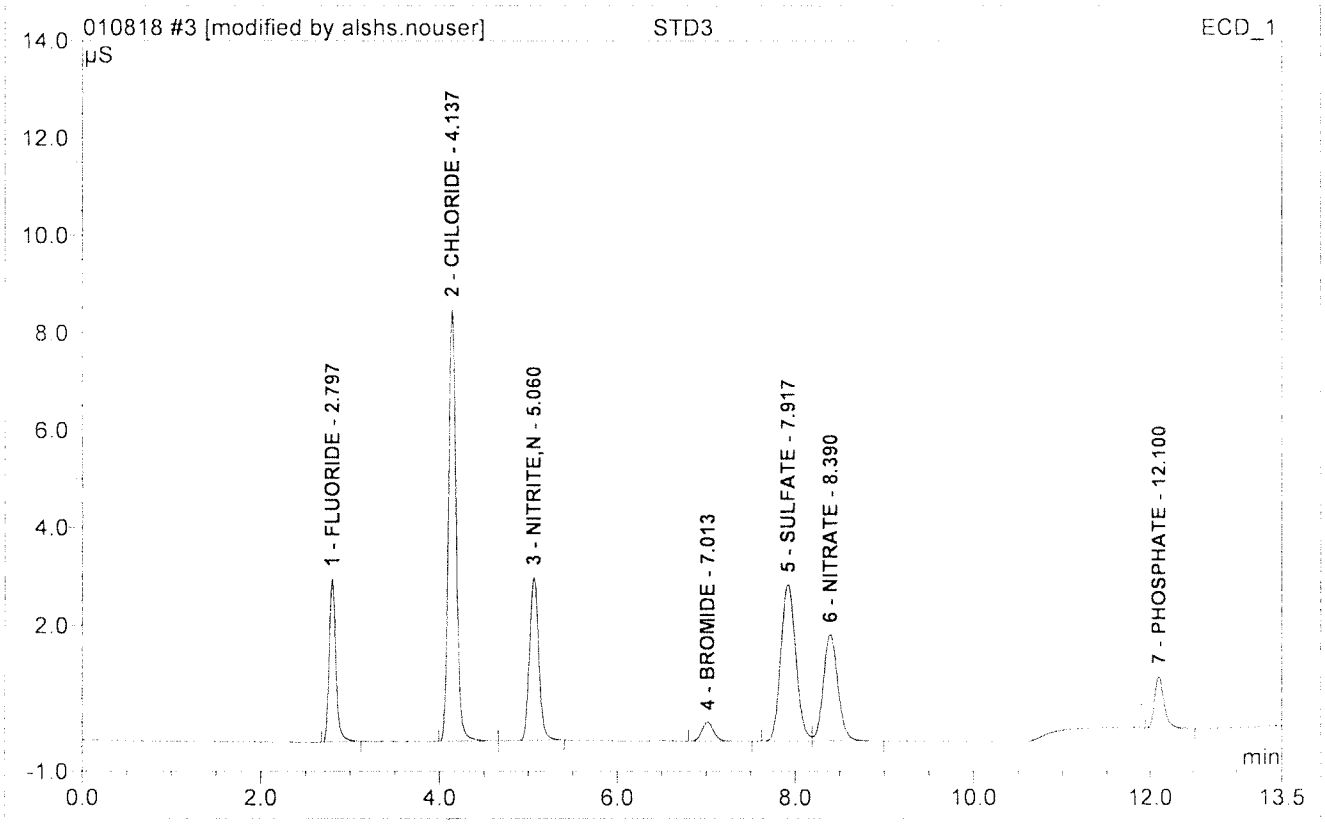
Sample Name:	**STD2**	*Injection Volume:*	**10.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 13:54**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.79	FLUORIDE	0.533	0.045	9.82	0.348	1
2	4.13	CHLORIDE	1.518	0.150	32.84	1.806	1
3	5.05	NITRITE,N	0.535	0.065	14.17	0.361	1
4	7.01	BROMIDE	0.063	0.010	2.13	0.329	1
5	7.93	SULFATE	0.542	0.106	23.09	1.776	1
6	8.41	NITRATE	0.329	0.063	13.84	0.332	1
7	12.13	PHOSPHATE	0.150	0.019	4.11	0.313	1
Total:			3.669	0.457	100.00	5.266	

3 STD3

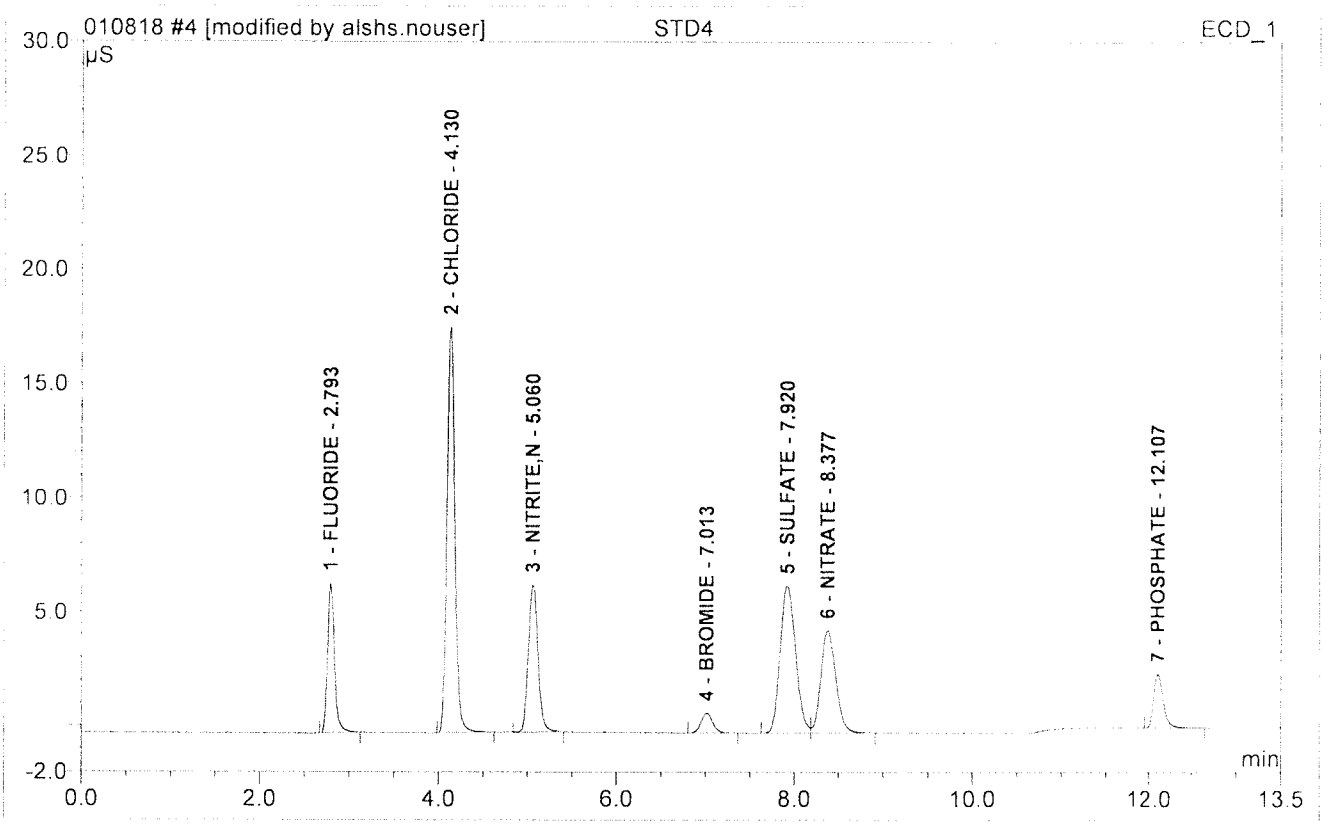
Sample Name:	**STD3**	*Injection Volume:*	**10.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 14:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.80	FLUORIDE	3.353	0.289	10.17	2.084	1.
2	4.14	CHLORIDE	8.874	0.897	31.62	10.008	1
3	5.06	NITRITE,N	3.346	0.405	14.27	2.172	1
4	7.01	BROMIDE	0.398	0.062	2.17	1.740	1.
5	7.92	SULFATE	3.221	0.631	22.23	9.819	1.
6	8.39	NITRATE	2.198	0.417	14.71	1.910	1.
7	12.10	PHOSPHATE	1.068	0.137	4.83	1.752	1.
Total:			22.459	2.838	100.00	29.485	

4 STD4

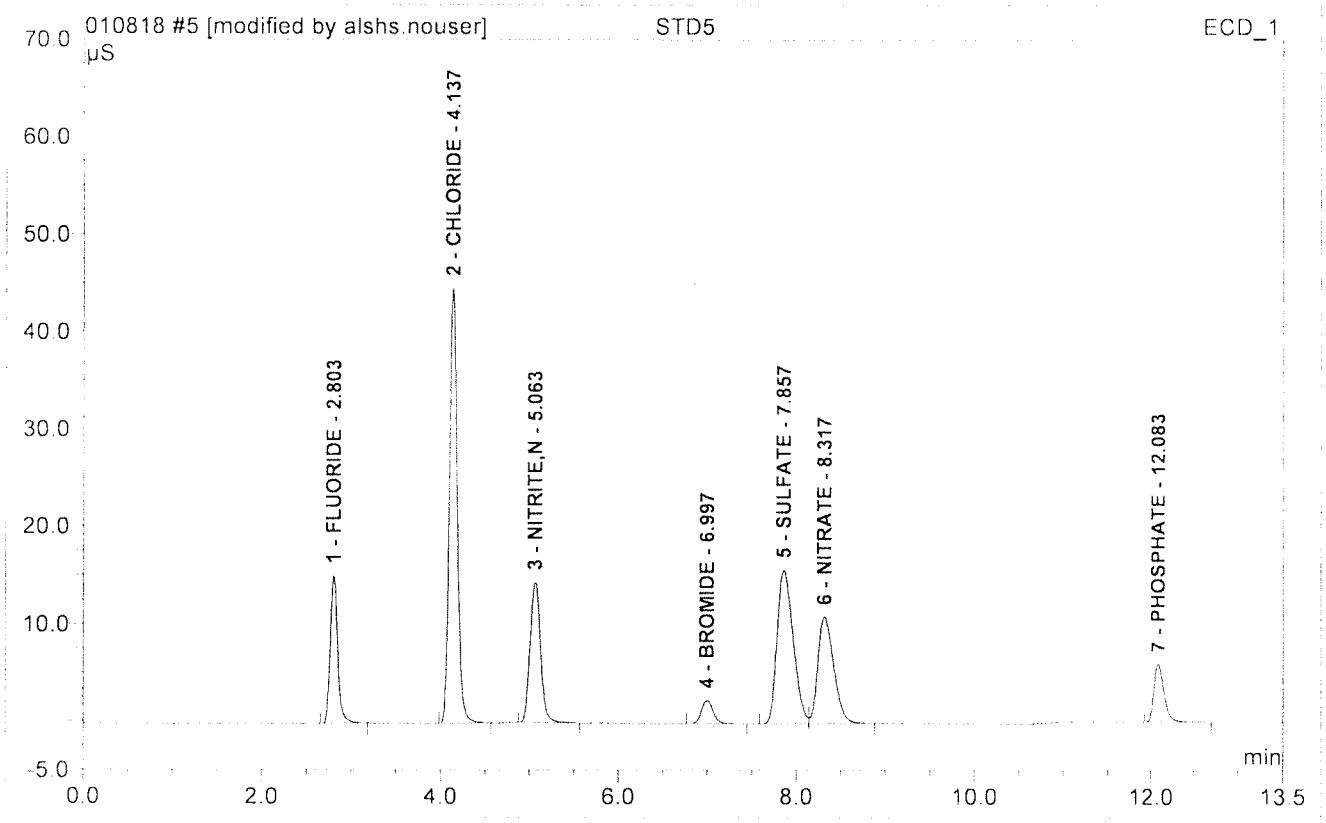
Sample Name:	**STD4**	*Injection Volume:*	**10.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 14:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.79	FLUORIDE	6.572	0.584	10.01	4.191	1
2	4.13	CHLORIDE	17.759	1.824	31.24	20.180	1
3	5.06	NITRITE,N	6.464	0.821	14.07	4.386	1
4	7.01	BROMIDE	0.876	0.132	2.27	3.659	1
5	7.92	SULFATE	6.451	1.295	22.20	19.997	1
6	8.38	NITRATE	4.490	0.876	15.00	3.951	1
7	12.11	PHOSPHATE	2.350	0.304	5.21	3.785	1
Total:			44.963	5.836	100.00	60.149	

5 STD5

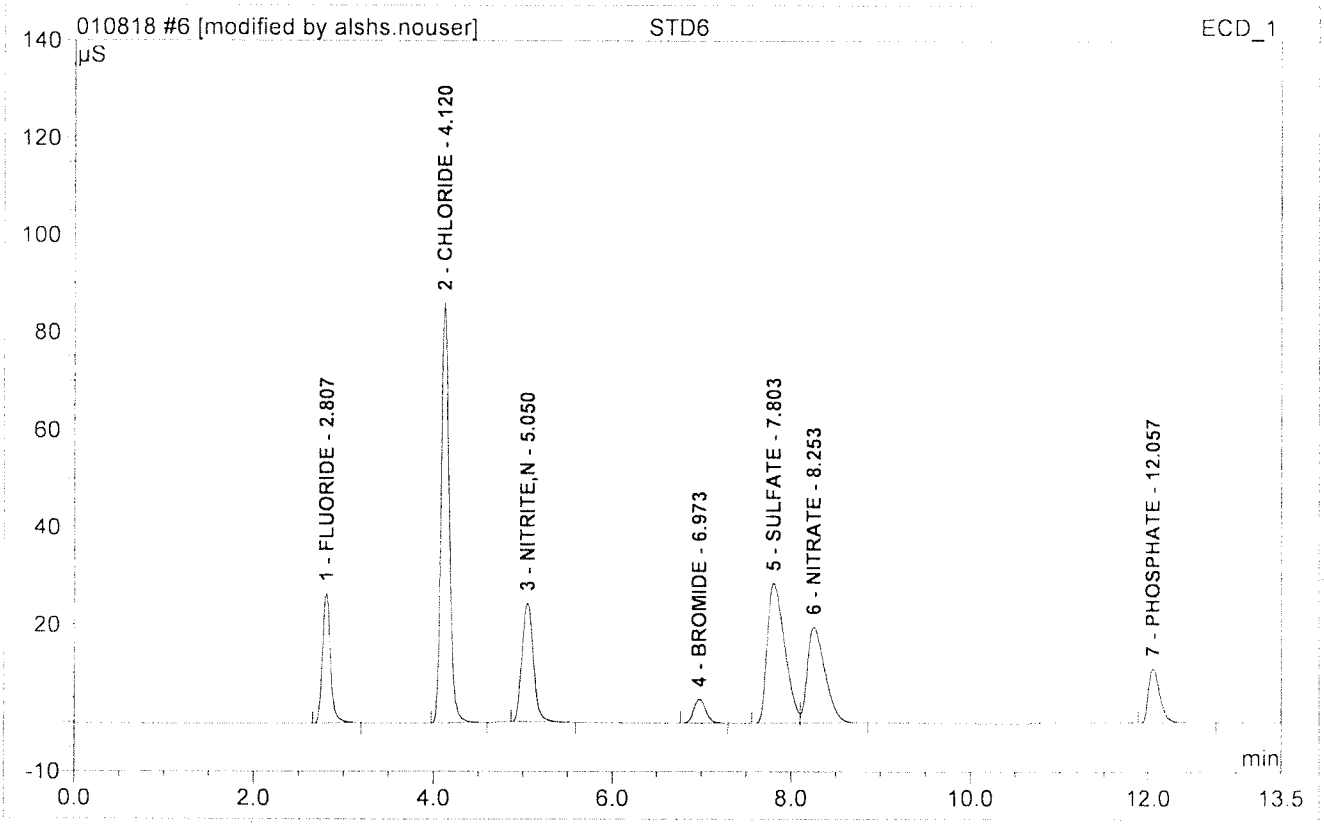
Sample Name:	**STD5**	*Injection Volume:*	**10.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 14:38**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.80	FLUORIDE	15.211	1.455	9.79	10.397	1.
2	4.14	CHLORIDE	44.753	4.639	31.21	51.091	1.
3	5.06	NITRITE,N	14.440	1.975	13.29	10.529	1.
4	7.00	BROMIDE	2.444	0.371	2.50	10.147	1.
5	7.86	SULFATE	15.763	3.315	22.31	50.927	1.
6	8.32	NITRATE	11.013	2.275	15.31	10.183	1.
7	12.08	PHOSPHATE	5.998	0.830	5.58	10.184	1.
Total:			109.621	14.861	100.00	153.458	

6 STD6

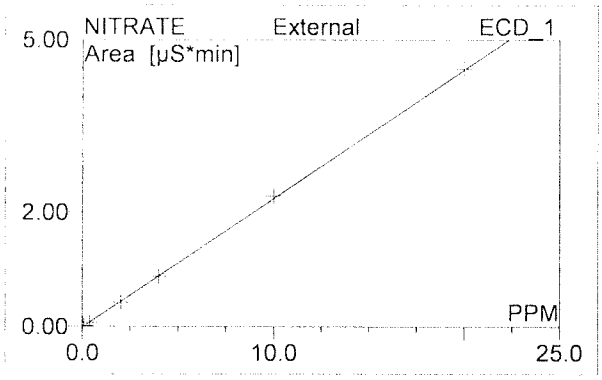
Sample Name:	**STD6**	*Injection Volume:*	**10.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 14:52**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**

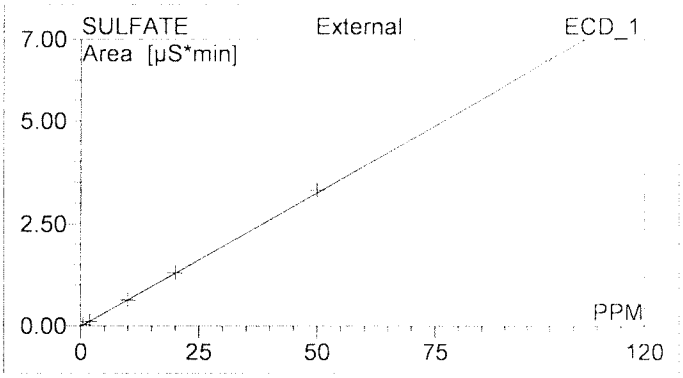


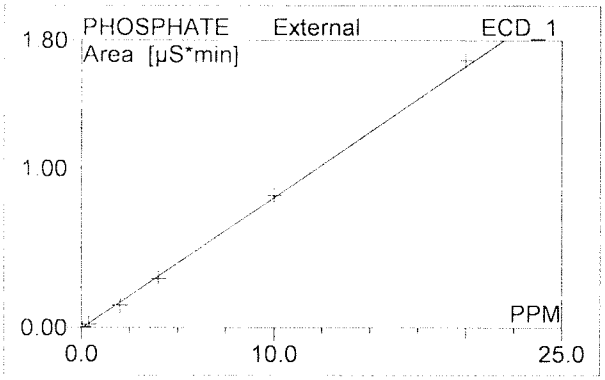
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.81	FLUORIDE	26.654	2.723	9.49	19.427	1.
2	4.12	CHLORIDE	86.222	8.991	31.33	98.877	1.
3	5.05	NITRITE,N	24.345	3.582	12.48	19.080	1.
4	6.97	BROMIDE	4.937	0.757	2.64	20.621	1.
5	7.80	SULFATE	28.773	6.482	22.59	99.422	1.
6	8.25	NITRATE	19.743	4.487	15.64	20.035	1.
7	12.06	PHOSPHATE	11.105	1.673	5.83	20.454	1.
Total:			201.778	28.695	100.00	297.916	

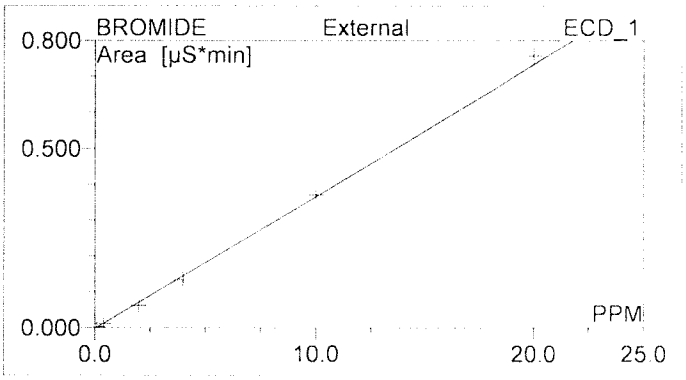
6 STD6

Sample Name:	**STD6**	*Injection Volume:*	**10.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 14:52**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**









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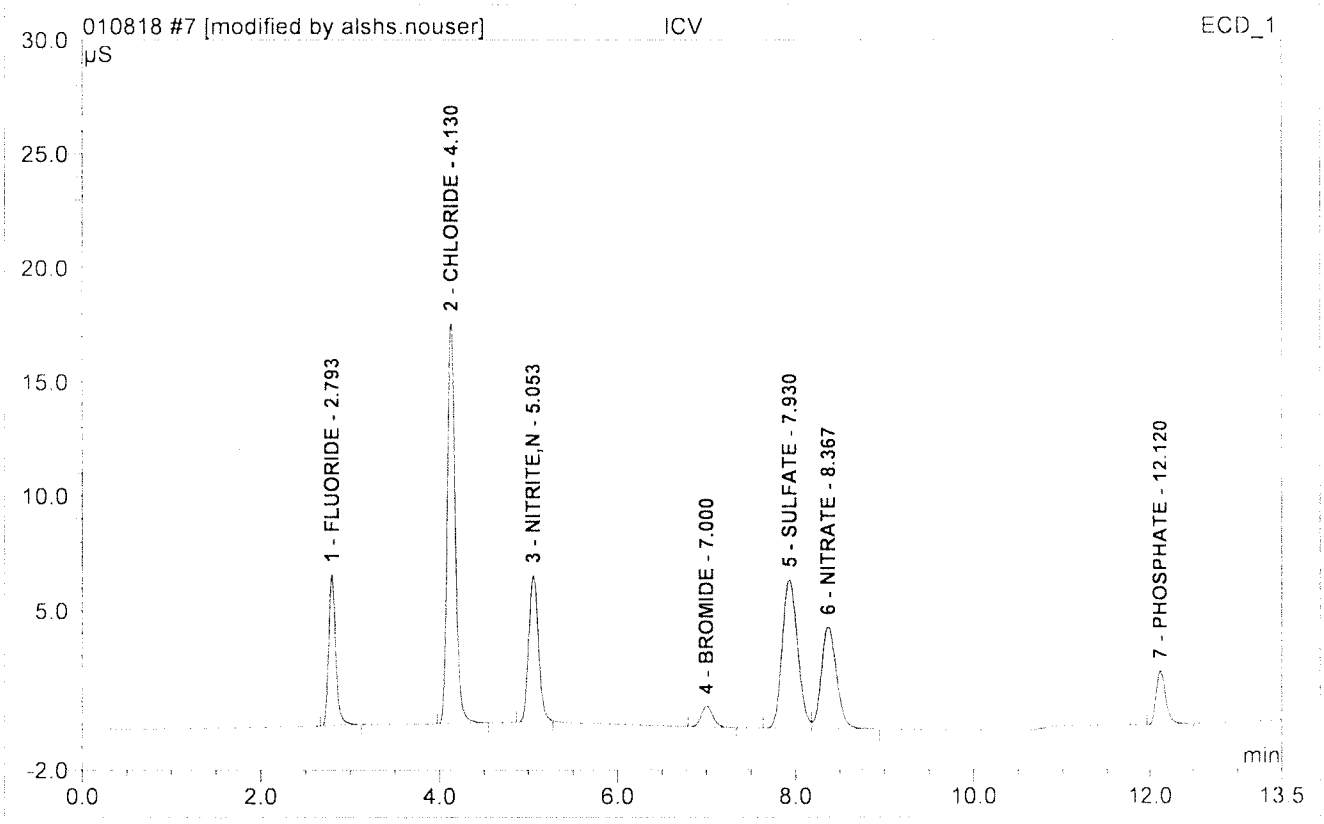
The system cannot find the path specified

No.	Ret.Time min	Peak Name	Cal.Type	Points	Coeff.Det. %	Offset	Slope	Curve
1	2.81	FLUORIDE	YLOff	6	99.845	-0.0040	0.1404	0.000
2	4.12	CHLORIDE	XLOff	6	99.965	-0.0143	0.0911	0.000
3	5.05	NITRITE,N	YLOff	6	99.641	-0.0031	0.1879	0.000
4	6.97	BROMIDE	YLOff	6	99.630	-0.0024	0.0368	0.000
5	7.80	SULFATE	XLOff	6	99.967	-0.0104	0.0653	0.000
6	8.25	NITRATE	YLOff	6	99.912	-0.0113	0.2245	0.000
7	12.06	PHOSPHATE	YLOff	6	99.696	-0.0069	0.0822	0.000
Average:					99.8080	-0.0075	0.1183	0.0000

No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	RF-Value	Std.Dev.	RSD %
1	2.81	FLUORIDE	YLOff	6	99.923	7.124	0.010	19.409
2	4.12	CHLORIDE	XLOff	6	99.982	10.980	0.017	8.793
3	5.05	NITRITE,N	YLOff	6	99.820	5.322	0.020	29.041
4	6.97	BROMIDE	YLOff	6	99.815	27.159	0.004	32.461
5	7.80	SULFATE	XLOff	6	99.984	15.313	0.012	8.499
6	8.25	NITRATE	YLOff	6	99.956	4.454	0.011	15.438
7	12.06	PHOSPHATE	YLOff	6	99.848	12.172	0.006	38.765
Average:					99.9039	11.7892	0.0111	21.7721

7 ICV

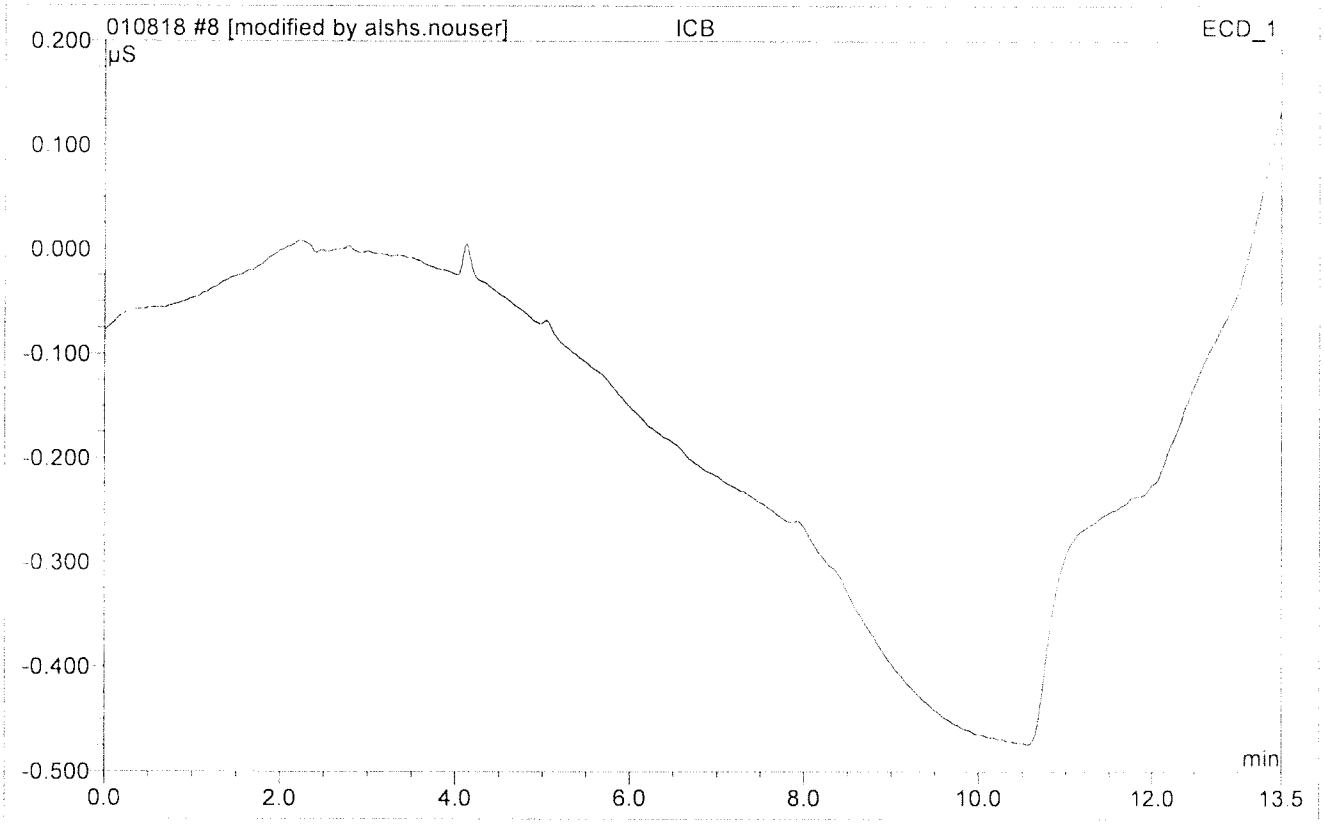
Sample Name:	**ICV**	*Injection Volume:*	**10.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 15:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.79	FLUORIDE	6.648	0.598	10.20	4.289	1.
2	4.13	CHLORIDE	17.521	1.811	30.87	20.037	1.
3	5.05	NITRITE,N	6.425	0.810	13.81	4.326	1.
4	7.00	BROMIDE	0.916	0.140	2.39	3.868	1.
5	7.93	SULFATE	6.535	1.315	22.42	20.290	1.
6	8.37	NITRATE	4.485	0.887	15.12	3.999	1.
7	12.12	PHOSPHATE	2.362	0.305	5.20	3.797	1.
Total:			44.893	5.865	100.00	60.607	

8 ICB

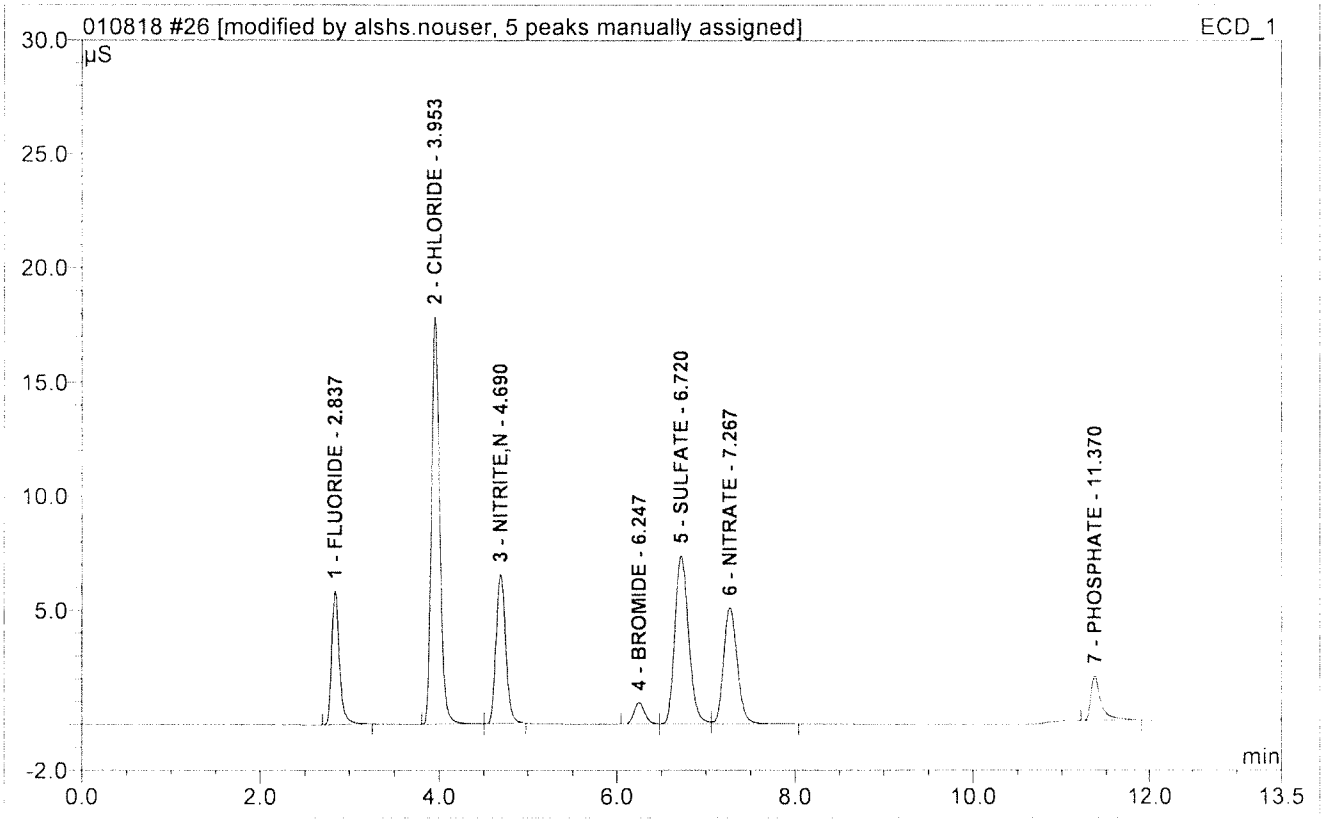
Sample Name:	**ICB**	*Injection Volume:*	**10.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 15:21**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
Total:			0.000	0.000	0.00	0.000	

26 CCV

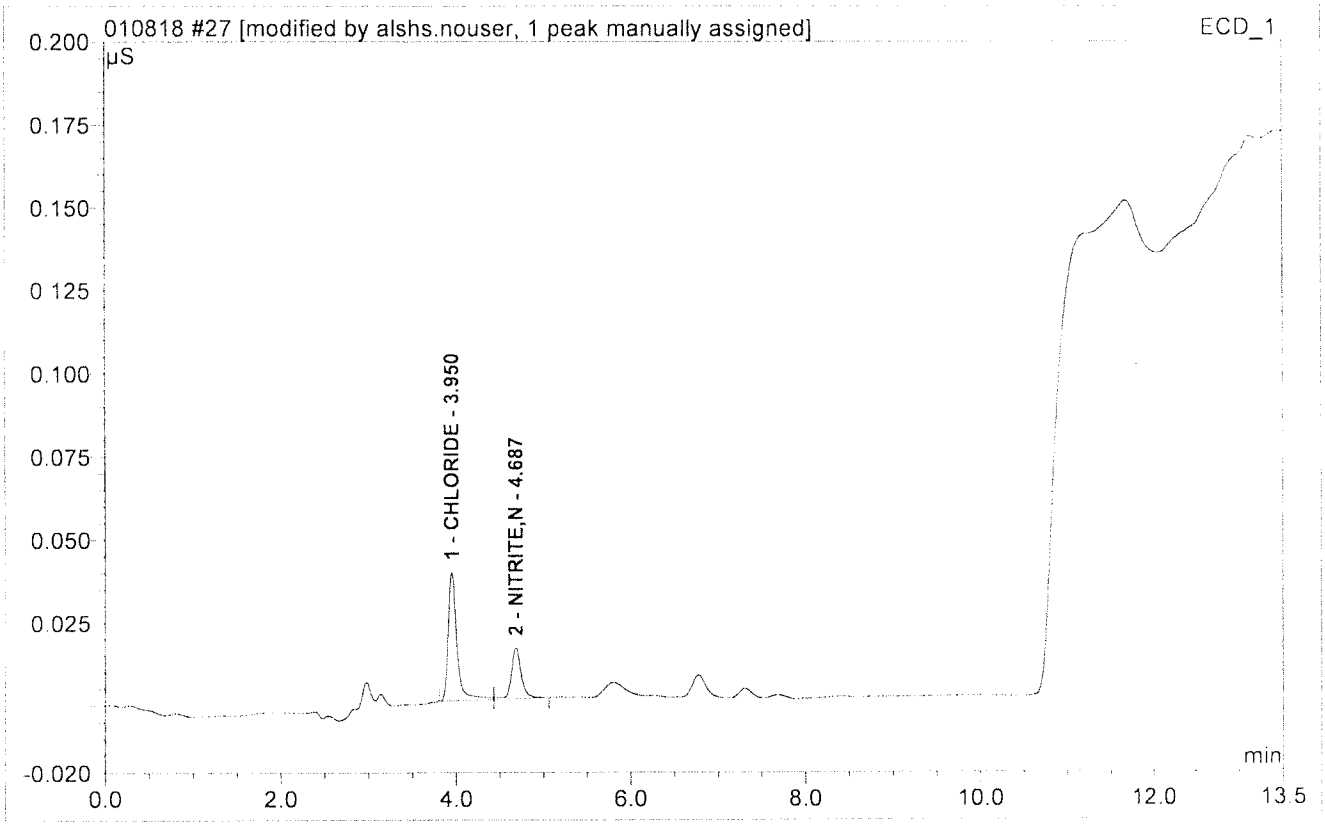
Sample Name:	**CCV**	*Injection Volume:*	**10.0**
Vial Number:	**1**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/8/2018 19:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.84	FLUORIDE	5.841	0.590	9.95	4.235	1.
2	3.95	CHLORIDE	17.848	1.891	31.85	20.918	1
3	4.69	NITRITE,N	6.519	0.817	13.76	4.363	1.
4	6.25	BROMIDE	0.959	0.136	2.29	3.762	1.
5	6.72	SULFATE	7.379	1.336	22.51	20.622	1.
6	7.27	NITRATE	5.087	0.909	15.31	4.100	1.
7	11.37	PHOSPHATE	1.955	0.257	4.34	3.218	1.
Total:			45.588	5.937	100.00	61.219	

27 CCB

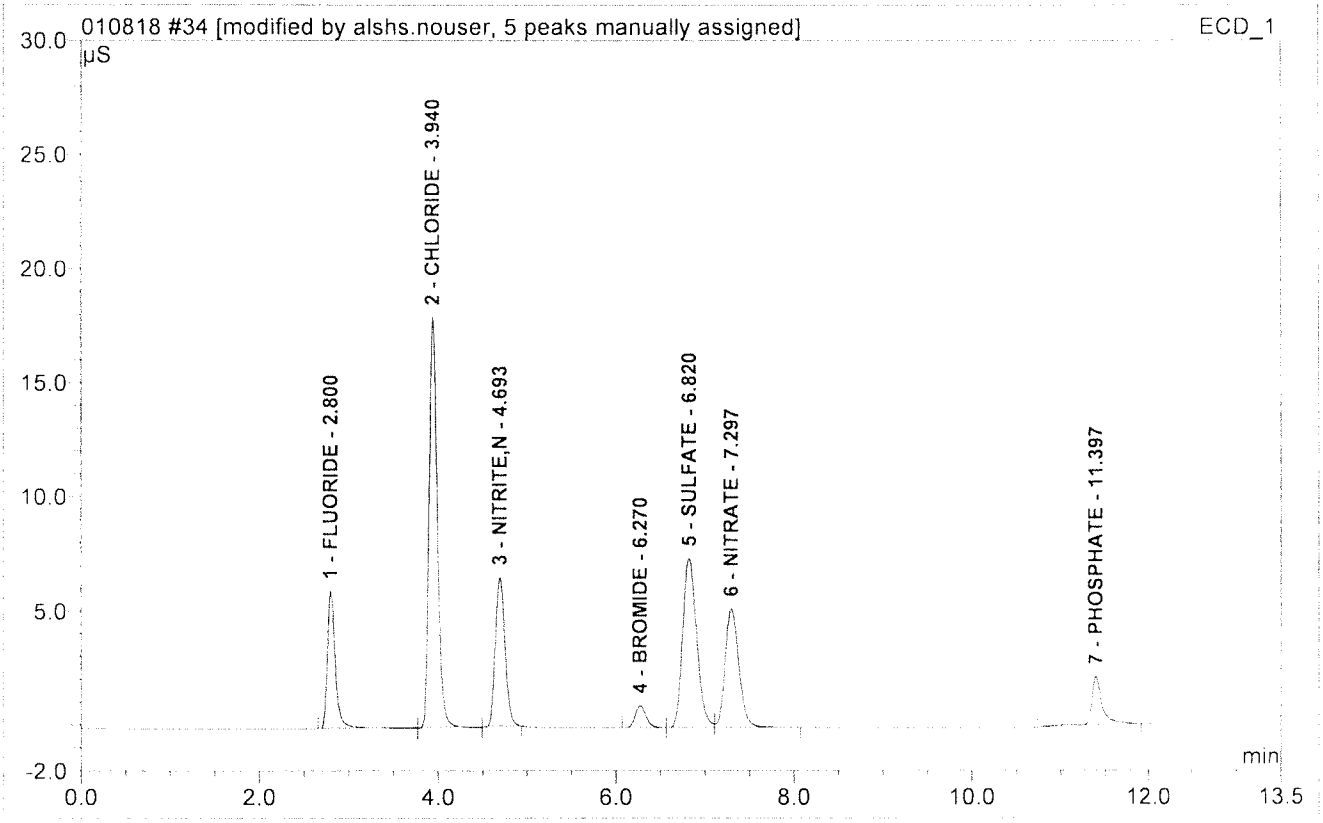
Sample Name:	**CCB**	*Injection Volume:*	**10.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/8/2018 19:43**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	3.95	CHLORIDE	0.039	0.005	69.36	0.207	1
2	4.69	NITRITE,N	0.015	0.002	30.64	0.027	1
Total:			0.054	0.007	100.00	0.234	

34 WLCSW1-010818

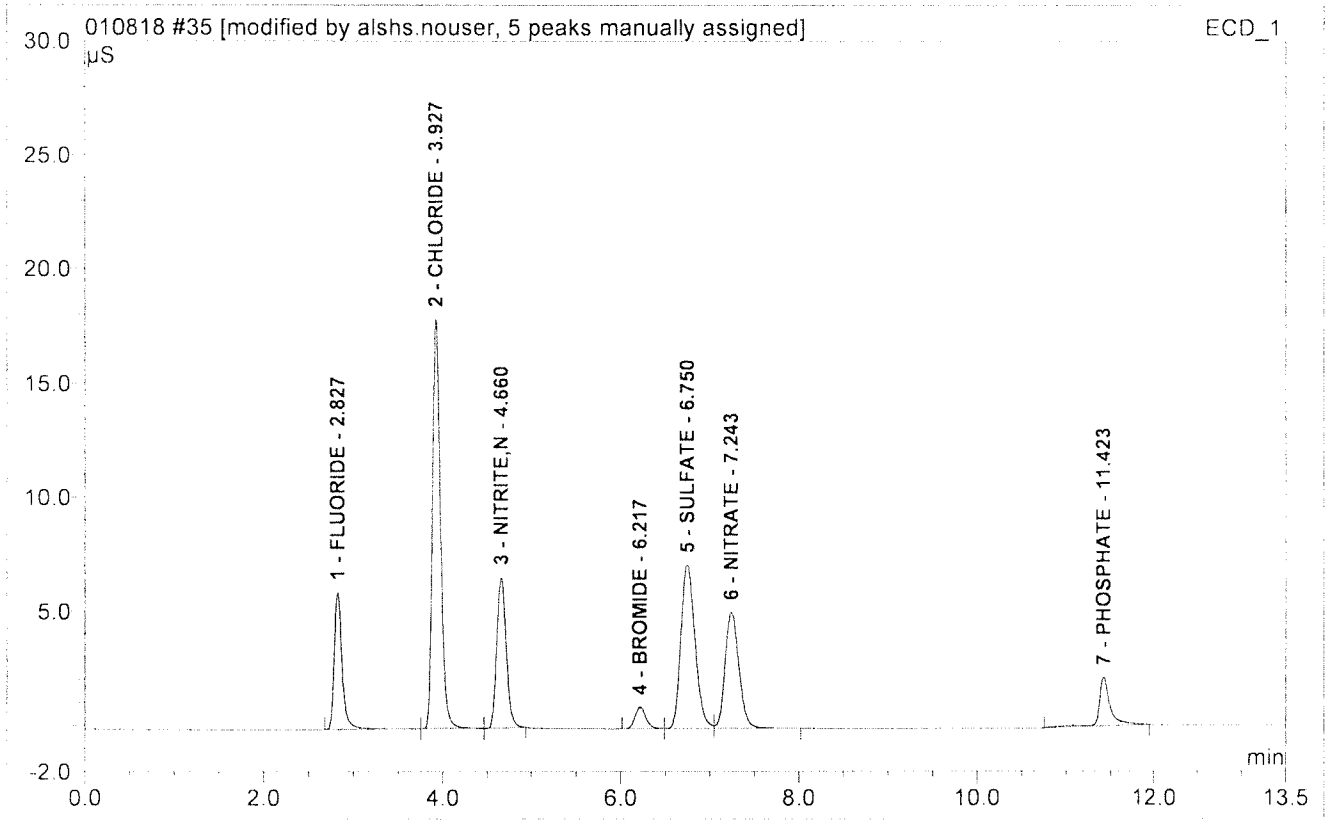
Sample Name:	**WLCSW1-010818**	*Injection Volume:*	**10.0**
Vial Number:	**26**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/8/2018 21:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.80	FLUORIDE	6.025	0.601	9.92	4.313	1.
2	3.94	CHLORIDE	17.955	1.894	31.24	20.954	1.
3	4.69	NITRITE,N	6.543	0.819	13.51	4.374	1
4	6.27	BROMIDE	0.977	0.139	2.29	3.833	1.
5	6.82	SULFATE	7.428	1.360	22.44	20.990	1.
6	7.30	NITRATE	5.233	0.936	15.44	4.221	1.
7	11.40	PHOSPHATE	2.144	0.313	5.17	3.900	1.
Total:			46.304	6.063	100.00	62.585	

35 WLCSDW1-010818

Sample Name:	**WLCSDW1-010818**	*Injection Volume:*	**10.0**
Vial Number:	**27**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/8/2018 21:39**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**

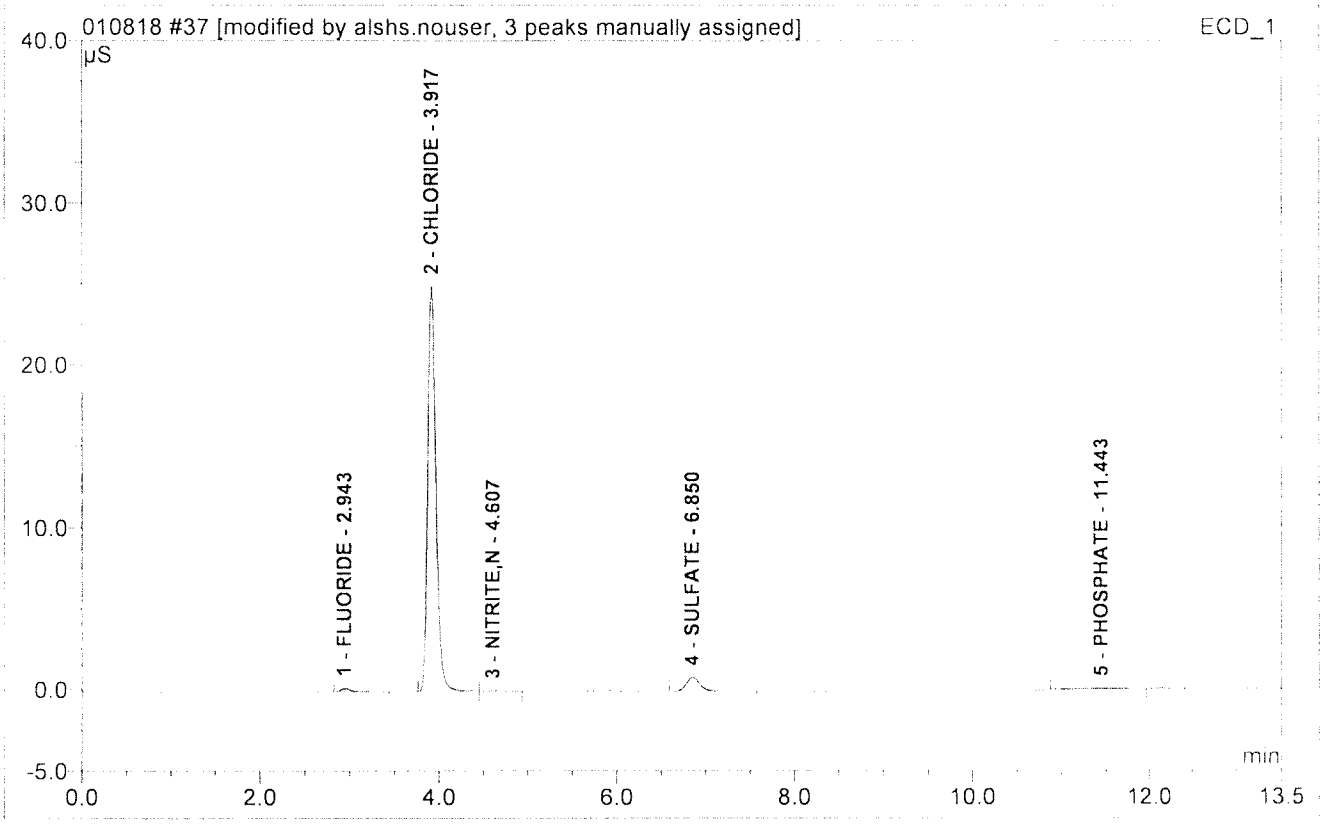


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.83	FLUORIDE	5.995	0.596	10.00	4.276	1
2	3.93	CHLORIDE	17.908	1.860	31.19	20.583	1
3	4.66	NITRITE,N	6.584	0.816	13.68	4.357	1
4	6.22	BROMIDE	0.950	0.135	2.26	3.725	1
5	6.75	SULFATE	7.161	1.329	22.28	20.507	1
6	7.24	NITRATE	5.096	0.917	15.38	4.135	1
7	11.42	PHOSPHATE	2.120	0.311	5.22	3.874	1
Total:			45.814	5.964	100.00	61.458	

37 HS17121168-01DF20

9056_W

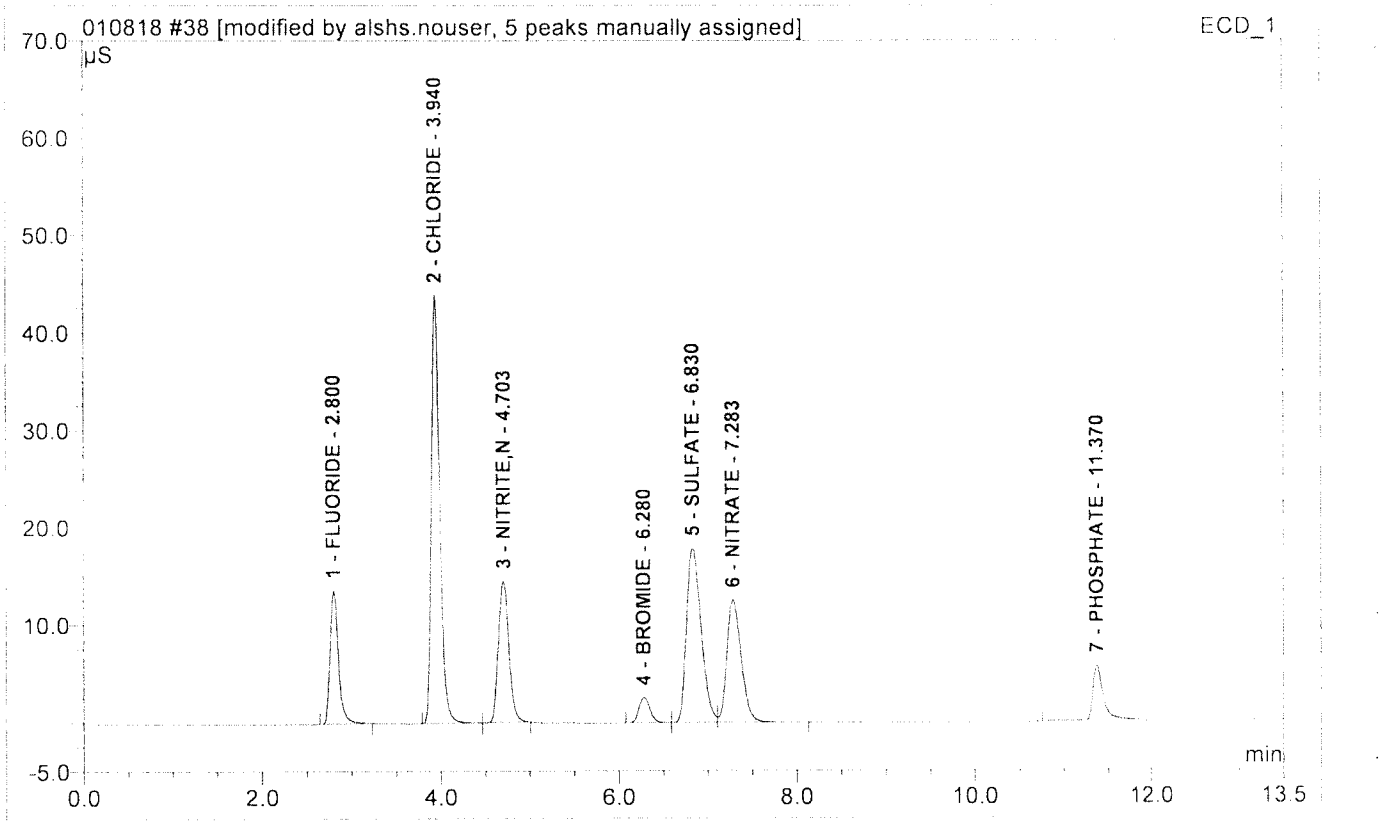
Sample Name:	**HS17121168-01DF20**	*Injection Volume:*	**10.0**
Vial Number:	**29**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**20.**
Recording Time:	**1/8/2018 22:08**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.94	FLUORIDE	0.206	0.025	0.88	4.142	20.
2	3.92	CHLORIDE	24.968	2.639	92.59	582.586	20.
3	4.61	NITRITE,N	0.012	0.003	0.11	0.659	20.
4	6.85	SULFATE	0.863	0.154	5.40	50.300	20
5	11.44	PHOSPHATE	0.057	0.029	1.02	8.763	20.
Total:			26.105	2.850	100.00	646.450	

38 CCV1

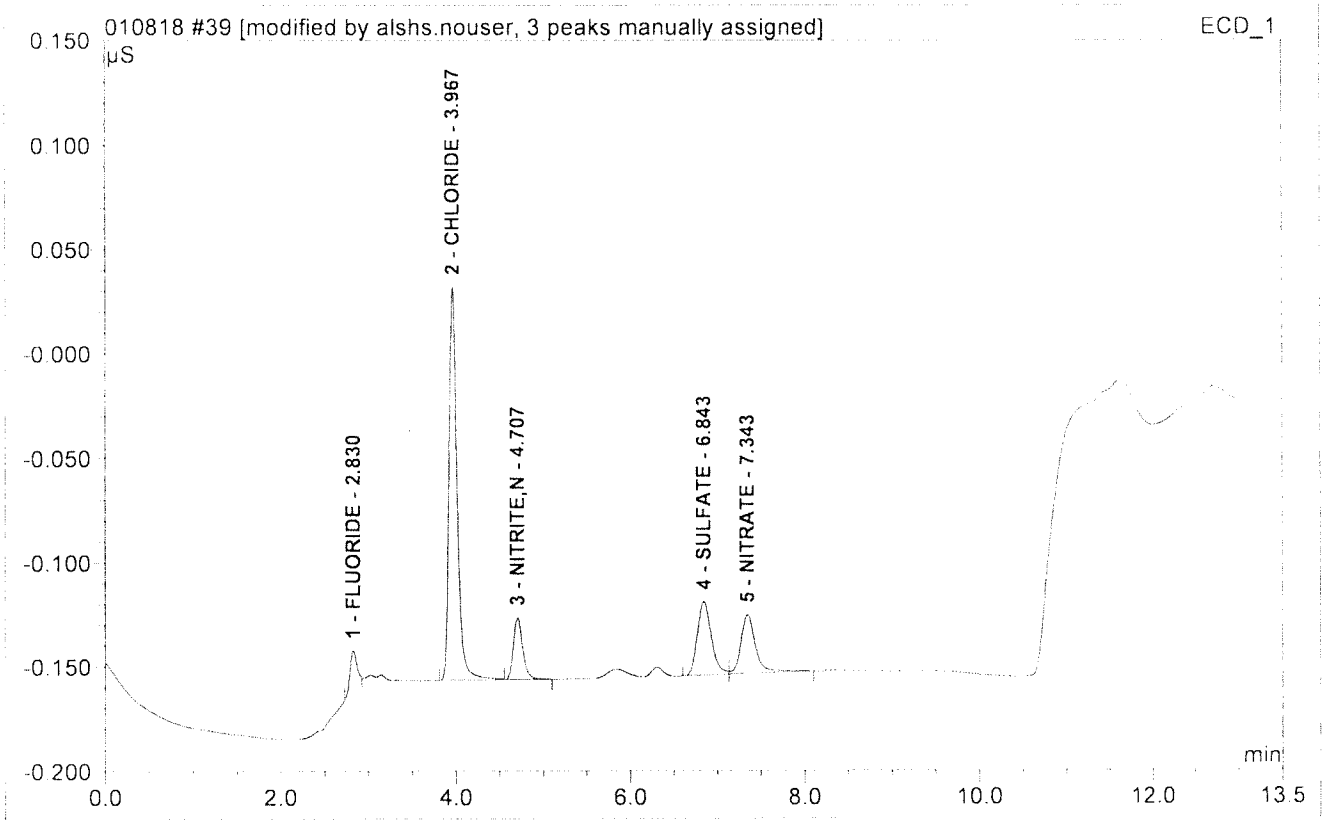
Sample Name:	**CCV1**	*Injection Volume:*	**10.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/8/2018 22:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.80	FLUORIDE	13.637	1.475	9.76	10.535	1
2	3.94	CHLORIDE	43.925	4.745	31.41	52.256	1
3	4.70	NITRITE,N	14.449	1.979	13.10	10.549	1
4	6.28	BROMIDE	2.635	0.377	2.50	10.314	1
5	6.83	SULFATE	17.876	3.404	22.54	52.287	1
6	7.28	NITRATE	12.557	2.352	15.57	10.525	1
7	11.37	PHOSPHATE	5.632	0.773	5.12	9.498	1
Total:			110.711	15.105	100.00	155.966	

39 CCB

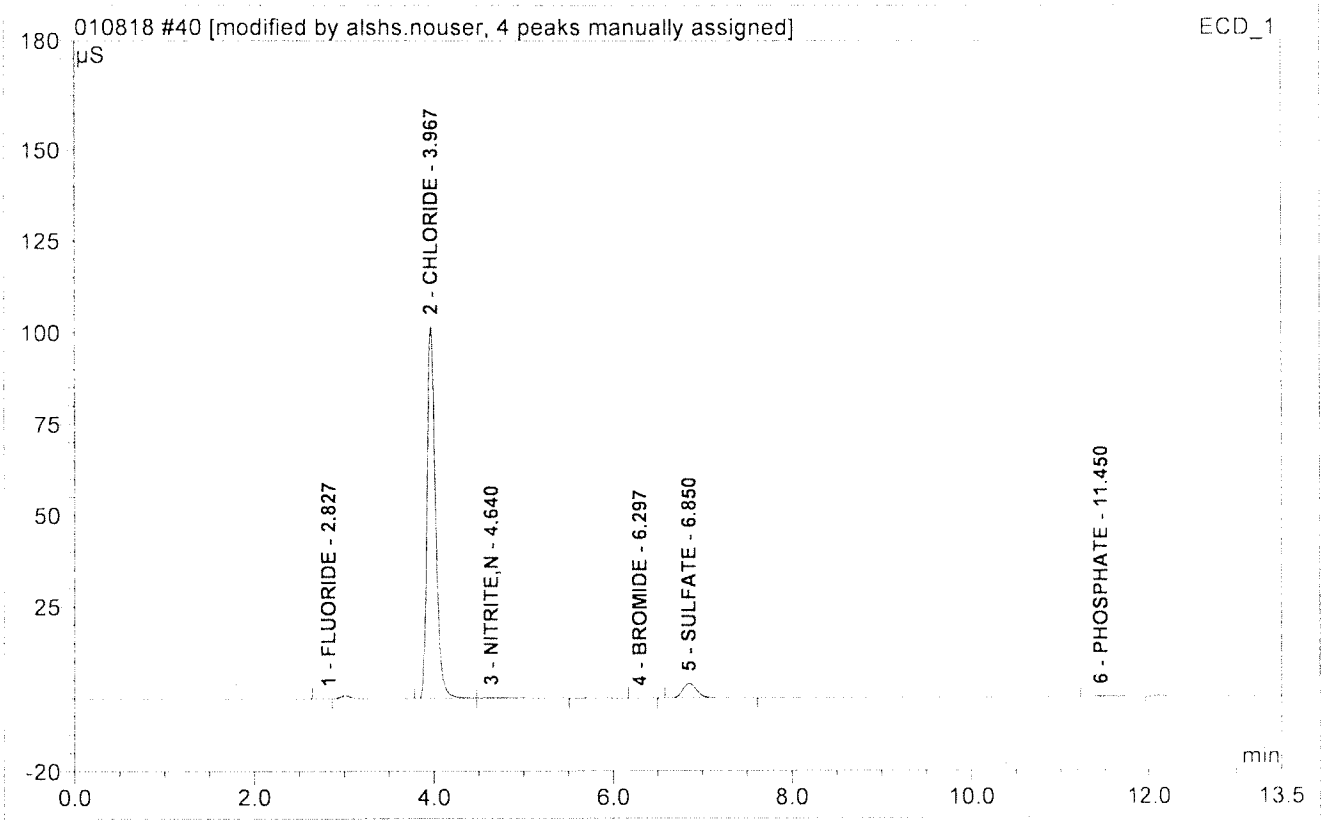
Sample Name:	**CCB**	*Injection Volume:*	**10.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/8/2018 22:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.83	FLUORIDE	0.018	0.002	4.12	0.040	1
2	3.97	CHLORIDE	0.188	0.021	54.16	0.383	1
3	4.71	NITRITE,N	0.030	0.004	9.60	0.036	1
4	6.84	SULFATE	0.036	0.007	17.40	0.261	1
5	7.34	NITRATE	0.028	0.006	14.71	0.075	1
Total:			0.300	0.038	100.00	0.795	

40 HS17121168-01DF5

Sample Name:	**HS17121168-01DF5**	*Injection Volume:*	**10.0**
Vial Number:	**30**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**5.**
Recording Time:	**1/8/2018 22:52**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**

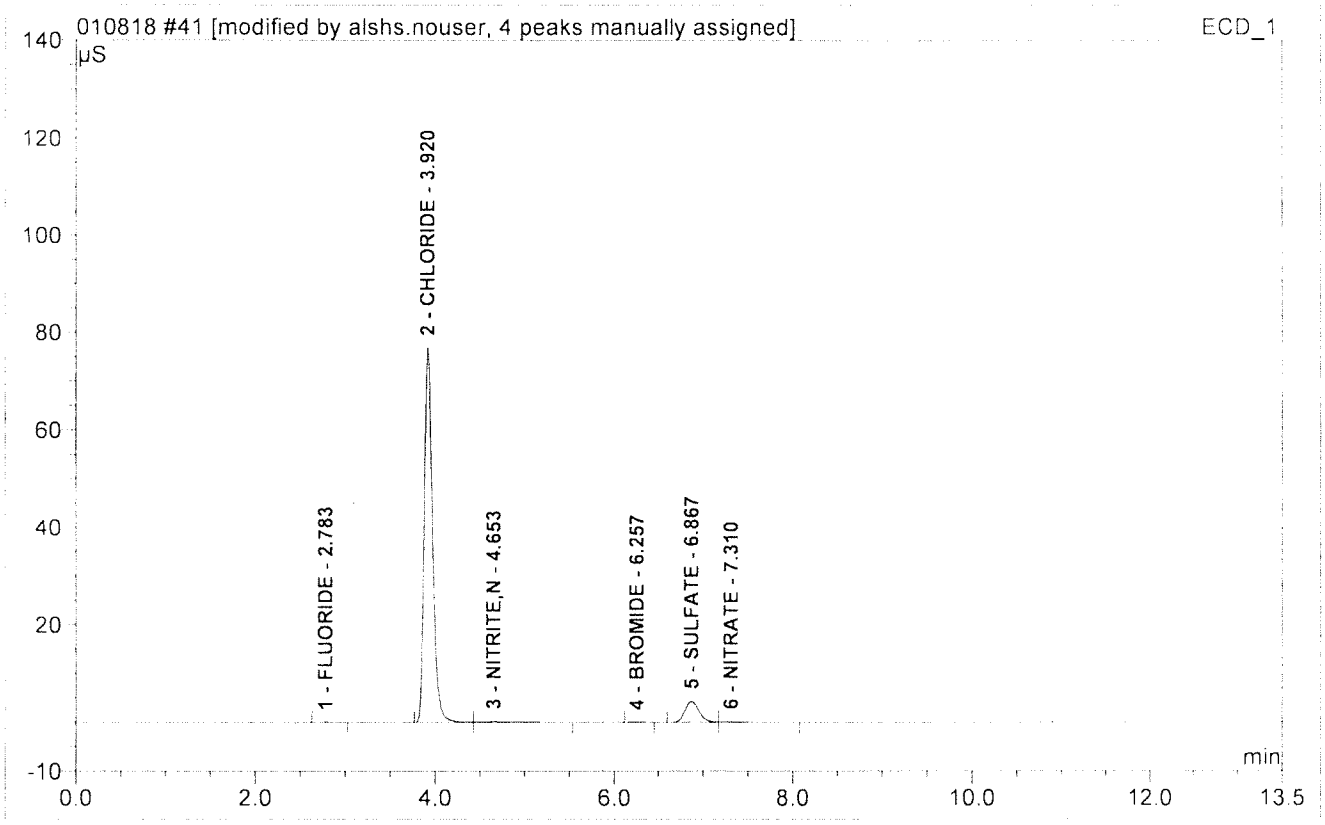


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.83	FLUORIDE	0.012	0.000	0.00	0.153	5.
2	3.97	CHLORIDE	101.686	11.080	92.83	609.106	5.
3	4.64	NITRITE,N	0.232	0.095	0.80	2.619	5.
4	6.30	BROMIDE	0.042	0.006	0.05	1.105	5.
5	6.85	SULFATE	3.976	0.728	6.10	56.503	5.
6	11.45	PHOSPHATE	0.150	0.027	0.23	2.066	5.
Total:			106.098	11.936	100.00	671.551	

41 HS17121169-01DF5

9056_W

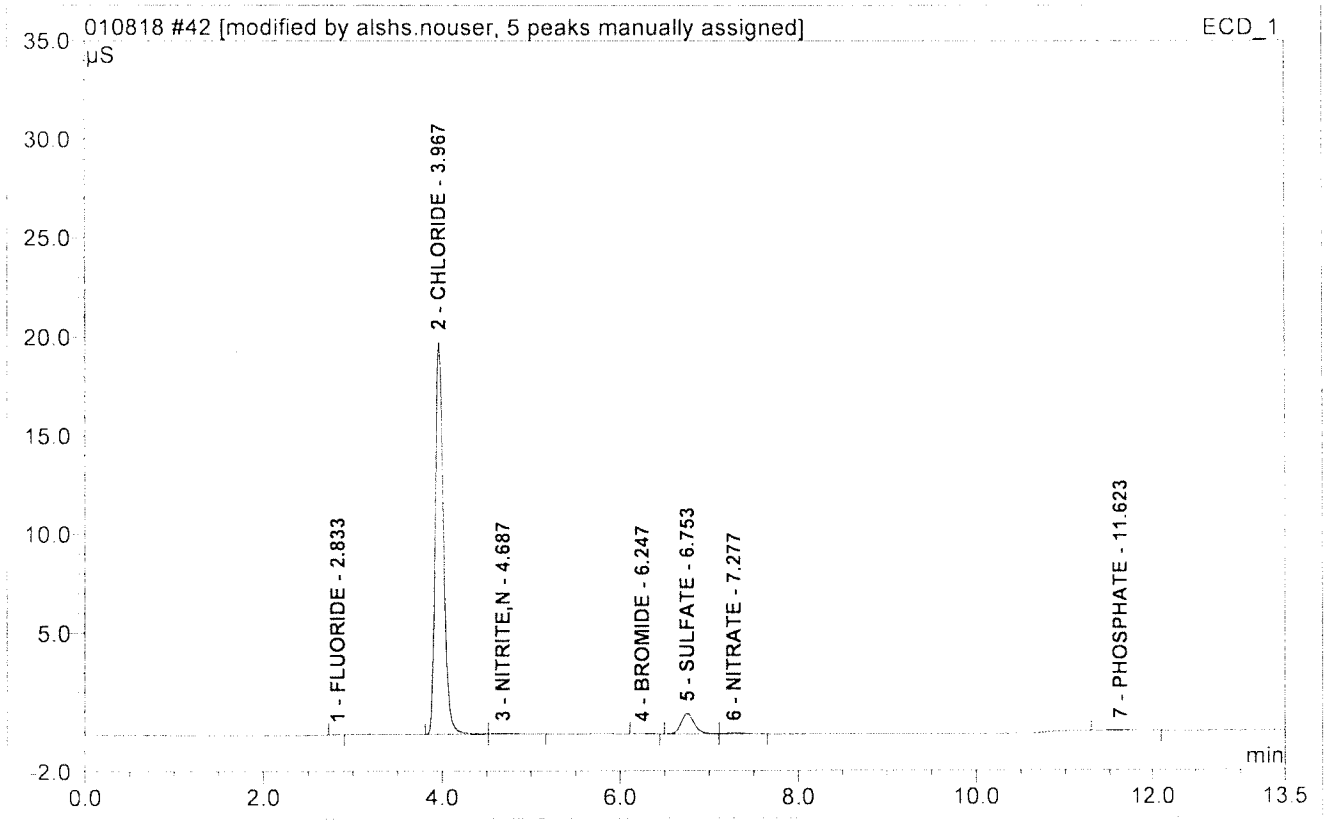
Sample Name:	**HS17121169-01DF5**	*Injection Volume:*	**10.0**
Vial Number:	**31**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**5.**
Recording Time:	**1/8/2018 23:06**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.78	FLUORIDE	0.046	0.005	0.06	0.334	5
2	3.92	CHLORIDE	76.957	8.338	90.04	458.585	5
3	4.65	NITRITE,N	0.230	0.078	0.85	2.168	5
4	6.26	BROMIDE	0.048	0.006	0.07	1.207	5
5	6.87	SULFATE	4.313	0.794	8.57	61.593	5
6	7.31	NITRATE	0.187	0.038	0.41	1.107	5
Total:			81.781	9.261	100.00	524.994	

42 HS17121169-01DF20

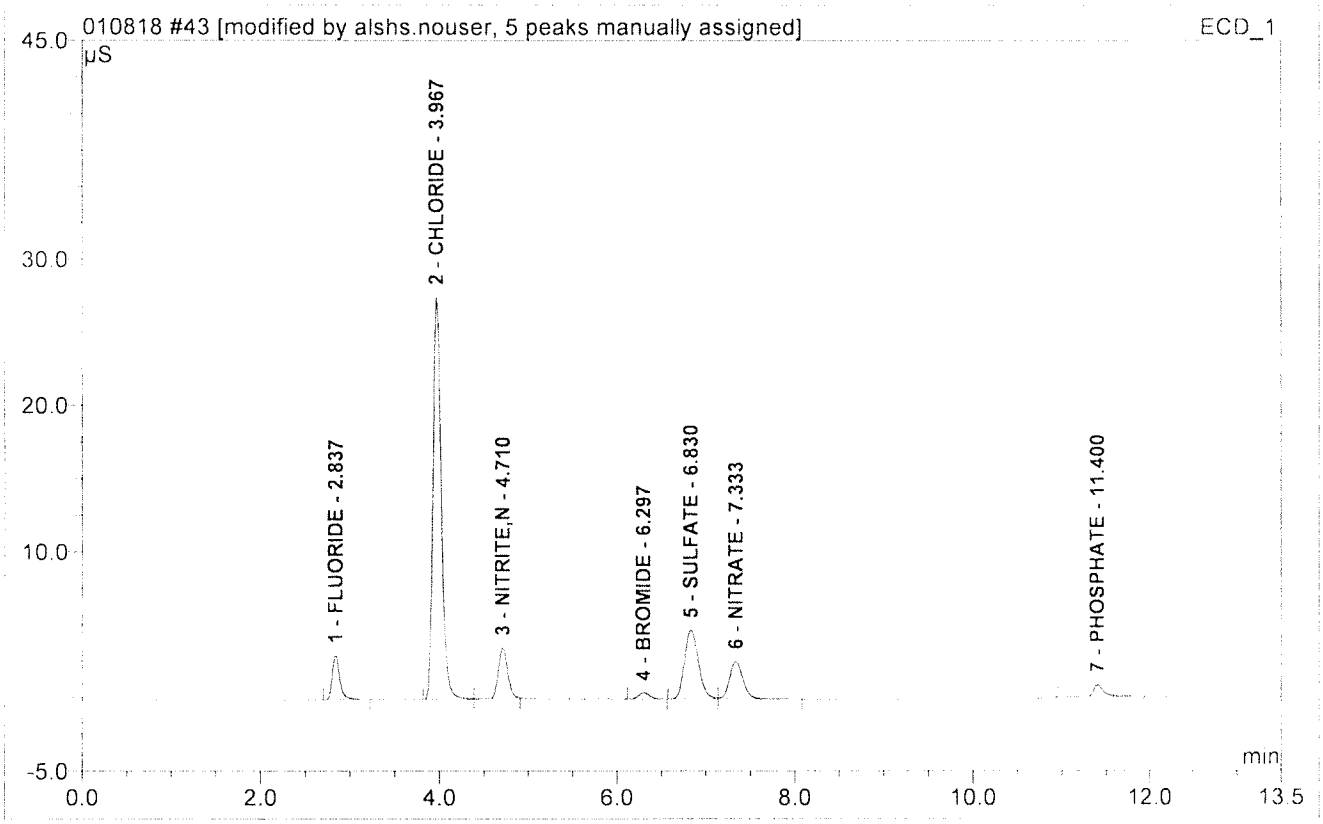
Sample Name:	**HS17121169-01DF20**	*Injection Volume:*	**10.0**
Vial Number:	**32**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**20.**
Recording Time:	**1/8/2018 23:21**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.83	FLUORIDE	0.010	0.001	0.03	0.680	20.
2	3.97	CHLORIDE	19.875	2.126	91.11	470.118	20.
3	4.69	NITRITE,N	0.052	0.013	0.55	1.701	20.
4	6.25	BROMIDE	0.014	0.002	0.08	2.306	20.
5	6.75	SULFATE	1.035	0.178	7.64	57.801	20.
6	7.28	NITRATE	0.052	0.010	0.42	1.884	20.
7	11.62	PHOSPHATE	0.014	0.004	0.16	2.604	20.
Total:			21.053	2.334	100.00	537.094	

43 HS17121169-01MSDF20

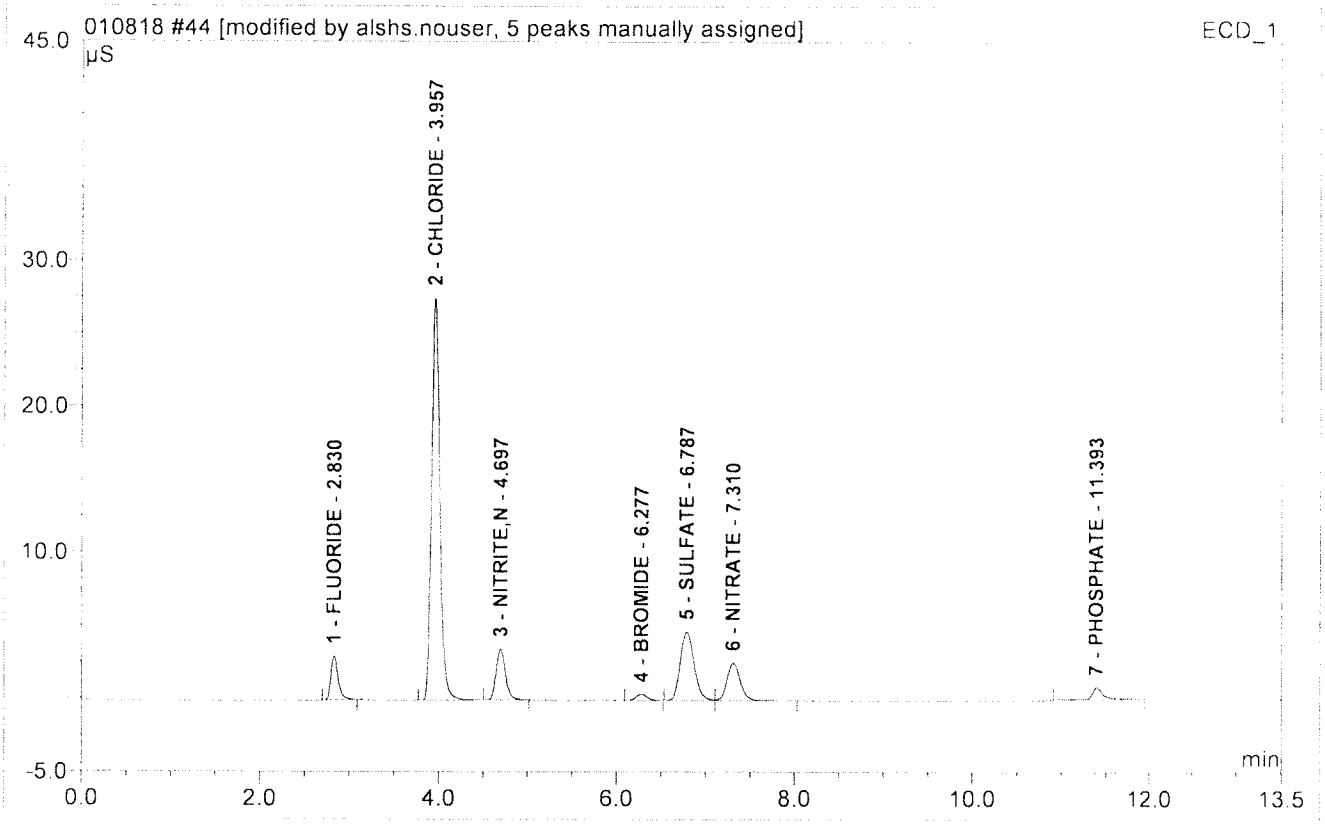
Sample Name:	**HS17121169-01MSDF20**	*Injection Volume:*	**10.0**
Vial Number:	**33**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**20.**
Recording Time:	**1/8/2018 23:35**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.84	FLUORIDE	3.026	0.292	5.68	42.231	20.
2	3.97	CHLORIDE	27.536	2.948	57.22	650.502	20.
3	4.71	NITRITE,N	3.454	0.416	8.08	44.652	20.
4	6.30	BROMIDE	0.443	0.063	1.22	35.468	20.
5	6.83	SULFATE	4.723	0.856	16.62	265.484	20.
6	7.33	NITRATE	2.574	0.450	8.74	41.102	20.
7	11.40	PHOSPHATE	0.859	0.126	2.44	32.306	20.
Total:			42.614	5.152	100.00	1111.746	

44 HS17121169-01MSDDF20

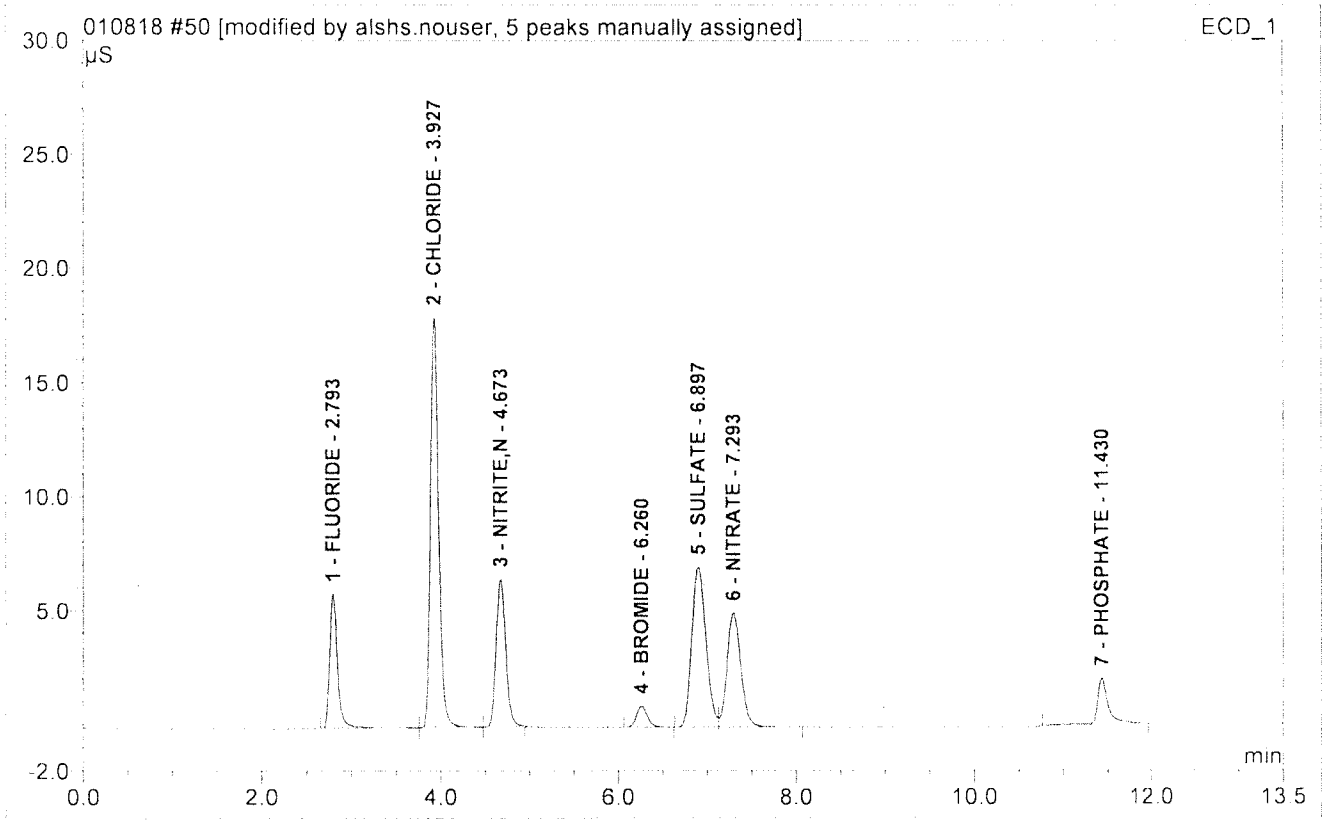
Sample Name:	**HS17121169-01MSDDF20**	*Injection Volume:*	**10.0**
Vial Number:	**34**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**20.**
Recording Time:	**1/8/2018 23:50**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.83	FLUORIDE	3.015	0.284	5.51	41.043	20
2	3.96	CHLORIDE	27.559	2.951	57.25	651.251	20
3	4.70	NITRITE,N	3.480	0.426	8.26	45.652	20.
4	6.28	BROMIDE	0.443	0.063	1.21	35.300	20.
5	6.79	SULFATE	4.729	0.853	16.55	264.499	20.
6	7.31	NITRATE	2.576	0.448	8.69	40.903	20.
7	11.39	PHOSPHATE	0.852	0.130	2.53	33.444	20.
Total:			42.653	5.155	100.00	1112.093	

50 CCV

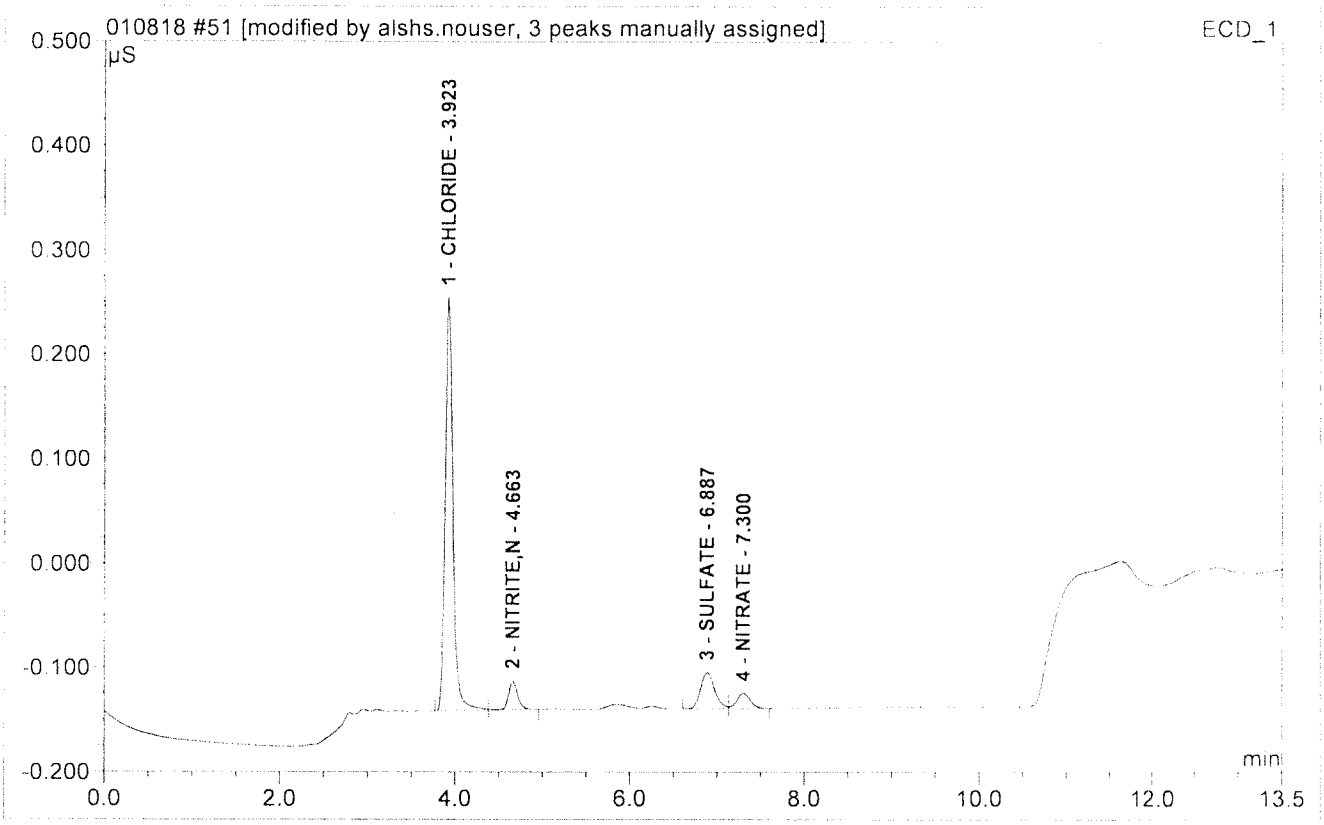
Sample Name:	**CCV**	*Injection Volume:*	**10.0**
Vial Number:	**1**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/9/2018 1:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.79	FLUORIDE	5.869	0.587	9.98	4.207	1.
2	3.93	CHLORIDE	17.946	1.876	31.90	20.752	1.
3	4.67	NITRITE,N	6.437	0.800	13.61	4.273	1.
4	6.26	BROMIDE	0.919	0.131	2.22	3.610	1
5	6.90	SULFATE	7.004	1.293	22.00	19.963	1
6	7.29	NITRATE	5.001	0.902	15.34	4.067	1
7	11.43	PHOSPHATE	2.007	0.291	4.95	3.627	1.
Total:			45.183	5.879	100.00	60.500	

51 CCB

Sample Name:	**CCB**	*Injection Volume:*	**10.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/9/2018 1:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**

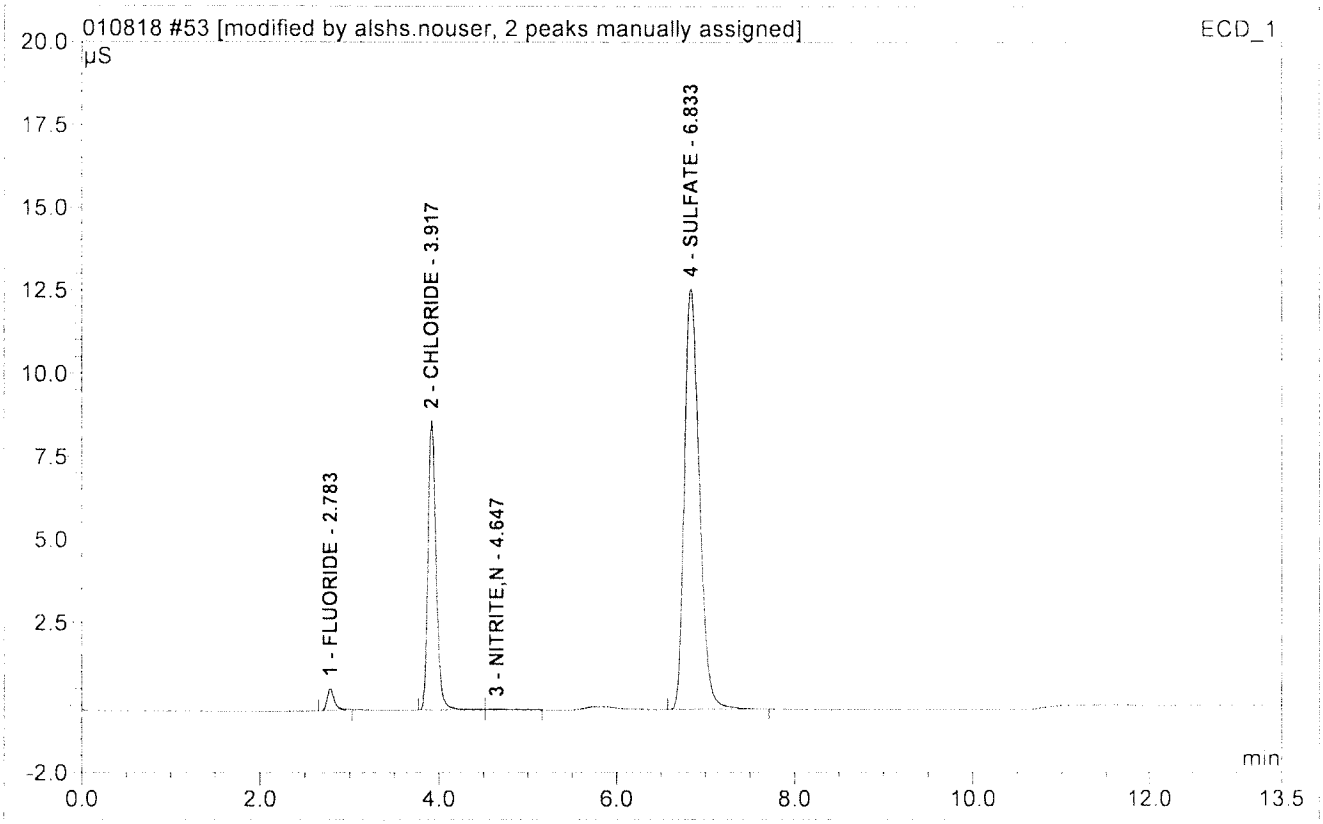


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	3.92	CHLORIDE	0.396	0.041	76.56	0.609	1
2	4.66	NITRITE,N	0.027	0.003	6.36	0.035	1
3	6.89	SULFATE	0.035	0.007	12.17	0.260	1
4	7.30	NITRATE	0.015	0.003	4.91	0.062	1
Total:			0.473	0.054	100.00	0.965	

53 HS17121151-10DF10

9056_W CL

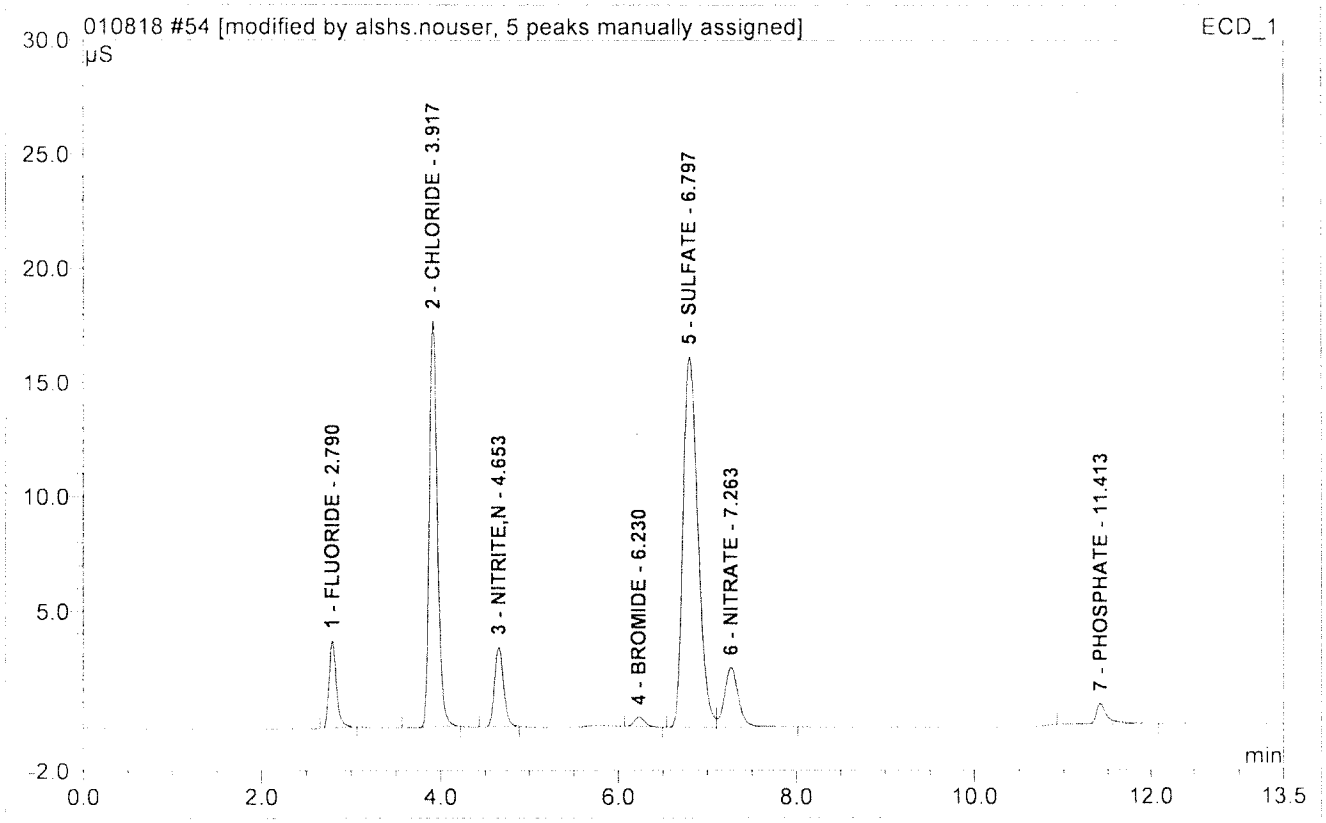
Sample Name:	**HS17121151-10DF10**	*Injection Volume:*	**10.0**
Vial Number:	**40**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**10.**
Recording Time:	**1/9/2018 2:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.78	FLUORIDE	0.649	0.059	1.71	4.475	10.
2	3.92	CHLORIDE	8.711	0.908	26.44	101.283	10.
3	4.65	NITRITE,N	0.027	0.006	0.16	0.465	10.
4	6.83	SULFATE	12.664	2.461	71.68	378.505	10.
Total:			22.051	3.434	100.00	484.729	

54 HS17121151-10MSDF10

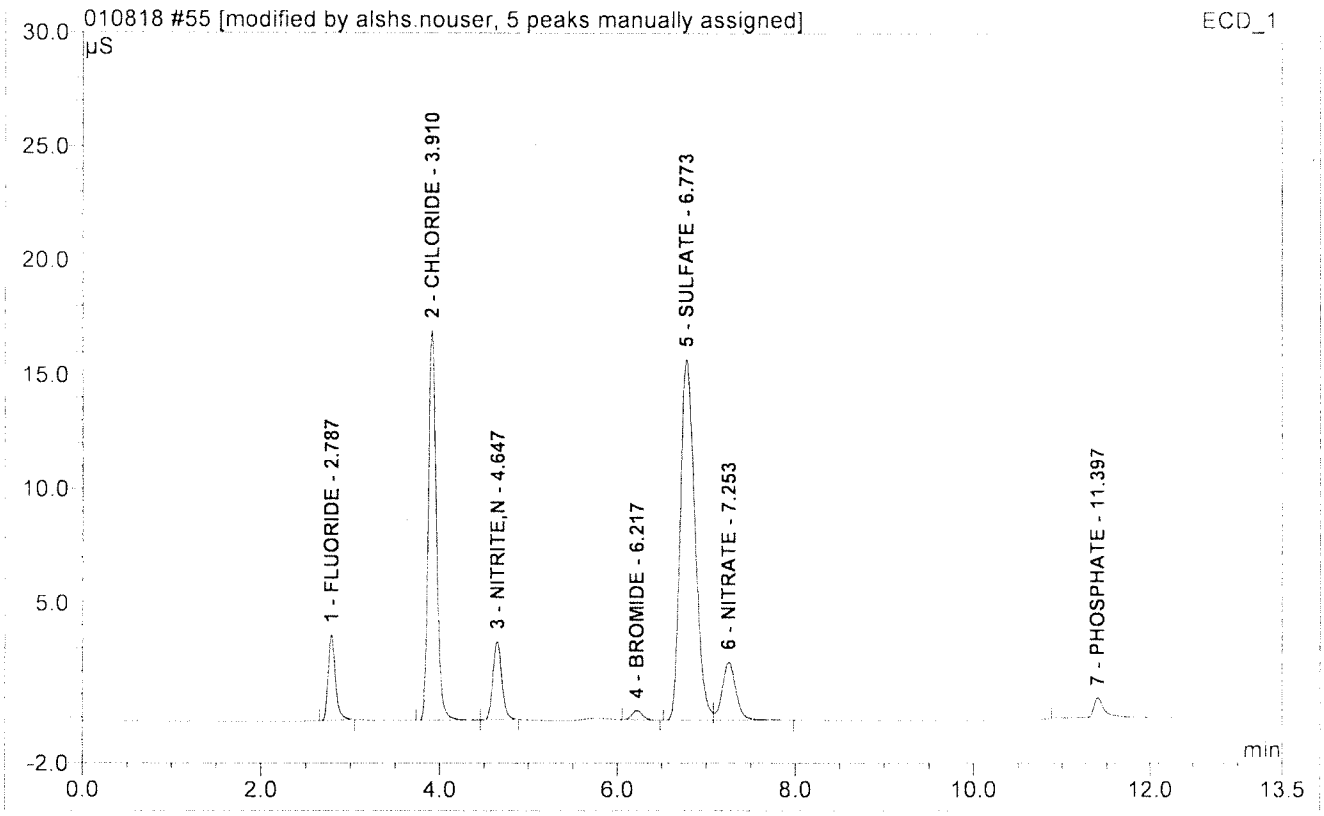
Sample Name:	**HS17121151-10MSDF10**	*Injection Volume:*	**10.0**
Vial Number:	**41**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**10.**
Recording Time:	**1/9/2018 2:15**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.79	FLUORIDE	3.815	0.360	5.61	25.935	10.
2	3.92	CHLORIDE	17.781	1.847	28.75	204.327	10.
3	4.65	NITRITE,N	3.500	0.414	6.44	22 173	10.
4	6.23	BROMIDE	0.431	0.060	0.93	16.811	10.
5	6.80	SULFATE	16.234	3.127	48.69	480.443	10.
6	7.26	NITRATE	2.611	0.476	7.42	21.729	10.
7	11.41	PHOSPHATE	0.921	0.139	2.17	17.814	10.
Total:			45.294	6.423	100.00	789.233	

55 HS17121151-10MSDDF10

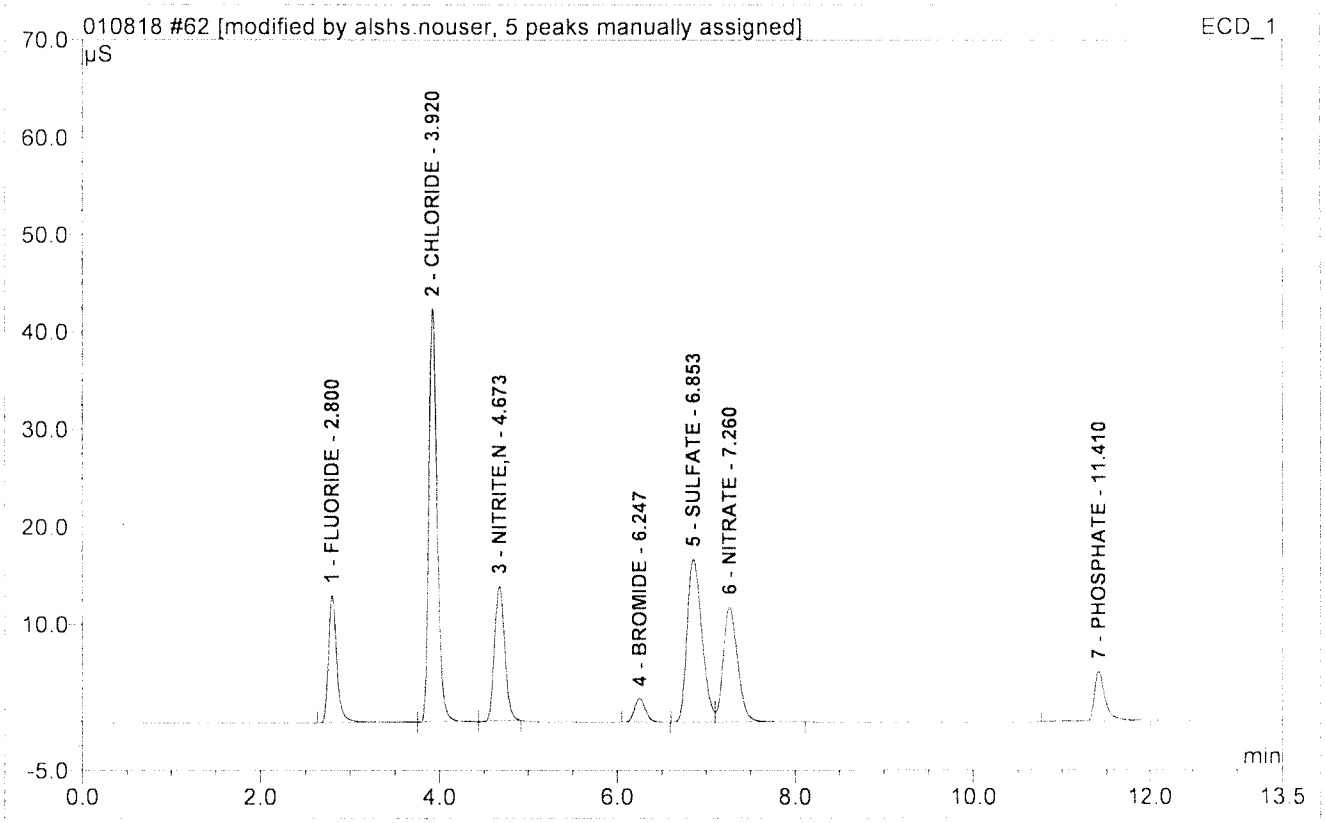
Sample Name:	**HS17121151-10MSDDF10**	*Injection Volume:*	**10.0**
Vial Number:	**42**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**10.**
Recording Time:	**1/9/2018 2:30**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.79	FLUORIDE	3.723	0.349	5.61	25.178	10.
2	3.91	CHLORIDE	17.066	1.782	28.63	197.291	10.
3	4.65	NITRITE,N	3.400	0.401	6.45	21.518	10.
4	6.22	BROMIDE	0.418	0.058	0.92	16.275	10.
5	6.77	SULFATE	15.822	3.042	48.86	467.362	10.
6	7.25	NITRATE	2.527	0.459	7.37	20.939	10.
7	11.40	PHOSPHATE	0.886	0.134	2.16	17.186	10.
Total:			43.840	6.225	100.00	765.749	

62 CCV1

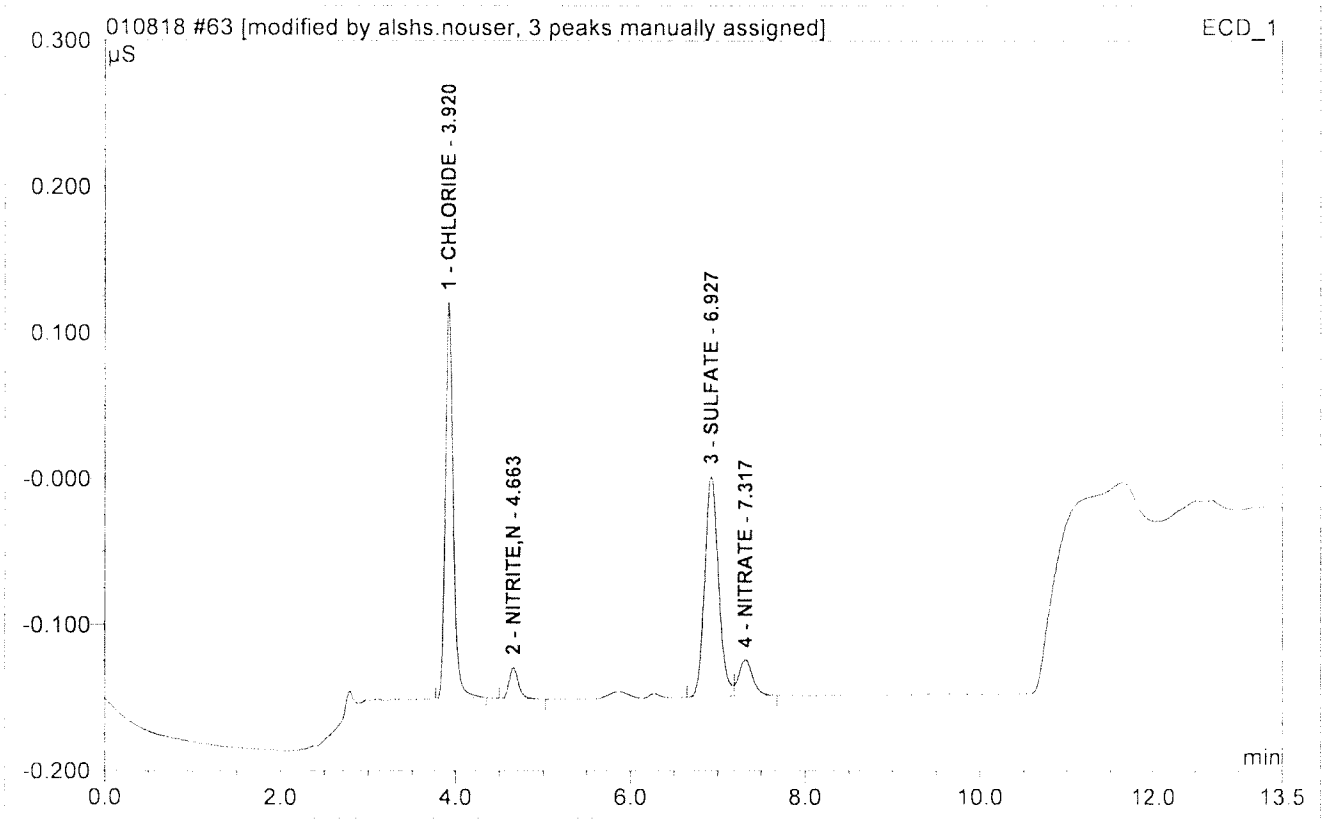
Sample Name:	**CCV1**	*Injection Volume:*	**10.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/9/2018 4:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.80	FLUORIDE	13.120	1.378	9.67	9.848	1
2	3.92	CHLORIDE	42.400	4.462	31.30	49.147	1
3	4.67	NITRITE,N	13.865	1.835	12.87	9.779	1
4	6.25	BROMIDE	2.450	0.351	2.46	9.596	1
5	6.85	SULFATE	16.803	3.243	22.75	49.824	1
6	7.26	NITRATE	11.857	2.253	15.81	10.087	1
7	11.41	PHOSPHATE	5.086	0.734	5.15	9.017	1
Total:			105.582	14.256	100.00	147.298	

63 CCB

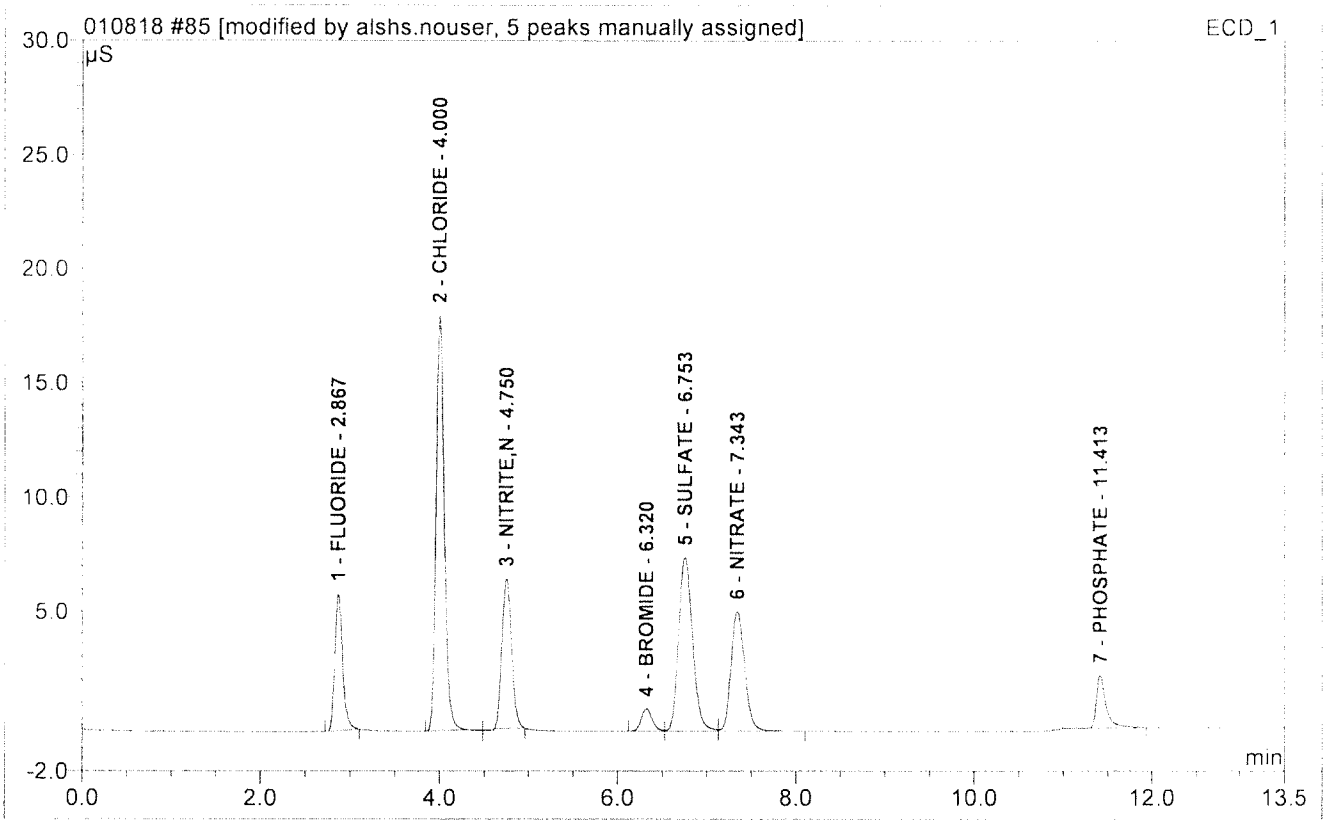
Sample Name:	**CCB**	*Injection Volume:*	**10.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/9/2018 4:26**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	3.92	CHLORIDE	0.271	0.028	44.82	0.469	1.
2	4.66	NITRITE,N	0.021	0.003	4.15	0.030	1.
3	6.93	SULFATE	0.151	0.028	43.88	0.585	1.
4	7.32	NITRATE	0.025	0.005	7.16	0.071	1.
Total:			0.468	0.063	100.00	1.155	

85 CCV

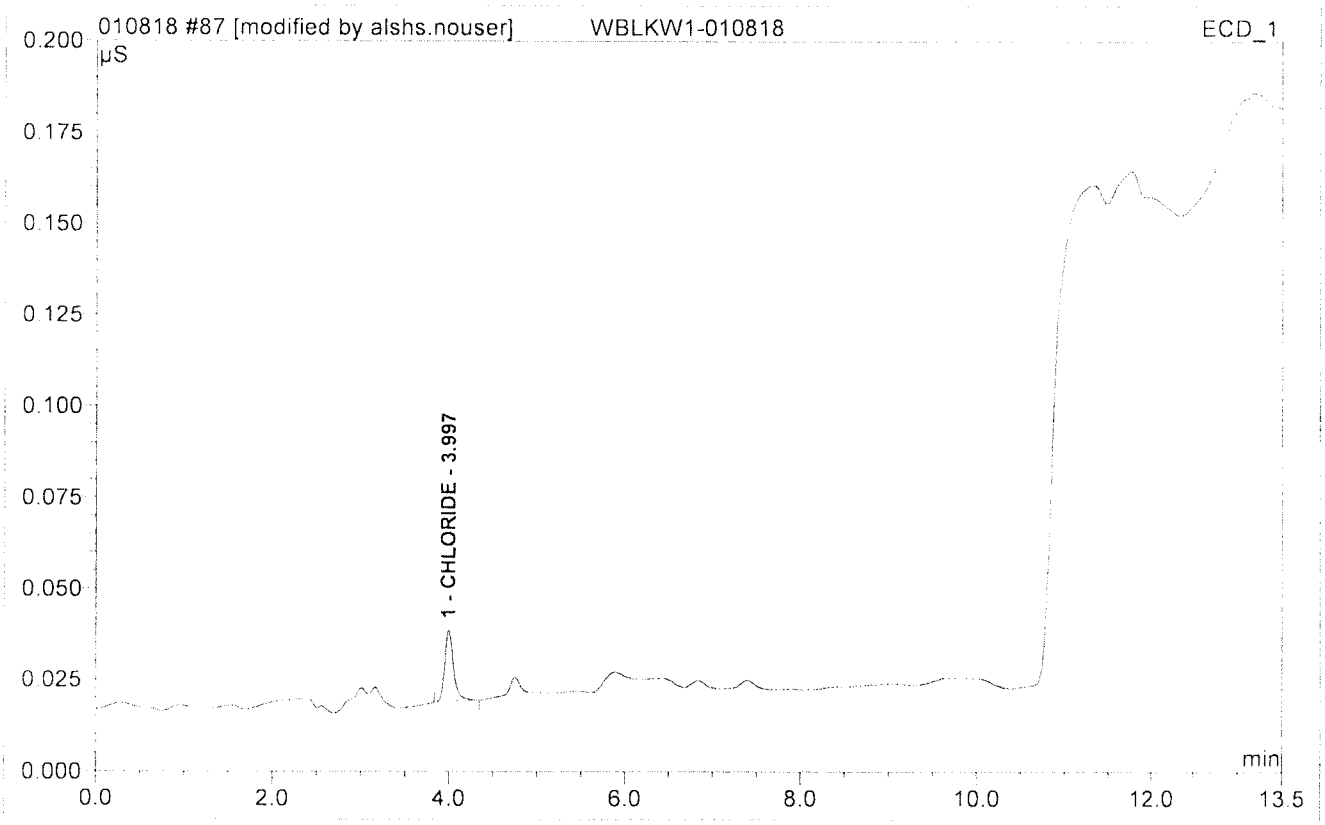
Sample Name:	**CCV**	*Injection Volume:*	**10.0**
Vial Number:	**1**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/9/2018 11:28**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.87	FLUORIDE	6.030	0.602	9.81	4.319	1
2	4.00	CHLORIDE	18.197	1.952	31.78	21.590	1
3	4.75	NITRITE,N	6.588	0.822	13.38	4.389	1
4	6.32	BROMIDE	0.989	0.141	2.29	3.881	1
5	6.75	SULFATE	7.634	1.395	22.72	21.523	1
6	7.34	NITRATE	5.258	0.933	15.19	4.207	1
7	11.41	PHOSPHATE	2.331	0.297	4.83	3.697	1
Total:			47.026	6.141	100.00	63.606	

87 WBLKW1-010818

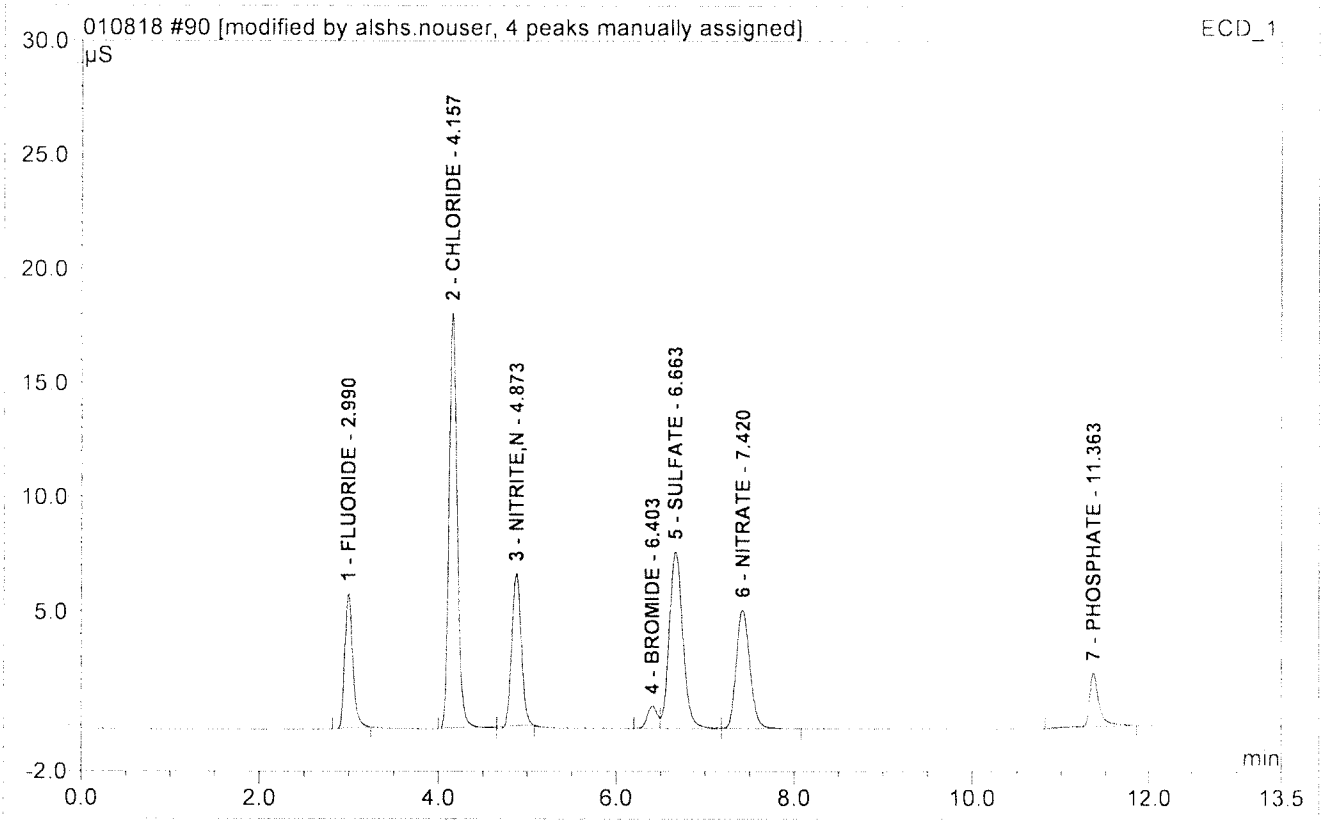
Sample Name:	**WBLKW1-010818**	*Injection Volume:*	**10.0**
Vial Number:	**28**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/9/2018 12:00**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	4.00	CHLORIDE	0.020	0.002	100.00	0.182	1
Total:			0.020	0.002	100.00	0.182	

90 CCV

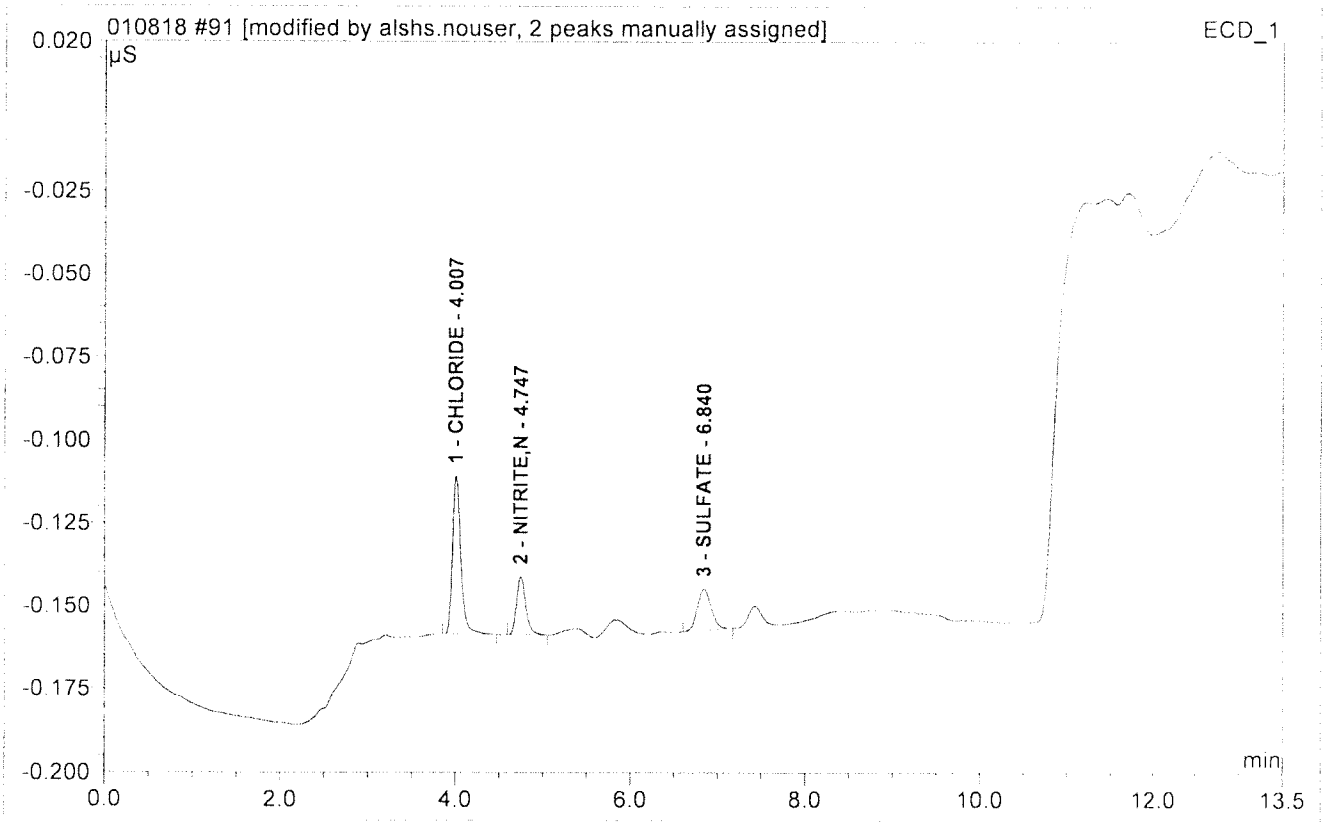
Sample Name:	**CCV**	*Injection Volume:*	**10.0**
Vial Number:	**1**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/9/2018 12:44**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.99	FLUORIDE	5.889	0.611	9.98	4.384	1.
2	4.16	CHLORIDE	18.188	1.925	31.43	21.295	1.
3	4.87	NITRITE,N	6.670	0.821	13.41	4.386	1.
4	6.40	BROMIDE	0.985	0.129	2.10	3.561	1.
5	6.66	SULFATE	7.742	1.391	22.71	21.456	1.
6	7.42	NITRATE	5.213	0.931	15.21	4.199	1.
7	11.36	PHOSPHATE	2.381	0.316	5.16	3.931	1.
Total:			47.067	6.124	100.00	63.212	

91 CCB

Sample Name:	**CCB**	*Injection Volume:*	**10.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/9/2018 12:58**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	4.01	CHLORIDE	0.048	0.005	53.98	0.215	1.
2	4.75	NITRITE,N	0.018	0.002	22.38	0.028	1.
3	6.84	SULFATE	0.012	0.002	23.64	0.195	1.
Total:			0.078	0.010	100.00	0.438	

HS1712116 8

ALS Laboratory Group — **COD Analysis** — **Logbook# 30513**

Method: HACH 8000 / EPA 410.4	Date: 01/03/18	Low COD–420nm	Analyst:
SOP #: HS-WC-025	Time: 4:55 pm	High COD–620nm	AJA

WO # / SX #	Bottle #	Init Sample Vol (mL)	Prep Final Volume (mL)	Dilution Factor	Init Conc. (mg/L)	Final Conc. (mg/L)	Comments
CCV-50	—	2	2	1	51		
BLK	—			1	2		
LCS	—			1	102		
HS1801005 4-02	1/1		10	5x	12		High Cl-
55-02				5x	15		High Cl-
62-02				5x	65		High COD
71-01			2	1	-1		
72-01			2	1	3		
108-01			4	2x	46		High Cl-
HS1712116 8-01			10	5x	21		
X 1 1169-01			10	5x	7		
CCV-100	—		2	1	106		
HS1801011 9-02	1/1		10	5x	66		High COD
HS1712128 6-01			4	2x	64 ~~46~~	128	High Cl-
1287-01				2x	78		High Cl-
1318-01			10	5x	25		QC Below High Cl-
1321-01			2	1	9		
1333-02			2	1	14		
1367-02		1	10	10x	26		High COD
1376-~~02~~-01		2	4	2x	~~24~~ 24		High Cl- OK
1378-01			10	5x	24		High Cl- 5x ✓
1318-01 DUP			10	5x	28		QC
CCV-50	—		2	1	51		
HS1712318-01 MS	1/1		10	5x	80		QC
HS1801005 6-08			10	5x	46		~~Ball~~ ✓
0056-11			2	1	198		
0080-01				1	-2		
CCV-100	—			1	102		

LCS ID #	CCV1 ID#	CCV2 ID#	Vial Lot#:	Reviewed By:
304-146-803	304-181-307	301-781-308	297-020-5018	
LCS Prep Date:	**Prep Date:**	**Prep Date:**	**MS ID:**	***Pipette ID:***
10/31/17	12/13/17	12/13/17	297-020-5222	WC9/UV3
Digestor ID:	***Digestor Temp (°C):***	**Date/Time In Digestor:**	**Date/Time Off Digestor:**	**Batch ID:**
DRB 200	150°	01/03/18 @ 1:00 pm	01/03/18 @ 3:00 pm	R# 308618 R# 308617

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HS17121168

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010818O&GWA

Method: O&G, HEM by EPA 1664A (SOP HS-WC036, Current Revision)

Analyst:	KAH
Review By:	
Batch ID:	
LCS/MS Spike ID:	2970203910
Hexane ID:	2970205417
Filter ID:	2970205422
Silica Gel:	

Methanol ID:	2970203606
1:1 H2SO4 ID:	304146707
Na2SO4 Cartridge ID:	2970205306
Thermo HotBlock Setting (°C):	41
pH Paper ID:	

Temp Ranges (°C)
Pan Drying: 105-115
Hex Evap: 68-72
HotBlock: 35-50

Pan	Temp Deg C	Actual Deg C	Date	Time
Pan 1st In:	105-115	105	01/05/2018	8:30AM
Pan 1st Out:	105-115	105	01/08/2018	9:00AM
Pan 2nd In:	105-115	105	01/08/2018	9:20AM
Pan 2nd Out:	105-115	105	01/08/2018	10:20AM
Pan 3rd In:	105-115			
Pan 3rd Out:	105-115			
Oven ID:				
Balance ID:				

O&G	Temp Deg C	Actual Deg C	Date	Time
O&G 1st In:	68-72	68	01/08/2018	11:00AM
O&G 1st Out:	68-72	68	01/08/2018	11:10AM
O&G 2nd In:	68-72	68	01/08/2018	11:40AM
O&G 2nd Out:	68-72	68	01/08/2018	11:50AM
O&G 3rd In:	68-72			
O&G 3rd Out:	68-72			
Oven ID:				
Balance ID:				

	grams	mg	Accept.
Init 2.0 mg wt (1.8mg to 2.2mg required):	0.0020	2.0	Yes
Init 1000 mg wt (995mg to 1005mg required):	1.0000	1000	Yes
Final 2.0 mg wt (1.8mg to 2.2mg required):	0.0020	2.0	Yes
Final 1000 mg wt (995mg to 1005mg required):	1.0000	1000	Yes

$$\text{O \& G (HEM), mg/L} = \frac{\text{Weight (HEM, mg)}}{\text{Volume (Sample Extracted, L)}}$$

Dish ID	Work Order #	Bottle Number	SGT	Sample Type	pH Check	1st Dry Pan Wt (g)	2nd Dry Pan Wt (g)	3rd Dry Pan Wt (g)	Passes Difference Criteria (Criteria: Change is <0.0005 g)	Passes % Weight Criteria (Criteria: Change is <4%)	Pan Weight (g)	Sample Vol (mL)	70 deg C O&G 1st dry Wt (g)	70 deg C O&G 2nd dry Wt (g)	70 deg C O&G 3rd dry Wt (g)	Passes Difference Criteria (Criteria: Change is <0.0005 g)	Passes % Weight Criteria (Criteria: Change is <4%)	O&G Weight (g)	O&G (mg/L)
1	HS17121405-01MS	2 of 2		MS	<2	6.4410	6.4409		Yes	Yes	6.4409	250	6.4498	6.4499		Yes	Yes	0.0090	36.0
2	WLCSW-010818	1 of 1		LCS	<2	6.4348	6.4345		Yes	Yes	6.4345	250	6.4451	6.4447		Yes	Yes	0.0102	40.8
3	WLCSDW-010818	1 of 1		LCSD	<2	6.4540	6.4541		Yes	Yes	6.4541	250	6.4639	6.4639		Yes	Yes	0.0098	39.2
4	WBLKW-010818	1 of 1		MBLK	<2	6.4627	6.4628		Yes	Yes	6.4628	250	6.4626	6.4627		Yes	Yes	-0.0001	-0.4
5	HS17121405-01	1 of 2		Sample	<2	6.3782	6.3783		Yes	Yes	6.3783	250	6.3785	6.3786		Yes	Yes	0.0003	1.2
6	HS17121423-01	1 of 2		Sample	<2	6.4638	6.4640		Yes	Yes	6.4640	250	6.4636	6.4639		Yes	Yes	-0.0001	-0.4
7	HS18010069-01	1 of 2		Sample	<2	6.4828	6.4828		Yes	Yes	6.4828	960	6.4825	6.4827		Yes	Yes	-0.0001	-0.1
8	HS18010073-01	1 of 2		Sample	<2	6.4425	6.4423		Yes	Yes	6.4423	960	6.4421	6.4422		Yes	Yes	-0.0001	-0.1
9	HS18010080-01	1 of 1		Sample	<2	6.4344	6.4344		Yes	Yes	6.4344	860	6.4340	6.4343		Yes	Yes	-0.0001	-0.1
10	HS17121143-02	1 of 2		Sample	<2	6.3264	6.3264		Yes	Yes	6.3264	250	6.3269	6.3265		Yes	Yes	0.0001	0.4
11	HS17121156-01	1 of 2		Sample	<2	6.4445	6.4444		Yes	Yes	6.4444	250	6.4444	6.4444		Yes	Yes	0.0000	0.0
12	HS17121156-02	1 of 2		Sample	<2	6.4103	6.4104		Yes	Yes	6.4104	250	6.4101	6.4104		Yes	Yes	0.0000	0.0
13	HS17121157-01	1 of 2		Sample	<2	6.5005	6.5002		Yes	Yes	6.5002	250	6.5020	6.5018		Yes	Yes	0.0016	6.4
14	HS17121163-02	1 of 1		Sample	<2	6.4682	6.4682		Yes	Yes	6.4682	250	6.4680	6.4681		Yes	Yes	-0.0001	-0.4
15	HS17121168-01	1 of 1		Sample	<2	6.3957	6.3959		Yes	Yes	6.3959	1000	6.3960	6.3959		Yes	Yes	0.0000	0.0
16	HS17121169-01	1 of 1		Sample	<2	6.4828	6.4828		Yes	Yes	6.4828	1000	6.4828	6.4827		Yes	Yes	-0.0001	-0.1
17	HS18010013-01	1 of 2		Sample	<2	6.4274	6.4275		Yes	Yes	6.4275	250	6.4271	6.4274		Yes	Yes	-0.0001	-0.4
18	HS18010014-01	1 of 2		Sample	<2	6.4205	6.4206		Yes	Yes	6.4206	250	6.4206	6.4206		Yes	Yes	0.0000	0.0
19	HS18010028-02	1 of 2		Sample	<2	6.4115	6.4114		Yes	Yes	6.4114	250	6.4116	6.4115		Yes	Yes	0.0001	0.4
20	HS17121206-02	1 of 2		Sample	<2	6.4632	6.4632		Yes	Yes	6.4632	250	6.4629	6.4631		Yes	Yes	-0.0001	-0.4
21	HS17121214-01	1 of 2		Sample	<2	6.4402	6.4402		Yes	Yes	6.4402	250	6.4422	6.4423		Yes	Yes	0.0021	8.4
22	HS17121411-02	1 of 2		Sample	<2	6.4515	6.4514		Yes	Yes	6.4514	250	6.4521	6.4521		Yes	Yes	0.0007	2.8
23	HS17121414-01	1 of 2		Sample	<2	6.4565	6.4566		Yes	Yes	6.4566	250	6.4570	6.4571		Yes	Yes	0.0005	2.0
24	HS18010055-01	1 of 2		Sample	<2	6.4436	6.4438		Yes	Yes	6.4438	250	6.4436	6.4437		Yes	Yes	-0.0001	-0.4

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Sub Contract Data

Bhate Environmental Associates, Inc.
Project: GROUNDWATER TREATMENT PLANT
QUARTERLY EFFLUENT SAMPLES
ALS WO# HS17121168

Case Narrative

Method: 6850
Analysis: Perchlorate
Analysis SOP: LC-MS-CLO4
ALS WO ID(s): 1735679; 1735681; 1735685; 1735689

Client: ALS Laboratories (Houston, TX)
Matrix: Water
ELMS Batch (HBN): 2023 (205839)

General Set Information: There were eleven 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 1735679001 was analyzed and reported at a 1:1,000 dilution. Samples 1735685001/02/03/08 were analyzed and reported at the following dilutions: 1:10,000/10,000/1,000/1,000. The reporting limits have been adjusted accordingly.

Method QC data: The method blank (LMB 581172) was less than 1/2 the CRDL. The recovery for the LCS (581173) was within acceptable parameters.

MS/MSD Analysis: The matrix spike and matrix spike duplicate (MS/MSD) was performed on sample 1735681001 (Client ID: LH18/24SP140_122017). The Matrix Spike (MS - 581367) failed QC acceptance criteria for percent recovery. The Relative Percent Difference (RPD) also failed QC criteria. The Matrix Spike and Matrix Spike duplicate is reported for the clients' information only. The sample matrix may be inappropriate for the

method selected.

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 28DECP03/11/12/17-19.

Thomas Bosch January 9, 2017
Date

ANALYTICAL REPORT

Report Date: January 10, 2018

Sonia West
ALS Environmental
10450 Stancliff Rd.
Suite 210
Houston, TX 77099

Phone: (281) 530-5656

E-mail: Sonia.West@alsglobal.com

Workorder: **34-1735689**
Project ID: HS17121168 122017
Purchase Order: HS17121168
Project Manager Kevin W. Griffiths

Client Sample ID	Lab ID	Collect Date	Receive Date	Sampling Site
LH18/24-SP650_122017	1735689001	12/20/17	12/22/17	

ANALYTICAL REPORT

Workorder: 34-1735689
Client: ALS Environmental (Houston)
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **LH18/24-SP650_122017**	Sampling Site: NA	Collected: 12/20/2017
Lab ID: 1735689001	Media: 125 mL Nalgene	Received: 12/22/2017
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/2023 (HBN: 205839)	**Percent Solid:** NA
	Analyzed: 12/28/2017 16:28	**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 01/08/2018 14:25	/S/ Stephen Brose 01/10/2018 12:01

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: 34-1735689
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: 34-1735689
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: 1735689

Limits:	Client SOW/Contract Specified	**Preparation:**	NA	**Analysis:**	EPA 6850
Basis:	DoD QSM	**Batch:**	NA	**Batch:**	ELMS/2023 (HBN: 205839)
		Prepared By:	NA	**Analyzed By:**	Thomas Bosch

Blank

LMB: 581172
Analyzed: 12/28/2017 11:50
Units: ug/L

Analyte	Result	MDL	RL
Perchlorate	ND	1	2.00

Laboratory Control Sample

LCS: 581173
Analyzed: 12/28/2017 12:09
Dilution: 1
Units: ug/L

Analyte	Result	Target	% Rec	QC Limits	
Perchlorate	5.27	5.00	105	78.8	123.8

Matrix Spike - Matrix Spike Duplicate

Sample:	1735681001	**MS:**	581367					**MSD:**	581368				
Analyzed:	12/28/2017 12:51	**Analyzed:**	12/28/2017 16:47					**Analyzed:**	12/28/2017 17:06				
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	6.42	5	#	128	78.8	123.8	4.97	99.4	#	25.4	0.0	20.0

Surrogate Recoveries

Surrogate	Perchlorate 89		
QC Limits			
Units			
Lab ID	**Result**	**Target**	**% Recovery**
581169-CCV	160000	0.100	* 160000000
581171-ICS	126000	0.100	* 126000000
581172-LMB	142000	0.100	* 142000000
1735679001	173000	0.100	* 173000000
1735681001	170000	0.100	* 170000000
1735685006	177000	0.100	* 177000000
1735685007	180000	0.100	* 180000000
1735685008	176000	0.100	* 176000000
581176-CCV	165000	0.100	* 165000000
1735689001	175000	0.100	* 175000000
1735685004	159000	0.100	* 159000000
1735685005	179000	0.100	* 179000000
581178-CCV	170000	0.100	* 170000000

Quality Control Sample Batch Report

Analysis Information

Workorder: 1735689

Limits:	Client SOW/Contract Specified	**Preparation:**	NA
Basis:	DoD QSM	**Batch:**	NA
		Prepared By:	NA
Analysis:	EPA 6850		
Batch:	ELMS/2023 (HBN: 205839)		
Analyzed By:	Thomas Bosch		

Continuing Calibration Verification

CCV:	581169			**CCV:**	581176			**CCV:**	581178		
Analyzed:	12/28/2017 10:52			**Analyzed:**	12/28/2017 15:44			**Analyzed:**	12/28/2017 18:04		
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	26.0	25.0	104	25.6	25.0	102		26.6	25.0	106

Interference Check Sample

ICSA:	581171		
Analyzed:	12/28/2017 11:30		
Units:	ug/L		
Criteria:	± 30%		
Analyte	**Result**	**Target**	**% Rec.**
Perchlorate	0.891	1.00	89.1

Limit of Detection Verification

LODV:	581170			**LODV:**	581177			**LODV:**	581179		
Analyzed:	12/28/2017 11:11			**Analyzed:**	12/28/2017 16:03			**Analyzed:**	12/28/2017 18:23		
Units:	ug/L			**Units:**	ug/L			**Units:**	ug/L		
Criteria:	± 50%			**Criteria:**	± 50%			**Criteria:**	± 50%		
Analyte	**Result**	**Target**	**% Rec.**	**Result**	**Target**	**% Rec.**		**Result**	**Target**	**% Rec.**
Perchlorate	1.16	0.100	*1160	1.14	0.100	* 1140		1.23	1.00	123

QC Report Authorization (/S/ is an electronic signature that complies with 21 CFR Part 11)

Analyst	Peer Review
/S/ Thomas Bosch	/S/ Stephen Brose
01/08/2018 14:25	01/10/2018 12:00

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

Subcontract Chain of Custody

COC ID: 8285

1735689

SUBCONTRACT TO: W 1735689

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:	HS17121168
TSR:	Danielle Winnings

	LAB SAMPLE ID / ANALYSIS REQUESTED	CLIENT SAMPLE ID	MATRIX	COLLECT DATE / DUE DATE
1.	**HS17121168-01**	**LH18/24-SP650_122017**	**Water**	**20 Dec 2017 14:00**
	SUB_Perch-6850			09 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 21, 2017 1800

Received By: _____ Date/Time: 12-22-17 11:37

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: 735689

Date/Time of Receipt: 12-22-17 11:37

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:	Cooler/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	C17-8133	5 °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: Jessica Davies (Signature) Jessica Davies (Printed Name) 12-22-17 (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: 21DEC17
ACTWGT: 18.15 LB
CAD: 300130/CAFE3108
DIMS: 19x16x13 IN

BILL SENDER

TO **KEVIN GRIFFITHS**
ALS ENVIRONMENTAL
960 W. LEVOY DRIVE

SALT LAKE CITY UT 84123
(801) 266-7700
REF: HS17121169/1168/1135/1113-SW

546C1/574C/53C1

FedEx Express

E

J171016102001uv

FRI - 22 DEC 3:00P
STANDARD OVERNIGHT

TRK# 0201 **7376 9751 3250**

XH BTFA

84123
UT-US **SLC**

ALS Environmental
CHAIN-OF-CUSTODY

Project / Job / Task: HS17121168	*Split:*	**Workorder ID:** 1735689	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	12/20/2017 14:00	LH18/24-SP650_122017	1735689001		Water	A	1	A
2								
3								
4								
5								
6								
7								
8								
9								
10								

629 of 741

ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Reason for Transfer / Storage Location
Warath, Julie	12/22/2017 11:37	ALS Sample Receiving	Sample Login
Julie Warath 12/22/17 1505		14C	Storage
T. Bush R.33.1	12.27.17 1700	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

00880219

Batch Worklist

Batch: ELMS/ 2023 **Created:** 12/27/2017 16:48 **Instrument:** **HBN:** 205839

Rule: EPA 6850, DoD QSM Water **Analyst:** T. Bosch **Status:** WP

Workorder: 1735679 [ENV_LVL4]
Workorder: 1735681 [ENV_LVL4]
Workorder: 1735685 [ENV_LVL4]
Workorder: 1735689 [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	581169	CCV for HBN 205839 [ELMS/2023]				CCV	3		E685041C3Q	5311		1/10/2018	
2	581170	LODV for HBN 205839 [ELMS/2023				LODV	3		E6850..D3Q	5311		1/10/2018	
3	581171	ICS for HBN 205839 [ELMS/2023]				ICS	3		E6850..D3Q	5311		1/10/2018	
4	581172	LMB for HBN 205839 [ELMS/2023]				LMB	3		E6850Q413Q	5311		1/10/2018	
5	581173	LCS for HBN 205839 [ELMS/2023]				LCS	3		E6850Q413Q	5311		1/10/2018	
6	1735679001	LH18/24-SP140_122017				SAMPLE	3	1735679001-A	E6850Q41.3	5480	1/17/2018	1/10/2018	
7	1735681001	LH18/24-SP650_122017				SAMPLE	3	1735681001-A	E6850Q41.3	5480	1/17/2018	1/10/2018	
8	581367	LH18/24-SP650...(1735681001MS)				MS	3		E6850Q413Q	5311		1/10/2018	
9	581368	LH18/24-SP65...(1735681001MSD)				MSD	3		E6850Q413Q	5311		1/10/2018	
10	1735685001	MW14_121817				SAMPLE	3	1735685001-A	E6850Q41.3	5480	1/15/2018	1/10/2018	
11	1735685002	MW14_121817_a				SAMPLE	3	1735685002-A	E6850Q41.3	5480	1/15/2018	1/10/2018	
12	1735685003	MW21_121817				SAMPLE	3	1735685003-A	E6850Q41.3	5480	1/15/2018	1/10/2018	
13	1735685004	MW22_121817				SAMPLE	3	1735685004-A	E6850Q41.3	5480	1/15/2018	1/10/2018	
14	1735685005	18CPTMW06_121817				SAMPLE	3	1735685005-A	E6850Q41.3	5480	1/15/2018	1/10/2018	
15	1735685006	18CPTMW06_121817_a				SAMPLE	3	1735685006-A	E6850Q41.3	5480	1/15/2018	1/10/2018	
16	1735685007	18CPTMW16_121817				SAMPLE	3	1735685007-A	E6850Q41.3	5480	1/15/2018	1/10/2018	
17	1735685008	AWD3_121817				SAMPLE	3	1735685008-A	E6850Q41.3	5480	1/15/2018	1/10/2018	
18	581176	CCV for HBN 205839 [ELMS/2023]				CCV	3		E685041C3Q	5311		1/10/2018	
19	581177	LODV for HBN 205839 [ELMS/2023				LODV	3		E6850..D3Q	5311		1/10/2018	
20	1735689001	LH18/24-SP650_122017				SAMPLE	3	1735689001-A	E6850Q41.3	5480	1/17/2018	1/10/2018	
21	581178	CCV for HBN 205839 [ELMS/2023]				CCV	3		E685041C3Q	5311		1/10/2018	
22	581179	LODV for HBN 205839 [ELMS/2023				LODV	3		E6850..D3Q	5311		1/10/2018	

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ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Analytical Documentation

ALS Work Order #'s & Sample #( )'s: 1735679 (001); 1735681 (001); 1735685 (00108); 1735689 (001)
ELMS Batch/HBN ID: 2023 (205839)
Prep Date: 12/28/2017 Analysis Date: 12/28/2017 Analyst: T. Bosch
Analyte: **Perchlorate** Matrix: **Water** Method: **6850**
Sequence:\\HPCHEM\1\SEQUENCE\CLO4\2017\DEC\28DEC17P. 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 581173; Target = 5.0µg/L. ASTM type II water was used for LMB 581172.

MS/MSD: MS/MSD was performed on sample 1735681001 (Client ID: LH18/24SP140_122017). 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 1735679001 was analyzed and reported at a 1:1,000 dilution. Samples 1735685001/02/03/08 were analyzed and reported at the following dilutions: 1:10,000/10,000/1,000/1,000. The reporting limits have been adjusted accordingly.
2) All QC, Blank, CCV, and MS/MSD results were within method parameters, except for the following. The Matrix Spike (MS - 581367) failed QC acceptance criteria for percent recovery. The Relative Percent Difference (RPD) also failed QC criteria. The Matrix Spike and Matrix Spike duplicate is reported for the clients' information only. The sample matrix may be inappropriate for the method selected.
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 28DECP03/11/12/17/18.
5) Notebook: \\alsltws013\ORGANIC\BOSCH\LCMS\Perchlorates\Waters\2017\CLO4-205839-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	Created By: T. Bosch	Amount: 10 mL
MFG: ALS/SLC	Create Date: 05/10/2017	Expires: 05/10/2018
MFG Lot: TNB: 05/10/17	Lab Lot: CLO4 WRK	Usable: Yes
Part ID:		

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	Created By: T. Bosch	Amount: 100 mL
MFG: AccuStandard	Create Date: 5/10/2017	Expires: 10/4/2018
MFG Lot: 216095148	Lab Lot: CLO4 STOCK	Usable: Yes
Part ID: IC-PER-10X-1		

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	Created By: T. Bosch	Amount: 10 mL
MFG: ALS/SLC	Create Date: 05/10/2017	Expires: 05/10/2018
MFG Lot: TNB: 05/10/17	Lab Lot: CLO4 INT	Usable: Yes
Part ID:		

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 | Created By: T. Bosch | Amount: 10 mL
MFG: ALS/SLC | Create Date: 05/11/2017 | Expires: 05/11/2018
MFG Lot: TNB: 05/11/2017 | Lab Lot: CLO4 QC INT 10.ug/mL | Usable: Yes
Part ID:

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	Created By:	T. Bosch	Amount:	100 mL
MFG:	Ultra Scientific	Create Date:	5/11/2017	Expires:	3/31/2020
MFG Lot:	CP-0860	Lab Lot:	CLO4 QC STOCK	Usable:	Yes
Part ID:	ICC-013				

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 17025 • ISO GUIDE 34 • ISO 9001

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

ALS

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

TRIPLE ISO CERTIFICATION ULTRA ISO 9001 • ISO GUIDE 34 • ISO/IEC 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

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

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ALS

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

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\28DEC17D\28DEC17D.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
*	581169 CCV@25	Vial 71	1	Control	1	1.01859e6	12.182	25.96141
*	581170 LODV@1.	Vial 72	1	Control	2	4.43782e4	12.318	1.16307
*	581171 ICS@1.	Vial 73	1	Control	3	2.36682e4	11.986	8.90663e-1
*	581172 LMB	Vial 74	1	Control	4	0.00000	0.000	0.00000
*	581173 LCS@5.	Vial 75	1	Control	5	1.94810e5	12.377	5.27149
*	1735679001 1K	Vial 76	1	Sample	6	3.15673e5	12.413	8119.23601
*	1735681001	Vial 77	1	Sample	7	0.00000	0.000	0.00000
*	1735685001 10K	Vial 78	1	Sample	8	6.12244e5	12.412	1.52642e5
*	1735685002 10K	Vial 79	1	Sample	9	5.86286e5	12.424	1.45162e5
*	1735685003 1K	Vial 80	1	Sample	10	8.58552e5	12.416	2.14594e4
*	1735685004 100	Vial 81	1	Sample	11	2.15054e4	12.400	58.09091
*	1735685005 100	Vial 82	1	Sample	12	4777.41943	12.440	15.63459
*	1735685006	Vial 83	1	Sample	13	3.50391e4	11.899	9.39453e-1
*	1735685007	Vial 84	1	Sample	14	0.00000	0.000	0.00000
*	1735685008 1K	Vial 85	1	Sample	15	3.50228e5	12.396	8838.83797
*	581176 CCV@25	Vial 71	1	Control	16	1.03216e6	12.243	25.58790
*	581177 LODV@1.	Vial 72	1	Control	17	4.46104e4	12.365	1.14067
*	1735689001	Vial 86	1	Sample	18	2.43839e4	11.970	6.69783e-1
*	581367 356811S	Vial 87	1	Sample	19	1.86974e5	12.011	6.41601
*	581368 356811D	Vial 88	1	Sample	20	1.82162e5	12.009	4.96862
*	1735685004	Vial 89	1	Sample	21	1.65326e6	11.810	39.73792
*	1735685005	Vial 90	1	Sample	22	6.82111e4	12.029	1.77732
*	581178 CCV@25	Vial 71	1	Control	23	1.10850e6	12.340	26.55255
*	581179 LODV@1.	Vial 72	1	Control	24	5.07547e4	12.522	1.22551

#*	Sample	Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
*	581169 CCV@25	Vial 71	1	Control	1	3.15397e5	12.200	25.52114
*	581170 LODV@1.	Vial 72	1	Control	2	1.58993e4	12.318	1.06485
*	581171 ICS@1.	Vial 73	1	Control	3	7909.42334	11.994	6.95976e-1
*	581172 LMB	Vial 74	1	Control	4	0.00000	0.000	0.00000
*	581173 LCS@5.	Vial 75	1	Control	5	6.43923e4	12.394	5.22105
*	1735679001 1K	Vial 76	1	Sample	6	1.05967e5	12.424	8316.16801
*	1735681001	Vial 77	1	Sample	7	0.00000	0.000	0.00000
*	1735685001 10K	Vial 78	1	Sample	8	2.00772e5	12.423	1.55841e5
*	1735685002 10K	Vial 79	1	Sample	9	1.93899e5	12.438	1.49200e5
*	1735685003 1K	Vial 80	1	Sample	10	2.70354e5	12.429	2.12978e4
*	1735685004 100	Vial 81	1	Sample	11	7779.59229	12.397	42.10595
*	1735685005 100	Vial 82	1	Sample	12	1968.70264	12.453	0.00000
*	1735685006	Vial 83	1	Sample	13	1.48166e4	11.927	9.98323e-1
*	1735685007	Vial 84	1	Sample	14	0.00000	0.000	0.00000
*	1735685008 1K	Vial 85	1	Sample	15	1.15251e5	12.413	8903.21632
*	581176 CCV@25	Vial 71	1	Control	16	3.24643e5	12.259	25.50704
*	581177 LODV@1.	Vial 72	1	Control	17	1.30513e4	12.396	8.12346e-1
*	1735689001	Vial 86	1	Sample	18	8719.61621	12.011	5.12863e-1
*	581367 356811S	Vial 87	1	Sample	19	6.47928e4	12.018	6.72389
*	581368 356811D	Vial 88	1	Sample	20	6.39179e4	12.026	5.21417
*	1735685004	Vial 89	1	Sample	21	5.33653e5	11.825	41.11392
*	1735685005	Vial 90	1	Sample	22	2.47354e4	12.040	1.77469
*	581178 CCV@25	Vial 71	1	Control	23	3.53710e5	12.359	26.85149
*	581179 LODV@1.	Vial 72	1	Control	24	1.76874e4	12.520	1.09818

#*	Sample	Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
*	581169 CCV@25	Vial 71	1	Control	1	1.60075e5	12.205	5.00000
*	581170 LODV@1.	Vial 72	1	Control	2	1.79761e5	12.329	5.00000
*	581171 ICS@1.	Vial 73	1	Control	3	1.26200e5	12.010	5.00000
*	581172 LMB	Vial 74	1	Control	4	1.41507e5	12.370	5.00000

Batch Report: C:\HPCHEM\1\DATA\28DEC17D\28DEC17D.B

#*	Sample	Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
*	581173	LCS@5.	Vial 75	1	Control	5	1.67600e5	12.393	5.00000
*	1735679001	1K	Vial 76	1	Sample	6	1.73474e5	12.435	5000.00000
*		1735681001	Vial 77	1	Sample	7	1.69952e5	12.021	5.00000
*	1735685001	10K	Vial 78	1	Sample	8	1.72405e5	12.435	5.00000e4
*	1735685002	10K	Vial 79	1	Sample	9	1.74260e5	12.443	5.00000e4
*	1735685003	1K	Vial 80	1	Sample	10	1.66785e5	12.435	5000.00000
*	1735685004	100	Vial 81	1	Sample	11	1.78776e5	12.412	500.00000
*	1735685005	100	Vial 82	1	Sample	12	1.67796e5	12.419	500.00000
*		1735685006	Vial 83	1	Sample	13	1.76823e5	11.925	5.00000
*		1735685007	Vial 84	1	Sample	14	1.79543e5	12.105	5.00000
*	1735685008	1K	Vial 85	1	Sample	15	1.76102e5	12.410	5000.00000
*	581176	CCV@25	Vial 71	1	Control	16	1.64866e5	12.271	5.00000
*	581177	LODV@1.	Vial 72	1	Control	17	1.84350e5	12.394	5.00000
*		1735689001	Vial 86	1	Sample	18	1.74712e5	12.004	5.00000
*	581367	356811S	Vial 87	1	Sample	19	1.31274e5	12.027	5.00000
*	581368	356811D	Vial 88	1	Sample	20	1.66581e5	12.035	5.00000
*		1735685004	Vial 89	1	Sample	21	1.59385e5	11.831	5.00000
*		1735685005	Vial 90	1	Sample	22	1.78902e5	12.046	5.00000
*	581178	CCV@25	Vial 71	1	Control	23	1.69852e5	12.361	5.00000
*	581179	LODV@1.	Vial 72	1	Control	24	1.94839e5	12.543	5.00000

*** End of Report ***

Sequence: C:\HPCHEM\1\SEQUENCE\CLO4\2017\DEC\28DEC17D.S

Sequence Table:

Method and Injection Info Part:

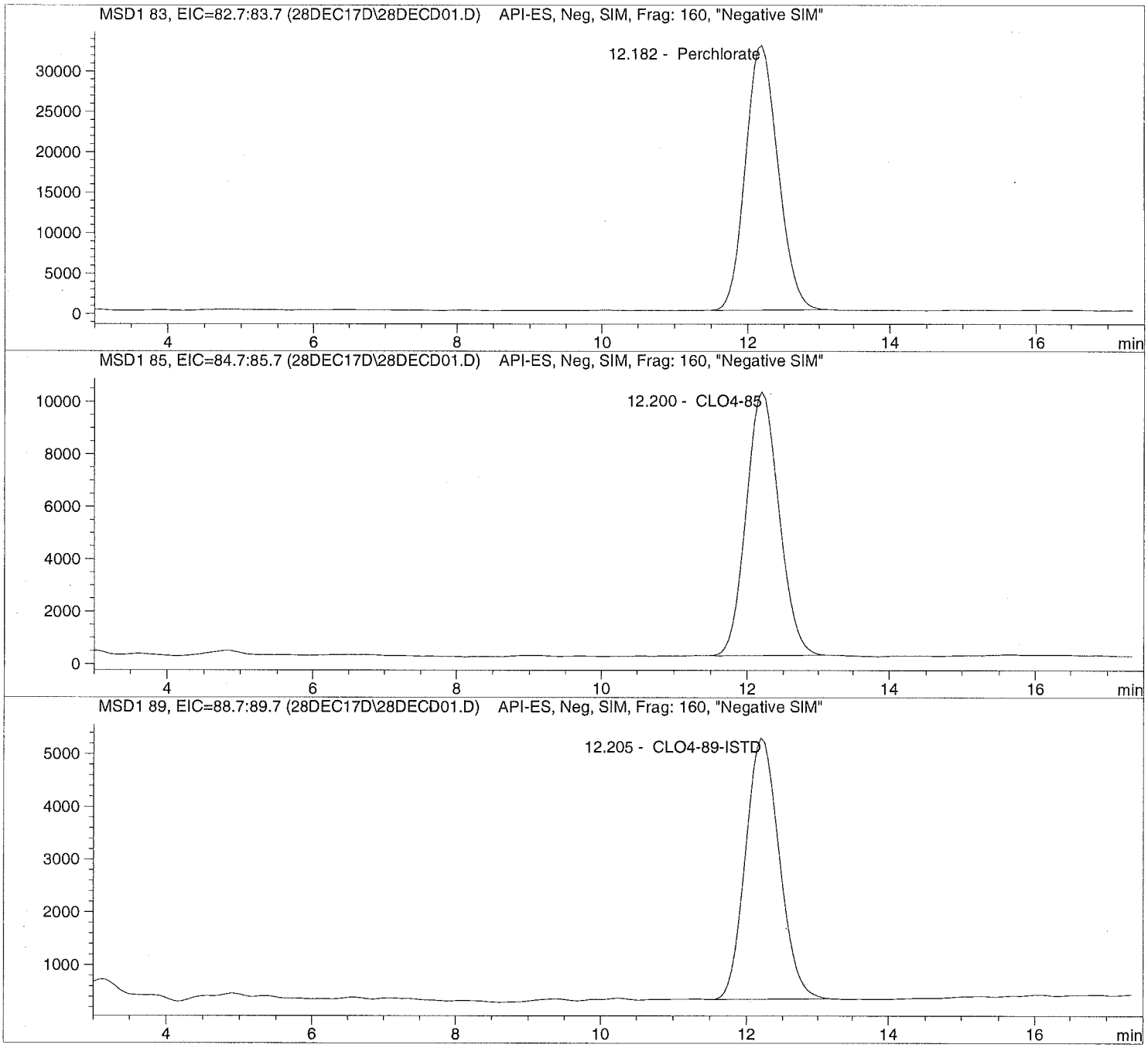
Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	581169 CCV@25	CLO4-DOD	1	Ctrl Samp		
2	Vial 72	581170 LODV@1.	CLO4-DOD	1	Ctrl Samp		
3	Vial 73	581171 ICS@1.	CLO4-DOD	1	Ctrl Samp		
4	Vial 74	581172 LMB	CLO4-DOD	1	Ctrl Samp		
5	Vial 75	581173 LCS@5.	CLO4-DOD	1	Ctrl Samp		
6	Vial 76	1735679001 1K	CLO4-DOD	1	Sample		
7	Vial 77	1735681001	CLO4-DOD	1	Sample		
8	Vial 78	1735685001 10K	CLO4-DOD	1	Sample		
9	Vial 79	1735685002 10K	CLO4-DOD	1	Sample		
10	Vial 80	1735685003 1K	CLO4-DOD	1	Sample		
11	Vial 81	1735685004 100	CLO4-DOD	1	Sample		
12	Vial 82	1735685005 100	CLO4-DOD	1	Sample		
13	Vial 83	1735685006	CLO4-DOD	1	Sample		
14	Vial 84	1735685007	CLO4-DOD	1	Sample		
15	Vial 85	1735685008 1K	CLO4-DOD	1	Sample		
16	Vial 71	581176 CCV@25	CLO4-DOD	1	Ctrl Samp		
17	Vial 72	581177 LODV@1.	CLO4-DOD	1	Ctrl Samp		
18	Vial 86	1735689001	CLO4-DOD	1	Sample		
19	Vial 87	581367 356811S	CLO4-DOD	1	Sample		
20	Vial 88	581368 356811D	CLO4-DOD	1	Sample		
21	Vial 89	1735685004	CLO4-DOD	1	Sample		
22	Vial 90	1735685005	CLO4-DOD	1	Sample		
23	Vial 71	581178 CCV@25	CLO4-DOD	1	Ctrl Samp		
24	Vial 72	581179 LODV@1.	CLO4-DOD	1	Ctrl Samp		

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD01.D Sample Name: 581169 CCV@25

Injection Date:	12/28/2017 10:52:30	Seq Line:	1
Sample Name:	581169 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\28DEC17D\28DECD01.D Sample Name: 581169 CCV@25

Injection Date:	12/28/2017 10:52:30	Seq Line:	1
Sample Name:	581169 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
12.182	BBA	1018588.3	25.9614	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.200	BBA	315397.3	25.5211	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.205	PBA	160074.8	5.0000	CLO4-89-ISTD

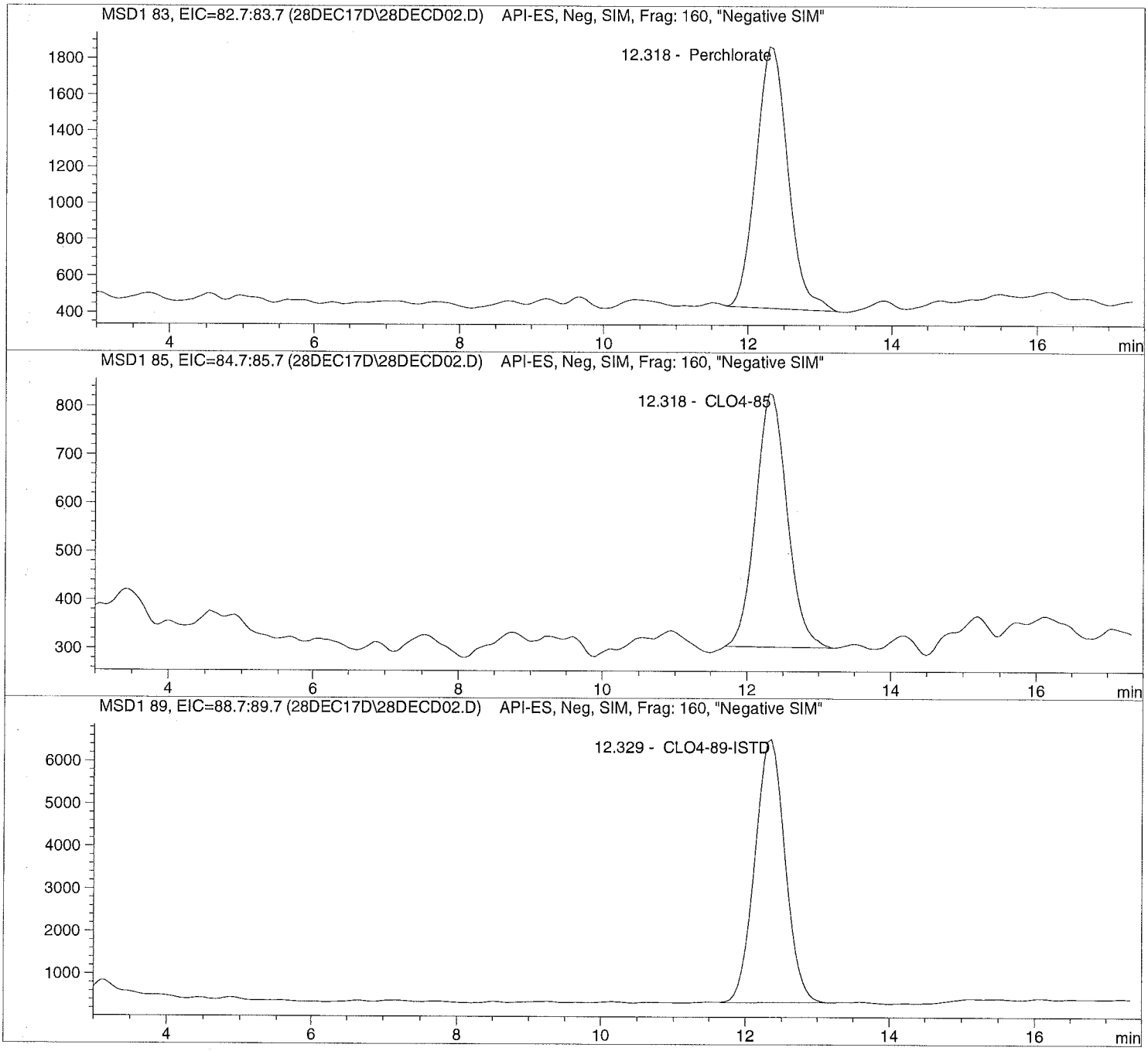
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD02.D Sample Name: 581170 LODV@1.

Injection Date:	12/28/2017 11:11:38	Seq Line:	2
Sample Name:	581170 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\28DEC17D\28DECD02.D Sample Name: 581170 LODV@1.

Injection Date:	12/28/2017 11:11:38	Seq Line:	2
Sample Name:	581170 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
12.318	BBA	44378.2	1.1631	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.318	PBA	15899.3	1.0648	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.329	BBA	179761.5	5.0000	CLO4-89-ISTD

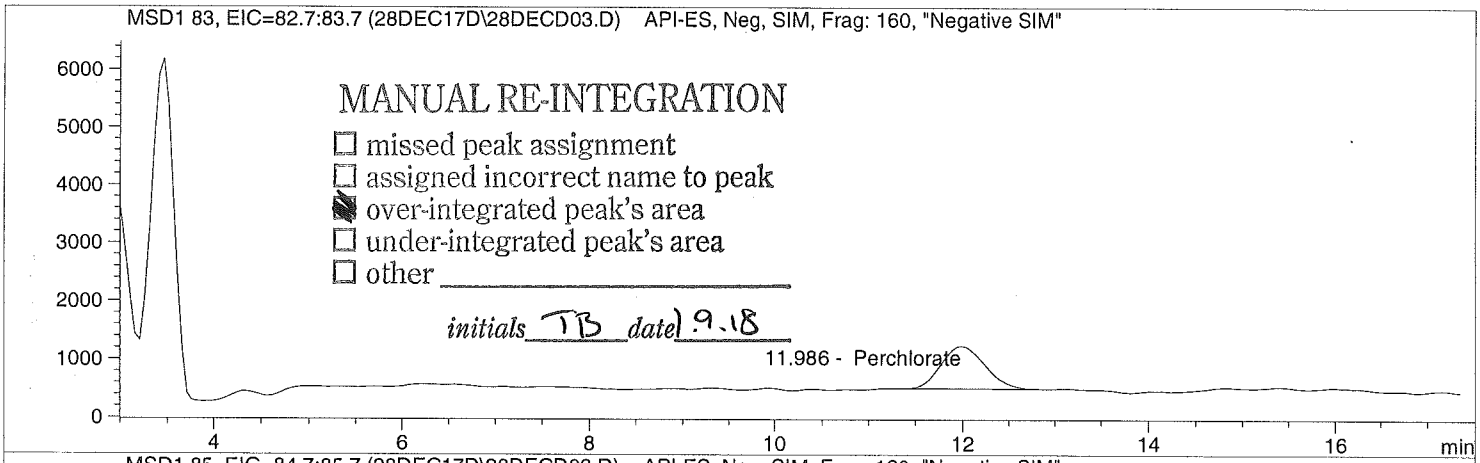
*** End of Report ***

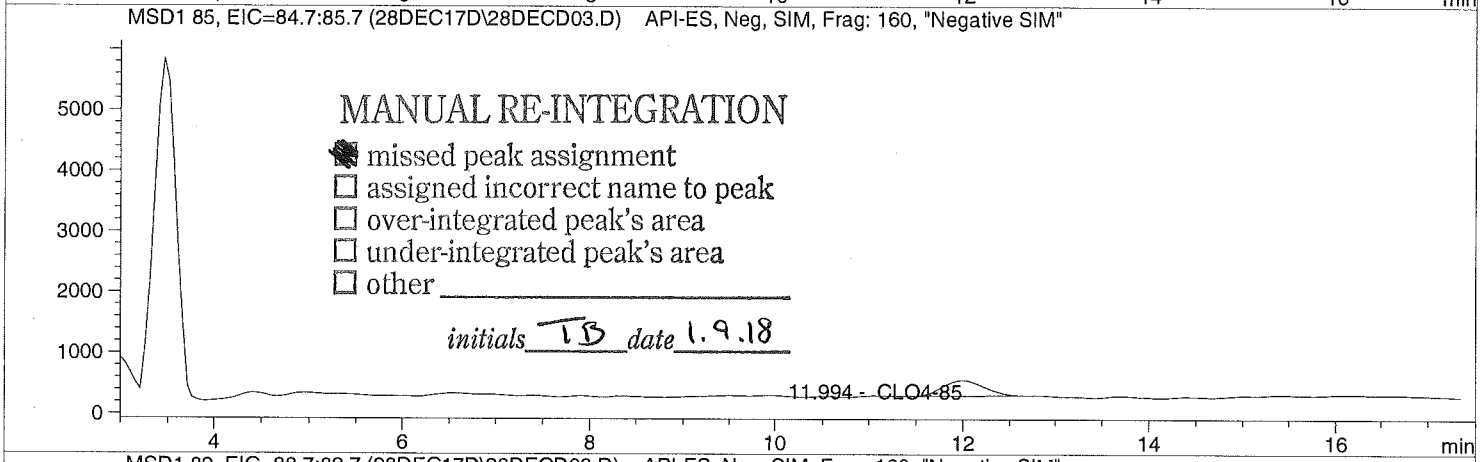
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD03.D Sample Name: 581171 ICS@1.

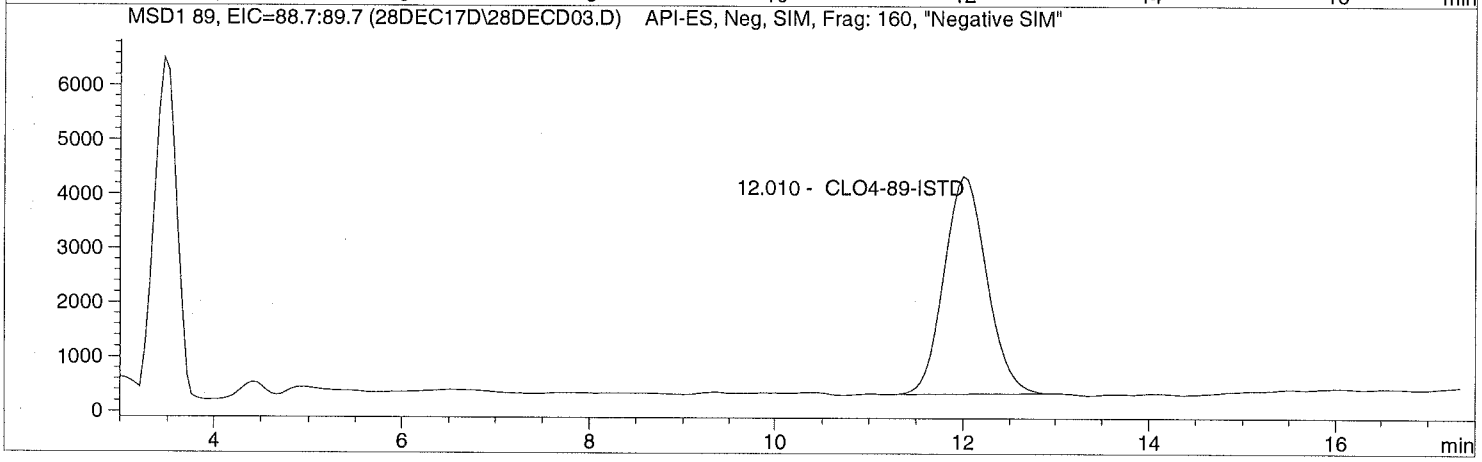
Injection Date:	12/28/2017 11:30:49	Seq Line:	3
Sample Name:	581171 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD03.D Sample Name: 581171 ICS@1.

Injection Date:	12/28/2017 11:30:49	Seq Line:	3
Sample Name:	581171 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
11.986	MM	23668.2	0.8907	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.994	MM	7909.4	0.6960	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.010	PBA	126199.8	5.0000	CLO4-89-ISTD

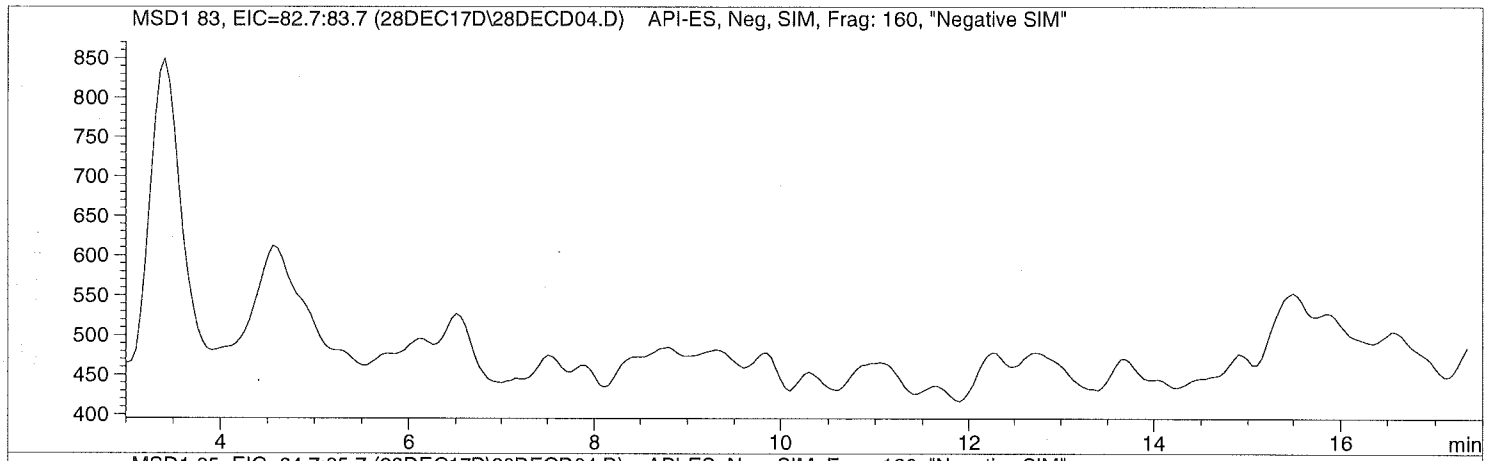
*** End of Report ***

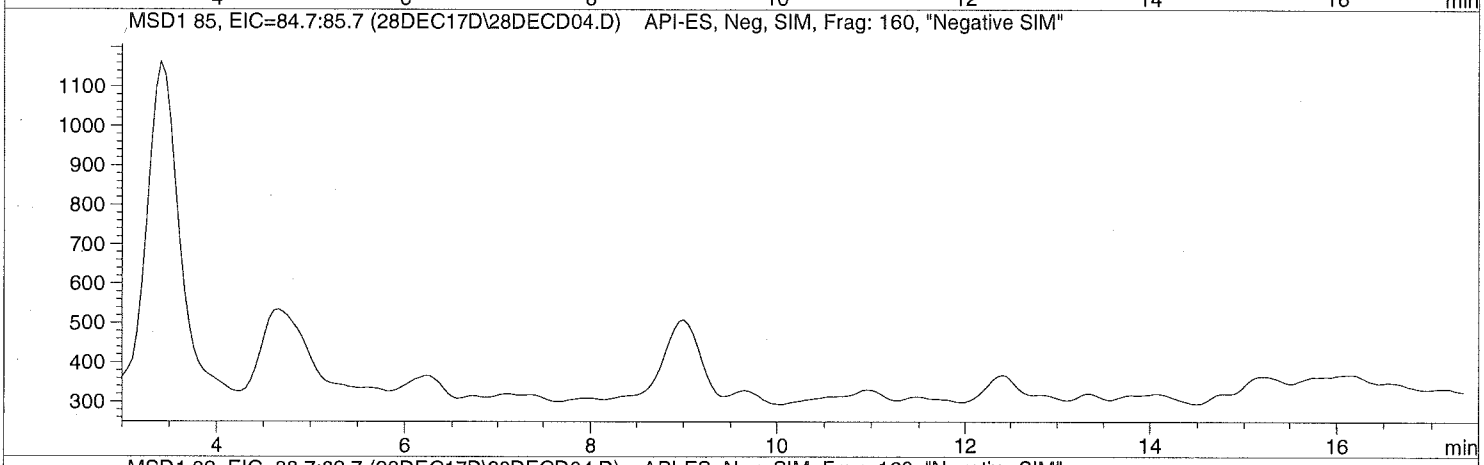
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD04.D Sample Name: 581172 LMB

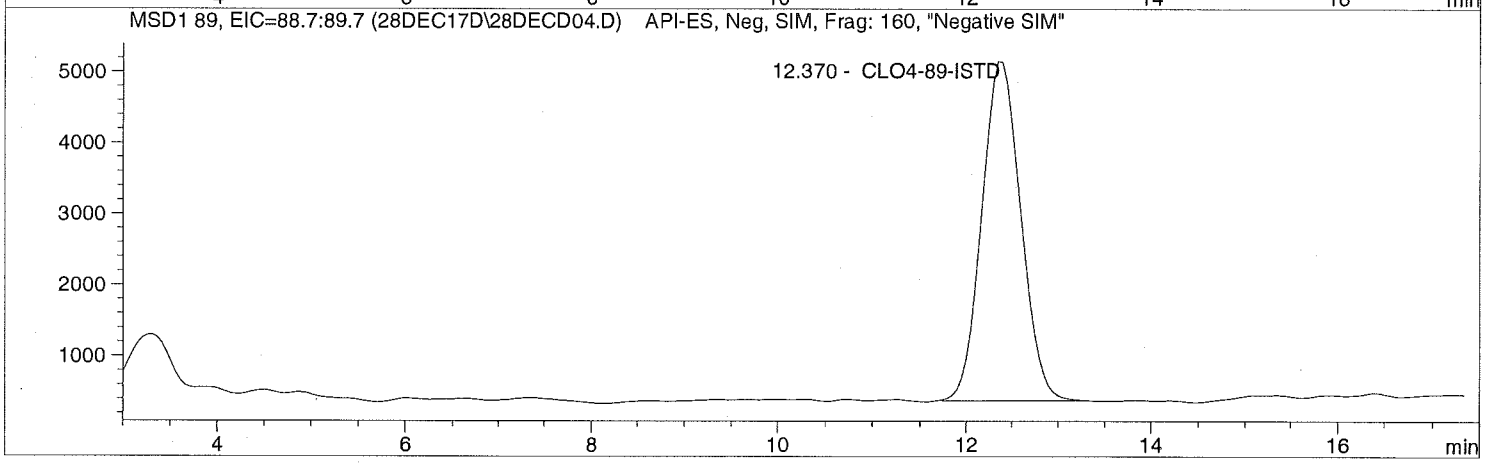
Injection Date:	12/28/2017 11:50:02	Seq Line:	4
Sample Name:	581172 LMB	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD04.D Sample Name: 581172 LMB

Injection Date:	12/28/2017 11:50:02	Seq Line:	4
Sample Name:	581172 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
12.370	BBA	141506.7	5.0000	CLO4-89-ISTD

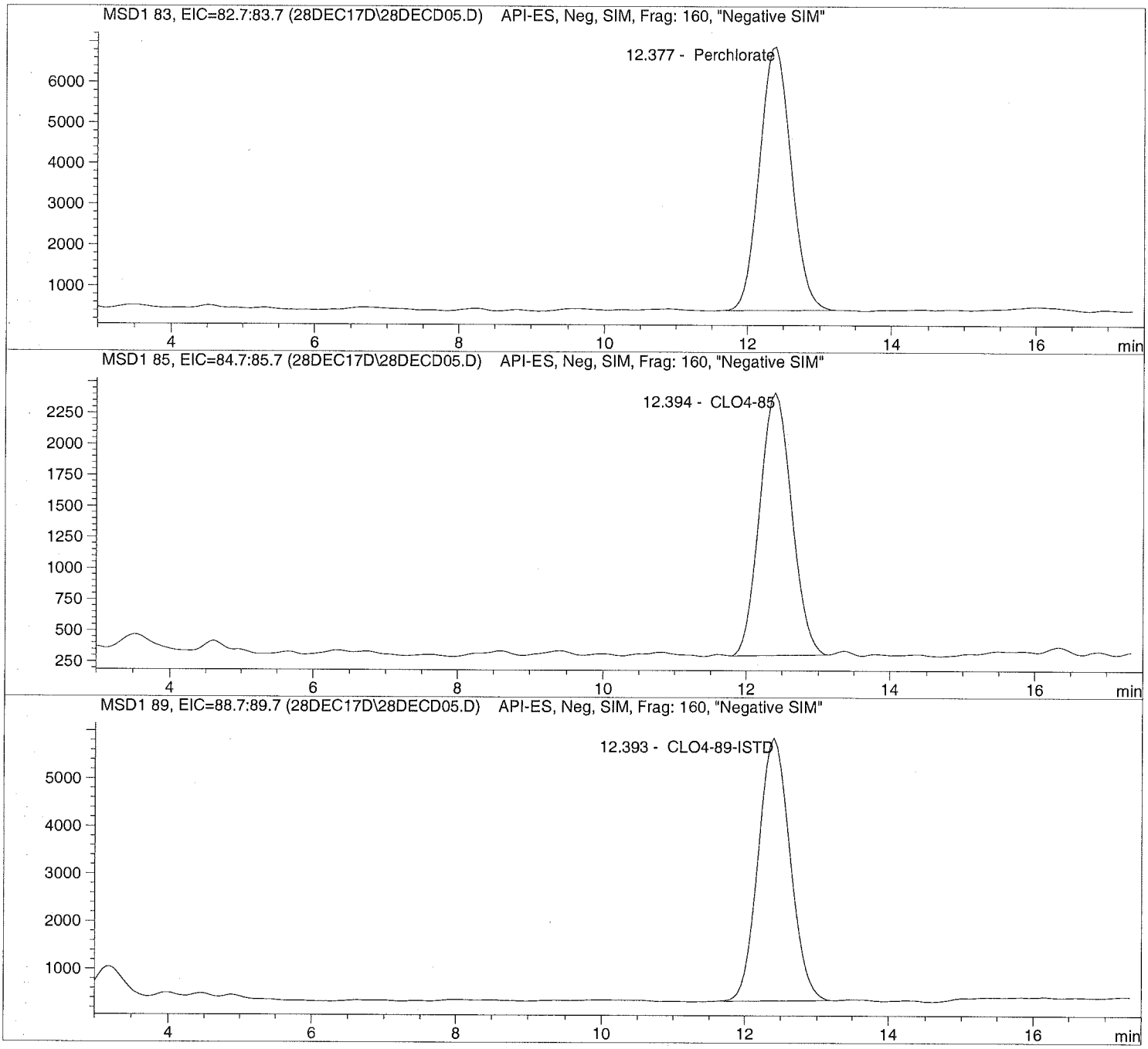
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD05.D Sample Name: 581173 LCS@5.

Injection Date:	12/28/2017 12:09:10	Seq Line:	5
Sample Name:	581173 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\28DEC17D\28DECD05.D Sample Name: 581173 LCS@5.

Injection Date:	12/28/2017 12:09:10	Seq Line:	5
Sample Name:	581173 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
12.377	PBA	194809.6	5.2715	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.394	PBA	64392.3	5.2210	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.393	BBA	167599.8	5.0000	CLO4-89-ISTD

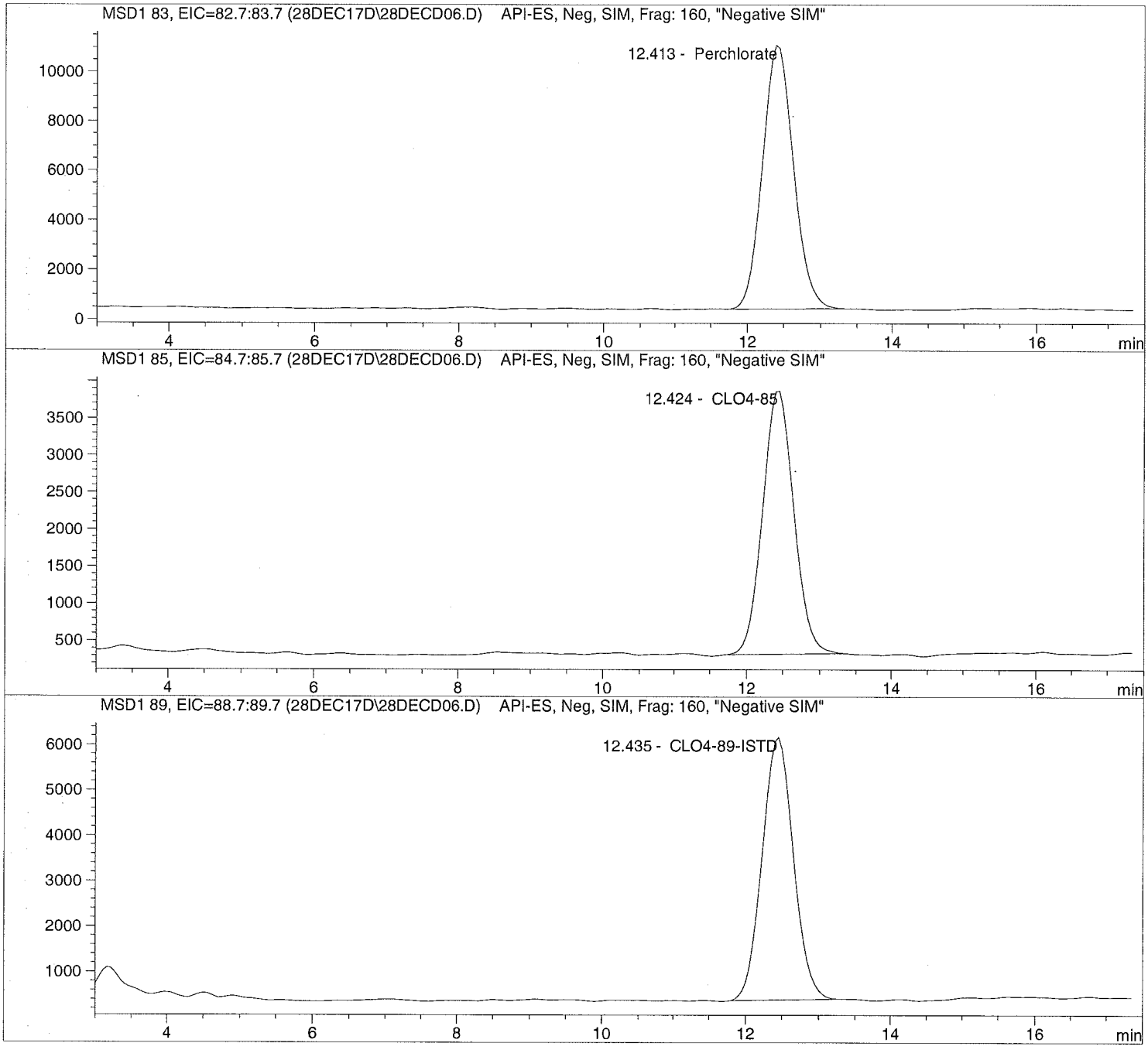
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD06.D Sample Name: 1735679001 1K

Injection Date:	12/28/2017 12:32:48	Seq Line:	6
Sample Name:	1735679001 1K	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\28DEC17D\28DECD06.D Sample Name: 1735679001 1K

Injection Date:	12/28/2017 12:32:48	Seq Line:	6
Sample Name:	1735679001 1K	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:	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
12.413	PBA	315672.6	8119.2360	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.424	BBA	105966.7	8316.1680	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.435	PBA	173474.0	5000.0000	CLO4-89-ISTD

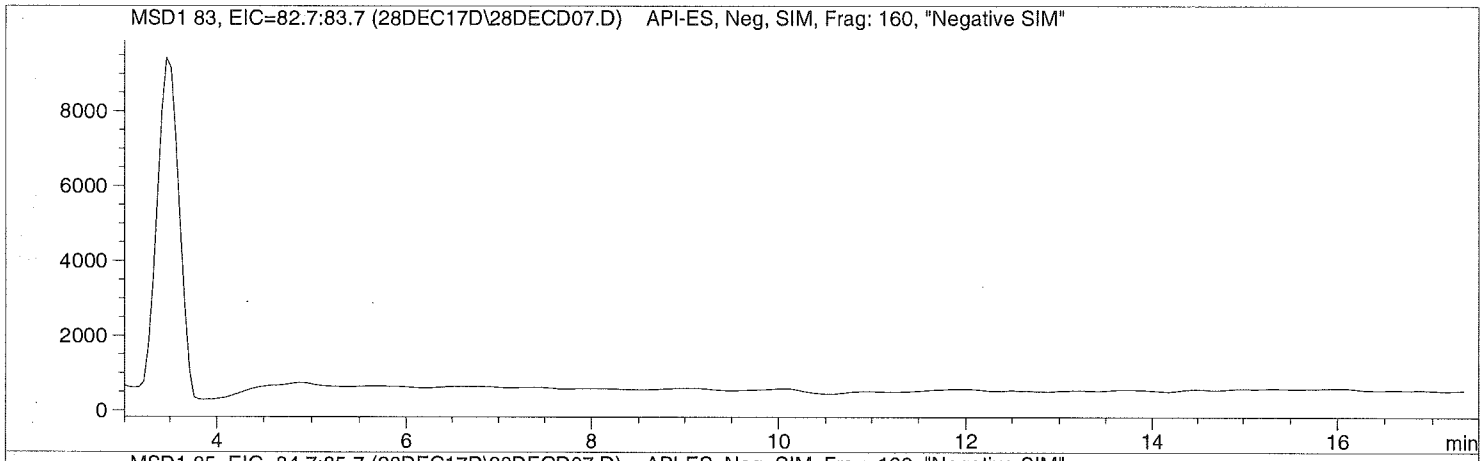
*** End of Report ***

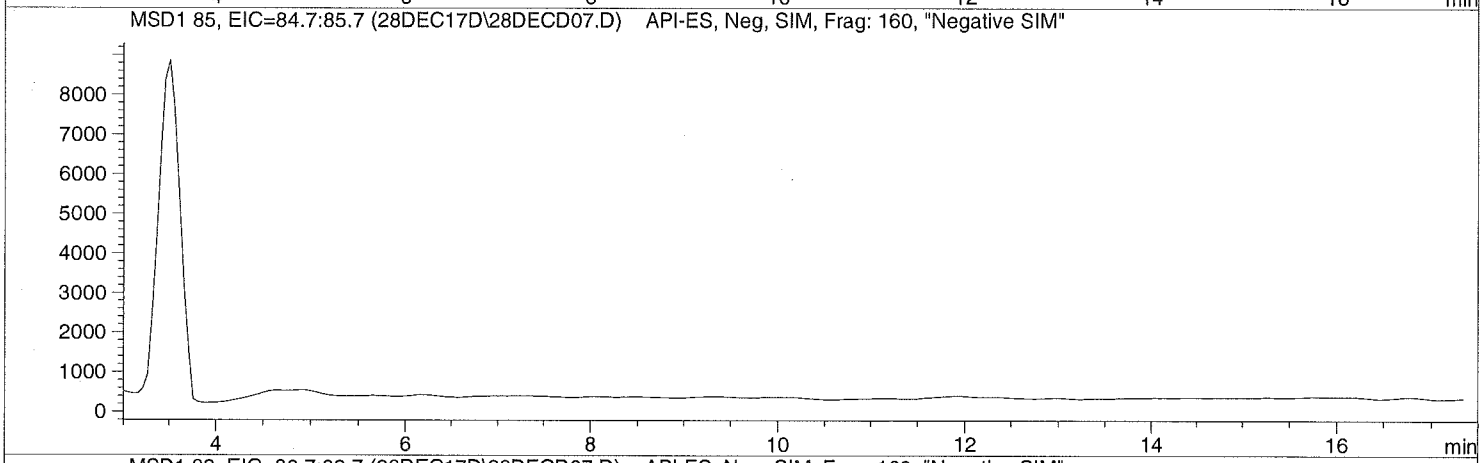
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD07.D Sample Name: 1735681001

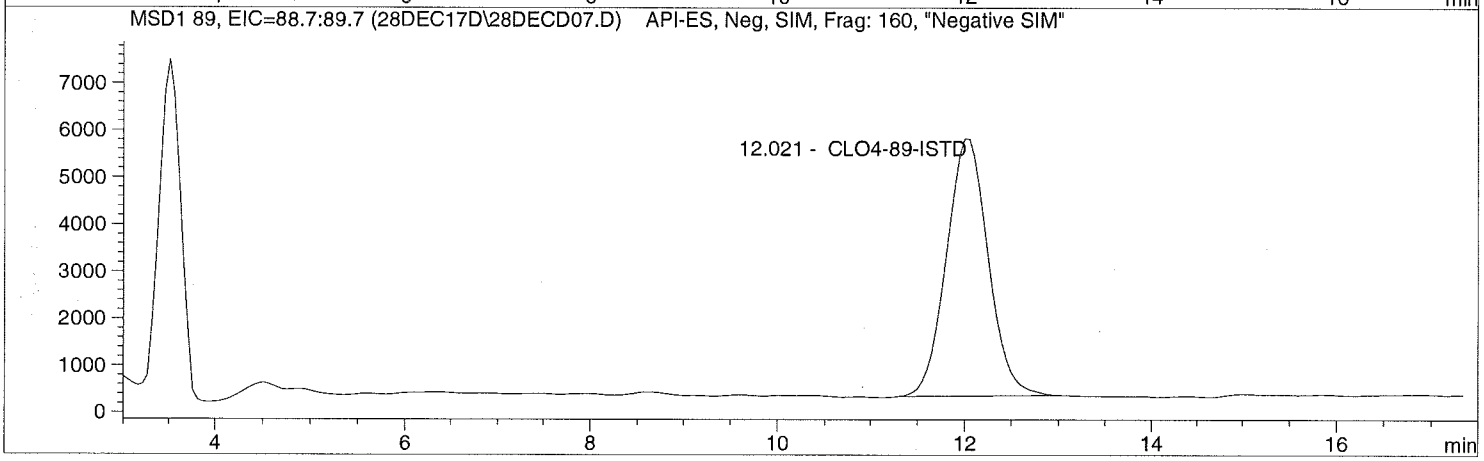
Injection Date:	12/28/2017 12:51:58	Seq Line:	7
Sample Name:	1735681001	Location:	Vial 77
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD07.D Sample Name: 1735681001

Injection Date:	12/28/2017 12:51:58	Seq Line:	7
Sample Name:	1735681001	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
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
12.021	PBA	169952.1	5.0000	CLO4-89-ISTD

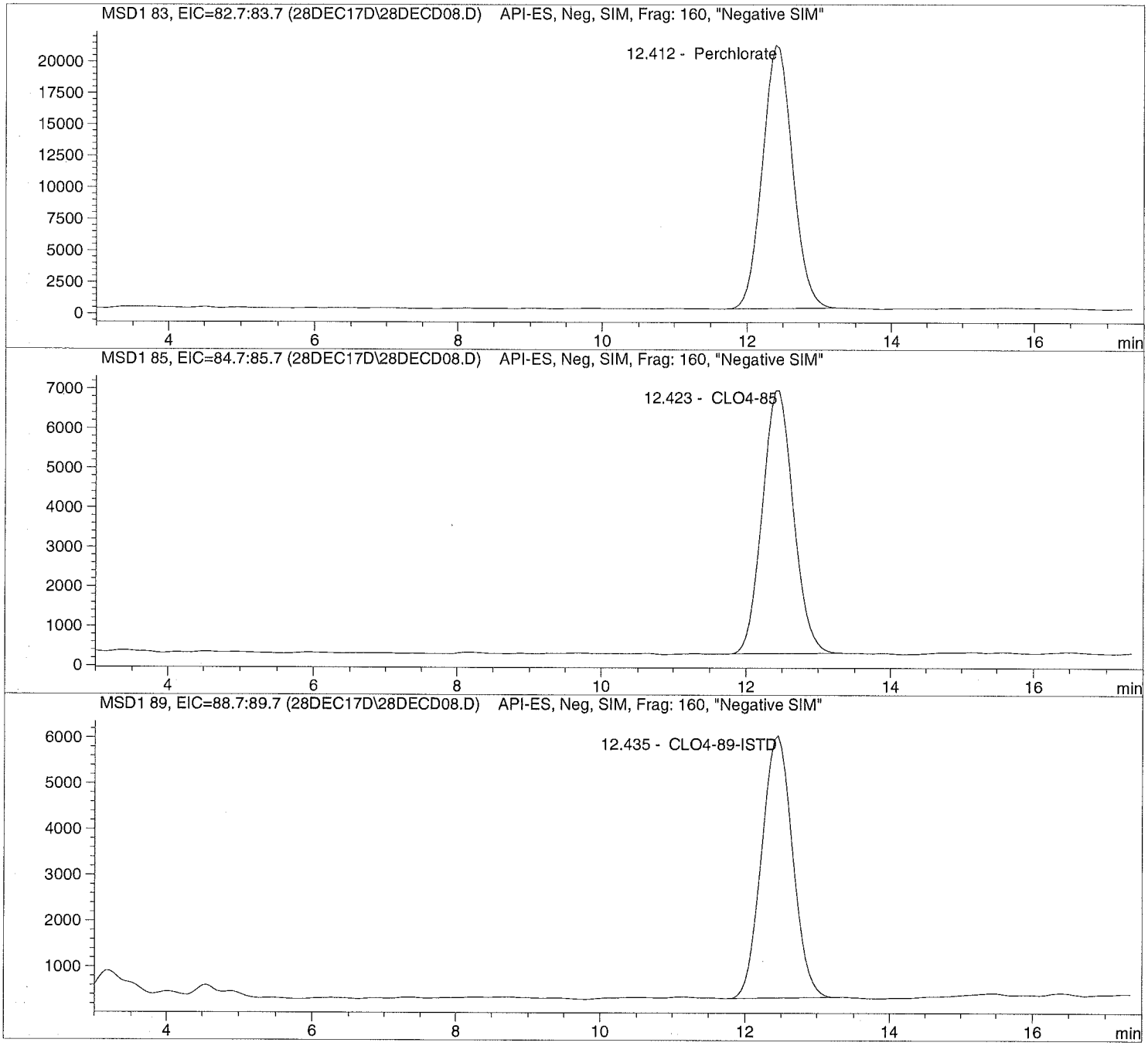
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD08.D Sample Name: 1735685001 10K

Injection Date:	12/28/2017 13:11:08	Seq Line:	8
Sample Name:	1735685001 10K	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\28DEC17D\28DECD08.D Sample Name: 1735685001 10K

Injection Date:	12/28/2017 13:11:08	Seq Line:	8
Sample Name:	1735685001 10K	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:	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
12.412	PBA	612244.4	152642.1371	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.423	BBA	200772.5	155841.2669	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.435	PBA	172404.8	50000.0000	CLO4-89-ISTD

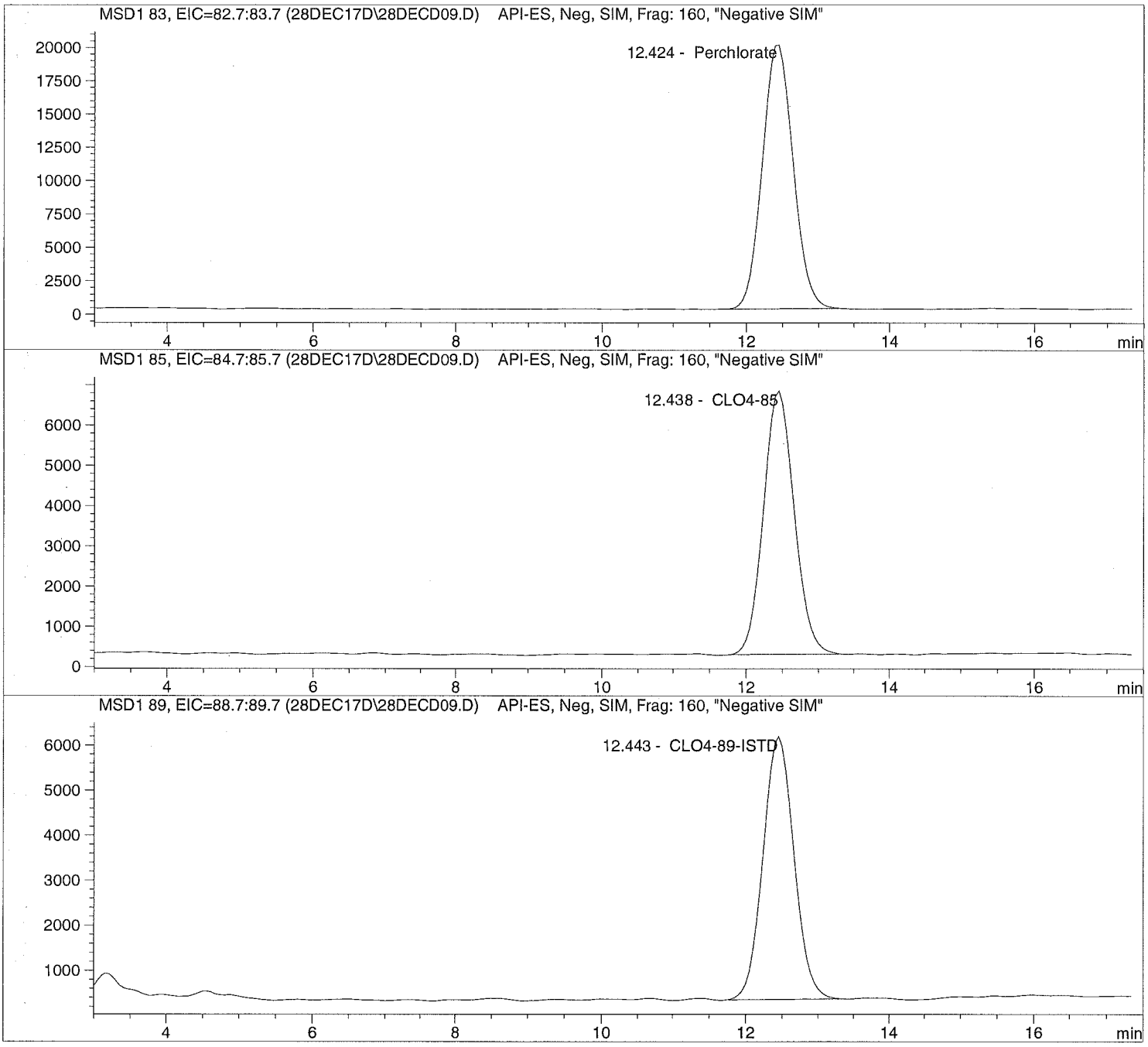
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD09.D Sample Name: 1735685002 10K

Injection Date:	12/28/2017 13:30:16	Seq Line:	9
Sample Name:	1735685002 10K	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\28DEC17D\28DECD09.D Sample Name: 1735685002 10K

Injection Date:	12/28/2017 13:30:16	Seq Line:	9
Sample Name:	1735685002 10K	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:	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
12.424	BBA	586285.9	145162.1164	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.438	PBA	193898.5	149199.8923	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.443	PBA	174260.2	50000.0000	CLO4-89-ISTD

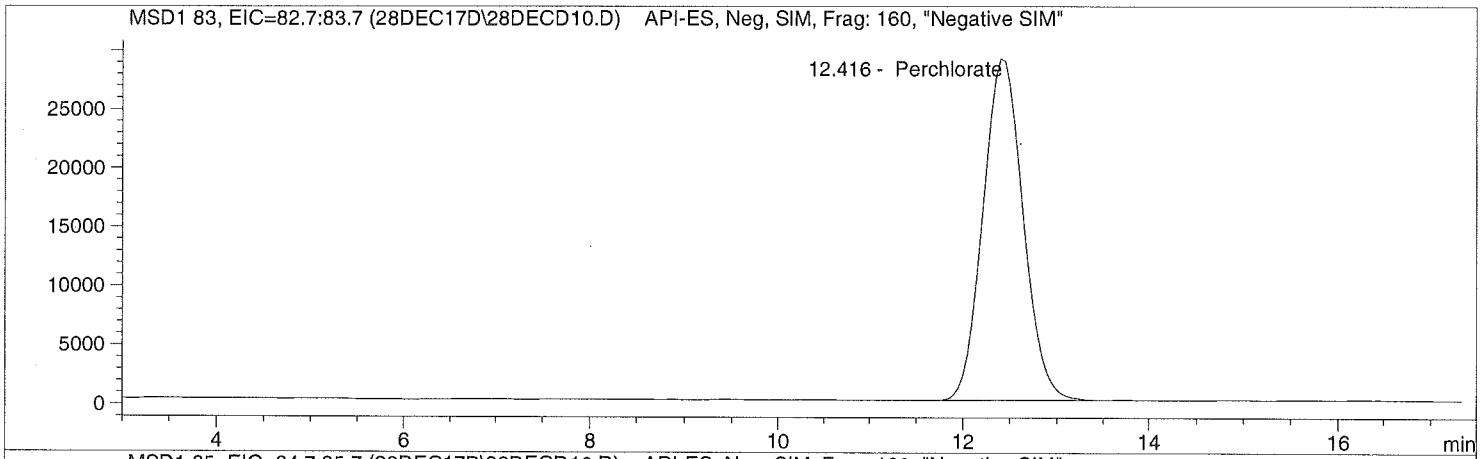
*** End of Report ***

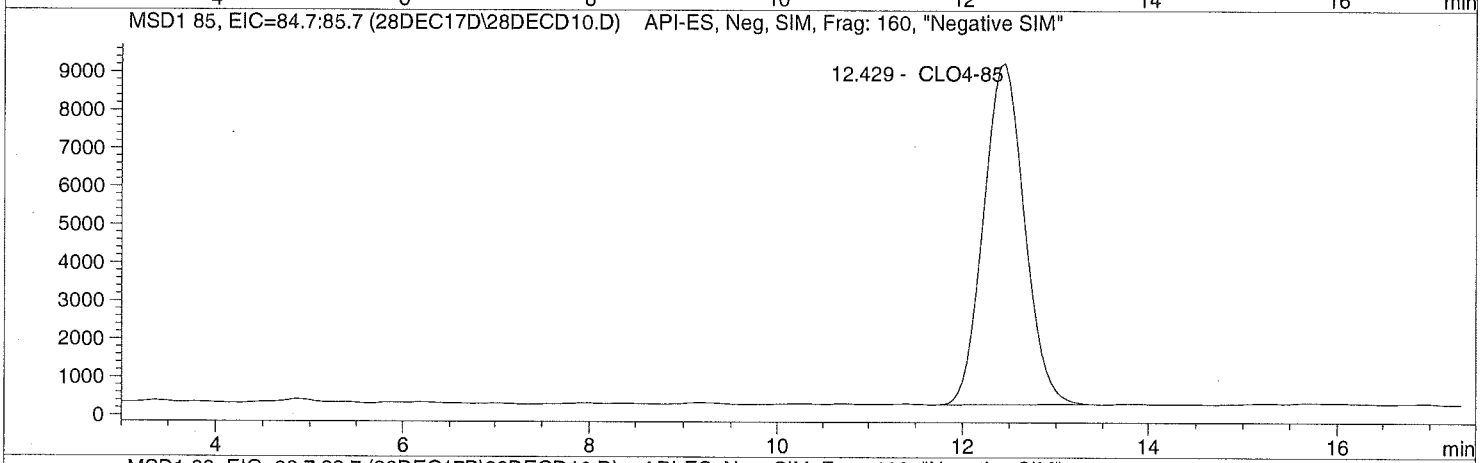
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD10.D Sample Name: 1735685003 1K

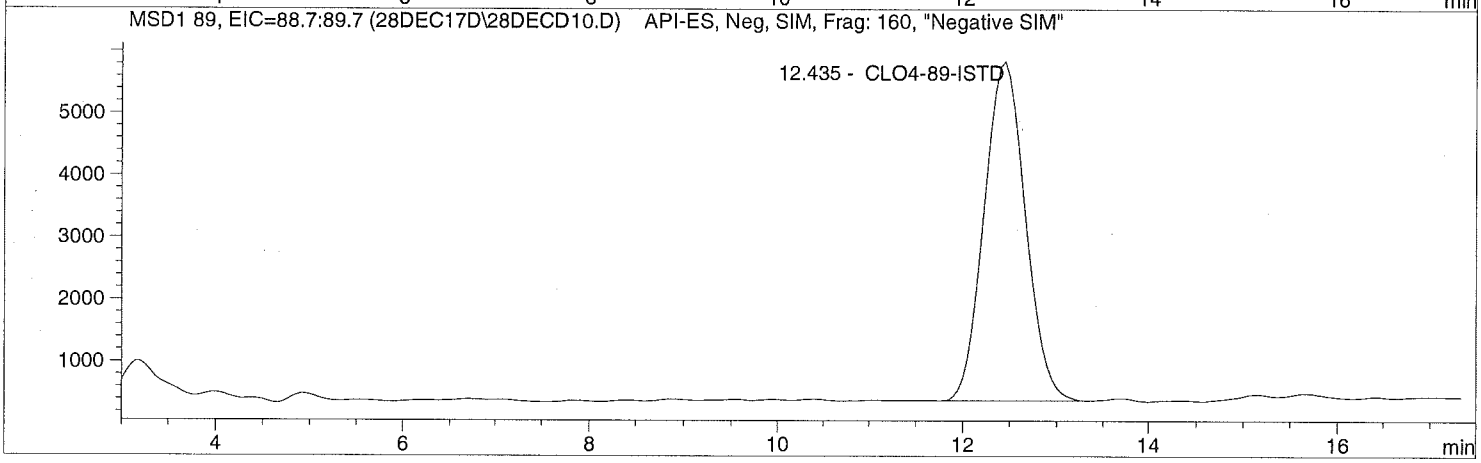
Injection Date:	12/28/2017 13:49:26	Seq Line:	10
Sample Name:	1735685003 1K	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD10.D Sample Name: 1735685003 1K

Injection Date:	12/28/2017 13:49:26	Seq Line:	10
Sample Name:	1735685003 1K	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:	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
12.416	PBA	858551.9	21459.4019	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.429	PBA	270354.0	21297.7935	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.435	PBA	166785.3	5000.0000	CLO4-89-ISTD

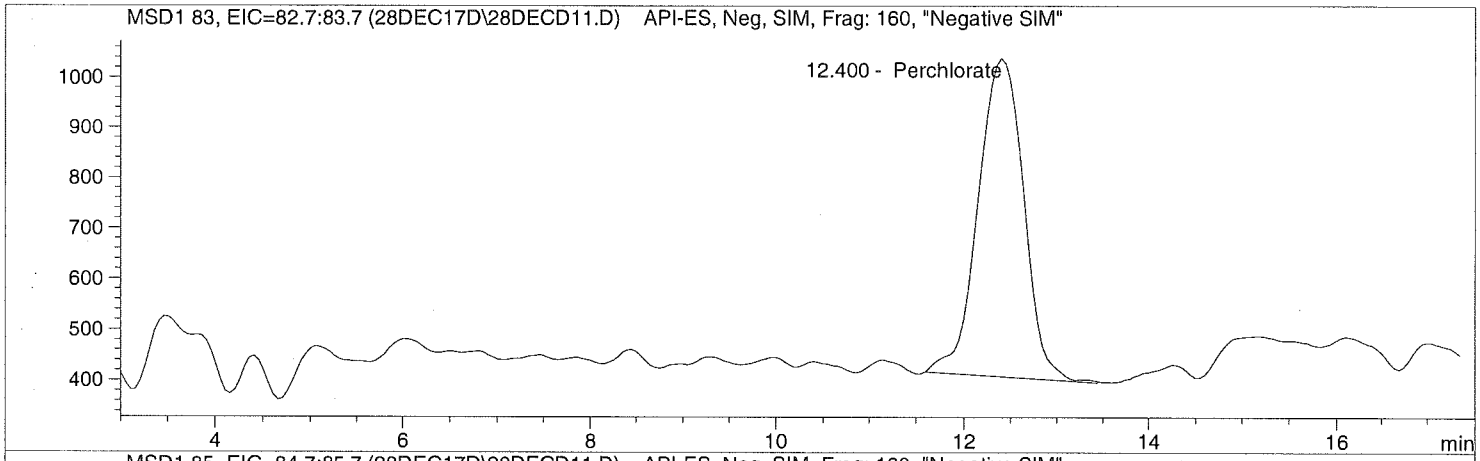
*** End of Report ***

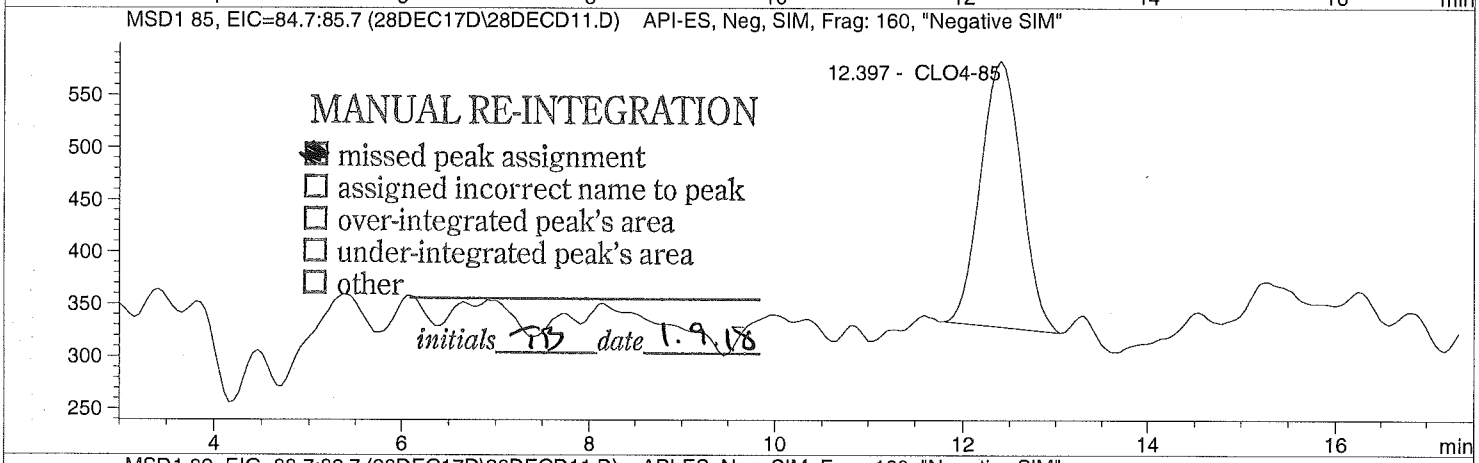
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD11.D Sample Name: 1735685004 100

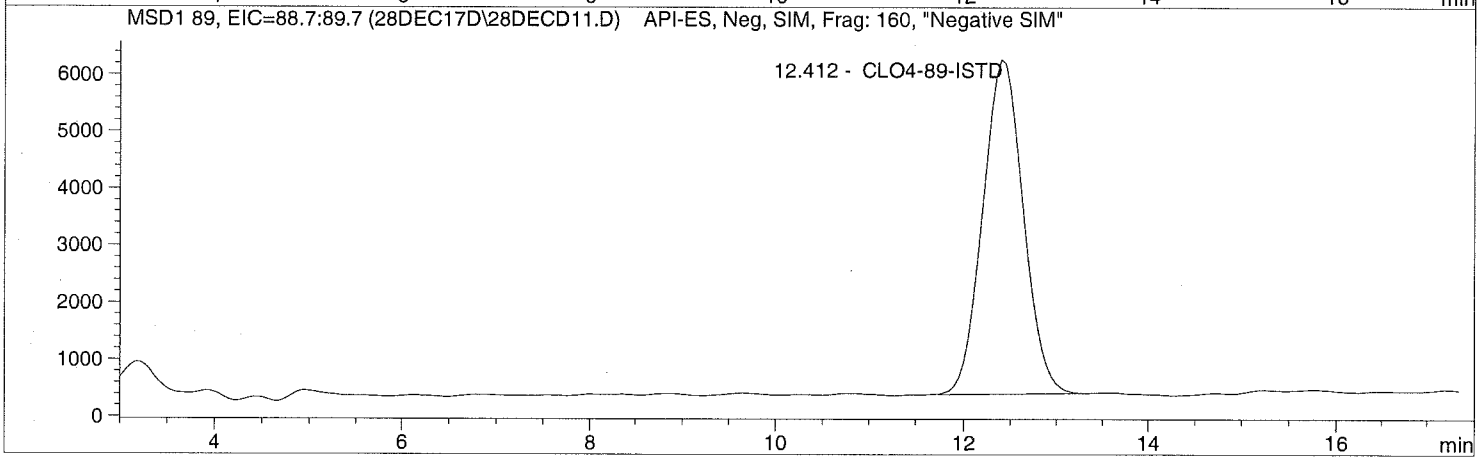
Injection Date:	12/28/2017 14:08:36	Seq Line:	11
Sample Name:	1735685004 100	Location:	Vial 81
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD11.D Sample Name: 1735685004 100

Injection Date:	12/28/2017 14:08:36	Seq Line:	11
Sample Name:	1735685004 100	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:	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
12.400	PBA	21505.4	58.0909	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.397	MM	7779.6	42.1059	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.412	BBA	178775.9	500.0000	CLO4-89-ISTD

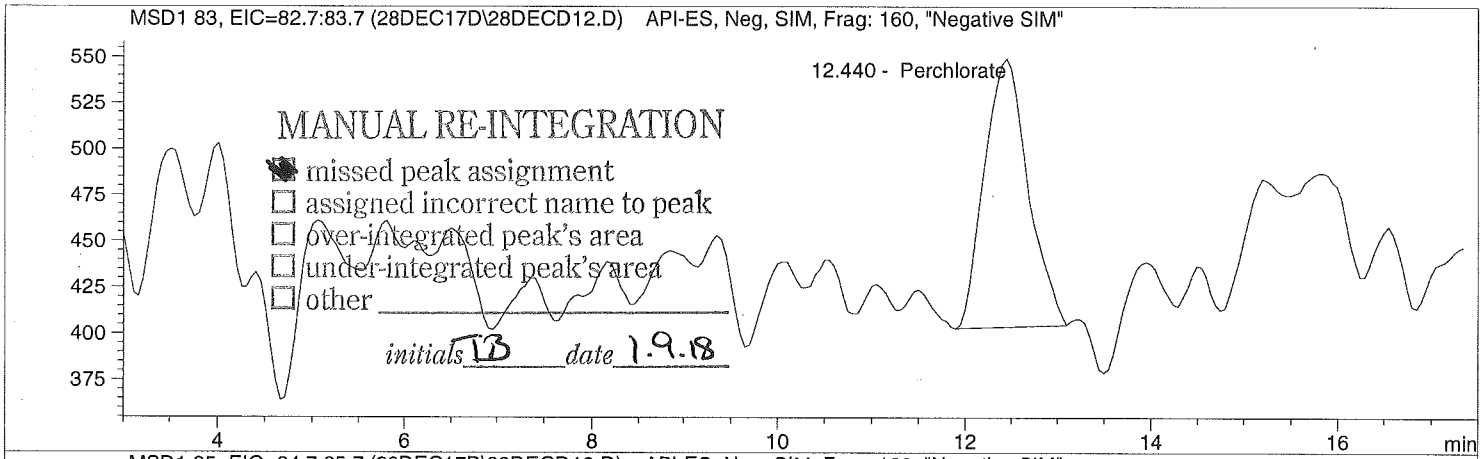
*** End of Report ***

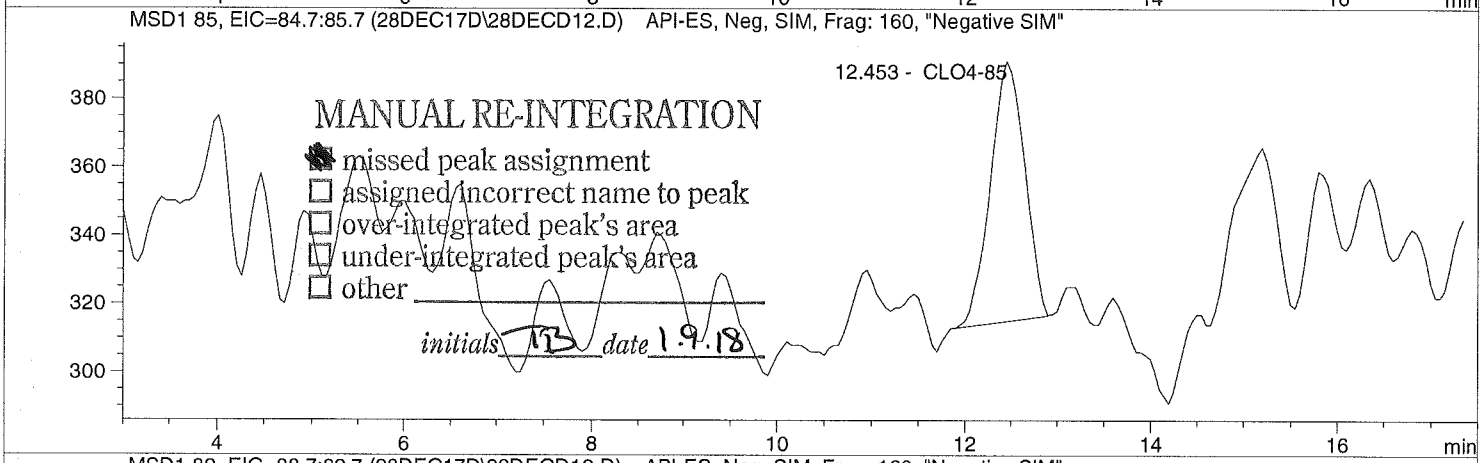
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD12.D Sample Name: 1735685005 100

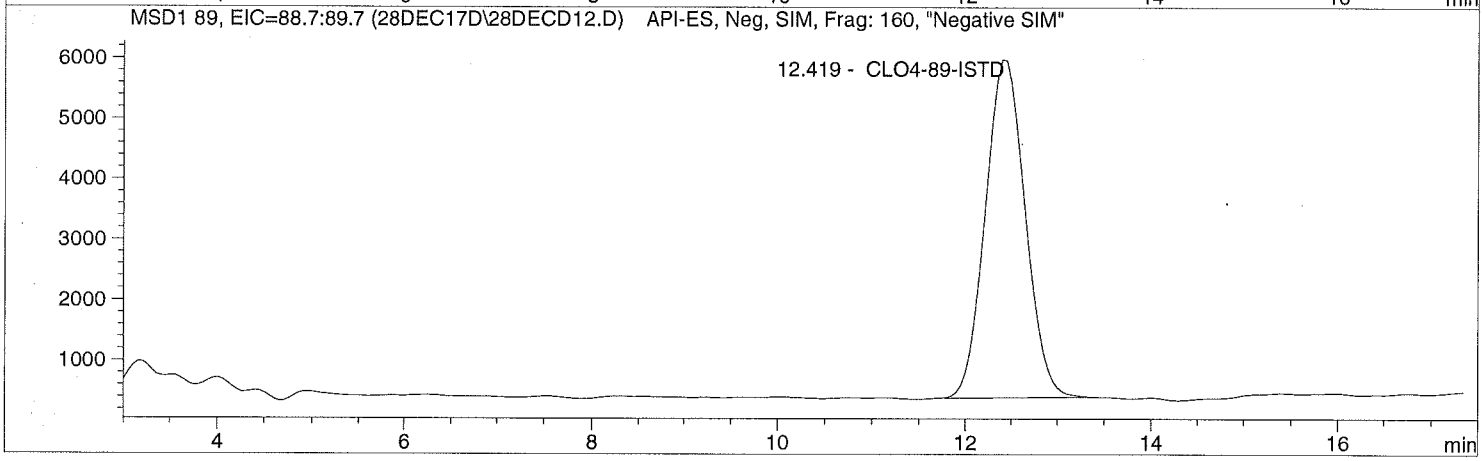
Injection Date:	12/28/2017 14:27:43	Seq Line:	12
Sample Name:	1735685005 100	Location:	Vial 82
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD12.D Sample Name: 1735685005 100

Injection Date:	12/28/2017 14:27:43	Seq Line:	12
Sample Name:	1735685005 100	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:	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
12.440	MM	4777.4	15.6346	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.453	MM	1968.7	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.419	BBA	167796.2	500.0000	CLO4-89-ISTD

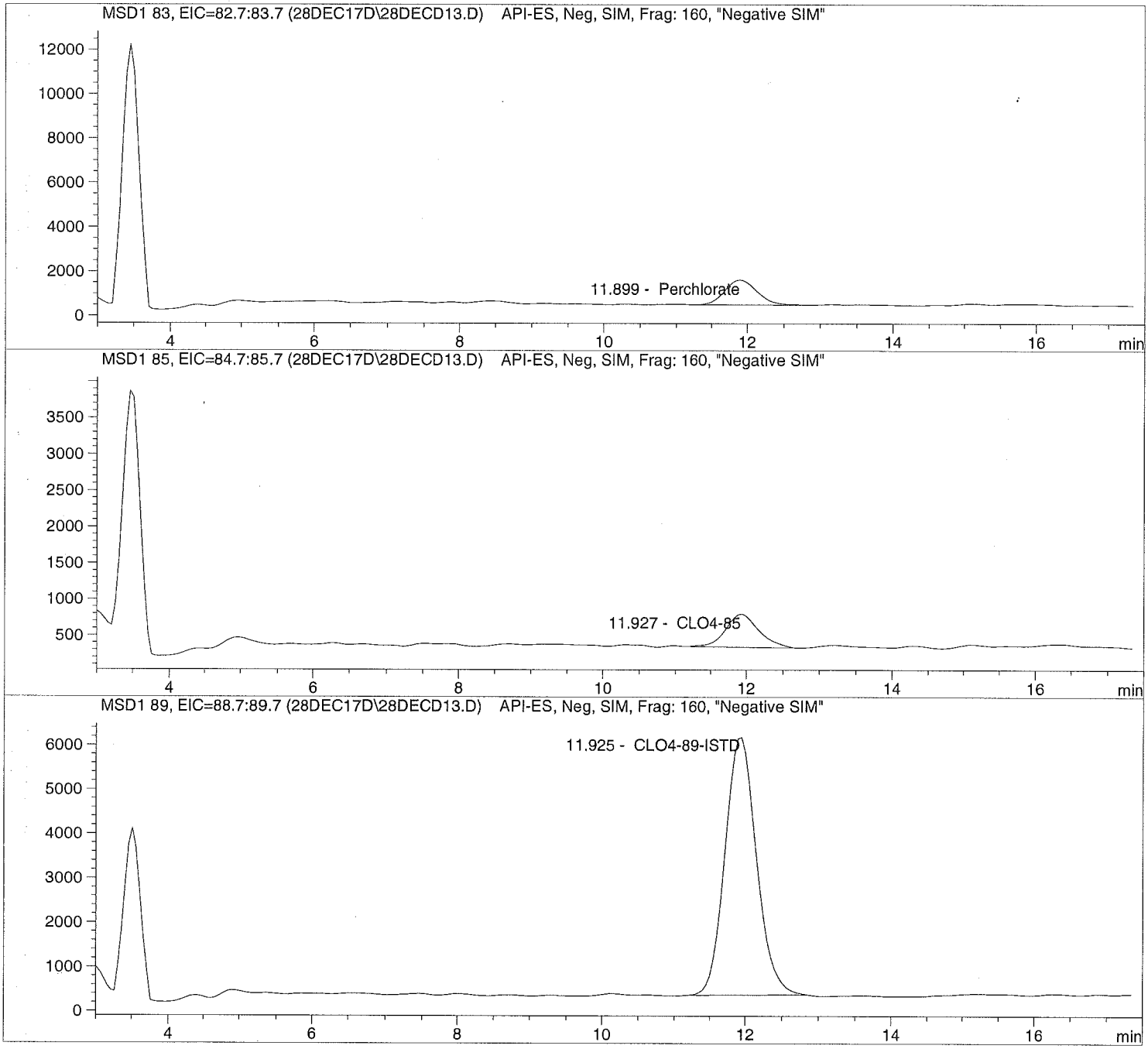
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD13.D Sample Name: 1735685006

Injection Date:	12/28/2017 14:46:51	Seq Line:	13
Sample Name:	1735685006	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\28DEC17D\28DECD13.D Sample Name: 1735685006

Injection Date:	12/28/2017 14:46:51	Seq Line:	13
Sample Name:	1735685006	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
11.899	PBA	35039.1	0.9395	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.927	BBA	14816.6	0.9983	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.925	BBA	176823.1	5.0000	CLO4-89-ISTD

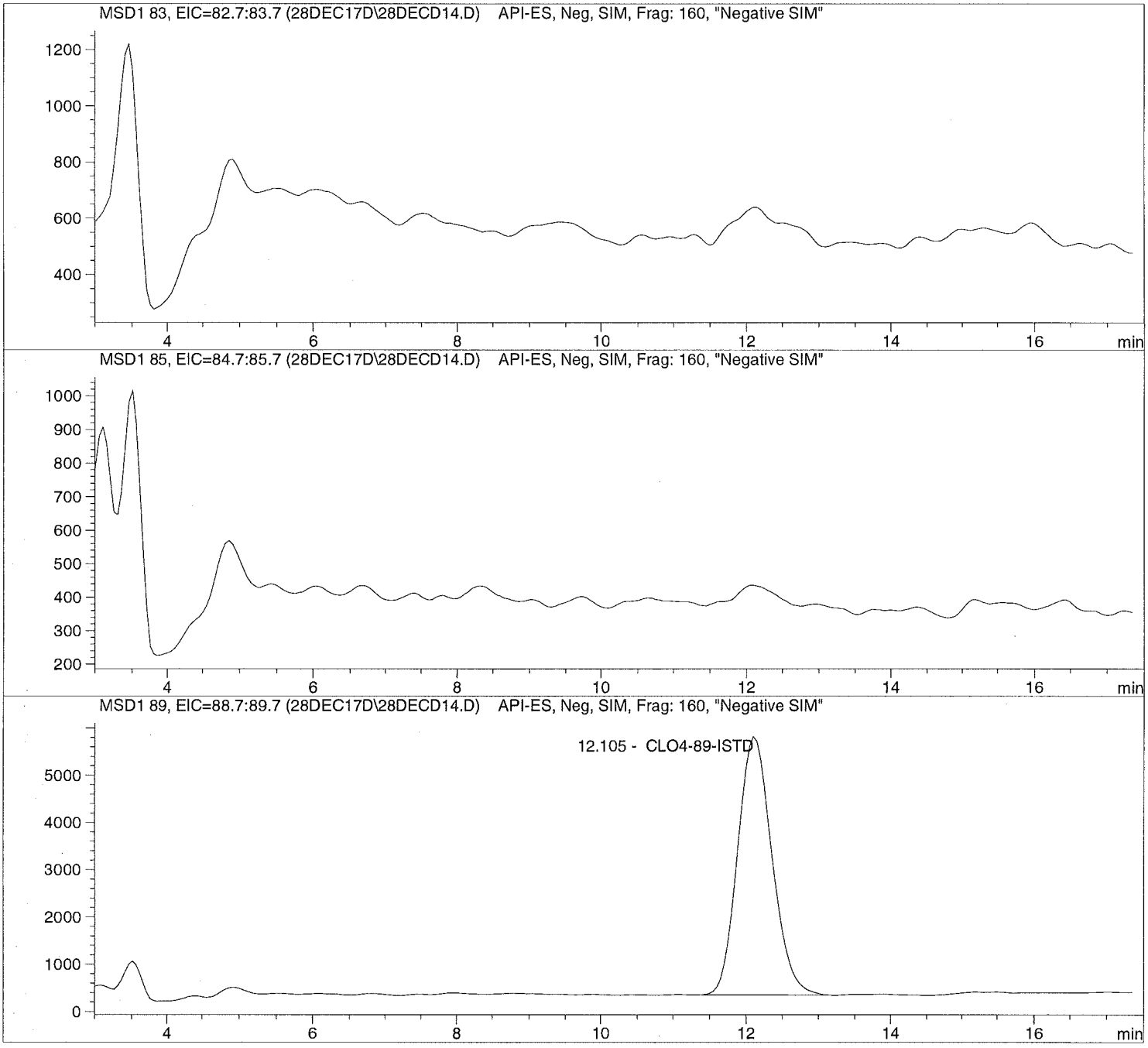
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD14.D Sample Name: 1735685007

Injection Date:	12/28/2017 15:05:59	Seq Line:	14
Sample Name:	1735685007	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\28DEC17D\28DECD14.D Sample Name: 1735685007

Injection Date:	12/28/2017 15:05:59	Seq Line:	14
Sample Name:	1735685007	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
12.105	BBA	179543.0	5.0000	CLO4-89-ISTD

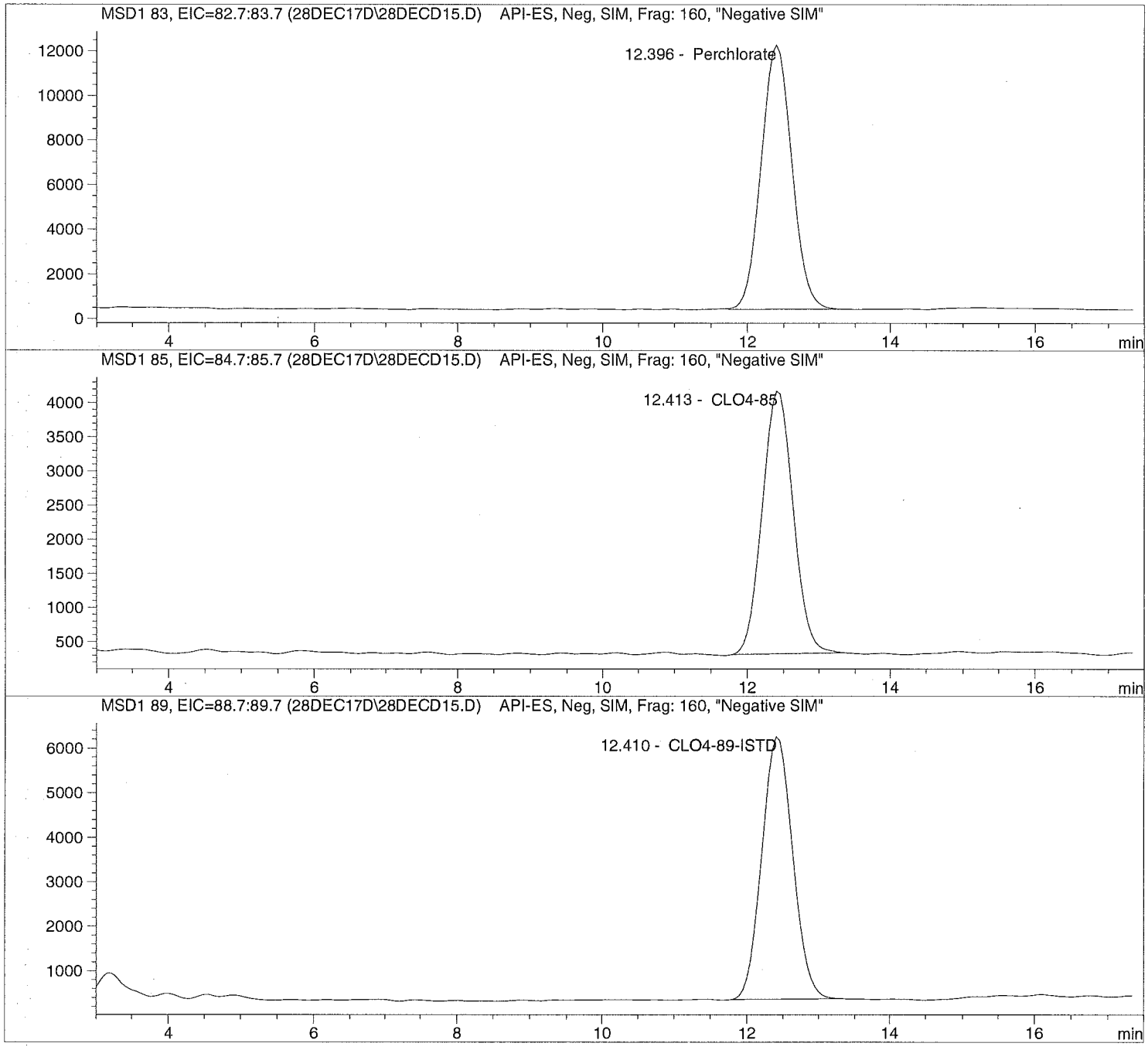
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD15.D Sample Name: 1735685008 1K

Injection Date:	12/28/2017 15:25:07	Seq Line:	15
Sample Name:	1735685008 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\28DEC17D\28DECD15.D Sample Name: 1735685008 1K

Injection Date:	12/28/2017 15:25:07	Seq Line:	15
Sample Name:	1735685008 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
12.396	BBA	350227.7	8838.8380	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.413	PBA	115251.0	8903.2163	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.410	BBA	176102.2	5000.0000	CLO4-89-ISTD

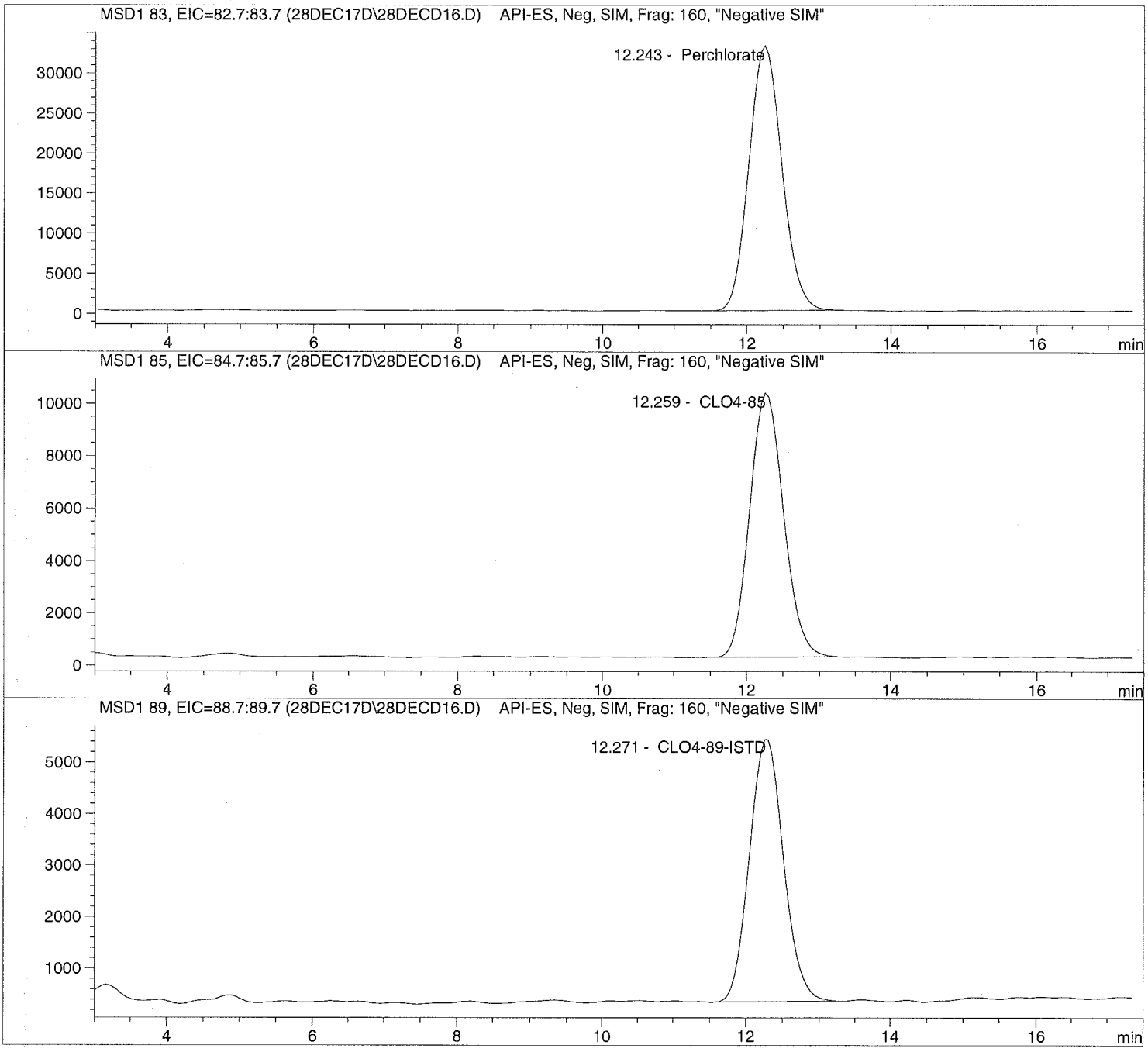
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD16.D Sample Name: 581176 CCV@25

Injection Date:	12/28/2017 15:44:20	Seq Line:	16
Sample Name:	581176 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\28DEC17D\28DECD16.D Sample Name: 581176 CCV@25

Injection Date:	12/28/2017 15:44:20	Seq Line:	16
Sample Name:	581176 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
12.243	PBA	1032158.7	25.5879	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.259	PBA	324643.2	25.5070	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.271	PBA	164866.4	5.0000	CLO4-89-ISTD

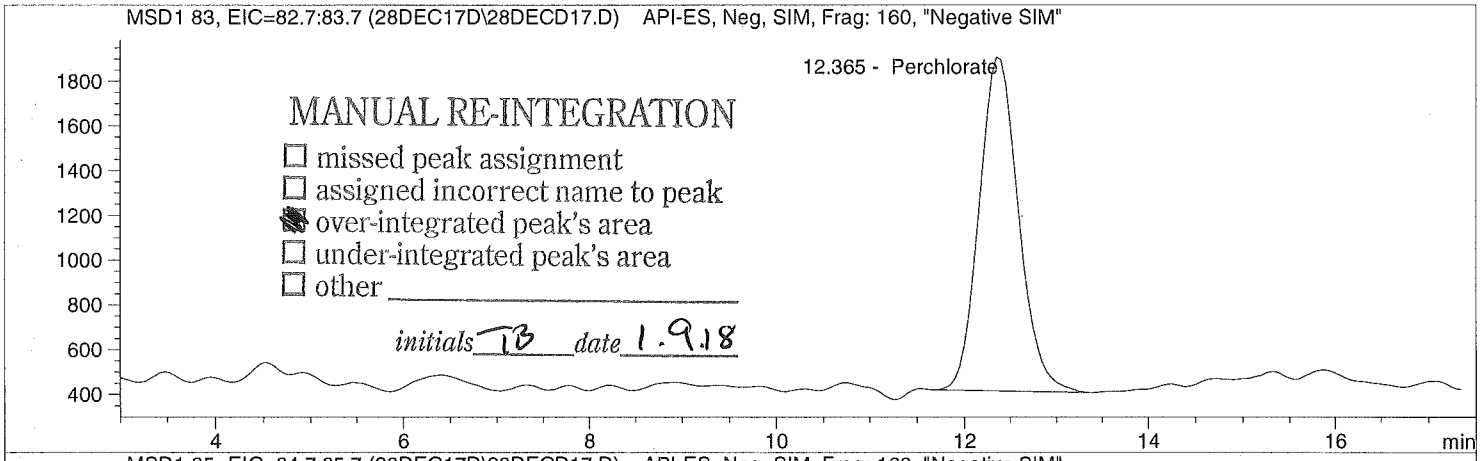
*** End of Report ***

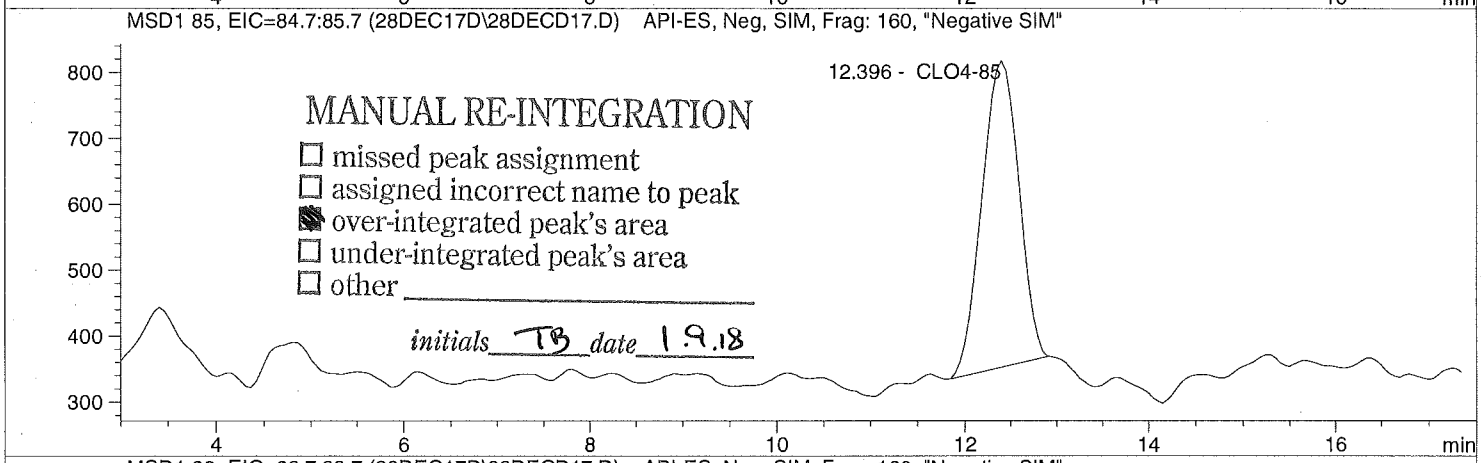
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD17.D Sample Name: 581177 LODV@1.

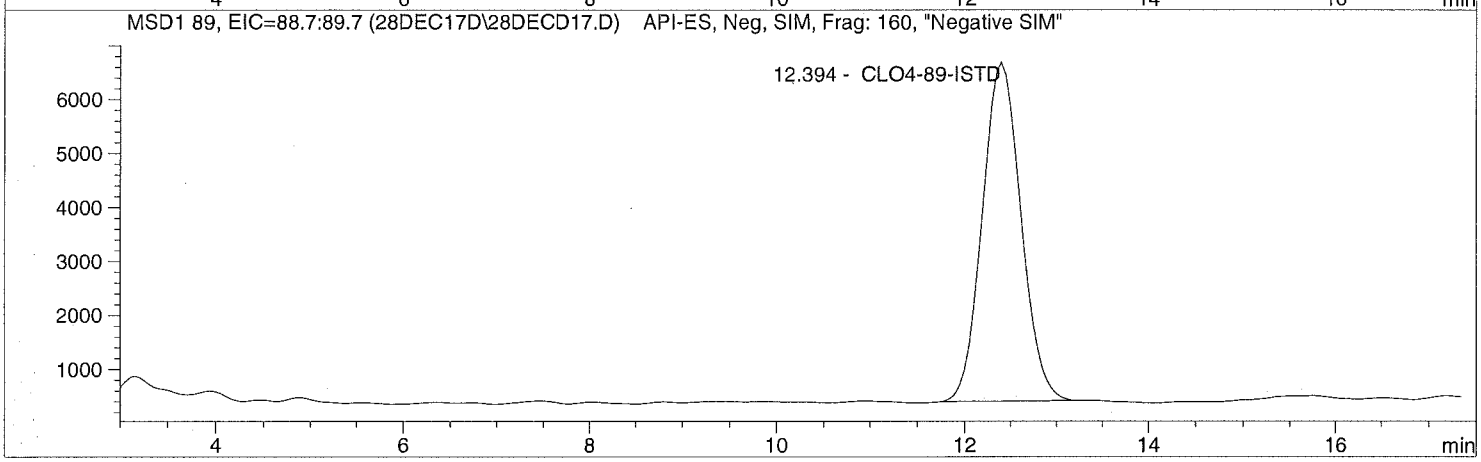
Injection Date:	12/28/2017 16:03:29	Seq Line:	17
Sample Name:	581177 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD17.D Sample Name: 581177 LODV@1.

Injection Date:	12/28/2017 16:03:29	Seq Line:	17
Sample Name:	581177 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
12.365	MM	44610.4	1.1407	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.396	MM	13051.3	0.8123	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.394	PBA	184350.1	5.0000	CLO4-89-ISTD

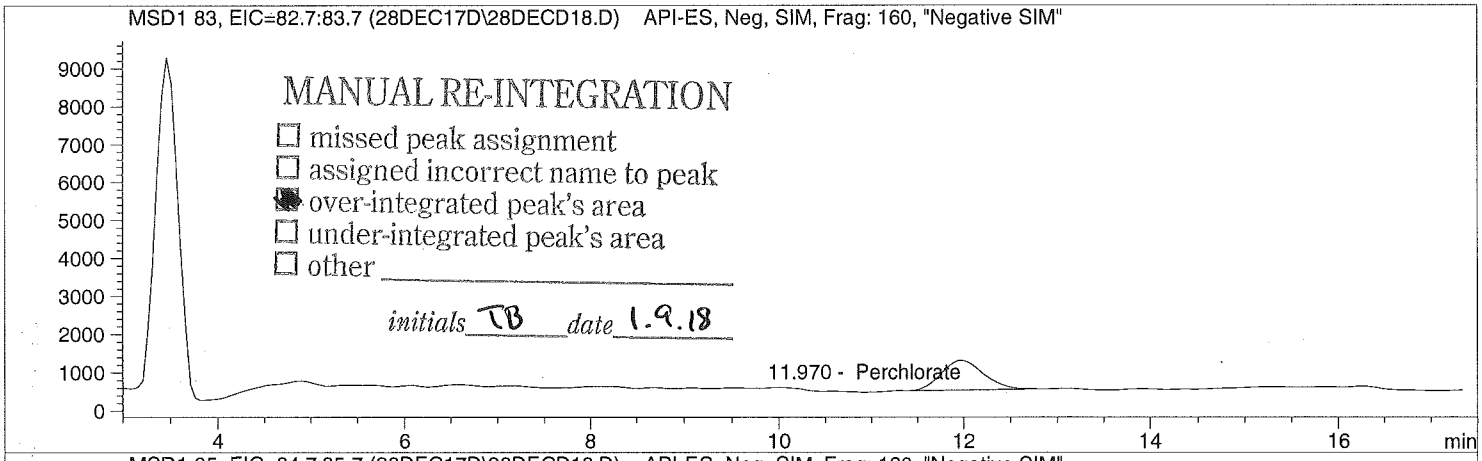
*** End of Report ***

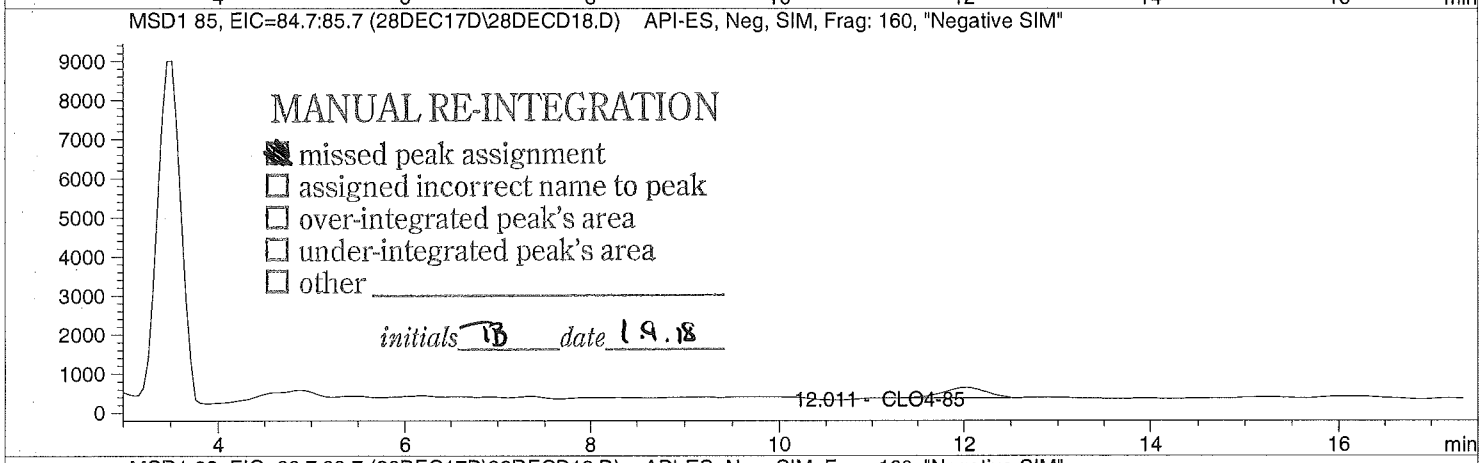
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD18.D Sample Name: 1735689001

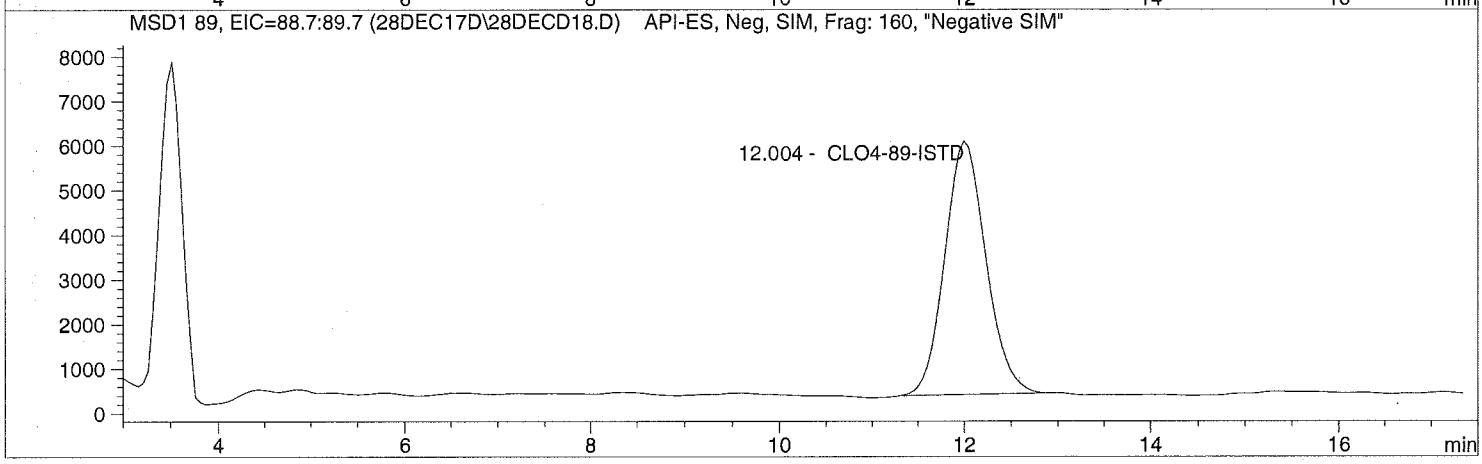
Injection Date:	12/28/2017 16:28:09	Seq Line:	18
Sample Name:	1735689001	Location:	Vial 86
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD18.D Sample Name: 1735689001

Injection Date:	12/28/2017 16:28:09	Seq Line:	18
Sample Name:	1735689001	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
11.970	MM	24383.9	0.6698	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.011	MM	8719.6	0.5129	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.004	BBA	174711.9	5.0000	CLO4-89-ISTD

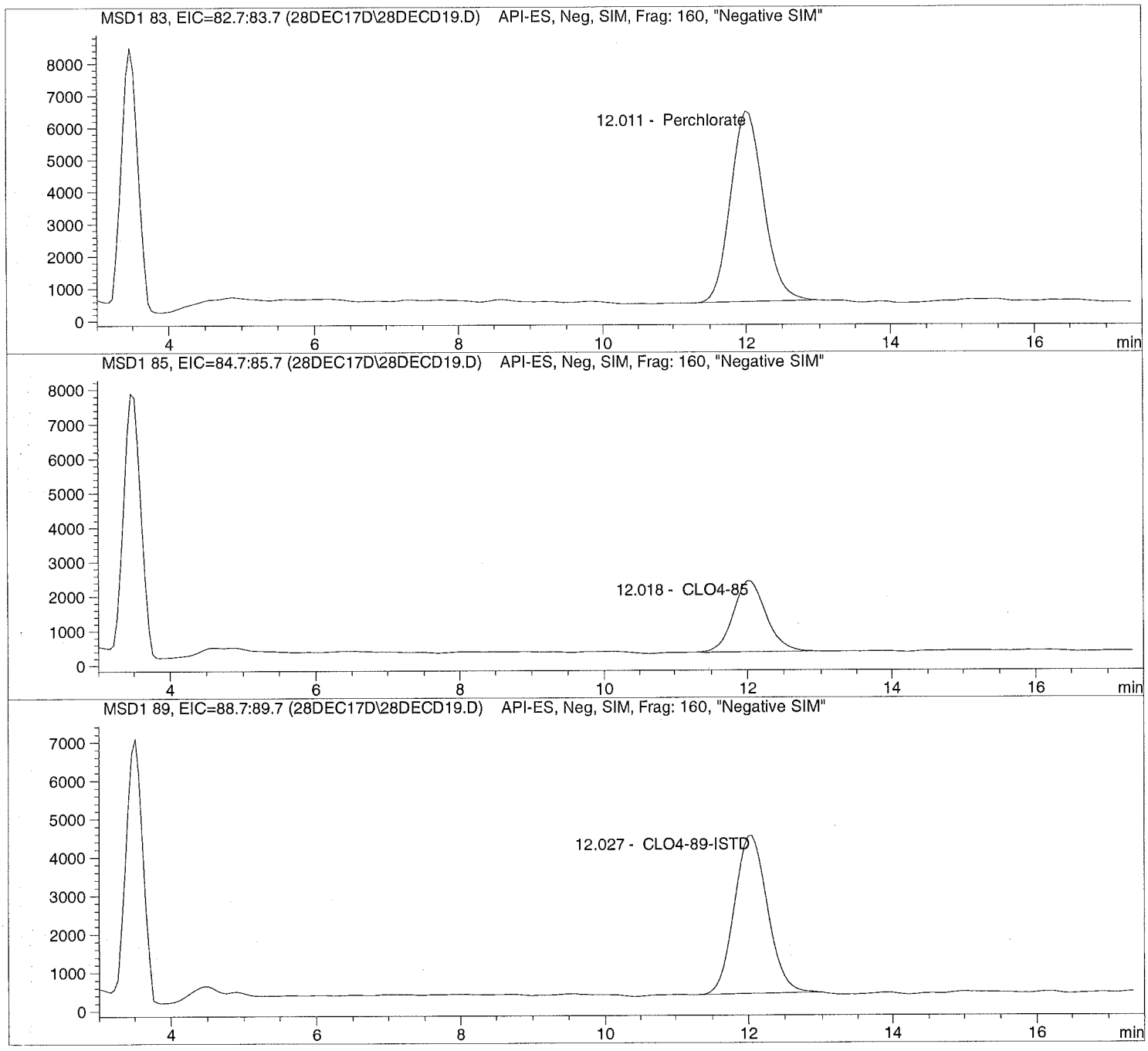
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD19.D Sample Name: 581367 356811S

Injection Date:	12/28/2017 16:47:18	Seq Line:	19
Sample Name:	581367 356811S	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\28DEC17D\28DECD19.D Sample Name: 581367 356811S

Injection Date:	12/28/2017 16:47:18	Seq Line:	19
Sample Name:	581367 356811S	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
12.011	BBA	186973.8	6.4160	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.018	BBA	64792.8	6.7239	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.027	PBA	131273.9	5.0000	CLO4-89-ISTD

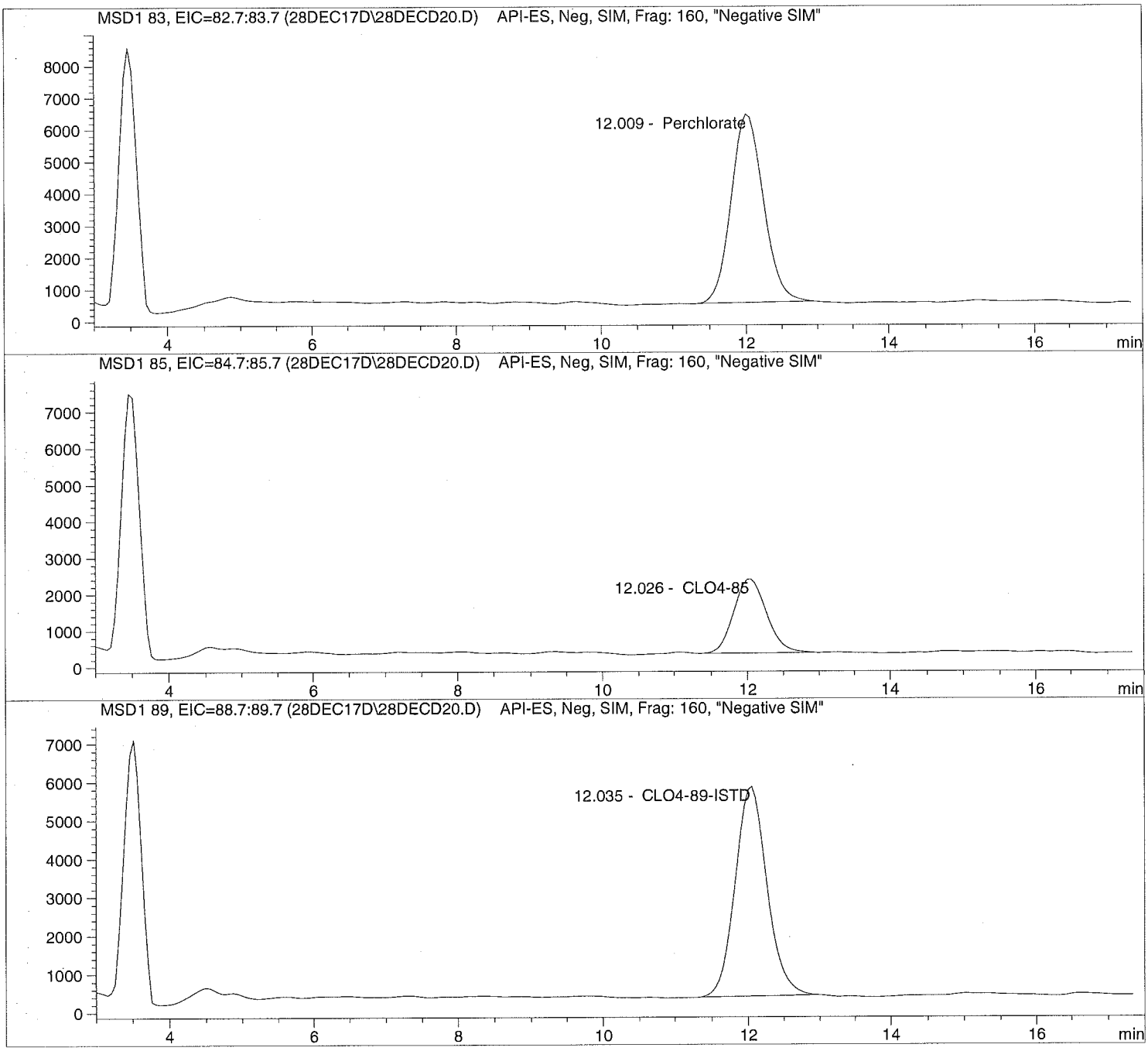
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD20.D Sample Name: 581368 356811D

Injection Date:	12/28/2017 17:06:27	Seq Line:	20
Sample Name:	581368 356811D	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\28DEC17D\28DECD20.D Sample Name: 581368 356811D

Injection Date:	12/28/2017 17:06:27	Seq Line:	20
Sample Name:	581368 356811D	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
12.009	PBA	182161.7	4.9686	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.026	PBA	63917.9	5.2142	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.035	PBA	166580.6	5.0000	CLO4-89-ISTD

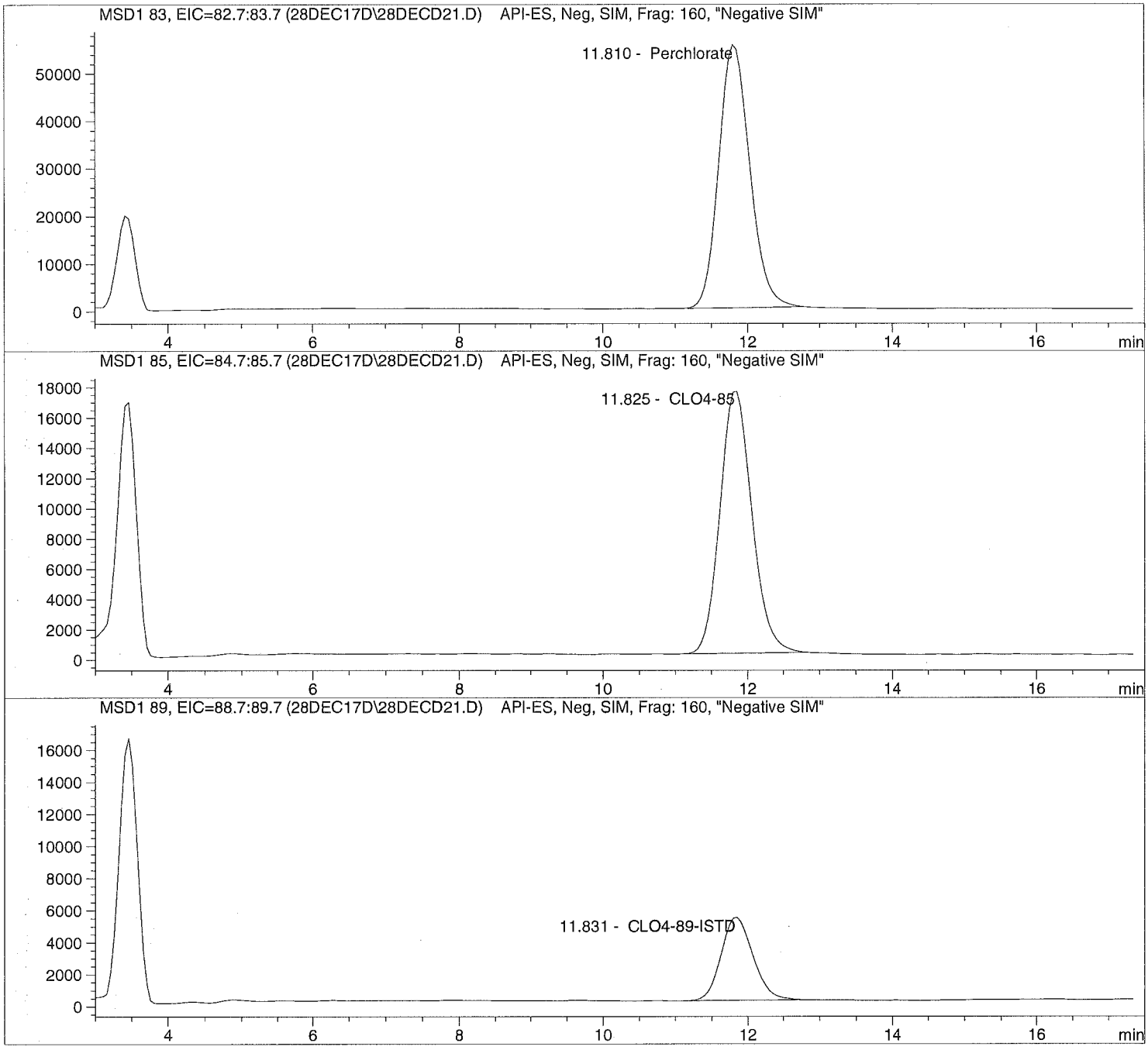
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD21.D Sample Name: 1735685004

Injection Date:	12/28/2017 17:25:40	Seq Line:	21
Sample Name:	1735685004	Location:	Vial 89
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\28DEC17D\28DECD21.D Sample Name: 1735685004

Injection Date:	12/28/2017 17:25:40	Seq Line:	21
Sample Name:	1735685004	Location:	Vial 89
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
11.810	PBA	1653258.4	39.7379	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.825	PBA	533653.0	41.1139	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.831	PBA	159385.2	5.0000	CLO4-89-ISTD

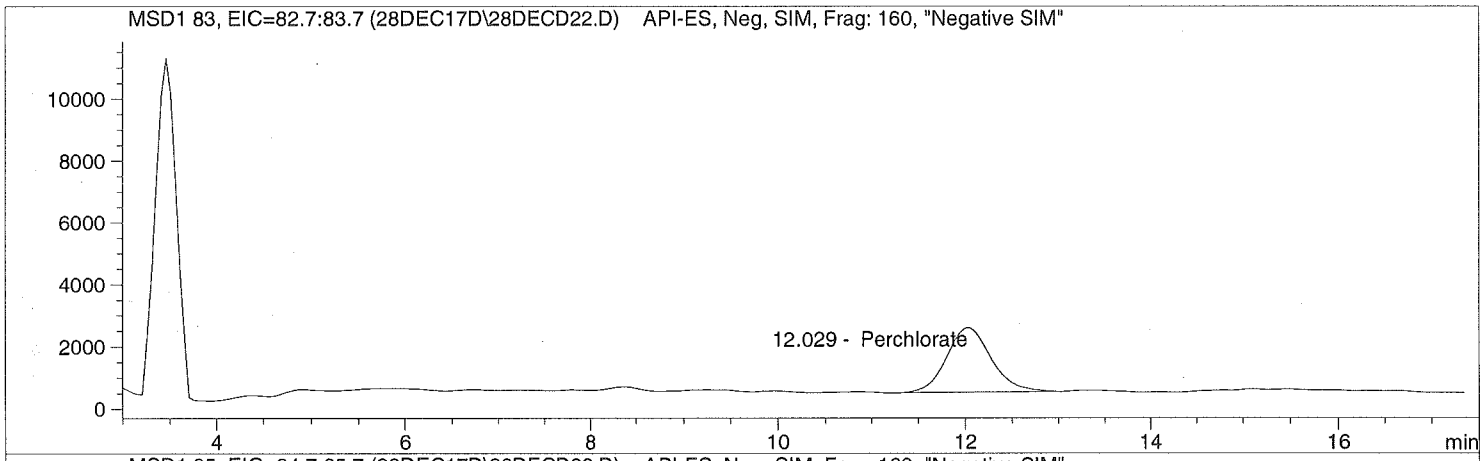
*** End of Report ***

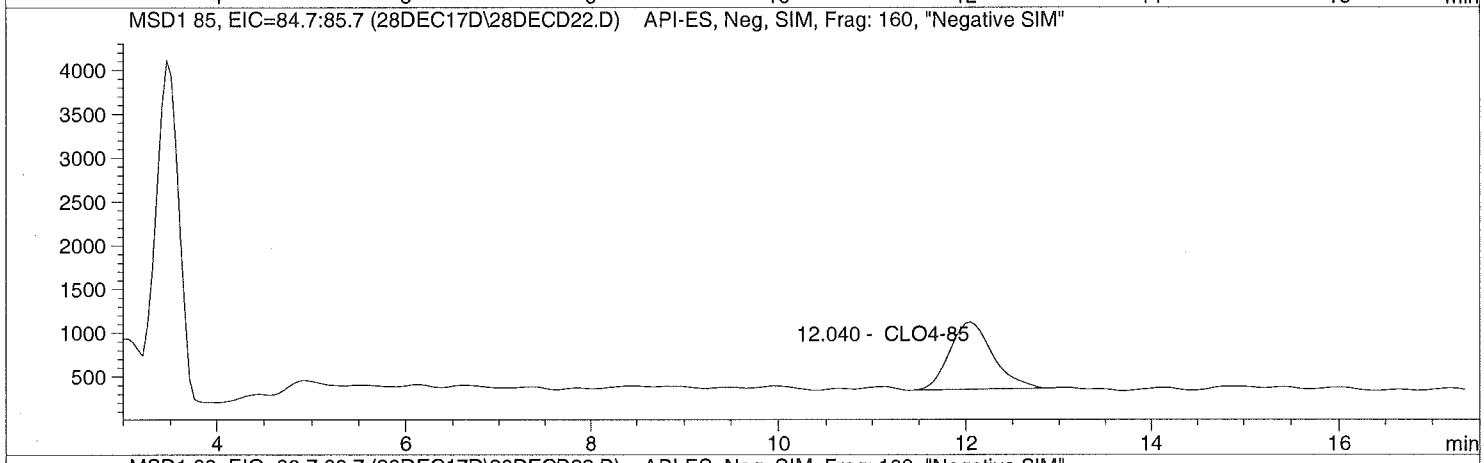
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD22.D Sample Name: 1735685005

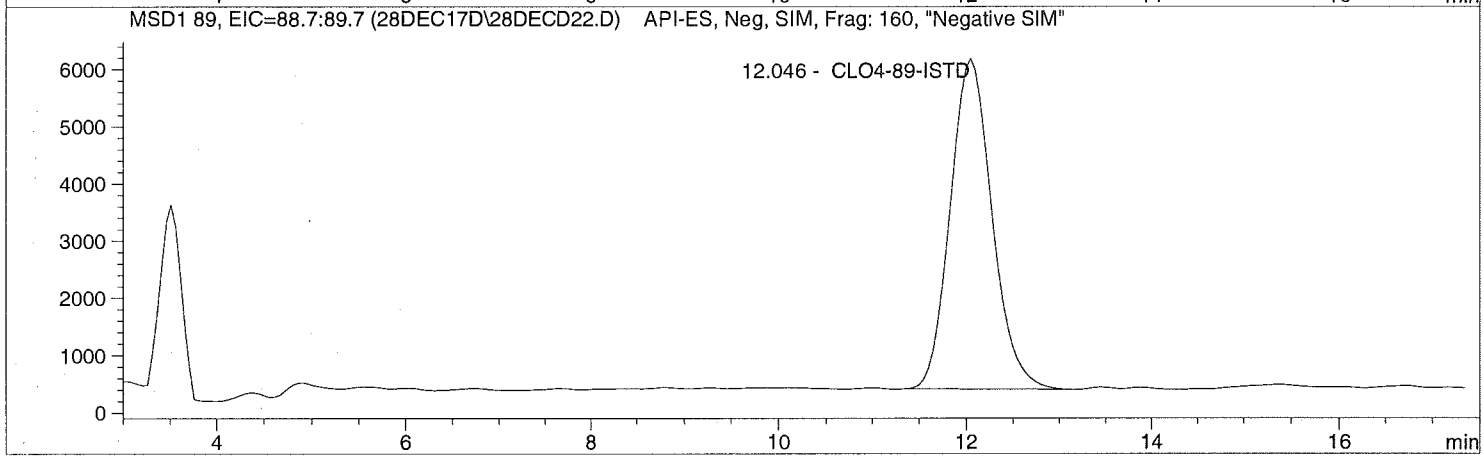
Injection Date:	12/28/2017 17:44:52	Seq Line:	22
Sample Name:	1735685005	Location:	Vial 90
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD22.D Sample Name: 1735685005

Injection Date:	12/28/2017 17:44:52	Seq Line:	22
Sample Name:	1735685005	Location:	Vial 90
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
12.029	PBA	68211.1	1.7773	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.040	PBA	24735.4	1.7747	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.046	PBA	178902.4	5.0000	CLO4-89-ISTD

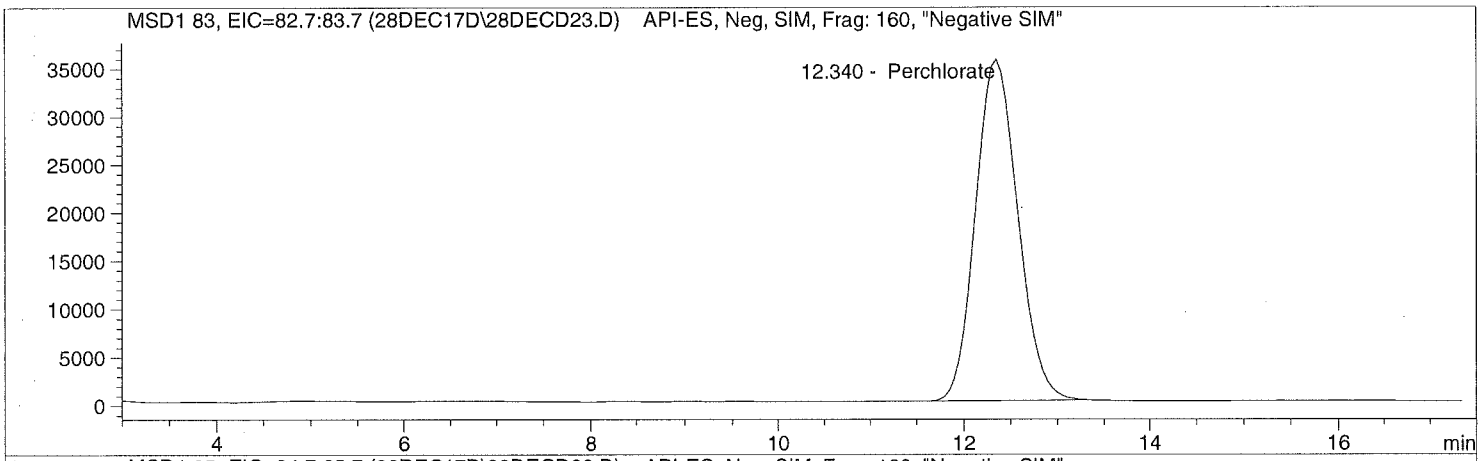
*** End of Report ***

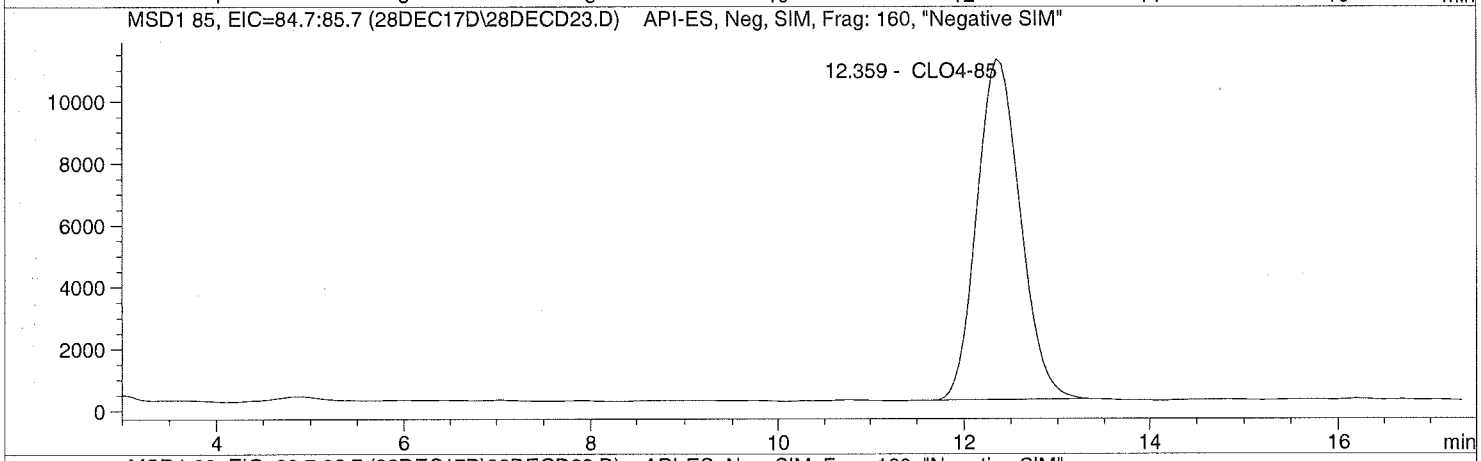
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD23.D Sample Name: 581178 CCV@25

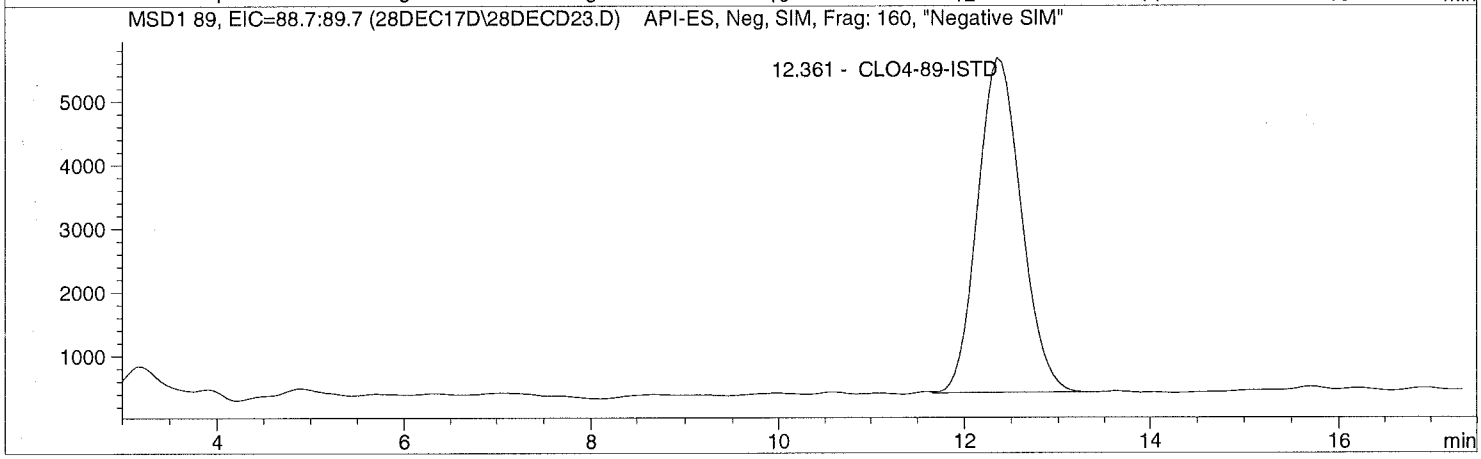
Injection Date:	12/28/2017 18:04:03	Seq Line:	23
Sample Name:	581178 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD23.D Sample Name: 581178 CCV@25

Injection Date:	12/28/2017 18:04:03	Seq Line:	23
Sample Name:	581178 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
12.340	PBA	1108499.4	26.5526	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.359	PBA	353709.5	26.8515	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.361	BBA	169851.7	5.0000	CLO4-89-ISTD

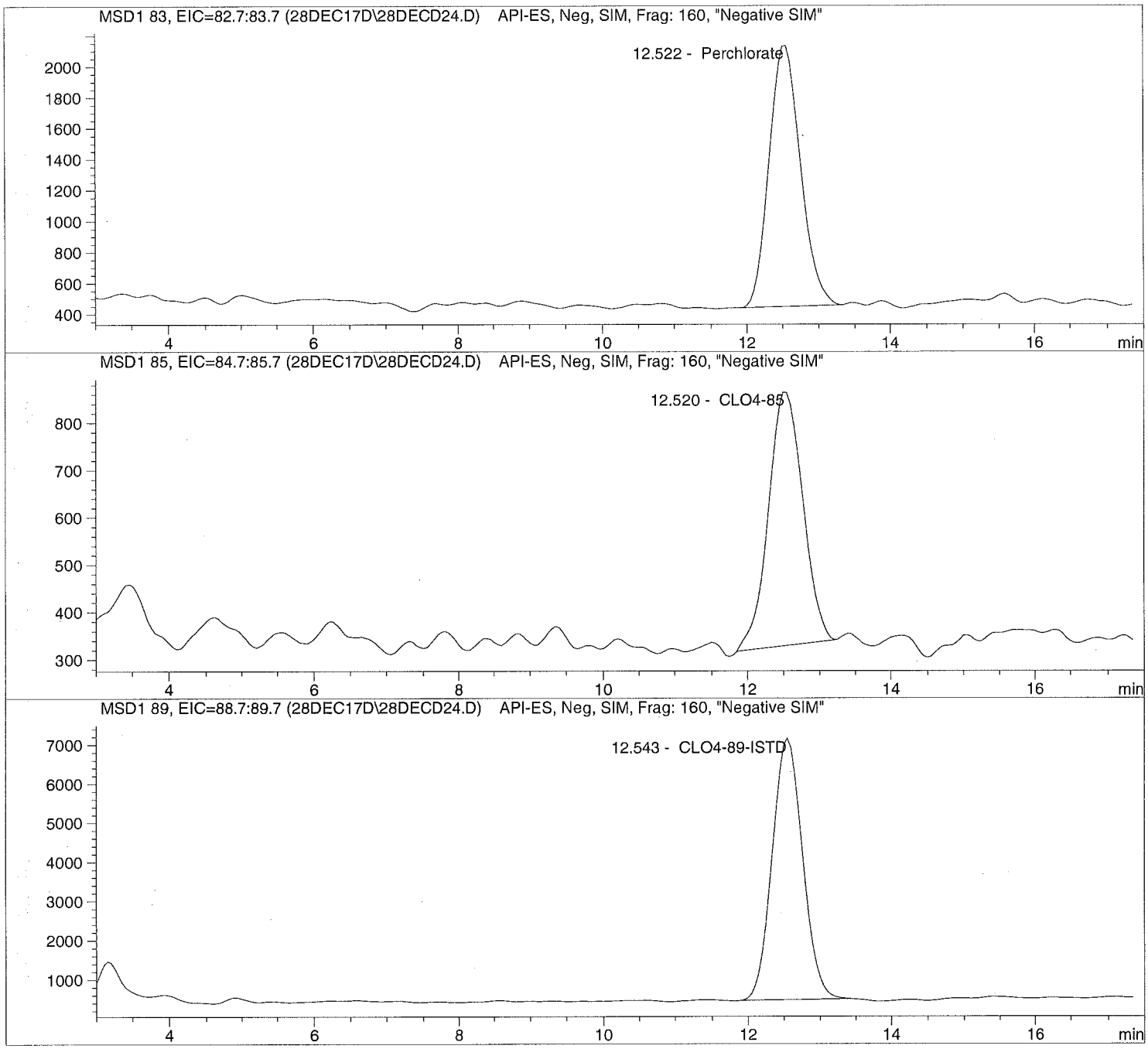
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD24.D Sample Name: 581179 LODV@1.

Injection Date:	12/28/2017 18:23:11	Seq Line:	24
Sample Name:	581179 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\28DEC17D\28DECD24.D Sample Name: 581179 LODV@1.

Injection Date:	12/28/2017 18:23:11	Seq Line:	24
Sample Name:	581179 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
12.522	PBA	50754.7	1.2255	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.520	PBA	17687.4	1.0982	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.543	PBA	194839.2	5.0000	CLO4-89-ISTD

*** End of Report ***

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Raw Data

Initial Calibration

Batch Report: C:\HPCHEM\1\DATA\21AUG17P\21AUG17P.B

Batch Review Method:
C:\HPCHEM\1\METHODS\CLO4-PR3.M

['#' ==> Run has not been reprocessed with Batch Review Method
'*' ==> Run has been saved with batch file]

#*	Sample Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
*	ICAL1@ .05ug/L Vial 71	1	Control	1	4365.90820	12.226	9.14000e-2
*	ICAL2@ .10ug/L Vial 72	1	Control	2	9514.03027	12.210	2.01141e-1
*	ICAL3@ .20ug/L Vial 73	1	Control	3	1.35331e4	12.236	2.88584e-1
*	ICAL4@ 0.5ug/L Vial 74	1	Control	4	2.76171e4	12.161	5.95393e-1
*	ICAL5@ 1.0ug/L Vial 75	1	Control	5	4.75097e4	12.226	1.01731
*	ICAL6@ 5.0ug/L Vial 76	1	Control	6	2.30426e5	12.209	5.01082
*	ICAL7@ 10.ug/L Vial 77	1	Control	7	4.46570e5	12.212	9.64041
*	ICAL8@ 25.ug/L Vial 78	1	Control	8	1.19993e6	12.134	25.19412
*	ICAL9@ 50.ug/L Vial 79	1	Control	9	2.60933e6	12.150	49.96977
*	ICAL Verf@10ug/L Vial 80	1	Control	10	4.49703e5	12.232	9.41499

#*	Sample Location	Inj	SampleType	Run	Perchlorate Area	Perchlorate RT	Perchlorate Amount
*	ICAL1@ .05ug/L Vial 71	1	Control	1	8930.38184	12.237	6.88583e-2
*	ICAL2@ .10ug/L Vial 72	1	Control	2	1.15052e4	12.248	8.73938e-2
*	ICAL3@ .20ug/L Vial 73	1	Control	3	2.62111e4	12.238	1.91166e-1
*	ICAL4@ 0.5ug/L Vial 74	1	Control	4	6.28912e4	12.159	4.52946e-1
*	ICAL5@ 1.0ug/L Vial 75	1	Control	5	1.30706e5	12.231	9.25591e-1
*	ICAL6@ 5.0ug/L Vial 76	1	Control	6	6.80205e5	12.200	4.80762
*	ICAL7@ 10.ug/L Vial 77	1	Control	7	1.41057e6	12.196	9.74126
*	ICAL8@ 25.ug/L Vial 78	1	Control	8	4.00474e6	12.118	25.78802
*	ICAL9@ 50.ug/L Vial 79	1	Control	9	8.85683e6	12.137	49.73658
*	ICAL Verf@10ug/L Vial 80	1	Control	10	1.36065e6	12.218	9.14332

#*	Sample Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
*	ICAL1@ .05ug/L Vial 71	1	Control	1	6.73943e5	12.272	5.00000
*	ICAL2@ .10ug/L Vial 72	1	Control	2	6.67016e5	12.250	5.00000
*	ICAL3@ .20ug/L Vial 73	1	Control	3	6.61031e5	12.267	5.00000
*	ICAL4@ 0.5ug/L Vial 74	1	Control	4	6.52904e5	12.190	5.00000
*	ICAL5@ 1.0ug/L Vial 75	1	Control	5	6.56071e5	12.242	5.00000
*	ICAL6@ 5.0ug/L Vial 76	1	Control	6	6.34251e5	12.221	5.00000
*	ICAL7@ 10.ug/L Vial 77	1	Control	7	6.25689e5	12.216	5.00000
*	ICAL8@ 25.ug/L Vial 78	1	Control	8	6.01523e5	12.141	5.00000
*	ICAL9@ 50.ug/L Vial 79	1	Control	9	5.97661e5	12.156	5.00000
*	ICAL Verf@10ug/L Vial 80	1	Control	10	6.45815e5	12.234	5.00000

*** End of Report ***

Method C:\HPCHEM\1\METHODS\CLO4-PR3.M

Calibration Table

Perchlorate

Calib. Data Modified : 8/21/2017 2:55:52 PM

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
12.226	2	1	5.00000e-2	4365.90820	1.14524e-5		1	CLO4-85
		2	1.00000e-1	9514.03027	1.05108e-5			
		3	2.00000e-1	1.35331e4	1.47786e-5			
		4	5.00000e-1	2.76171e4	1.81047e-5			
		5	1.00000	4.75097e4	2.10483e-5			
		6	5.00000	2.30426e5	2.16990e-5			
		7	10.00000	4.46570e5	2.23929e-5			
		8	25.00000	1.19993e6	2.08345e-5			
		9	50.00000	2.60933e6	1.91620e-5			
12.237	1	1	5.00000e-2	8930.38184	5.59886e-6		1	Perchlorate
		2	1.00000e-1	1.15052e4	8.69173e-6			
		3	2.00000e-1	2.62111e4	7.63037e-6			
		4	5.00000e-1	6.28912e4	7.95024e-6			
		5	1.00000	1.30706e5	7.65074e-6			
		6	5.00000	6.80205e5	7.35073e-6			
		7	10.00000	1.41057e6	7.08933e-6			
		8	25.00000	4.00474e6	6.24259e-6			
		9	50.00000	8.85683e6	5.64536e-6			
12.272	3	1	5.00000	6.73943e5	7.41903e-6	+I1		CLO4-89-ISTD
		2	5.00000	6.67016e5	7.49607e-6			

Method C:\HPCHEM\1\METHODS\CLO4-PR3.M

RetTime [min]	Sig	Lvl	Amount	Area	Amt/Area	Ref	Grp	Name
		3	5.00000	6.61031e5	7.56394e-6			
		4	5.00000	6.52904e5	7.65809e-6			
		5	5.00000	6.56071e5	7.62113e-6			
		6	5.00000	6.34251e5	7.88331e-6			
		7	5.00000	6.25689e5	7.99119e-6			
		8	5.00000	6.01523e5	8.31223e-6			
		9	5.00000	5.97661e5	8.36594e-6			

More compound-specific settings:

Compound: CLO4-85
- Time Window : From 10.676 min To 13.166 min
- Curve Type : Quadratic
- Origin : Forced
- Calibration Level Weights:/
  - Level 1 : 1
  - Level 2 : 1
  - Level 3 : 1
  - Level 4 : 1
  - Level 5 : 1
  - Level 6 : 1
  - Level 7 : 1
  - Level 8 : 1
  - Level 9 : 1

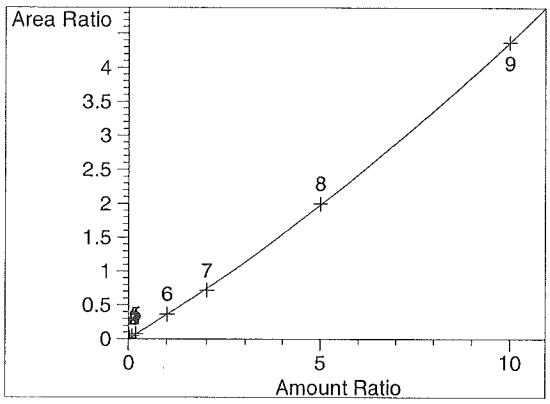
Compound: Perchlorate
- Time Window : From 10.737 min To 13.198 min
- Curve Type : Quadratic
- Origin : Ignored
- Calibration Level Weights:/
  - Level 1 : 1
  - Level 2 : 0.5
  - Level 3 : 0.25
  - Level 4 : 0.1
  - Level 5 : 0.05
  - Level 6 : 0.01
  - Level 7 : 0.005
  - Level 8 : 0.002
  - Level 9 : 0.001

Compound: CLO4-89-ISTD
- Time Window : From 10.704 min To 13.272 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
  - Level 8 : 1
  - Level 9 : 1

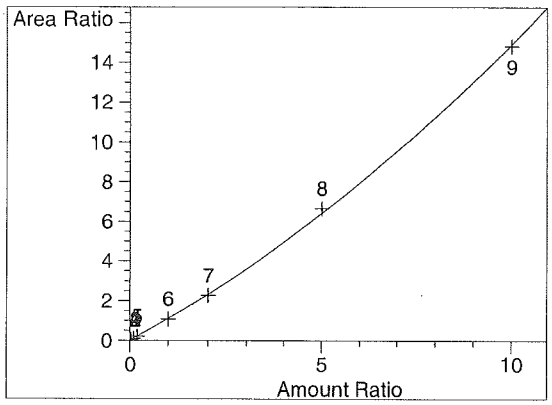
Peak Sum Table

No Entries in table

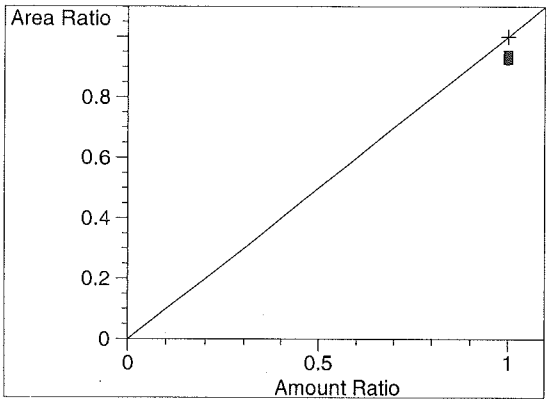
Calibration Curves



CLO4-85 at exp. RT: 12.226
MSD1 85, EIC=84.7:85.7
Correlation: 0.99997
Residual Std. Dev.: 0.01235
Formula: $y = ax^2 + bx$
a: 8.26698e-3
b: 3.54234e-1
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
Level 8 : 1
Level 9 : 1



Perchlorate at exp. RT: 12.237
MSD1 83, EIC=82.7:83.7
Correlation: 0.99970
Residual Std. Dev.: 0.10168
Formula: $y = ax^2 + bx + c$
a: 4.14991e-2
b: 1.07712
c: -1.59065e-3
x: Amount Ratio
y: Area Ratio
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.5
Level 3 : 0.25
Level 4 : 0.1
Level 5 : 0.05
Level 6 : 0.01
Level 7 : 0.005
Level 8 : 0.002
Level 9 : 0.001



CLO4-89-ISTD at exp. RT: 12.272
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
Level 8 : 1
Level 9 : 1

Sequence Table:

Method and Injection Info Part:

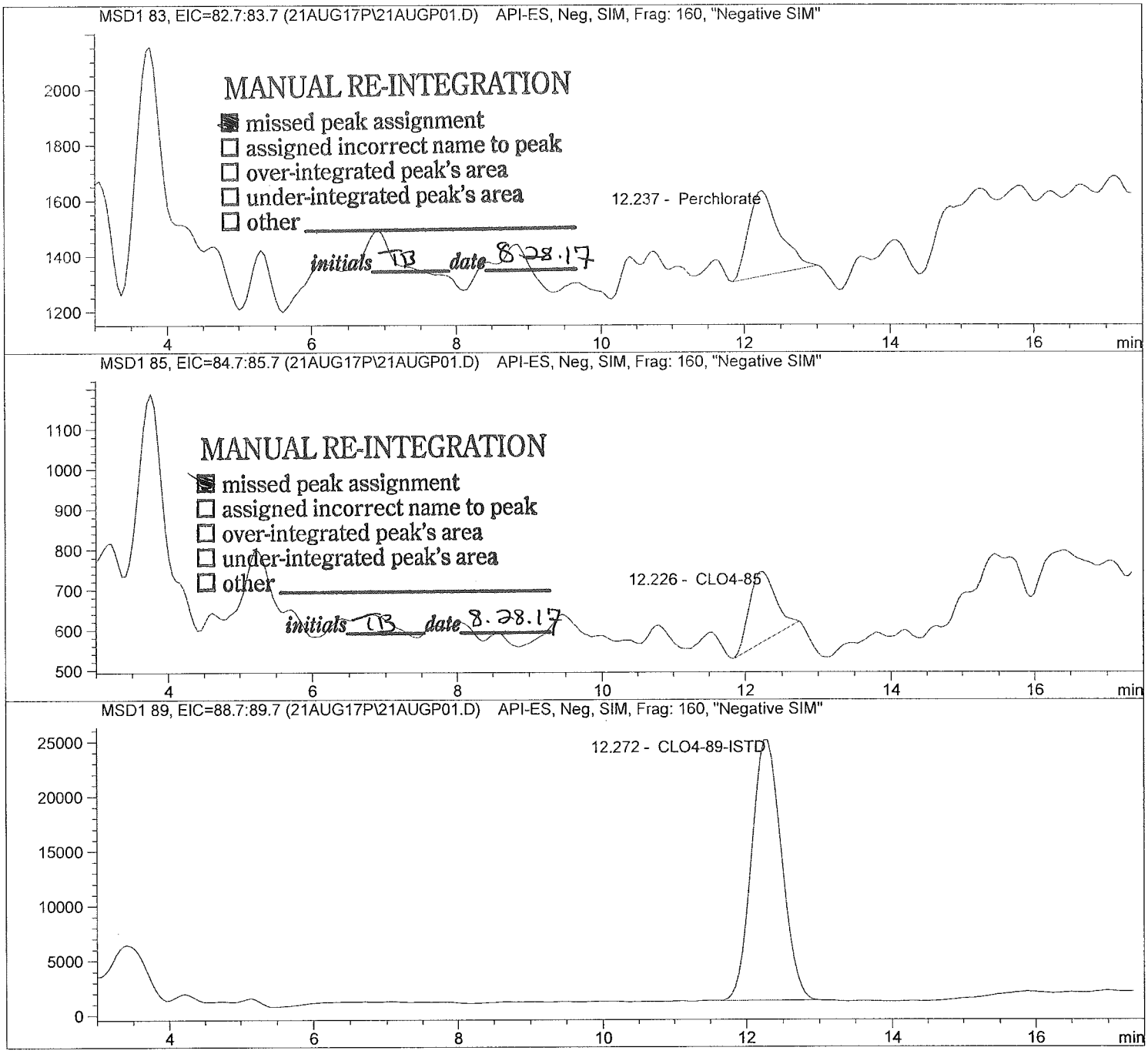
Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	ICAL1@ .05ug/L	CLO4-AQN	1	Ctrl Samp		
2	Vial 72	ICAL2@ .10ug/L	CLO4-AQN	1	Ctrl Samp		
3	Vial 73	ICAL3@ .20ug/L	CLO4-AQN	1	Ctrl Samp		
4	Vial 74	ICAL4@ 0.5ug/L	CLO4-AQN	1	Ctrl Samp		
5	Vial 75	ICAL5@ 1.0ug/L	CLO4-AQN	1	Ctrl Samp		
6	Vial 76	ICAL6@ 5.0ug/L	CLO4-AQN	1	Ctrl Samp		
7	Vial 77	ICAL7@ 10.ug/L	CLO4-AQN	1	Ctrl Samp		
8	Vial 78	ICAL8@ 25.ug/L	CLO4-AQN	1	Ctrl Samp		
9	Vial 79	ICAL9@ 50.ug/L	CLO4-AQN	1	Ctrl Samp		
10	Vial 80	ICAL Verf@10ug/L	CLO4-AQN	1	Ctrl Samp		

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP01.D Sample Name: ICAL1@ .05ug/L

Injection Date:	8/21/2017 09:42:32	Seq Line:	1
Sample Name:	ICAL1@ .05ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP01.D Sample Name: ICAL1@ .05ug/L

Injection Date:	8/21/2017 09:42:32	Seq Line:	1
Sample Name:	ICAL1@ .05ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.050

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.237	MM	8930.4	0.0689	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.226	MM	4365.9	0.0914	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.272	BBA	673942.9	5.0000	CLO4-89-ISTD

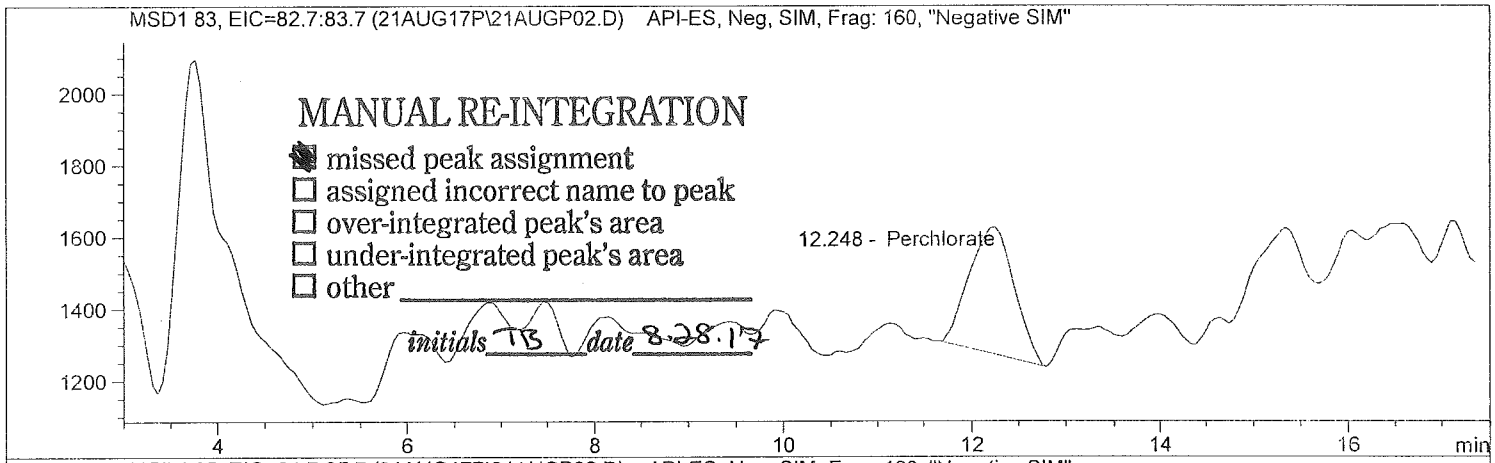
*** End of Report ***

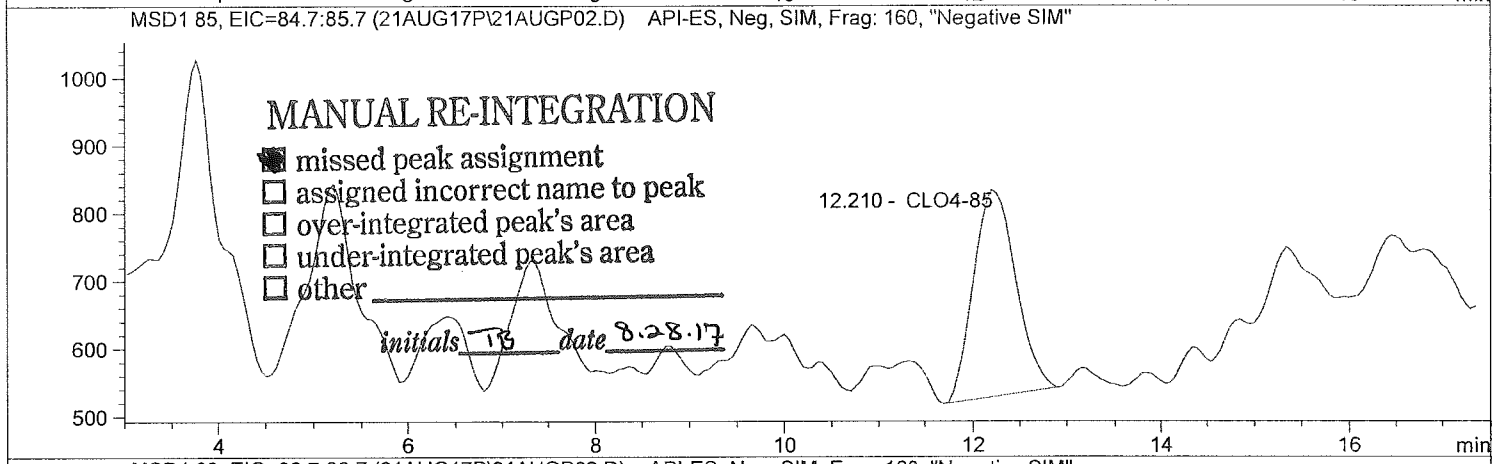
Data File: C:\HPCHEM\1\DATA\21AUG17P\21AUGP02.D Sample Name: ICAL2@ .10ug/L

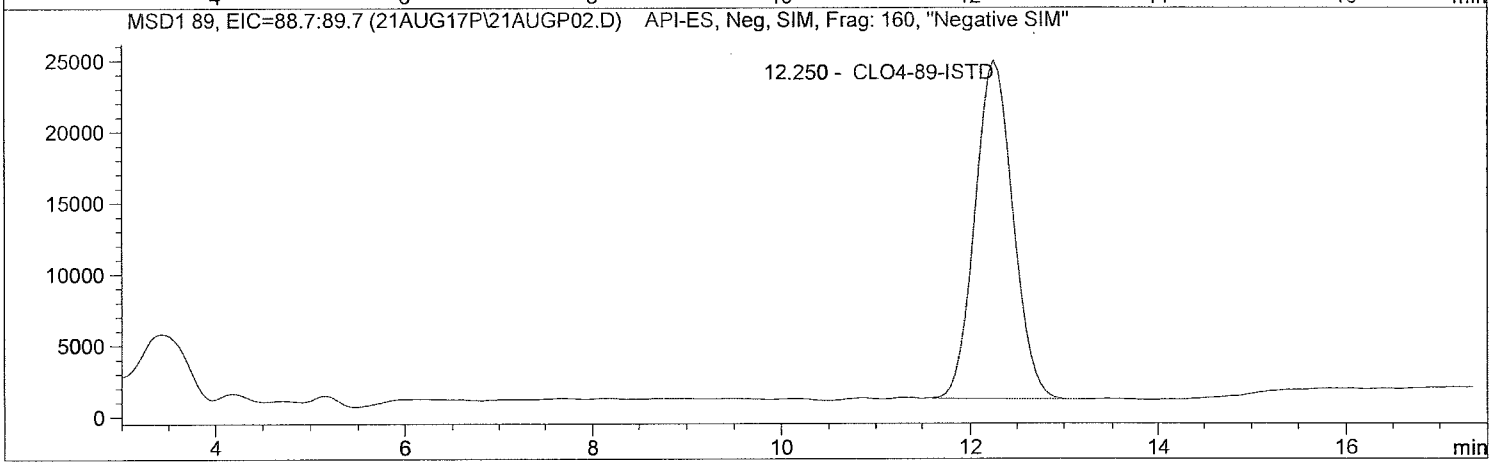
Injection Date:	8/21/2017 10:01:47	Seq Line:	2
Sample Name:	ICAL2@ .10ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP02.D Sample Name: ICAL2@ .10ug/L

Injection Date:	8/21/2017 10:01:47	Seq Line:	2
Sample Name:	ICAL2@ .10ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method:	CLO4-AQN.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed:	8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.100

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.248	MM	11505.2	0.0874	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.210	MM	9514.0	0.2011	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.250	BBA	667016.3	5.0000	CLO4-89-ISTD

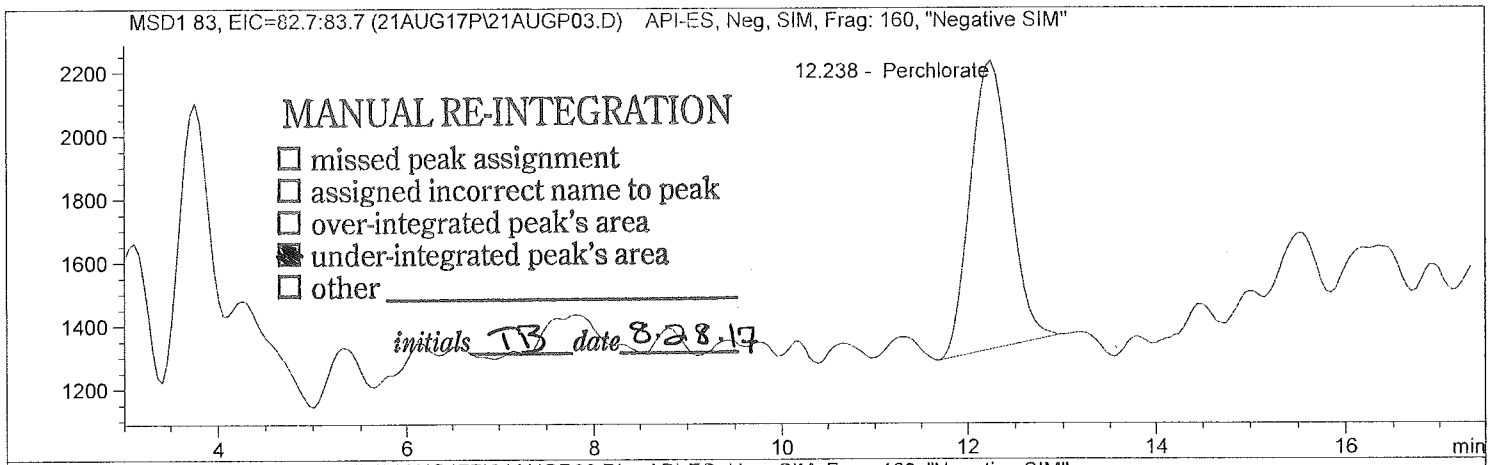
*** End of Report ***

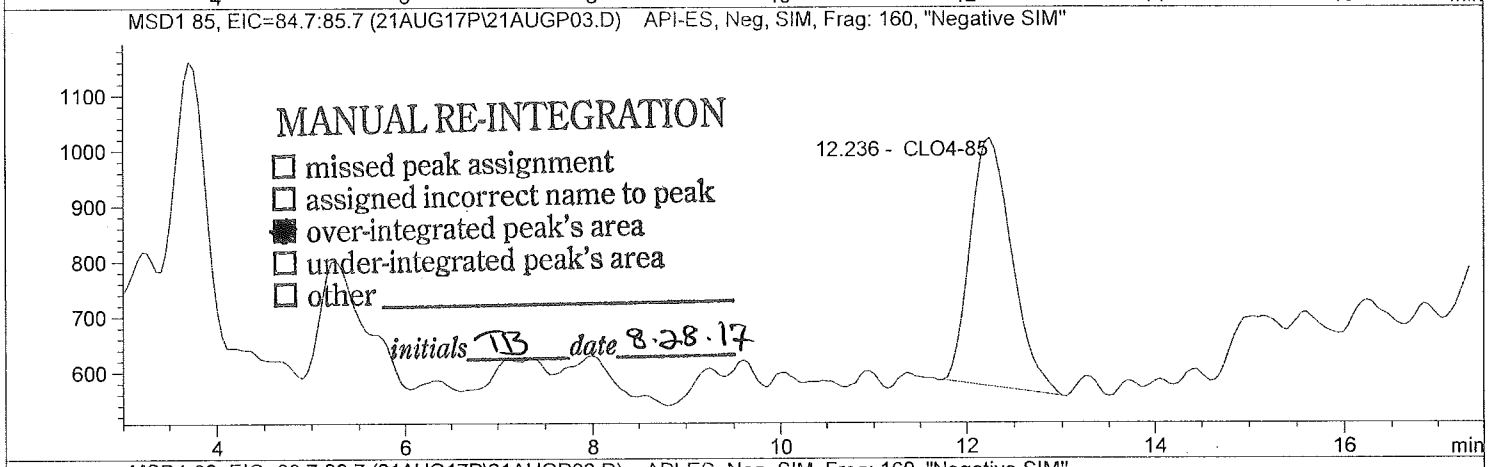
Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP03.D Sample Name: ICAL3@ .20ug/L

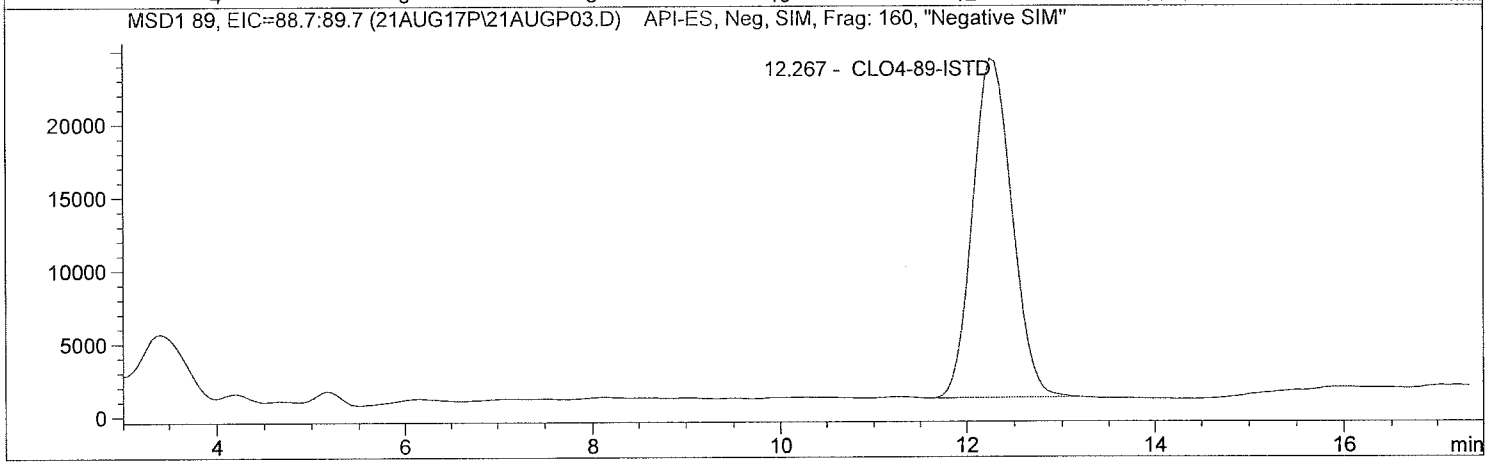
Injection Date:	8/21/2017 10:21:02	Seq Line:	3
Sample Name:	ICAL3@ .20ug/L	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP03.D Sample Name: ICAL3@ .20ug/L

Injection Date:	8/21/2017 10:21:02	Seq Line:	3
Sample Name:	ICAL3@ .20ug/L	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.200

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.238	MM	26211.1	0.1912	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.236	MM	13533.1	0.2886	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.267	PBA	661030.8	5.0000	CLO4-89-ISTD

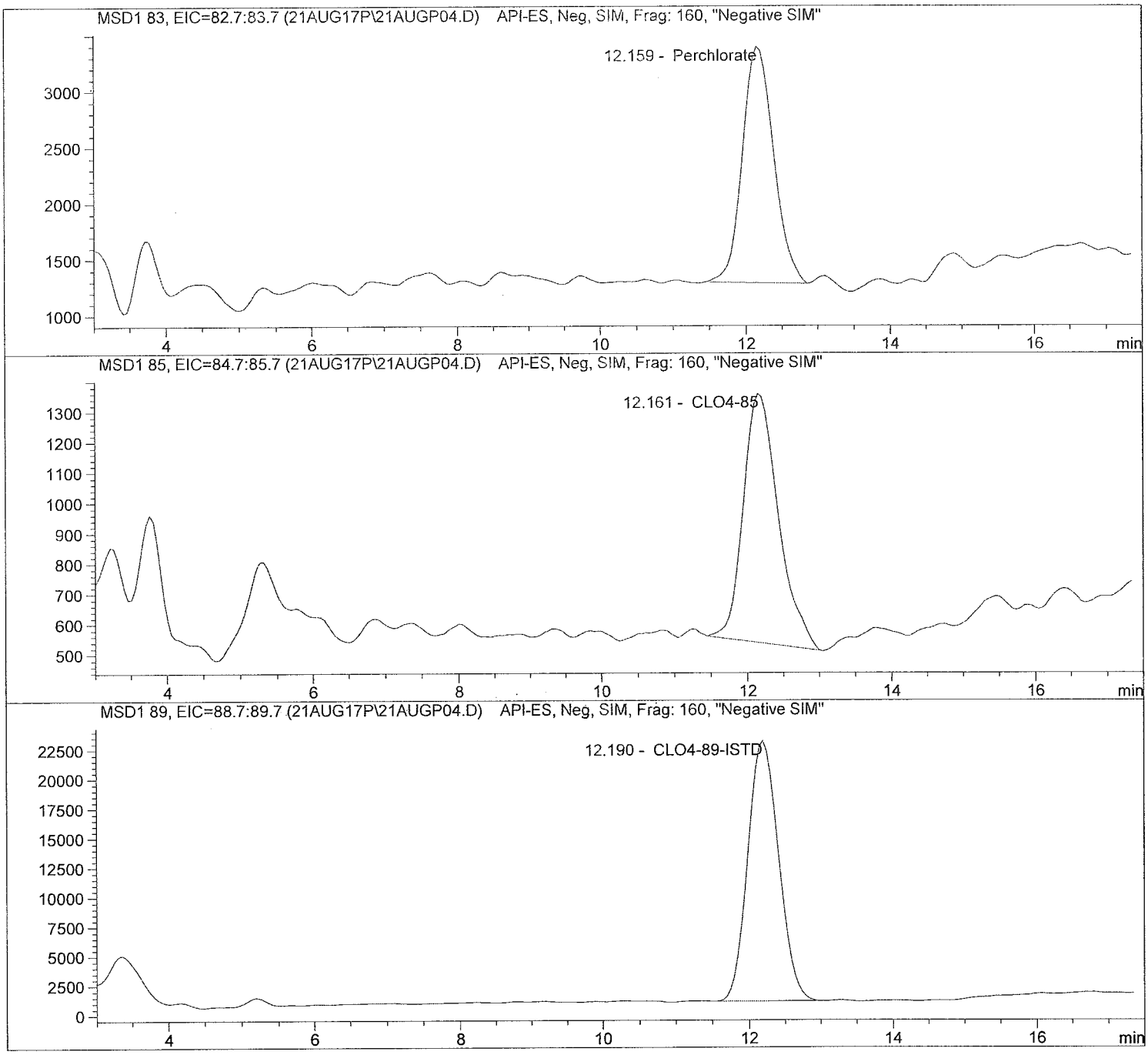
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP04.D Sample Name: ICAL4@ 0.5ug/L

Injection Date:	8/21/2017 10:40:22	Seq Line:	4
Sample Name:	ICAL4@ 0.5ug/L	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP04.D Sample Name: ICAL4@ 0.5ug/L

Injection Date:	8/21/2017 10:40:22	Seq Line:	4
Sample Name:	ICAL4@ 0.5ug/L	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.500

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.159	BBA	62891.2	0.4529	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.161	PBA	27617.1	0.5954	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.190	PBA	652904.1	5.0000	CLO4-89-ISTD

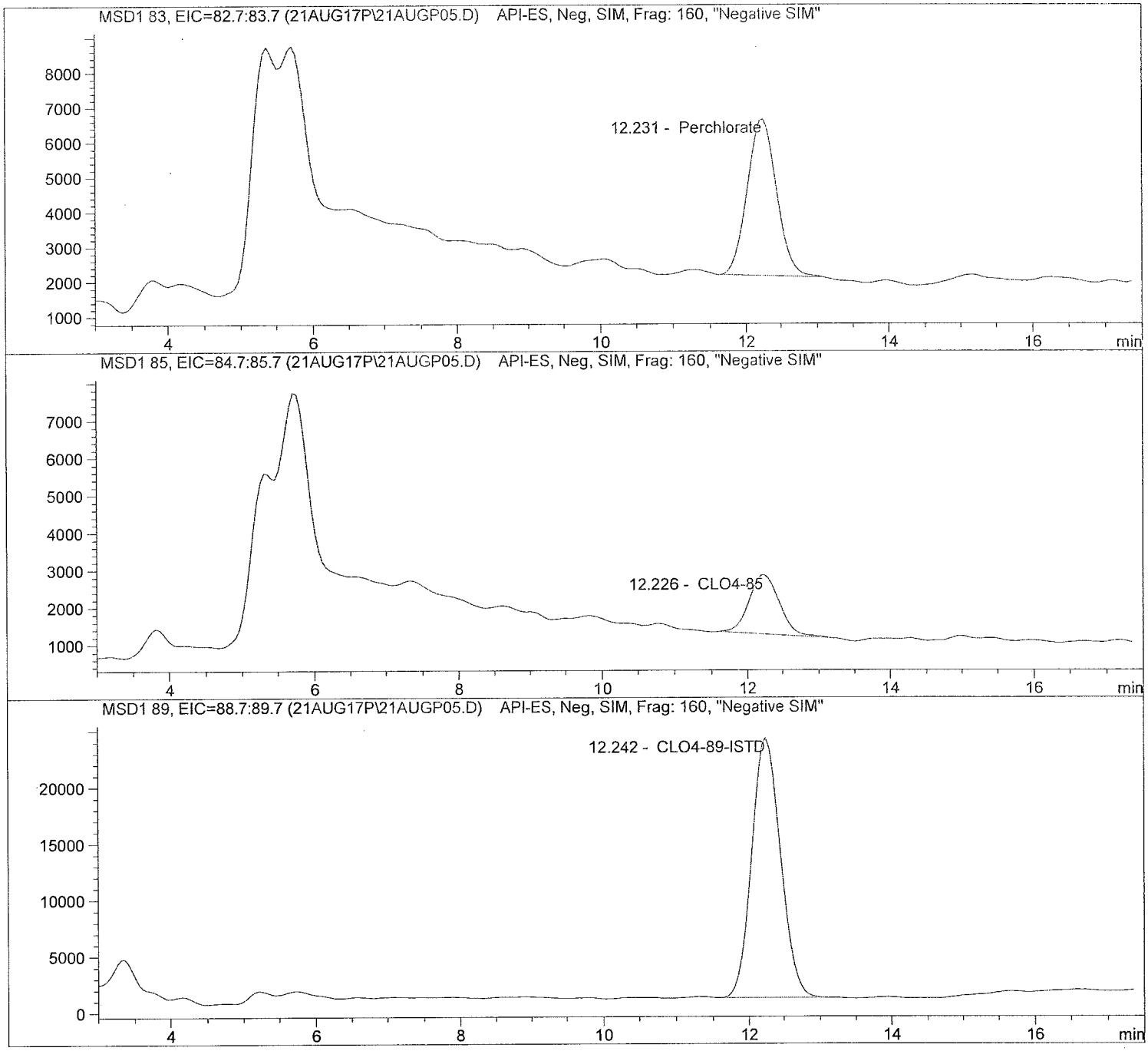
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP05.D Sample Name: ICAL5@ 1.0ug/L

Injection Date:	8/21/2017 10:59:36	Seq Line:	5
Sample Name:	ICAL5@ 1.0ug/L	Location:	Vial 75
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP05.D Sample Name: ICAL5@ 1.0ug/L

Injection Date:	8/21/2017 10:59:36	Seq Line:	5
Sample Name:	ICAL5@ 1.0ug/L	Location:	Vial 75
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
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
12.231	PBA	130706.3	0.9256	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.226	PBA	47509.7	1.0173	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.242	PBA	656070.7	5.0000	CLO4-89-ISTD

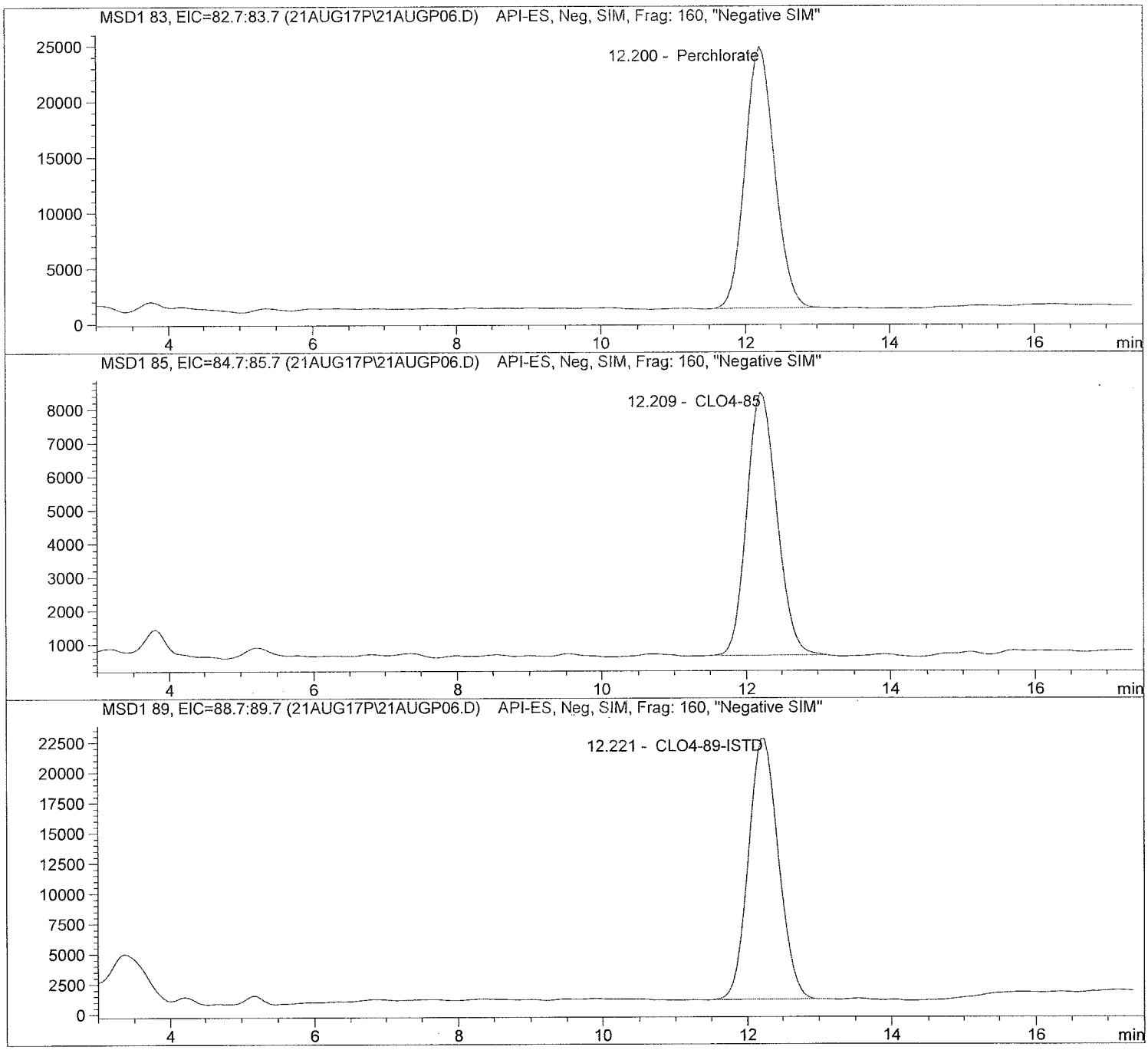
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP06.D Sample Name: ICAL6@ 5.0ug/L

Injection Date:	8/21/2017 11:18:53	Seq Line:	6
Sample Name:	ICAL6@ 5.0ug/L	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP06.D Sample Name: ICAL6@ 5.0ug/L

Injection Date:	8/21/2017 11:18:53	Seq Line:	6
Sample Name:	ICAL6@ 5.0ug/L	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
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
12.200	PBA	680204.6	4.8076	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.209	BBA	230425.8	5.0108	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.221	BBA	634251.4	5.0000	CLO4-89-ISTD

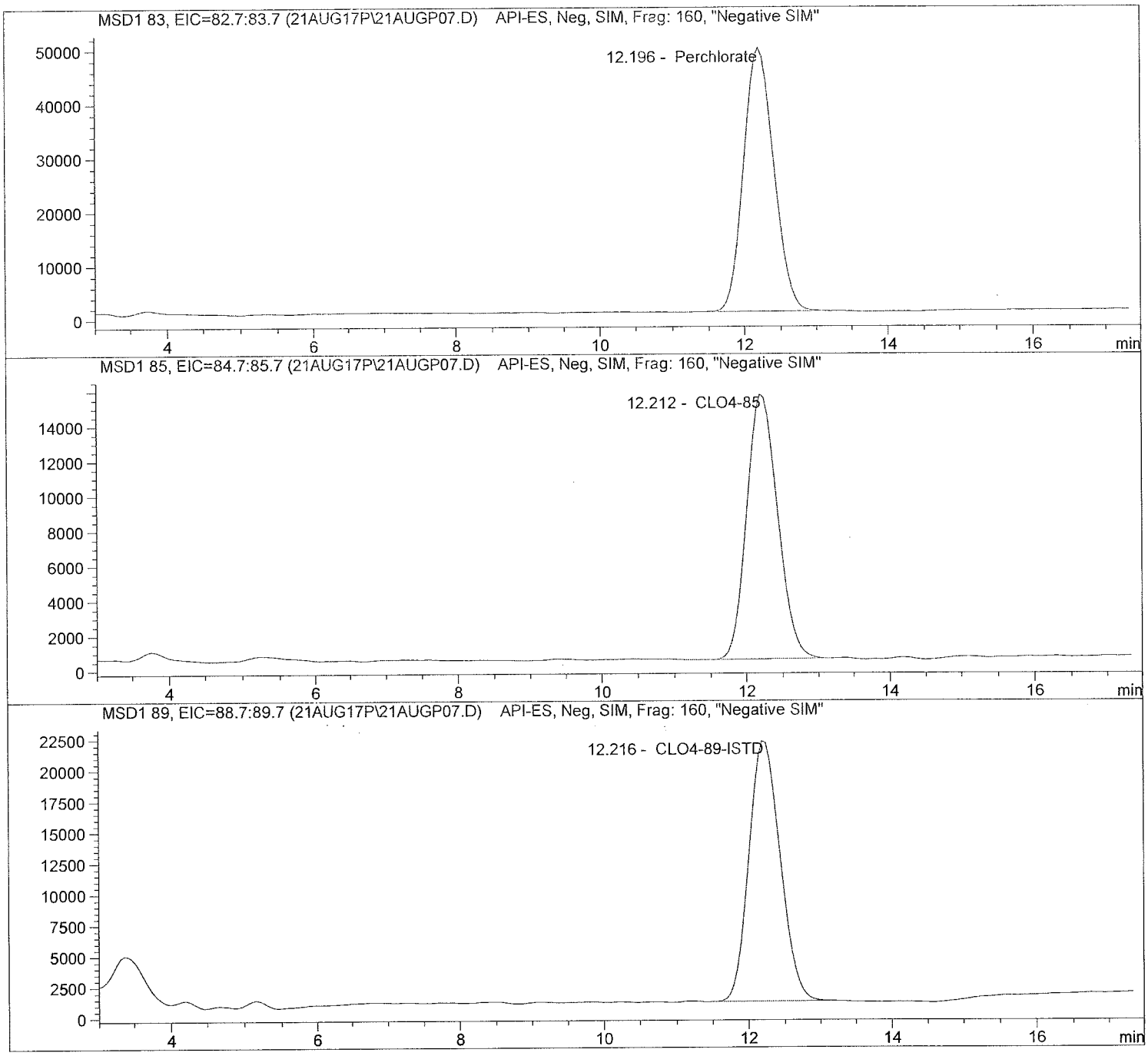
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP07.D Sample Name: ICAL7@ 10.ug/L

Injection Date:	8/21/2017 11:38:12	Seq Line:	7
Sample Name:	ICAL7@ 10.ug/L	Location:	Vial 77
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP07.D Sample Name: ICAL7@ 10.ug/L

Injection Date:	8/21/2017 11:38:12	Seq Line:	7
Sample Name:	ICAL7@ 10.ug/L	Location:	Vial 77
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
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
12.196	BBA	1410569.9	9.7413	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.212	PBA	446569.7	9.6404	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.216	PBA	625689.1	5.0000	CLO4-89-ISTD

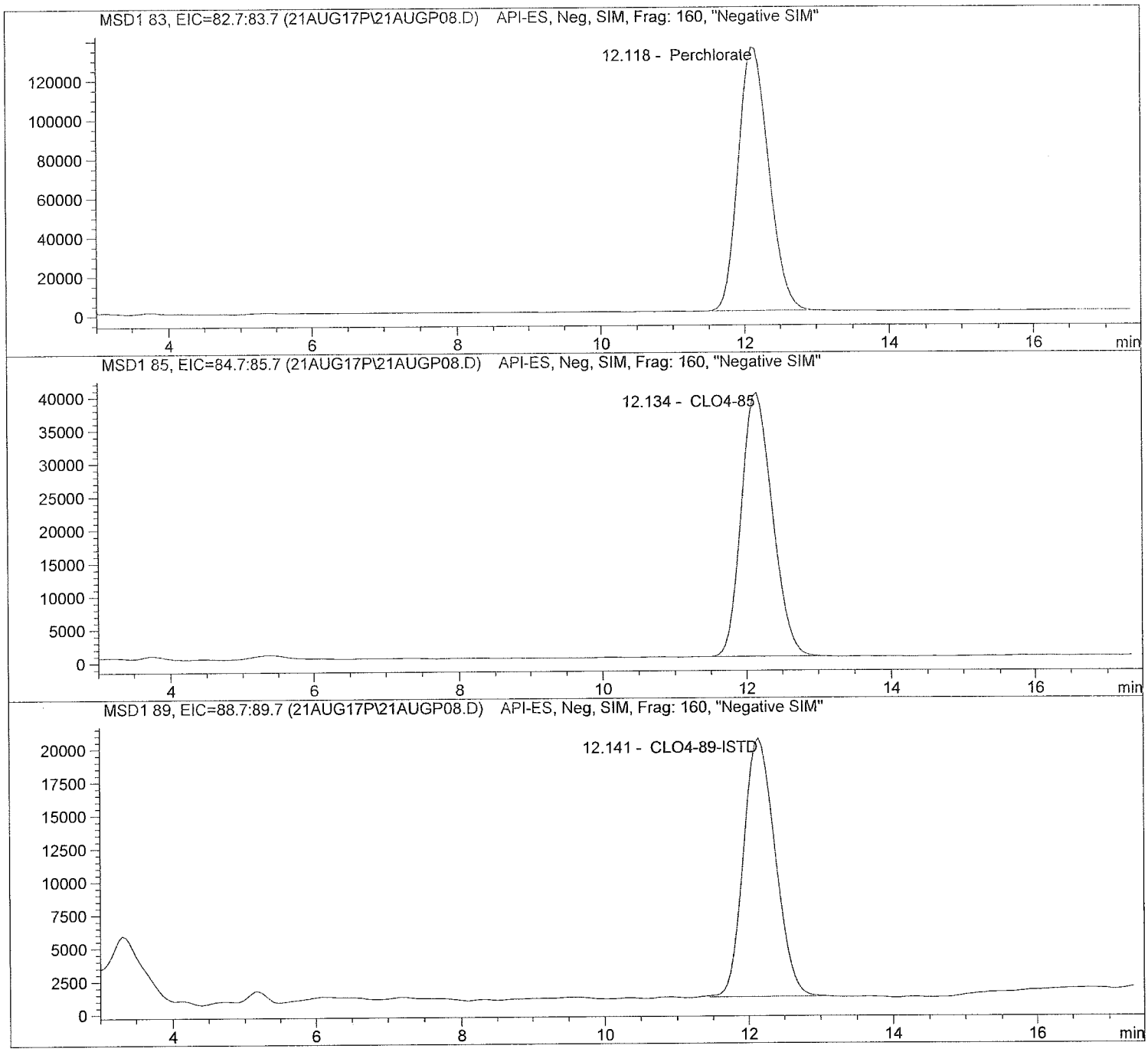
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP08.D Sample Name: ICAL8@ 25.ug/L

Injection Date:	8/21/2017 13:12:50	Seq Line:	8
Sample Name:	ICAL8@ 25.ug/L	Location:	Vial 78
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP08.D Sample Name: ICAL8@ 25.ug/L

Injection Date:	8/21/2017 13:12:50	Seq Line:	8
Sample Name:	ICAL8@ 25.ug/L	Location:	Vial 78
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method:	CLO4-AQN.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed:	8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
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
12.118	BBA	4004745.0	25.7880	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.134	BBA	1199930.0	25.1941	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.141	BBA	601523.1	5.0000	CLO4-89-ISTD

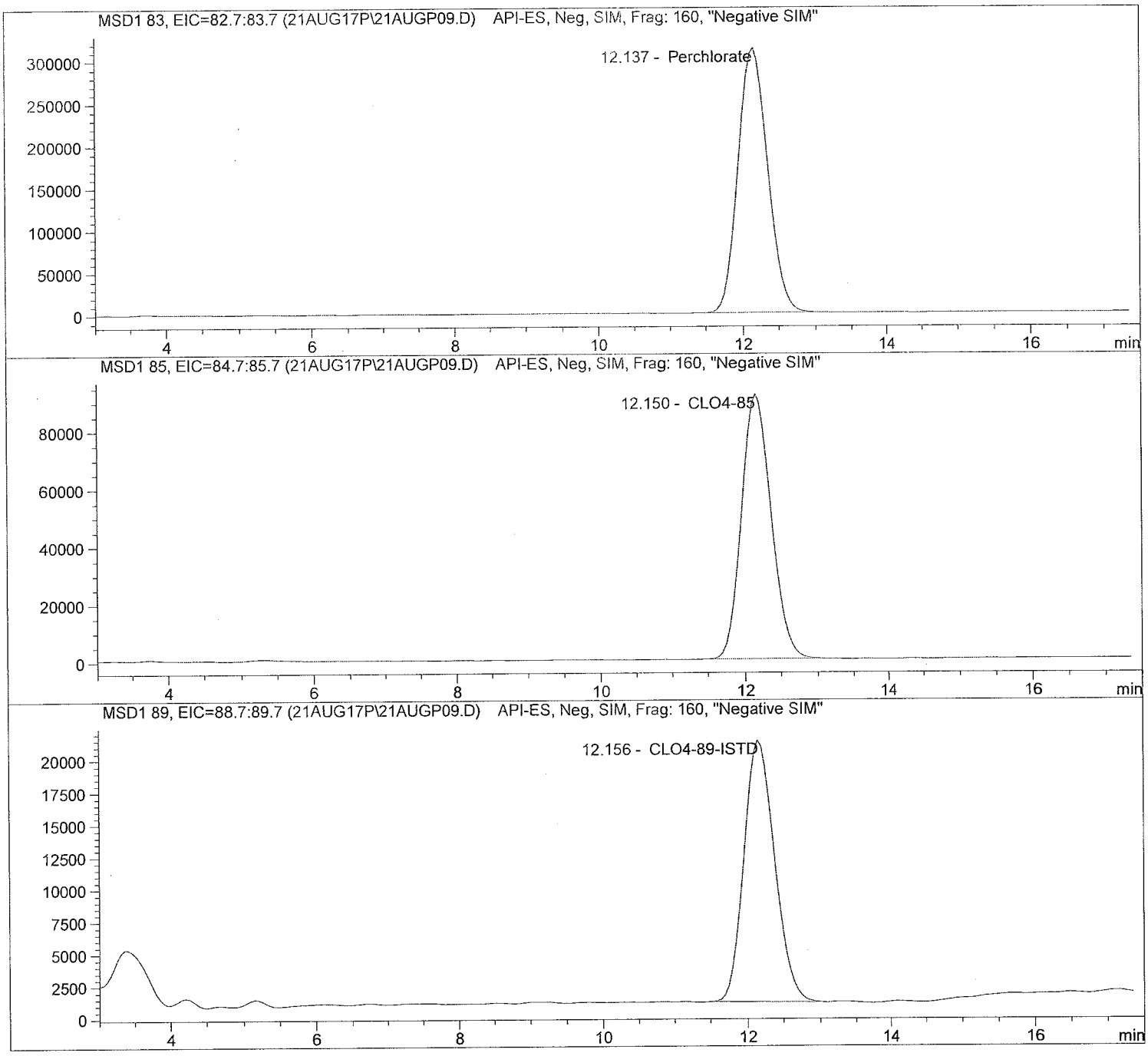
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP09.D Sample Name: ICAL9@ 50.ug/L

Injection Date:	8/21/2017 13:32:10	Seq Line:	9
Sample Name:	ICAL9@ 50.ug/L	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP09.D Sample Name: ICAL9@ 50.ug/L

Injection Date:	8/21/2017 13:32:10	Seq Line:	9
Sample Name:	ICAL9@ 50.ug/L	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
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
12.137	PBA	8856831.0	49.7366	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.150	BBA	2609327.3	49.9698	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.156	BBA	597661.2	5.0000	CLO4-89-ISTD

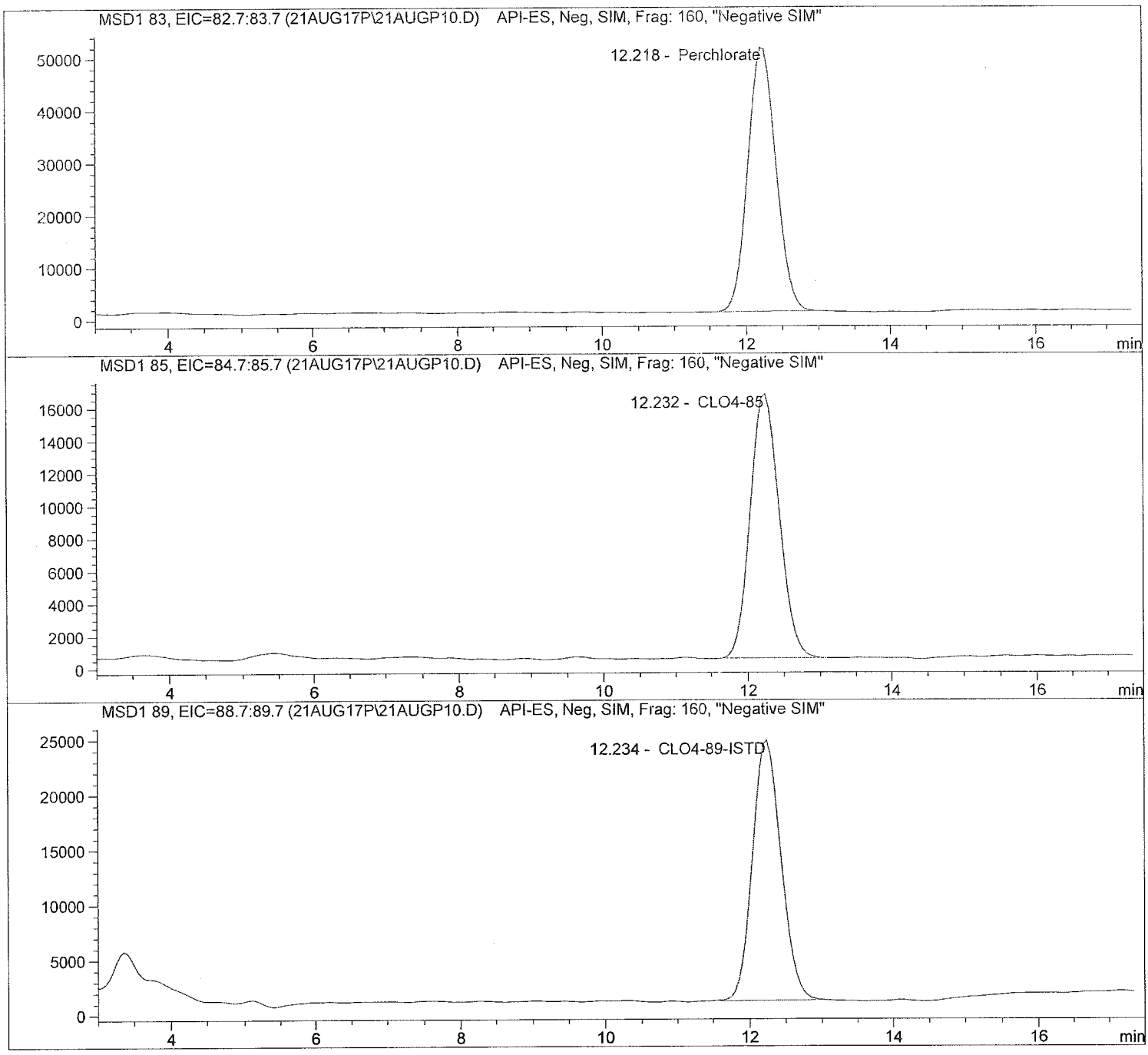
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP10.D Sample Name: ICAL Verf@10ug/L

Injection Date:	8/21/2017 13:51:27	Seq Line:	10
Sample Name:	ICAL Verf@10ug/L	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP10.D Sample Name: ICAL Verf@10ug/L

Injection Date:	8/21/2017 13:51:27	Seq Line:	10
Sample Name:	ICAL Verf@10ug/L	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
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
12.218	BBA	1360649.7	9.1433	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.232	PBA	449703.0	9.4150	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.234	BBA	645815.0	5.0000	CLO4-89-ISTD

*** End of Report ***

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Raw Data

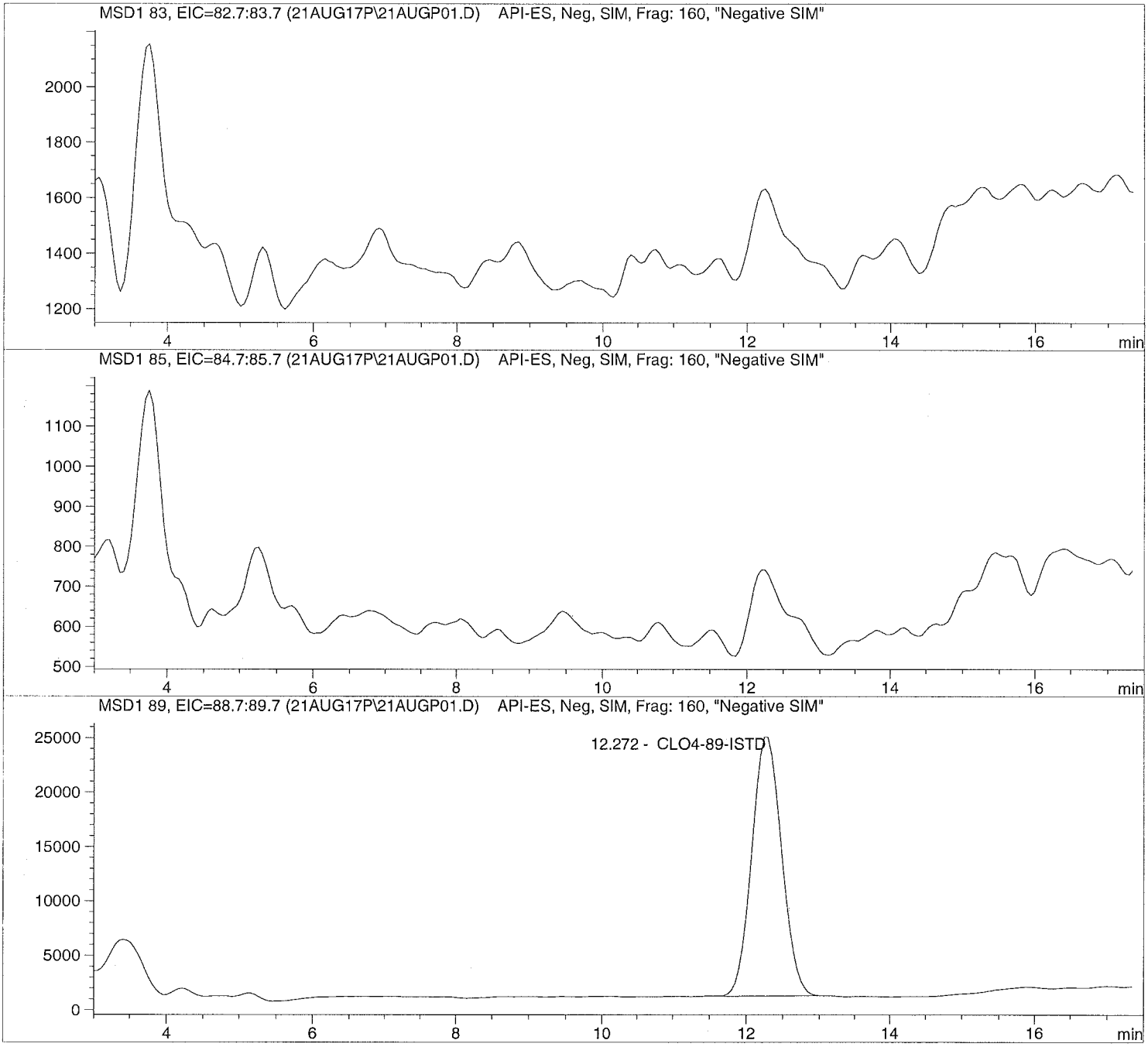
Unmodified

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP01.D Sample Name: ICAL1@ .05ug/L

Injection Date:	8/21/2017 09:42:32	Seq Line:	1
Sample Name:	ICAL1@ .05ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP01.D Sample Name: ICAL1@ .05ug/L

Injection Date:	8/21/2017 09:42:32	Seq Line:	1
Sample Name:	ICAL1@ .05ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.050

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
12.272	BBA	673942.9	5.0000	CLO4-89-ISTD

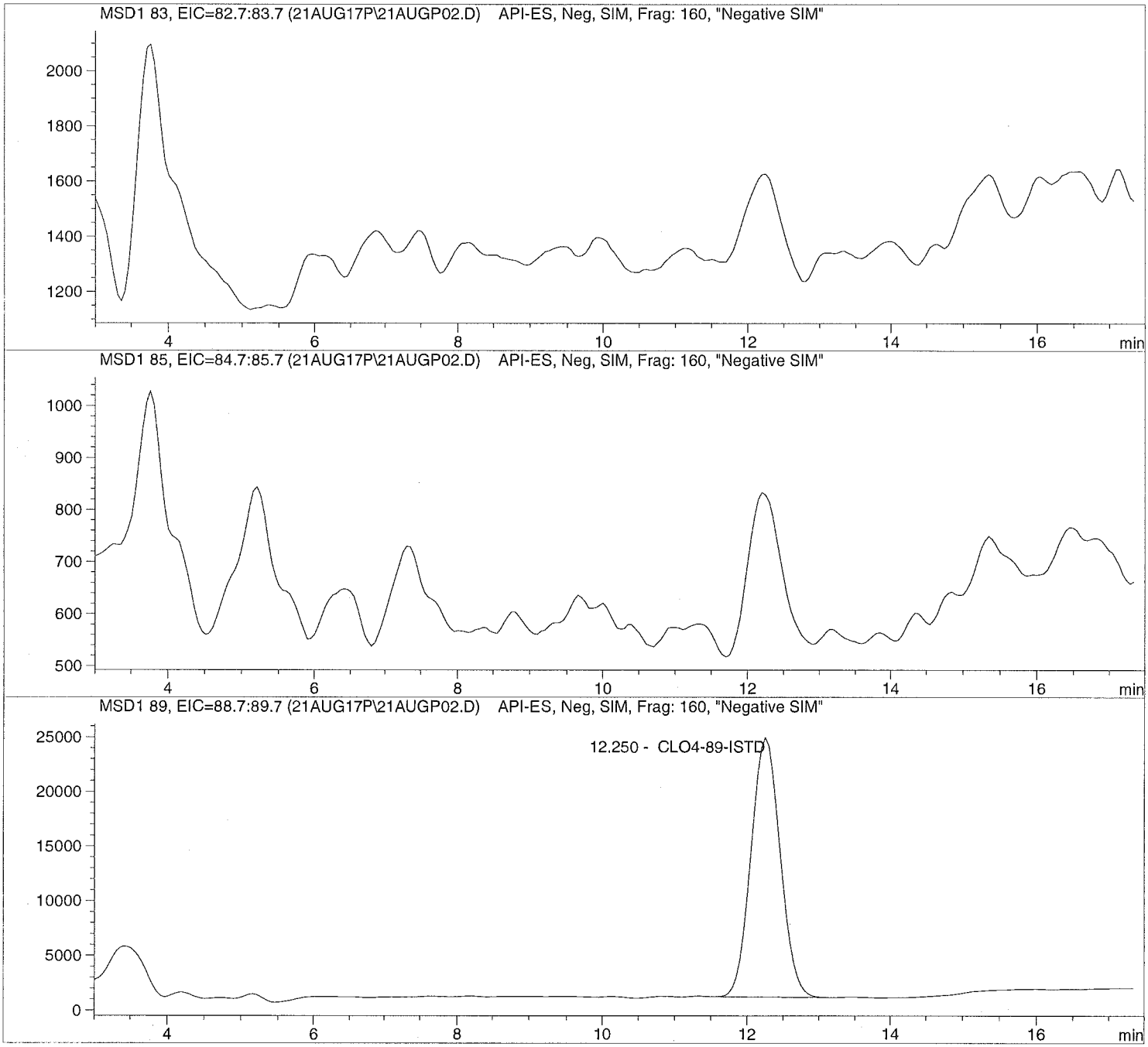
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP02.D Sample Name: ICAL2@ .10ug/L

Injection Date:	8/21/2017 10:01:47	Seq Line:	2
Sample Name:	ICAL2@ .10ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP02.D Sample Name: ICAL2@ .10ug/L

Injection Date:	8/21/2017 10:01:47	Seq Line:	2
Sample Name:	ICAL2@ .10ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.100

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
12.250	BBA	667016.3	5.0000	CLO4-89-ISTD

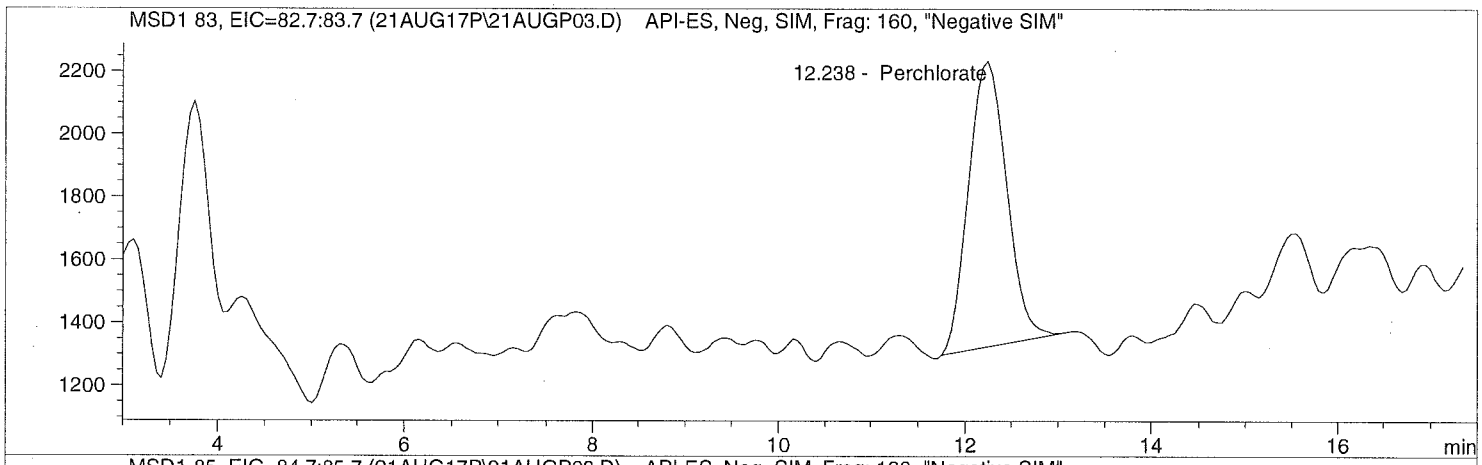
*** End of Report ***

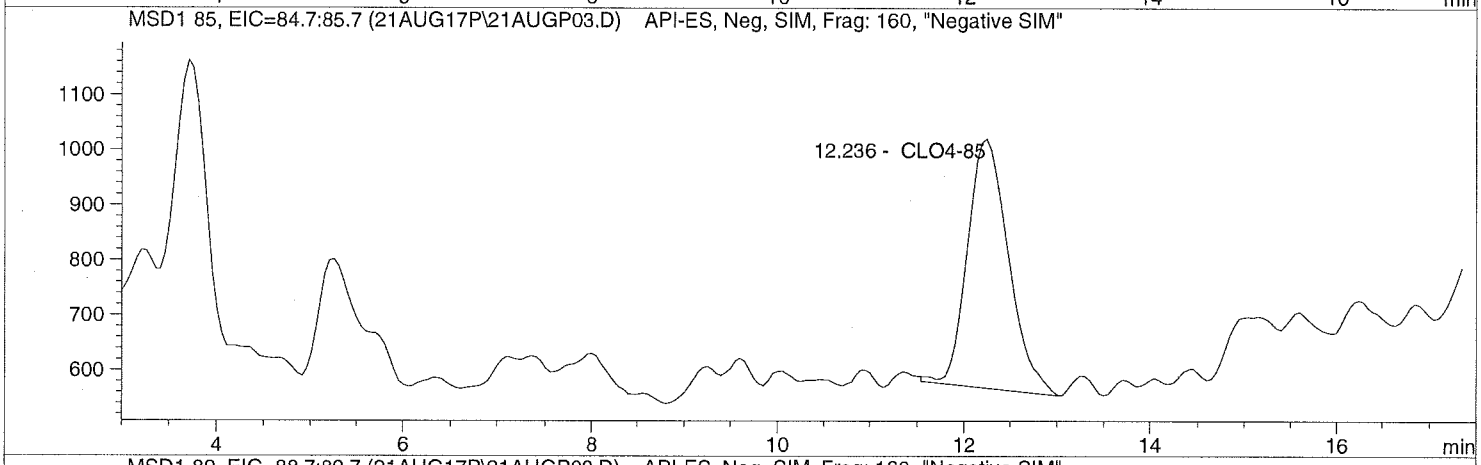
Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP03.D Sample Name: ICAL3@ .20ug/L

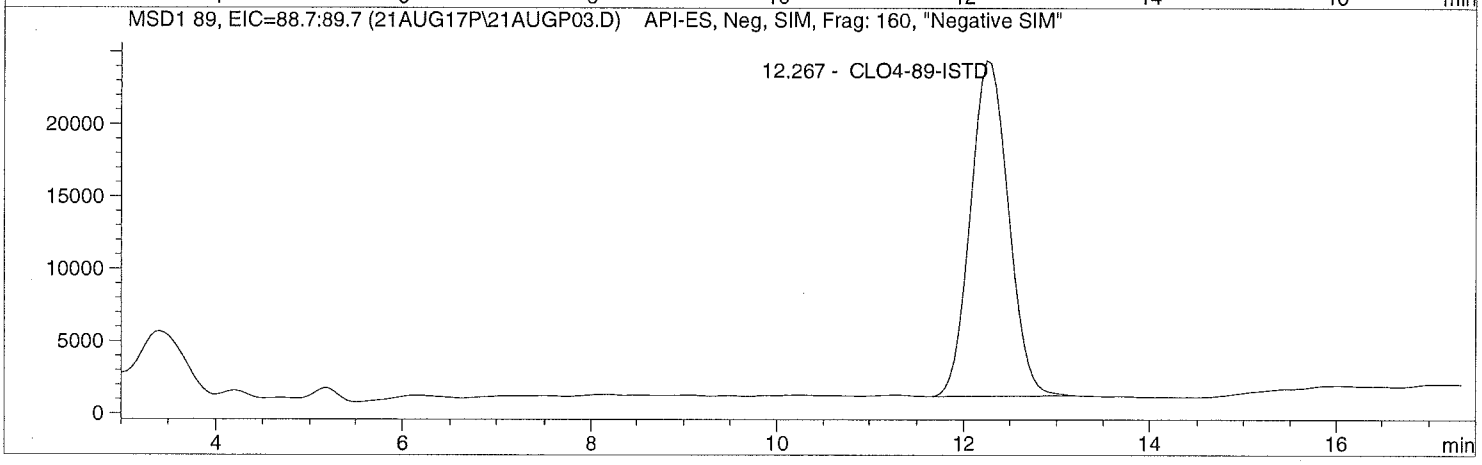
Injection Date:	8/21/2017 10:21:02	Seq Line:	3
Sample Name:	ICAL3@ .20ug/L	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP03.D Sample Name: ICAL3@ .20ug/L

Injection Date:	8/21/2017 10:21:02	Seq Line:	3
Sample Name:	ICAL3@ .20ug/L	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.200

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.238	PBA	26023.7	0.1899	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.236	BBA	13974.8	0.2980	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.267	PBA	661030.8	5.0000	CLO4-89-ISTD

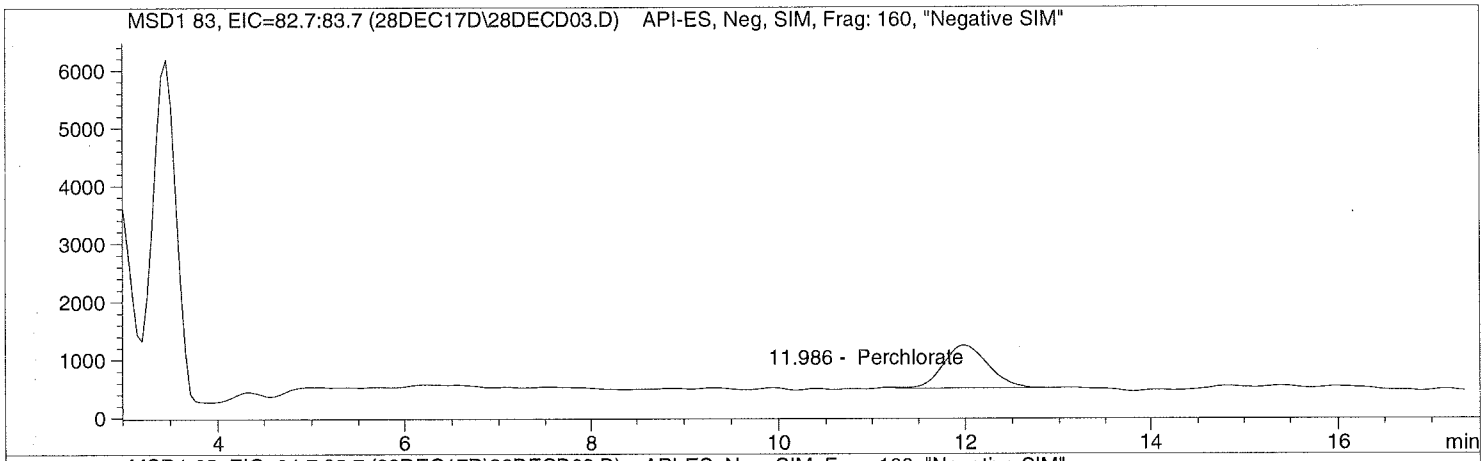
*** End of Report ***

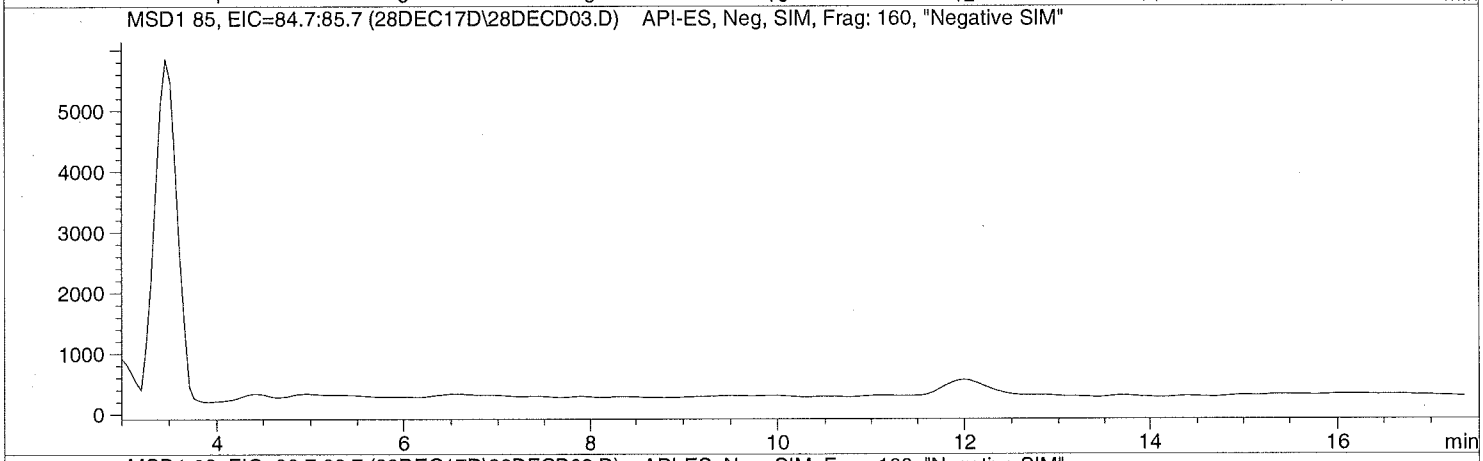
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD03.D Sample Name: 581171 ICS@1.

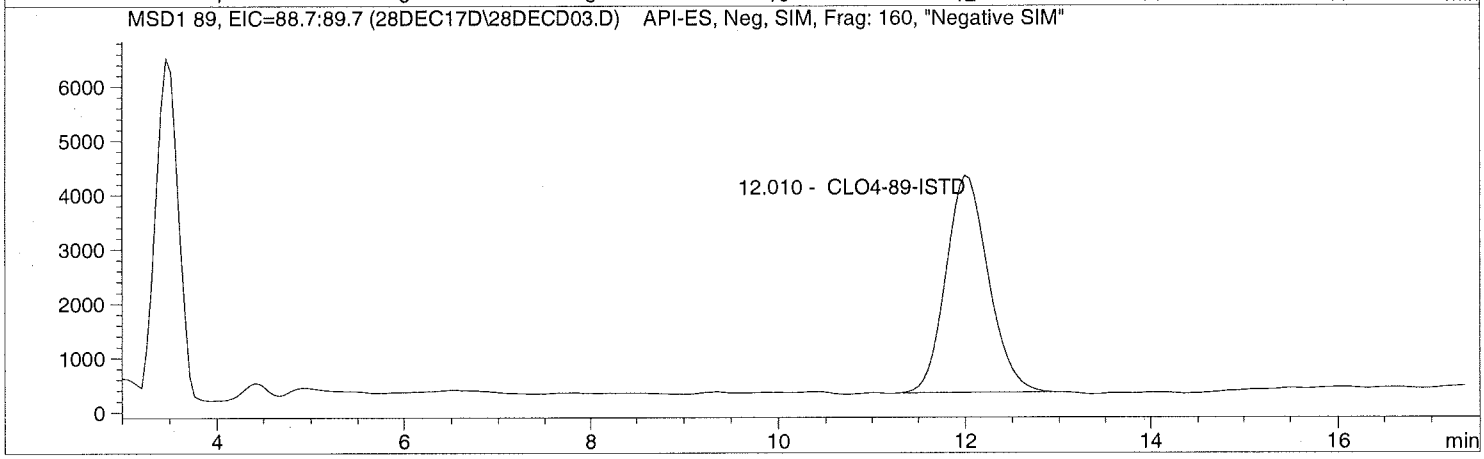
Injection Date:	12/28/2017 11:30:49	Seq Line:	3
Sample Name:	581171 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD03.D Sample Name: 581171 ICS@1.

Injection Date:	12/28/2017 11:30:49	Seq Line:	3
Sample Name:	581171 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
11.986	BBA	24593.0	0.9244	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
12.010	PBA	126199.8	5.0000	CLO4-89-ISTD

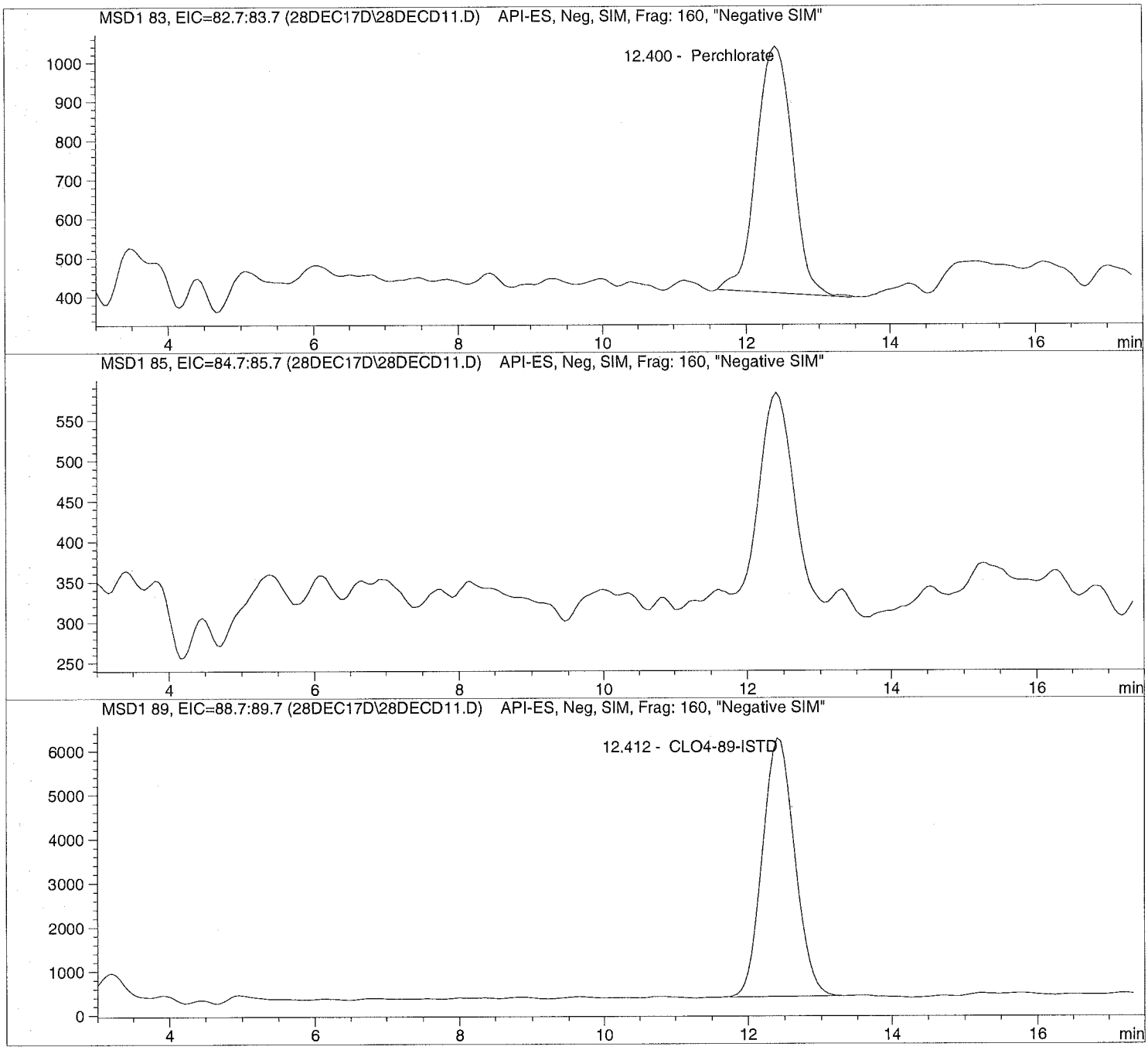
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD11.D Sample Name: 1735685004 100

Injection Date:	12/28/2017 14:08:36	Seq Line:	11
Sample Name:	1735685004 100	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\28DEC17D\28DECD11.D Sample Name: 1735685004 100

Injection Date:	12/28/2017 14:08:36	Seq Line:	11
Sample Name:	1735685004 100	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:	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
12.400	PBA	21505.4	58.0909	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
12.412	BBA	178775.9	500.0000	CLO4-89-ISTD

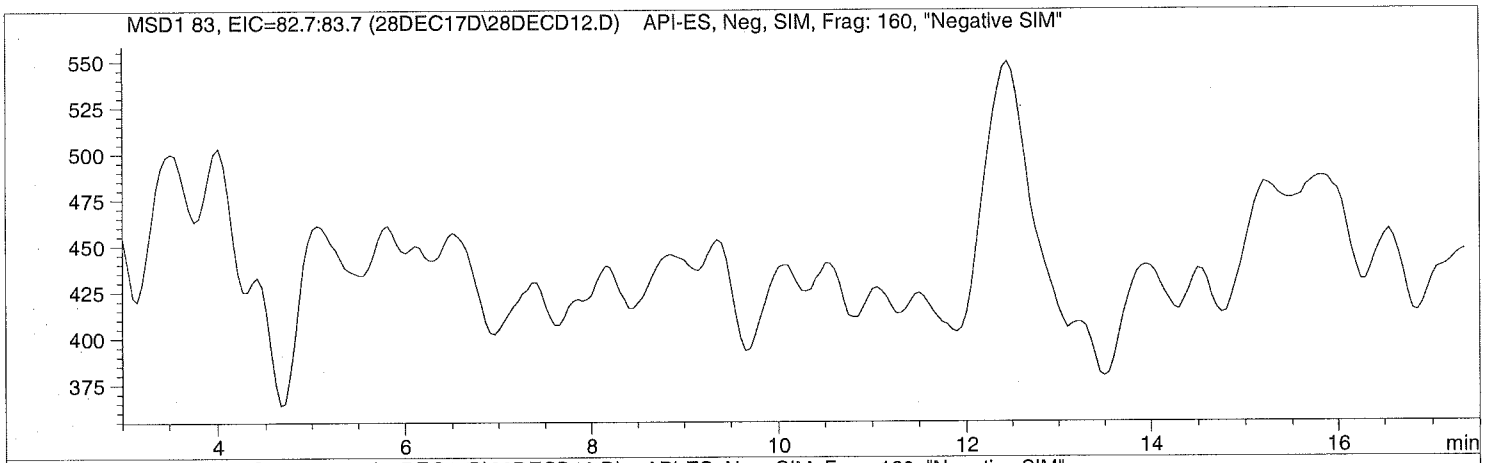
*** End of Report ***

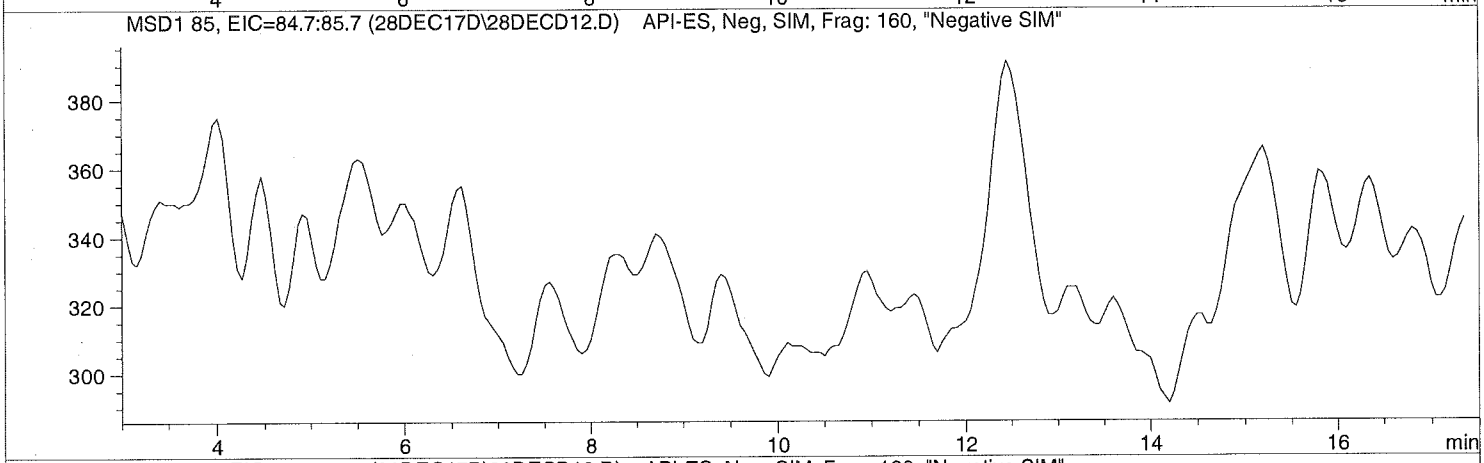
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD12.D Sample Name: 1735685005 100

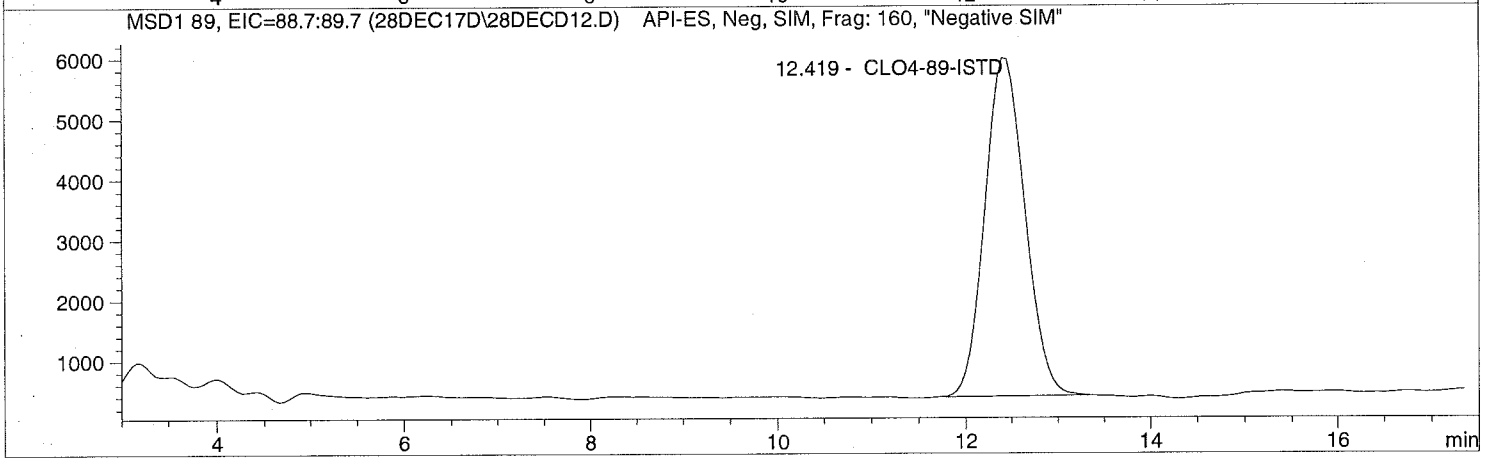
Injection Date:	12/28/2017 14:27:43	Seq Line:	12
Sample Name:	1735685005 100	Location:	Vial 82
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD12.D Sample Name: 1735685005 100

Injection Date:	12/28/2017 14:27:43	Seq Line:	12
Sample Name:	1735685005 100	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:	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
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
12.419	BBA	167796.2	500.0000	CLO4-89-ISTD

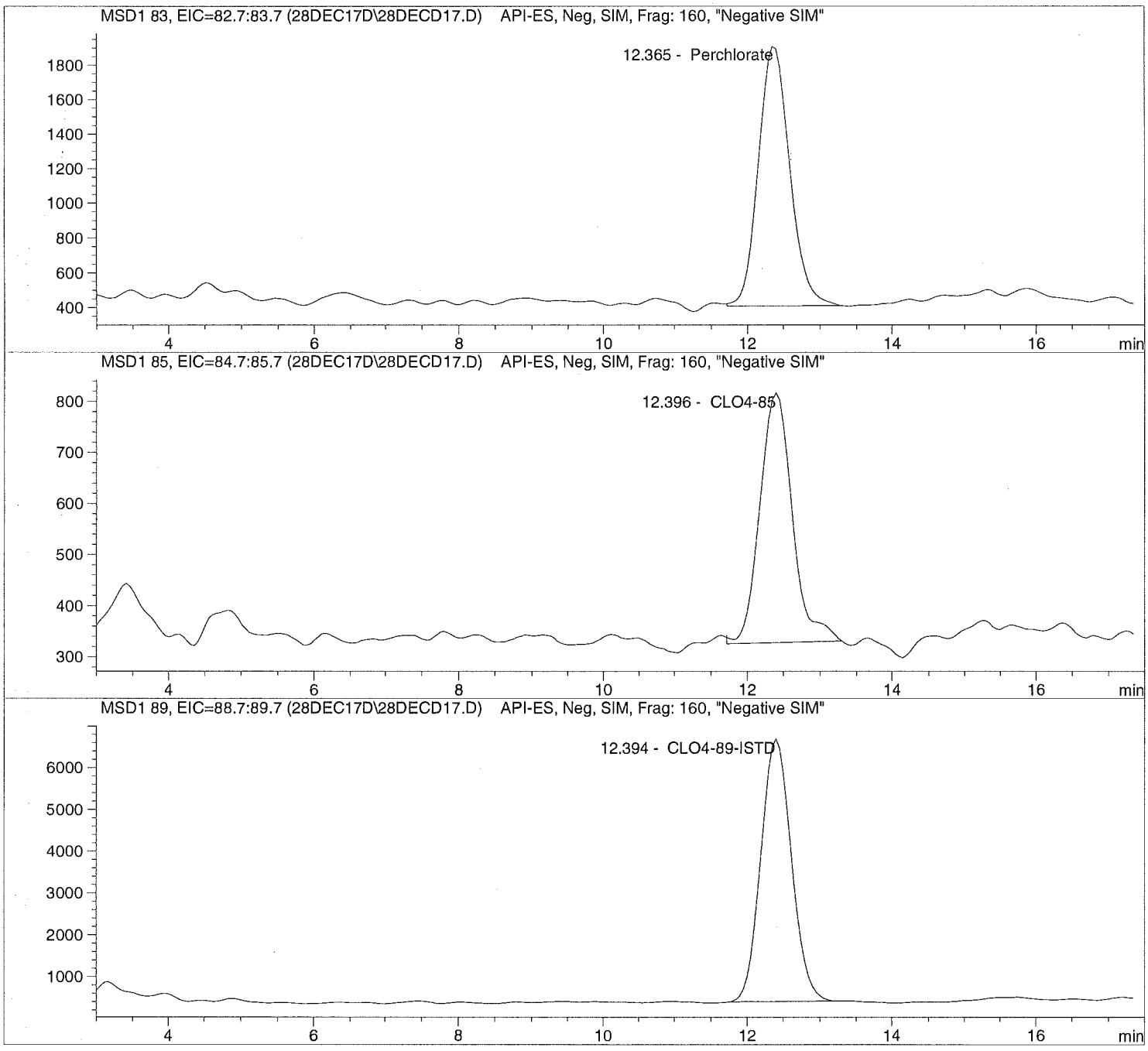
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD17.D Sample Name: 581177 LODV@1.

Injection Date:	12/28/2017 16:03:29	Seq Line:	17
Sample Name:	581177 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\28DEC17D\28DECD17.D Sample Name: 581177 LODV@1.

Injection Date:	12/28/2017 16:03:29	Seq Line:	17
Sample Name:	581177 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
12.365	BBA	45116.8	1.1533	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.396	BBA	15199.4	0.9791	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.394	PBA	184350.1	5.0000	CLO4-89-ISTD

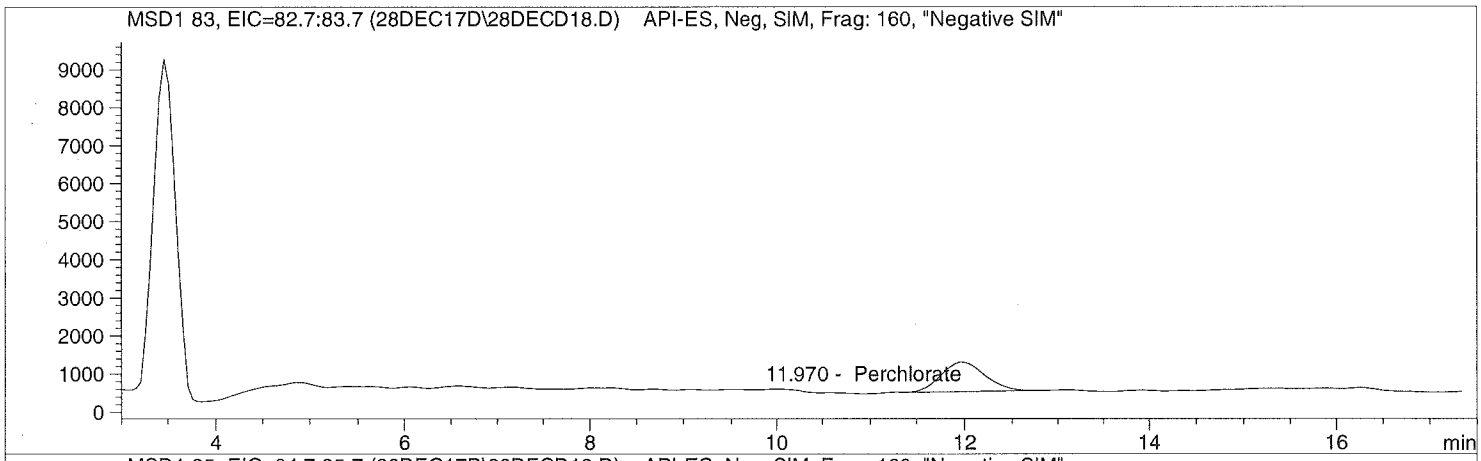
*** End of Report ***

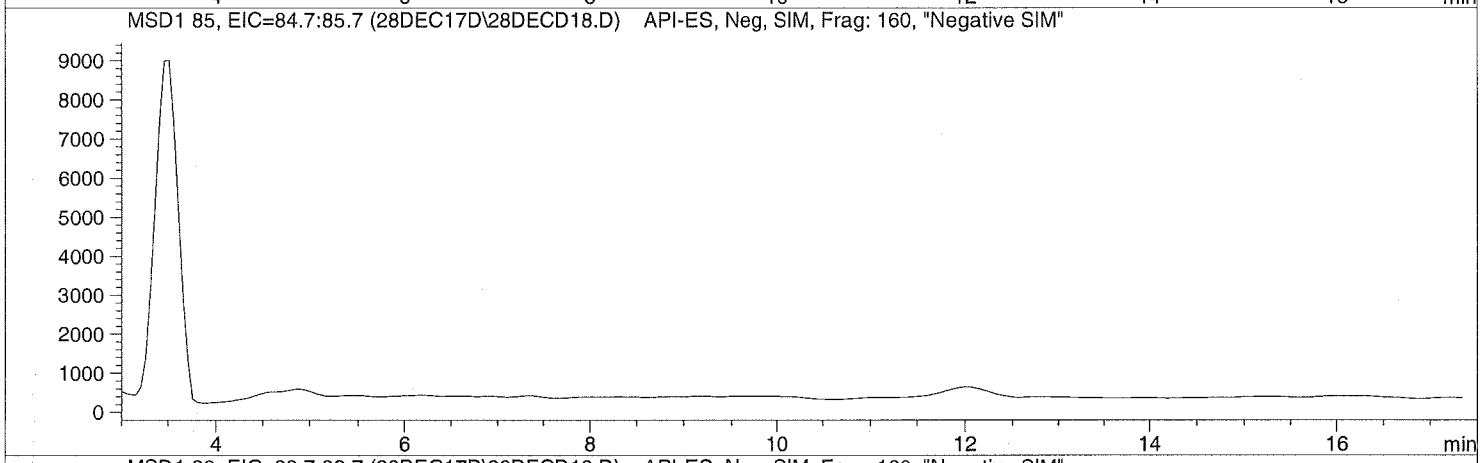
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD18.D Sample Name: 1735689001

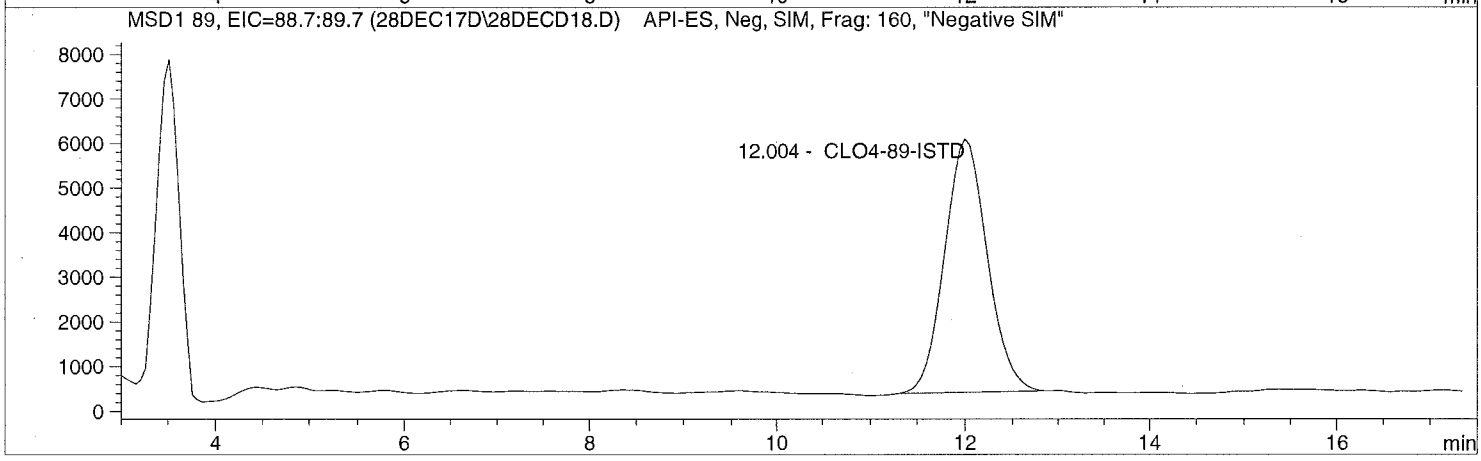
Injection Date:	12/28/2017 16:28:09	Seq Line:	18
Sample Name:	1735689001	Location:	Vial 86
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD18.D Sample Name: 1735689001

Injection Date:	12/28/2017 16:28:09	Seq Line:	18
Sample Name:	1735689001	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
11.970	BBA	24877.5	0.6828	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
12.004	BBA	174711.9	5.0000	CLO4-89-ISTD

*** End of Report ***

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WorkOrder: HS17121169

Longhorn GW Treatment Plant Quarterly Influent Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

13-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: **HS17121169**

Laboratory Results for: **Longhorn GW Treatment Plant Quarterly Influent Samples**

Dear Marcia,

ALS Environmental received 2 sample(s) on Dec 21, 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: Longhorn GW Treatment Plant Quarterly Influent Samples
Work Order: HS17121169

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS17121169-01	LH18/24-SP140_122017	Water		20-Dec-2017 14:00	21-Dec-2017 09:40	☐
HS17121169-02	Trip Blank	Water	ALS-112117-31	20-Dec-2017 00:00	21-Dec-2017 09:40	☐

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
Work Order: HS17121169

Work Order Comments

• The analysis for Perchlorate was subcontracted to ALS Environmental in Salt Lake City, UT.

GCMS Semivolatiles by Method SW8270SIM

Batch ID: 123757

Sample ID: LCS-123757

• Low area counts for Acenaphthene-d10 and Phenanthrene-d10, they are not associated with target compounds.

Sample ID: LH18/24-SP140_122017 (HS17121169-01)

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

Sample ID: LCSD-123757

• LCSD RPD recovered above the RPD limit for Nitrobenzene-d5

GCMS Volatiles by Method SW8260

Batch ID: R308234

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

Metals by Method SW7470

Batch ID: 124068

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

Metals by Method SW6020

Batch ID: 124039

Sample ID: LH18/24-SP140_122017 (HS17121169-01MS)

• 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. Barium, Magnesium, Manganese, and Sodium.

Sample ID: LH18/24-SP140_122017 (HS17121169-01PDS)

• The PDS recovery was outside of the control; however, the result in the parent sample is greater than 4x the spike amount. Barium,

WetChemistry by Method SW9056

Batch ID: R308643

Sample ID: CCB

• All reported samples bracketed by this CCB are 10 times greater than the Chloride content in this CCB.

WetChemistry by Method E410.4

Batch ID: R308618

Sample ID: LH18/24-SP140_122017 (HS17121169-01)

• Diltution due to high chloride

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
Work Order: HS17121169

WetChemistry by Method E1664A

Batch ID: R308604

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

ALS Group USA, Corp Date: 11-Jan-18

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

Project: Longhorn GW Treatment Plant Quarterly Influent Samples WorkOrder:HS17121169

Sample ID: LH18/24-SP140_122017 Lab ID:HS17121169-01

Collection Date: 20-Dec-2017 14:00 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	5.0	U	3.0	5.0	10	ug/L	10	31-Dec-2017 21:12
1,1,1-Trichloroethane	5.0	U	2.0	5.0	10	ug/L	10	31-Dec-2017 21:12
1,1,2,2-Tetrachloroethane	5.0	U	5.0	5.0	10	ug/L	10	31-Dec-2017 21:12
1,1,2-Trichloroethane	5.0	U	3.0	5.0	10	ug/L	10	31-Dec-2017 21:12
1,1-Dichloroethane	5.0	U	2.0	5.0	10	ug/L	10	31-Dec-2017 21:12
1,1-Dichloroethene	**92**		**2.0**	**5.0**	**10**	**ug/L**	10	31-Dec-2017 21:12
1,1-Dichloropropene	5.0	U	3.0	5.0	10	ug/L	10	31-Dec-2017 21:12
1,2,3-Trichlorobenzene	5.0	U	4.0	5.0	10	ug/L	10	31-Dec-2017 21:12
1,2,3-Trichloropropane	5.0	U	5.0	5.0	10	ug/L	10	31-Dec-2017 21:12
1,2,4-Trichlorobenzene	5.0	U	5.0	5.0	10	ug/L	10	31-Dec-2017 21:12
1,2,4-Trimethylbenzene	5.0	U	3.0	5.0	10	ug/L	10	31-Dec-2017 21:12
1,2-Dibromo-3-chloropropane	5.0	U	2.0	5.0	10	ug/L	10	31-Dec-2017 21:12
1,2-Dibromoethane	5.0	U	2.0	5.0	10	ug/L	10	31-Dec-2017 21:12
1,2-Dichlorobenzene	5.0	U	5.0	5.0	10	ug/L	10	31-Dec-2017 21:12
1,2-Dichloroethane	**59**		**2.0**	**5.0**	**10**	**ug/L**	10	31-Dec-2017 21:12
1,2-Dichloropropane	5.0	U	5.0	5.0	10	ug/L	10	31-Dec-2017 21:12
1,3,5-Trimethylbenzene	5.0	U	3.0	5.0	10	ug/L	10	31-Dec-2017 21:12
1,3-Dichlorobenzene	5.0	U	4.0	5.0	10	ug/L	10	31-Dec-2017 21:12
1,3-Dichloropropane	5.0	U	3.0	5.0	10	ug/L	10	31-Dec-2017 21:12
1,4-Dichlorobenzene	5.0	U	4.0	5.0	10	ug/L	10	31-Dec-2017 21:12
2,2-Dichloropropane	5.0	U	2.0	5.0	10	ug/L	10	31-Dec-2017 21:12
2-Butanone	5.0	U	5.0	5.0	20	ug/L	10	31-Dec-2017 21:12
2-Chlorotoluene	5.0	U	3.0	5.0	10	ug/L	10	31-Dec-2017 21:12
2-Hexanone	10	U	10	10	20	ug/L	10	31-Dec-2017 21:12
4-Chlorotoluene	5.0	U	4.0	5.0	10	ug/L	10	31-Dec-2017 21:12
4-Isopropyltoluene	5.0	U	3.0	5.0	10	ug/L	10	31-Dec-2017 21:12
4-Methyl-2-pentanone	10	U	7.0	10	20	ug/L	10	31-Dec-2017 21:12
Acetone	10	U	4.0	10	20	ug/L	10	31-Dec-2017 21:12
Benzene	5.0	U	2.0	5.0	10	ug/L	10	31-Dec-2017 21:12
Bromobenzene	5.0	U	4.0	5.0	10	ug/L	10	31-Dec-2017 21:12
Bromochloromethane	5.0	U	2.0	5.0	10	ug/L	10	31-Dec-2017 21:12
Bromodichloromethane	5.0	U	2.0	5.0	10	ug/L	10	31-Dec-2017 21:12
Bromoform	5.0	U	4.0	5.0	10	ug/L	10	31-Dec-2017 21:12
Bromomethane	5.0	U	4.0	5.0	10	ug/L	10	31-Dec-2017 21:12
Carbon disulfide	10	U	6.0	10	20	ug/L	10	31-Dec-2017 21:12
Carbon tetrachloride	5.0	U	5.0	5.0	10	ug/L	10	31-Dec-2017 21:12
Chlorobenzene	5.0	U	3.0	5.0	10	ug/L	10	31-Dec-2017 21:12
Chloroethane	5.0	U	3.0	5.0	10	ug/L	10	31-Dec-2017 21:12

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. **ANALYTICAL REPORT**

Project: Longhorn GW Treatment Plant Quarterly Influent Samples WorkOrder:HS17121169

Sample ID: LH18/24-SP140_122017 Lab ID:HS17121169-01

Collection Date: 20-Dec-2017 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
Chloroform	**14**		**2.0**	**5.0**	**10**	**ug/L**	10	31-Dec-2017 21:12
Chloromethane	5.0	U	2.0	5.0	10	ug/L	10	31-Dec-2017 21:12
cis-1,2-Dichloroethene	**4,300**		**20**	**50**	**100**	**ug/L**	100	31-Dec-2017 21:39
cis-1,3-Dichloropropene	5.0	U	1.0	5.0	10	ug/L	10	31-Dec-2017 21:12
Dibromochloromethane	5.0	U	3.0	5.0	10	ug/L	10	31-Dec-2017 21:12
Dibromomethane	5.0	U	2.0	5.0	10	ug/L	10	31-Dec-2017 21:12
Dichlorodifluoromethane	5.0	U	3.0	5.0	10	ug/L	10	31-Dec-2017 21:12
Ethylbenzene	5.0	U	3.0	5.0	10	ug/L	10	31-Dec-2017 21:12
Hexachlorobutadiene	10	U	10	10	10	ug/L	10	31-Dec-2017 21:12
Isopropylbenzene	5.0	U	3.0	5.0	10	ug/L	10	31-Dec-2017 21:12
m,p-Xylene	10	U	5.0	10	20	ug/L	10	31-Dec-2017 21:12
Methylene chloride	**21**		**4.0**	**5.0**	**20**	**ug/L**	10	31-Dec-2017 21:12
n-Butylbenzene	5.0	U	4.0	5.0	10	ug/L	10	31-Dec-2017 21:12
n-Propylbenzene	5.0	U	3.0	5.0	10	ug/L	10	31-Dec-2017 21:12
Naphthalene	5.0	U	3.0	5.0	10	ug/L	10	31-Dec-2017 21:12
o-Xylene	5.0	U	3.0	5.0	10	ug/L	10	31-Dec-2017 21:12
sec-Butylbenzene	5.0	U	3.0	5.0	10	ug/L	10	31-Dec-2017 21:12
Styrene	5.0	U	3.0	5.0	10	ug/L	10	31-Dec-2017 21:12
tert-Butylbenzene	5.0	U	3.0	5.0	10	ug/L	10	31-Dec-2017 21:12
Tetrachloroethene	**43**		**3.0**	**5.0**	**10**	**ug/L**	10	31-Dec-2017 21:12
Toluene	5.0	U	2.0	5.0	10	ug/L	10	31-Dec-2017 21:12
trans-1,2-Dichloroethene	**16**		**2.0**	**5.0**	**10**	**ug/L**	10	31-Dec-2017 21:12
trans-1,3-Dichloropropene	5.0	U	2.0	5.0	10	ug/L	10	31-Dec-2017 21:12
Trichloroethene	**9,000**		**20**	**50**	**100**	**ug/L**	100	31-Dec-2017 21:39
Trichlorofluoromethane	5.0	U	3.0	5.0	10	ug/L	10	31-Dec-2017 21:12
Vinyl chloride	**120**		**2.0**	**5.0**	**10**	**ug/L**	10	31-Dec-2017 21:12
Surr: 1,2-Dichloroethane-d4	*92.8*			**0**	*81-118*	*%REC*	*10*	*31-Dec-2017 21:12*
Surr: 1,2-Dichloroethane-d4	*90.9*			**0**	*81-118*	*%REC*	*100*	*31-Dec-2017 21:39*
Surr: 4-Bromofluorobenzene	*94.8*			**0**	*85-114*	*%REC*	*100*	*31-Dec-2017 21:39*
Surr: 4-Bromofluorobenzene	*97.6*			**0**	*85-114*	*%REC*	*10*	*31-Dec-2017 21:12*
Surr: Dibromofluoromethane	*94.0*			**0**	*80-119*	*%REC*	*10*	*31-Dec-2017 21:12*
Surr: Dibromofluoromethane	*98.3*			**0**	*80-119*	*%REC*	*100*	*31-Dec-2017 21:39*
Surr: Toluene-d8	*97.8*			**0**	*89-112*	*%REC*	*100*	*31-Dec-2017 21:39*
Surr: Toluene-d8	*98.2*			**0**	*89-112*	*%REC*	*10*	*31-Dec-2017 21:12*

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. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Quarterly Influent Samples WorkOrder:HS17121169
Sample ID: LH18/24-SP140_122017 Lab ID:HS17121169-01
Collection Date: 20-Dec-2017 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SEMIVOLATILES SIM		**Method:SW8270SIM**				Prep:SW3510 / 22-Dec-2017		Analyst: ACN
1,4-Dioxane	**6.0**		**1.0**	**1.0**	**1.0**	**ug/L**	100	09-Jan-2018 17:01
Surr: 2-Fluorobiphenyl	*0*	*S*		0	*40-140*	*%REC*	*100*	*09-Jan-2018 17:01*
Surr: 4-Terphenyl-d14	*0*	*S*		0	*40-140*	*%REC*	*100*	*09-Jan-2018 17:01*
Surr: Nitrobenzene-d5	*0*	*S*		0	*40-140*	*%REC*	*100*	*09-Jan-2018 17:01*
ICP-MS METALS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 04-Jan-2018		Analyst: JDE
Aluminum	**0.0499**		**0.00180**	**0.00500**	**0.0100**	**mg/L**	1	05-Jan-2018 12:58
Antimony	**0.000843**	J	**0.000400**	**0.00100**	**0.00200**	**mg/L**	1	05-Jan-2018 12:58
Arsenic	**0.00143**	J	**0.000400**	**0.00100**	**0.00200**	**mg/L**	1	05-Jan-2018 12:58
Barium	**0.679**		**0.00190**	**0.00250**	**0.00400**	**mg/L**	1	05-Jan-2018 12:58
Beryllium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	05-Jan-2018 12:58
Cadmium	**0.000326**	J	**0.000200**	**0.00100**	**0.00200**	**mg/L**	1	05-Jan-2018 12:58
Calcium	**40.3**		**0.0340**	**0.100**	**0.500**	**mg/L**	1	05-Jan-2018 12:58
Chromium	**0.00190**	J	**0.000400**	**0.00100**	**0.00400**	**mg/L**	1	05-Jan-2018 12:58
Cobalt	**0.00877**		**0.000200**	**0.00100**	**0.00500**	**mg/L**	1	05-Jan-2018 12:58
Iron	**0.891**		**0.0120**	**0.100**	**0.200**	**mg/L**	1	05-Jan-2018 12:58
Lead	0.00100	U	0.000600	0.00100	0.00200	mg/L	1	05-Jan-2018 12:58
Magnesium	**32.4**		**0.0100**	**0.100**	**0.200**	**mg/L**	1	05-Jan-2018 12:58
Manganese	**0.524**		**0.000700**	**0.00100**	**0.00500**	**mg/L**	1	05-Jan-2018 12:58
Nickel	**0.0139**		**0.000600**	**0.00100**	**0.00200**	**mg/L**	1	05-Jan-2018 12:58
Potassium	**1.64**		**0.0180**	**0.100**	**0.200**	**mg/L**	1	05-Jan-2018 12:58
Selenium	0.00200	U	0.00110	0.00200	0.00200	mg/L	1	05-Jan-2018 12:58
Silver	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	05-Jan-2018 12:58
Sodium	**224**		**0.0700**	**0.500**	**1.00**	**mg/L**	5	05-Jan-2018 20:15
Thallium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	05-Jan-2018 12:58
Vanadium	**0.000627**	J	**0.000600**	**0.00100**	**0.00500**	**mg/L**	1	05-Jan-2018 12:58
Zinc	**0.121**		**0.00200**	**0.00250**	**0.00400**	**mg/L**	1	05-Jan-2018 12:58
MERCURY BY SW7470A		**Method:SW7470**				Prep:SW7470 / 05-Jan-2018		Analyst: JCJ
Mercury	0.000100	U	0.0000300	0.000100	0.000200	mg/L	1	05-Jan-2018 14:15
OIL & GREASE (HEM) BY E1664A		**Method:E1664A**						Analyst: KAH
Oil and Grease	1.00	U	0.610	1.00	2.00	mg/L	1	08-Jan-2018 11:00
CHEMICAL OXYGEN DEMAND BY E410.4		**Method:E410.4**						Analyst: AJH
Chemical Oxygen Demand	**35.0**	J	**25.0**	**37.5**	**75.0**	**mg/L**	5	08-Jan-2018 16:00
ANIONS BY SW9056A		**Method:SW9056**						Analyst: KMU
Chloride	**459**		**1.00**	**1.25**	**2.50**	**mg/L**	5	08-Jan-2018 23:06
Sulfate	**61.6**		**1.00**	**1.25**	**2.50**	**mg/L**	5	08-Jan-2018 23:06
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

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

Project: Longhorn GW Treatment Plant Quarterly Influent Samples WorkOrder:HS17121169

Sample ID: Trip Blank Lab ID:HS17121169-02

Collection Date: 20-Dec-2017 00:00 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	31-Dec-2017 16:31
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:31
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 16:31
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:31
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:31
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:31
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:31
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 16:31
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 16:31
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 16:31
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:31
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:31
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:31
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 16:31
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:31
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 16:31
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:31
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 16:31
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:31
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 16:31
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:31
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	31-Dec-2017 16:31
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:31
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	31-Dec-2017 16:31
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 16:31
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:31
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	31-Dec-2017 16:31
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	31-Dec-2017 16:31
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:31
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 16:31
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:31
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:31
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 16:31
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 16:31
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	31-Dec-2017 16:31
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 16:31
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:31
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:31

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. **ANALYTICAL REPORT**

Project: Longhorn GW Treatment Plant Quarterly Influent Samples WorkOrder:HS17121169

Sample ID: Trip Blank Lab ID:HS17121169-02

Collection Date: 20-Dec-2017 00:00 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	31-Dec-2017 16:31
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:31
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:31
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	31-Dec-2017 16:31
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:31
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:31
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:31
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:31
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	31-Dec-2017 16:31
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:31
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	31-Dec-2017 16:31
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	31-Dec-2017 16:31
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 16:31
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:31
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:31
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:31
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:31
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:31
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:31
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:31
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:31
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:31
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:31
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:31
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 16:31
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 16:31
Surr: 1,2-Dichloroethane-d4	*91.0*			**0**	*81-118*	*%REC*	*1*	*31-Dec-2017 16:31*
Surr: 4-Bromofluorobenzene	*97.4*			**0**	*85-114*	*%REC*	*1*	*31-Dec-2017 16:31*
Surr: Dibromofluoromethane	*97.7*			**0**	*80-119*	*%REC*	*1*	*31-Dec-2017 16:31*
Surr: Toluene-d8	*96.8*			**0**	*89-112*	*%REC*	*1*	*31-Dec-2017 16:31*

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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Batch ID: 123757 **Method:** SEMIVOLATILES SIM **Prep:** 3510_B_SIM

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS17121169-01	1	990	1 (mL)	0.00101

Batch ID: 124039 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS17121169-01	1	10	10 (mL)	1

Batch ID: 124068 **Method:** MERCURY BY SW7470A **Prep:** HG_WPR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS17121169-01	1	10	10 (mL)	1

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 123757	**Test Name :** SEMIVOLATILES SIM			**Matrix:** Water		
HS17121169-01	LH18/24-SP140_122017	20 Dec 2017 14:00		22 Dec 2017 16:00	09 Jan 2018 17:01	100
Batch ID 124039	**Test Name :** ICP-MS METALS BY SW6020A			**Matrix:** Water		
HS17121169-01	LH18/24-SP140_122017	20 Dec 2017 14:00		04 Jan 2018 12:18	05 Jan 2018 20:15	5
HS17121169-01	LH18/24-SP140_122017	20 Dec 2017 14:00		04 Jan 2018 12:18	05 Jan 2018 12:58	1
Batch ID 124068	**Test Name :** MERCURY BY SW7470A			**Matrix:** Water		
HS17121169-01	LH18/24-SP140_122017	20 Dec 2017 14:00		05 Jan 2018 11:12	05 Jan 2018 14:15	1
Batch ID R308234	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C			**Matrix:** Water		
HS17121169-01	LH18/24-SP140_122017	20 Dec 2017 14:00			31 Dec 2017 21:39	100
HS17121169-01	LH18/24-SP140_122017	20 Dec 2017 14:00			31 Dec 2017 21:12	10
HS17121169-02	Trip Blank	20 Dec 2017 00:00			31 Dec 2017 16:31	1
Batch ID R308604	**Test Name :** OIL & GREASE (HEM) BY E1664A			**Matrix:** Water		
HS17121169-01	LH18/24-SP140_122017	20 Dec 2017 14:00			08 Jan 2018 11:00	1
Batch ID R308618	**Test Name :** CHEMICAL OXYGEN DEMAND BY E410.4			**Matrix:** Water		
HS17121169-01	LH18/24-SP140_122017	20 Dec 2017 14:00			08 Jan 2018 16:00	5
Batch ID R308643	**Test Name :** ANIONS BY SW9056A			**Matrix:** Water		
HS17121169-01	LH18/24-SP140_122017	20 Dec 2017 14:00			08 Jan 2018 23:06	5
Batch ID R308777	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)			**Matrix:** Water		
HS17121169-01	LH18/24-SP140_122017	20 Dec 2017 14:00			11 Jan 2018 09:13	1

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

QC BATCH REPORT

Batch ID: 124039 **Instrument: ICPMS04** **Method: SW6020**

MBLK Sample ID: **MBLK-124039** Units: **mg/L** Analysis Date: **05-Jan-2018 12:52**
Client ID: Run ID: **ICPMS04_308513** SeqNo: **4382579** PrepDate: **04-Jan-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.003836	0.0100								J
Antimony	0.000414	0.00200								J
Arsenic	0.00100	0.00200								U
Barium	0.00250	0.00400								U
Beryllium	0.00100	0.00200								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
Iron	0.100	0.200								U
Lead	0.00100	0.00200								U
Magnesium	0.100	0.200								U
Manganese	0.00100	0.00500								U
Nickel	0.00100	0.00200								U
Potassium	0.1187	0.200								J
Selenium	0.00200	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

MBLK Sample ID: **MBLK-124039** Units: **mg/L** Analysis Date: **05-Jan-2018 17:59**
Client ID: Run ID: **ICPMS04_308513** SeqNo: **4383227** PrepDate: **04-Jan-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Zinc	0.002768	0.00400								J

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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

QC BATCH REPORT

Batch ID: 124039 **Instrument: ICPMS04** **Method: SW6020**

LCS Sample ID: **LCS-124039** Units: **mg/L** Analysis Date: **05-Jan-2018 12:54**
Client ID: Run ID: **ICPMS04_308513** SeqNo: **4382580** PrepDate: **04-Jan-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1054	0.0100	0.1	0	105	80 - 120				
Antimony	0.05156	0.00200	0.05	0	103	80 - 120				
Arsenic	0.04974	0.00200	0.05	0	99.5	80 - 120				
Barium	0.04885	0.00400	0.05	0	97.7	80 - 120				
Beryllium	0.05003	0.00200	0.05	0	100	80 - 120				
Cadmium	0.04997	0.00200	0.05	0	99.9	80 - 120				
Calcium	4.952	0.500	5	0	99.0	80 - 120				
Chromium	0.05099	0.00400	0.05	0	102	80 - 120				
Cobalt	0.04969	0.00500	0.05	0	99.4	80 - 120				
Iron	5.175	0.200	5	0	104	80 - 120				
Lead	0.04874	0.00200	0.05	0	97.5	80 - 120				
Magnesium	5.149	0.200	5	0	103	80 - 120				
Manganese	0.04927	0.00500	0.05	0	98.5	80 - 120				
Nickel	0.05052	0.00200	0.05	0	101	80 - 120				
Potassium	5.156	0.200	5	0	103	80 - 120				
Selenium	0.0508	0.00200	0.05	0	102	80 - 120				
Silver	0.04994	0.00200	0.05	0	99.9	80 - 120				
Sodium	5.11	0.200	5	0	102	80 - 120				
Thallium	0.04789	0.00200	0.05	0	95.8	80 - 120				
Vanadium	0.04828	0.00500	0.05	0	96.6	80 - 120				
Zinc	0.05156	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: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

QC BATCH REPORT

Batch ID: 124039 **Instrument: ICPMS04** **Method: SW6020**

MS Sample ID: **HS17121169-01MS** Units: **mg/L** Analysis Date: **05-Jan-2018 13:03**
Client ID: **LH18/24-SP140_122017** Run ID: **ICPMS04_308513** SeqNo: **4382584** PrepDate: **04-Jan-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1477	0.0100	0.1	0.04991	97.8	80 - 120				
Antimony	0.04878	0.00200	0.05	0.000843	95.9	80 - 120				
Arsenic	0.05114	0.00200	0.05	0.001429	99.4	80 - 120				
Barium	0.7045	0.00400	0.05	0.6795	50.0	80 - 120				SO
Beryllium	0.04968	0.00200	0.05	0.000089	99.2	80 - 120				
Cadmium	0.04733	0.00200	0.05	0.000326	94.0	80 - 120				
Calcium	45.13	0.500	5	40.33	96.1	80 - 120				O
Chromium	0.04892	0.00400	0.05	0.0019	94.0	80 - 120				
Cobalt	0.05523	0.00500	0.05	0.008769	92.9	80 - 120				
Iron	5.774	0.200	5	0.8909	97.7	80 - 120				
Lead	0.04683	0.00200	0.05	0.000257	93.2	80 - 120				
Magnesium	35.5	0.200	5	32.37	62.6	80 - 120				SO
Manganese	0.5631	0.00500	0.05	0.5244	77.4	80 - 120				SO
Nickel	0.05984	0.00200	0.05	0.01395	91.8	80 - 120				
Potassium	6.515	0.200	5	1.644	97.4	80 - 120				
Selenium	0.05077	0.00200	0.05	0.00049	101	80 - 120				
Silver	0.04521	0.00200	0.05	-0.000011	90.4	80 - 120				
Sodium	243.6	0.200	5	240.3	67.7	80 - 120				SEO
Thallium	0.04548	0.00200	0.05	-0.000005	91.0	80 - 120				
Vanadium	0.04768	0.00500	0.05	0.000627	94.1	80 - 120				
Zinc	0.1683	0.00400	0.05	0.1207	95.2	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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

QC BATCH REPORT

Batch ID: 124039 **Instrument: ICPMS04** **Method: SW6020**

MSD Sample ID: **HS17121169-01MSD** Units: **mg/L** Analysis Date: **05-Jan-2018 13:05**
Client ID: **LH18/24-SP140_122017** Run ID: **ICPMS04_308513** SeqNo: **4382585** PrepDate: **04-Jan-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1535	0.0100	0.1	0.04991	104	80 - 120	0.1477	3.84	20	
Antimony	0.05006	0.00200	0.05	0.000843	98.4	80 - 120	0.04878	2.6	20	
Arsenic	0.04934	0.00200	0.05	0.001429	95.8	80 - 120	0.05114	3.59	20	
Barium	0.7221	0.00400	0.05	0.6795	85.3	80 - 120	0.7045	2.47	20	O
Beryllium	0.05056	0.00200	0.05	0.000089	101	80 - 120	0.04968	1.74	20	
Cadmium	0.04705	0.00200	0.05	0.000326	93.4	80 - 120	0.04733	0.593	20	
Calcium	45.63	0.500	5	40.33	106	80 - 120	45.13	1.11	20	O
Chromium	0.05302	0.00400	0.05	0.0019	102	80 - 120	0.04892	8.06	20	
Cobalt	0.05764	0.00500	0.05	0.008769	97.8	80 - 120	0.05523	4.28	20	
Iron	5.944	0.200	5	0.8909	101	80 - 120	5.774	2.9	20	
Lead	0.0477	0.00200	0.05	0.000257	94.9	80 - 120	0.04683	1.83	20	
Magnesium	37.09	0.200	5	32.37	94.3	80 - 120	35.5	4.37	20	O
Manganese	0.5828	0.00500	0.05	0.5244	117	80 - 120	0.5631	3.44	20	O
Nickel	0.06242	0.00200	0.05	0.01395	97.0	80 - 120	0.05984	4.22	20	
Potassium	6.661	0.200	5	1.644	100	80 - 120	6.515	2.23	20	
Selenium	0.0422	0.00200	0.05	0.00049	83.4	80 - 120	0.05077	18.4	20	
Silver	0.04737	0.00200	0.05	-0.000011	94.8	80 - 120	0.04521	4.66	20	
Sodium	253.4	0.200	5	240.3	262	80 - 120	243.6	3.91	20	SEO
Thallium	0.0458	0.00200	0.05	-0.000005	91.6	80 - 120	0.04548	0.703	20	
Vanadium	0.04892	0.00500	0.05	0.000627	96.6	80 - 120	0.04768	2.57	20	
Zinc	0.1734	0.00400	0.05	0.1207	106	80 - 120	0.1683	3.02	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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

QC BATCH REPORT

Batch ID: 124039 **Instrument: ICPMS04** **Method: SW6020**

PDS Sample ID: **HS17121169-01PDS** Units: **mg/L** Analysis Date: **05-Jan-2018 13:07**
Client ID: **LH18/24-SP140_122017** Run ID: **ICPMS04_308513** SeqNo: **4382586** PrepDate: **04-Jan-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1511	0.0100	0.1	0.04991	101	75 - 125				
Antimony	0.09514	0.00200	0.1	0.000843	94.3	75 - 125				
Arsenic	0.1002	0.00200	0.1	0.001429	98.8	75 - 125				
Barium	0.7605	0.00400	0.1	0.6795	81.0	75 - 125				O
Beryllium	0.1132	0.00200	0.1	0.000089	113	75 - 125				
Cadmium	0.09741	0.00200	0.1	0.000326	97.1	75 - 125				
Calcium	51.81	0.500	10	40.33	115	75 - 125				O
Chromium	0.1033	0.00400	0.1	0.0019	101	75 - 125				
Cobalt	0.1075	0.00500	0.1	0.008769	98.8	75 - 125				
Iron	11.07	0.200	10	0.8909	102	75 - 125				
Lead	0.09863	0.00200	0.1	0.000257	98.4	75 - 125				
Magnesium	41.24	0.200	10	32.37	88.7	75 - 125				
Manganese	0.6169	0.00500	0.1	0.5244	92.5	75 - 125				O
Nickel	0.111	0.00200	0.1	0.01395	97.0	75 - 125				
Potassium	12.1	0.200	10	1.644	105	75 - 125				
Selenium	0.1132	0.00200	0.1	0.00049	113	75 - 125				
Silver	0.09771	0.00200	0.1	-0.000011	97.7	75 - 125				
Thallium	0.09934	0.00200	0.1	-0.000005	99.4	75 - 125				
Vanadium	0.1022	0.00500	0.1	0.000627	102	75 - 125				
Zinc	0.223	0.00400	0.1	0.1207	102	75 - 125				

PDS Sample ID: **HS17121169-01PDS** Units: **mg/L** Analysis Date: **05-Jan-2018 20:19**
Client ID: **LH18/24-SP140_122017** Run ID: **ICPMS04_308513** SeqNo: **4383320** PrepDate: **04-Jan-2018** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium	270.2	1.00	50	240.3	60.0	75 - 125				SO

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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

QC BATCH REPORT

Batch ID: 124039 **Instrument: ICPMS04** **Method: SW6020**

SD Sample ID: **HS17121169-01SD** Units: **mg/L** Analysis Date: **05-Jan-2018 13:00**
Client ID: **LH18/24-SP140_122017** Run ID: **ICPMS04_308513** SeqNo: **4382583** PrepDate: **04-Jan-2018** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Aluminum	0.05321	0.0500					0.04991	0	10	
Antimony	0.00500	0.0100					0.000843	0	10	U
Arsenic	0.00500	0.0100					0.001429	0	10	U
Barium	0.6468	0.0200					0.6795	4.8	10	
Beryllium	0.00500	0.0100					0.000089	0	10	U
Cadmium	0.00500	0.0100					0.000326	0	10	U
Calcium	38.07	2.50					40.33	5.59	10	
Chromium	0.00500	0.0200					0.0019	0	10	U
Cobalt	0.008292	0.0250					0.008769	0	10	J
Iron	0.8531	1.00					0.8909	0	10	J
Lead	0.00500	0.0100					0.000257	0	10	U
Magnesium	32.64	1.00					32.37	0.824	10	
Manganese	0.5058	0.0250					0.5244	3.55	10	
Nickel	0.01425	0.0100					0.01395	2.16	10	
Potassium	1.78	1.00					1.644	8.25	10	
Selenium	0.0100	0.0100					0.00049	0	10	U
Silver	0.00500	0.0100					-0.000011	0	10	U
Thallium	0.00500	0.0100					-0.000005	0	10	U
Vanadium	0.00500	0.0250					0.000627	0	10	U
Zinc	0.1103	0.0200					0.1207	8.57	10	

SD Sample ID: **HS17121169-01SD** Units: **mg/L** Analysis Date: **05-Jan-2018 20:17**
Client ID: **LH18/24-SP140_122017** Run ID: **ICPMS04_308513** SeqNo: **4383319** PrepDate: **04-Jan-2018** DF: **25**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Sodium	220.5	5.00					224	1.57	10	

The following samples were analyzed in this batch: HS17121169-01

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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

QC BATCH REPORT

Batch ID: 124068 **Instrument: HG03** **Method: SW7470**

MBLK Sample ID: **MBLK-124068** Units: **mg/L** Analysis Date: **05-Jan-2018 14:06**
Client ID: Run ID: **HG03_308532** SeqNo: **4382981** PrepDate: **05-Jan-2018** 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-124068** Units: **mg/L** Analysis Date: **05-Jan-2018 14:08**
Client ID: Run ID: **HG03_308532** SeqNo: **4382982** PrepDate: **05-Jan-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00518	0.000200	0.005	0	104	80 - 120				

MS Sample ID: **HS17121224-05MS** Units: **mg/L** Analysis Date: **05-Jan-2018 14:23**
Client ID: Run ID: **HG03_308532** SeqNo: **4382991** PrepDate: **05-Jan-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00503	0.000200	0.005	0.000009	100	75 - 125				

MSD Sample ID: **HS17121224-05MSD** Units: **mg/L** Analysis Date: **05-Jan-2018 14:25**
Client ID: Run ID: **HG03_308532** SeqNo: **4382992** PrepDate: **05-Jan-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00497	0.000200	0.005	0.000009	99.2	75 - 125	0.00503	1.2	20	

The following samples were analyzed in this batch: HS17121169-01

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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

QC BATCH REPORT

Batch ID: 123757 **Instrument: SV-5** **Method: SW8270SIM**

MBLK Sample ID: **MBLK-123757** Units: **ug/L** Analysis Date: **09-Jan-2018 14:01**
Client ID: Run ID: **SV-5_308690** SeqNo: **4386307** PrepDate: **22-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.010	0.010								U
Surr: 2-Fluorobiphenyl	*0.0975*	*0*	*0.08*	*0*	*122*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.0869*	*0*	*0.08*	*0*	*109*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.06725*	*0*	*0.08*	*0*	*84.1*	*40 - 140*				

LCS Sample ID: **LCS-123757** Units: **ug/L** Analysis Date: **09-Jan-2018 18:13**
Client ID: Run ID: **SV-5_308690** SeqNo: **4386415** PrepDate: **22-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.06293	0.010	0.08	0	78.7	40 - 140				
Surr: 2-Fluorobiphenyl	*0.08228*	*0*	*0.08*	*0*	*103*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.07305*	*0*	*0.08*	*0*	*91.3*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.06459*	*0*	*0.08*	*0*	*80.7*	*40 - 140*				

LCSD Sample ID: **LCSD-123757** Units: **ug/L** Analysis Date: **09-Jan-2018 14:43**
Client ID: Run ID: **SV-5_308690** SeqNo: **4386309** PrepDate: **22-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.0687	0.010	0.08	0	85.9	40 - 140	0.06293	8.77	20	
Surr: 2-Fluorobiphenyl	*0.0905*	*0*	*0.08*	*0*	*113*	*40 - 140*	*0.08228*	*9.52*	*20*	
Surr: 4-Terphenyl-d14	*0.08437*	*0*	*0.08*	*0*	*105*	*40 - 140*	*0.07305*	*14.4*	*20*	
Surr: Nitrobenzene-d5	*0.0822*	*0*	*0.08*	*0*	*103*	*40 - 140*	*0.06459*	*24*	*20*	R

The following samples were analyzed in this batch: HS17121169-01

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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

QC BATCH REPORT

Batch ID: R308234 **Instrument: VOA2** **Method: SW8260**

MBLK Sample ID: **VBLKW-171231** Units: **ug/L** Analysis Date: **31-Dec-2017 15:17**
Client ID: Run ID: **VOA2_308234** SeqNo: **4375147** 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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

QC BATCH REPORT

Batch ID: R308234 **Instrument: VOA2** **Method: SW8260**

MBLK Sample ID: **VBLKW-171231** Units: **ug/L** Analysis Date: **31-Dec-2017 15:17**
Client ID: Run ID: **VOA2_308234** SeqNo: **4375147** 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	*45.6*	*1.0*	*50*	*0*	*91.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.04*	*1.0*	*50*	*0*	*96.1*	*85 - 114*				
Surr: Dibromofluoromethane	*49.22*	*1.0*	*50*	*0*	*98.4*	*80 - 119*				
Surr: Toluene-d8	*48.55*	*1.0*	*50*	*0*	*97.1*	*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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

QC BATCH REPORT

Batch ID: R308234 **Instrument: VOA2** **Method: SW8260**

LCS Sample ID: **VLCSW-171231** Units: **ug/L** Analysis Date: **31-Dec-2017 14:28**
Client ID: Run ID: **VOA2_308234** SeqNo: **4375145** 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	47.86	1.0	50	0	95.7	78 - 124				
1,1,1-Trichloroethane	47.85	1.0	50	0	95.7	74 - 131				
1,1,2,2-Tetrachloroethane	41.54	1.0	50	0	83.1	71 - 121				
1,1,2-Trichloroethane	46.09	1.0	50	0	92.2	80 - 119				
1,1-Dichloroethane	46.48	1.0	50	0	93.0	77 - 125				
1,1-Dichloroethene	49.4	1.0	50	0	98.8	71 - 131				
1,1-Dichloropropene	51.32	1.0	50	0	103	79 - 125				
1,2,3-Trichlorobenzene	51.87	1.0	50	0	104	69 - 129				
1,2,3-Trichloropropane	44.61	1.0	50	0	89.2	73 - 122				
1,2,4-Trichlorobenzene	52.6	1.0	50	0	105	69 - 130				
1,2,4-Trimethylbenzene	42.39	1.0	50	0	84.8	76 - 124				
1,2-Dibromo-3-chloropropane	43.41	1.0	50	0	86.8	62 - 128				
1,2-Dibromoethane	48.3	1.0	50	0	96.6	77 - 121				
1,2-Dichlorobenzene	43.99	1.0	50	0	88.0	80 - 119				
1,2-Dichloroethane	49.28	1.0	50	0	98.6	73 - 128				
1,2-Dichloropropane	46.94	1.0	50	0	93.9	78 - 122				
1,3,5-Trimethylbenzene	43.25	1.0	50	0	86.5	75 - 124				
1,3-Dichlorobenzene	44.39	1.0	50	0	88.8	80 - 119				
1,3-Dichloropropane	45.35	1.0	50	0	90.7	80 - 119				
1,4-Dichlorobenzene	44.46	1.0	50	0	88.9	79 - 118				
2,2-Dichloropropane	50.02	1.0	50	0	100	60 - 139				
2-Butanone	86.86	2.0	100	0	86.9	56 - 143				
2-Chlorotoluene	42.25	1.0	50	0	84.5	79 - 122				
2-Hexanone	86.53	2.0	100	0	86.5	57 - 139				
4-Chlorotoluene	43.02	1.0	50	0	86.0	78 - 122				
4-Isopropyltoluene	44.78	1.0	50	0	89.6	77 - 127				
4-Methyl-2-pentanone	88.08	2.0	100	0	88.1	67 - 130				
Acetone	89.2	2.0	100	0	89.2	39 - 160				
Benzene	47.24	1.0	50	0	94.5	79 - 120				
Bromobenzene	43.78	1.0	50	0	87.6	80 - 120				
Bromochloromethane	49.33	1.0	50	0	98.7	78 - 123				
Bromodichloromethane	48.13	1.0	50	0	96.3	79 - 125				
Bromoform	50.51	1.0	50	0	101	66 - 130				
Bromomethane	54.19	1.0	50	0	108	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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

QC BATCH REPORT

Batch ID: R308234 **Instrument: VOA2** **Method: SW8260**

LCS Sample ID: **VLCSW-171231** Units: **ug/L** Analysis Date: **31-Dec-2017 14:28**
Client ID: Run ID: **VOA2_308234** SeqNo: **4375145** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	98.72	2.0	100	0	98.7	64 - 133				
Carbon tetrachloride	40.99	1.0	50	0	82.0	72 - 136				
Chlorobenzene	46.43	1.0	50	0	92.9	80 - 120				
Chloroethane	43.11	1.0	50	0	86.2	82 - 118				
Chloroform	46.54	1.0	50	0	93.1	79 - 124				
Chloromethane	49.86	1.0	50	0	99.7	50 - 139				
cis-1,2-Dichloroethene	47.37	1.0	50	0	94.7	78 - 123				
cis-1,3-Dichloropropene	52.05	1.0	50	0	104	75 - 124				
Dibromochloromethane	48.61	1.0	50	0	97.2	74 - 126				
Dibromomethane	49.85	1.0	50	0	99.7	79 - 123				
Dichlorodifluoromethane	46.5	1.0	50	0	93.0	32 - 152				
Ethylbenzene	45.93	1.0	50	0	91.9	79 - 121				
Hexachlorobutadiene	50.83	1.0	50	0	102	66 - 134				
Isopropylbenzene	47.55	1.0	50	0	95.1	72 - 131				
m,p-Xylene	92.23	2.0	100	0	92.2	80 - 121				
Methylene chloride	45.03	2.0	50	0	90.1	74 - 124				
Naphthalene	48.76	1.0	50	0	97.5	61 - 128				
n-Butylbenzene	47.57	1.0	50	0	95.1	75 - 128				
n-Propylbenzene	44.13	1.0	50	0	88.3	76 - 126				
o-Xylene	46.93	1.0	50	0	93.9	78 - 122				
sec-Butylbenzene	45.5	1.0	50	0	91.0	77 - 126				
Styrene	47.93	1.0	50	0	95.9	78 - 128				
tert-Butylbenzene	43.81	1.0	50	0	87.6	78 - 124				
Tetrachloroethene	52.24	1.0	50	0	104	74 - 129				
Toluene	46.23	1.0	50	0	92.5	80 - 121				
trans-1,2-Dichloroethene	51.28	1.0	50	0	103	75 - 124				
trans-1,3-Dichloropropene	51.85	1.0	50	0	104	73 - 127				
Trichloroethene	49	1.0	50	0	98.0	79 - 123				
Trichlorofluoromethane	51.82	1.0	50	0	104	65 - 141				
Vinyl chloride	48.57	1.0	50	0	97.1	58 - 137				
Surr: 1,2-Dichloroethane-d4	*47.17*	*1.0*	*50*	*0*	*94.3*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.78*	*1.0*	*50*	*0*	*99.6*	*85 - 114*				
Surr: Dibromofluoromethane	*47.39*	*1.0*	*50*	*0*	*94.8*	*80 - 119*				
Surr: Toluene-d8	*46.57*	*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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

QC BATCH REPORT

Batch ID: R308234 **Instrument: VOA2** **Method: SW8260**

MS Sample ID: **HS17121224-01MS** Units: **ug/L** Analysis Date: **01-Jan-2018 00:44**
Client ID: Run ID: **VOA2_308234** SeqNo: **4375169** 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	47.04	1.0	50	0	94.1	78 - 124				
1,1,1-Trichloroethane	48.9	1.0	50	0	97.8	74 - 131				
1,1,2,2-Tetrachloroethane	40.4	1.0	50	0	80.8	71 - 121				
1,1,2-Trichloroethane	44.91	1.0	50	0	89.8	80 - 119				
1,1-Dichloroethane	45.71	1.0	50	0	91.4	77 - 125				
1,1-Dichloroethene	51.49	1.0	50	0	103	71 - 131				
1,1-Dichloropropene	51.53	1.0	50	0	103	79 - 125				
1,2,3-Trichlorobenzene	49.47	1.0	50	0	98.9	69 - 129				
1,2,3-Trichloropropane	41.84	1.0	50	0	83.7	73 - 122				
1,2,4-Trichlorobenzene	48.75	1.0	50	0	97.5	69 - 130				
1,2,4-Trimethylbenzene	40.85	1.0	50	0	81.7	76 - 124				
1,2-Dibromo-3-chloropropane	41.97	1.0	50	0	83.9	62 - 128				
1,2-Dibromoethane	47.88	1.0	50	0	95.8	77 - 121				
1,2-Dichlorobenzene	42.75	1.0	50	0	85.5	80 - 119				
1,2-Dichloroethane	50.56	1.0	50	0	101	73 - 128				
1,2-Dichloropropane	46.39	1.0	50	0	92.8	78 - 122				
1,3,5-Trimethylbenzene	41.56	1.0	50	0	83.1	75 - 124				
1,3-Dichlorobenzene	42.78	1.0	50	0	85.6	80 - 119				
1,3-Dichloropropane	44.3	1.0	50	0	88.6	80 - 119				
1,4-Dichlorobenzene	42.48	1.0	50	0	85.0	79 - 118				
2,2-Dichloropropane	43.91	1.0	50	0	87.8	60 - 139				
2-Butanone	87.07	2.0	100	0	87.1	56 - 143				
2-Chlorotoluene	40.98	1.0	50	0	82.0	79 - 122				
2-Hexanone	86.07	2.0	100	0	86.1	57 - 139				
4-Chlorotoluene	41.09	1.0	50	0	82.2	78 - 122				
4-Isopropyltoluene	42.85	1.0	50	0	85.7	77 - 127				
4-Methyl-2-pentanone	87.52	2.0	100	0	87.5	67 - 130				
Acetone	93.39	2.0	100	0	93.4	39 - 160				
Benzene	47.56	1.0	50	0	95.1	79 - 120				
Bromobenzene	41.47	1.0	50	0	82.9	80 - 120				
Bromochloromethane	48.01	1.0	50	0	96.0	78 - 123				
Bromodichloromethane	47.87	1.0	50	0	95.7	79 - 125				
Bromoform	49.09	1.0	50	0	98.2	66 - 130				
Bromomethane	44.46	1.0	50	0	88.9	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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

QC BATCH REPORT

Batch ID: R308234 **Instrument: VOA2** **Method: SW8260**

MS Sample ID: **HS17121224-01MS** Units: **ug/L** Analysis Date: **01-Jan-2018 00:44**
Client ID: Run ID: **VOA2_308234** SeqNo: **4375169** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	99.01	2.0	100	0	99.0	64 - 133				
Carbon tetrachloride	43.9	1.0	50	0	87.8	72 - 136				
Chlorobenzene	45.69	1.0	50	0	91.4	80 - 120				
Chloroethane	44.2	1.0	50	0	88.4	82 - 118				
Chloroform	45.8	1.0	50	0	91.6	79 - 124				
Chloromethane	53.01	1.0	50	0	106	50 - 139				
cis-1,2-Dichloroethene	47.51	1.0	50	0	95.0	78 - 123				
cis-1,3-Dichloropropene	50.46	1.0	50	0	101	75 - 124				
Dibromochloromethane	47.38	1.0	50	0	94.8	74 - 126				
Dibromomethane	49.4	1.0	50	0	98.8	79 - 123				
Dichlorodifluoromethane	55.3	1.0	50	0	111	32 - 152				
Ethylbenzene	45.71	1.0	50	0	91.4	79 - 121				
Hexachlorobutadiene	45.23	1.0	50	0	90.5	66 - 134				
Isopropylbenzene	47.41	1.0	50	0	94.8	72 - 131				
m,p-Xylene	91.1	2.0	100	0	91.1	80 - 121				
Methylene chloride	45.7	2.0	50	0	91.4	74 - 124				
Naphthalene	47.28	1.0	50	0	94.6	61 - 128				
n-Butylbenzene	44.14	1.0	50	0	88.3	75 - 128				
n-Propylbenzene	42.52	1.0	50	0	85.0	76 - 126				
o-Xylene	45.9	1.0	50	0	91.8	78 - 122				
sec-Butylbenzene	43.8	1.0	50	0	87.6	77 - 126				
Styrene	46.71	1.0	50	0	93.4	78 - 128				
tert-Butylbenzene	43.15	1.0	50	0	86.3	78 - 124				
Tetrachloroethene	51.95	1.0	50	0	104	74 - 129				
Toluene	45.86	1.0	50	0	91.7	80 - 121				
trans-1,2-Dichloroethene	51.36	1.0	50	0	103	75 - 124				
trans-1,3-Dichloropropene	50.22	1.0	50	0	100	73 - 127				
Trichloroethene	49.6	1.0	50	0	99.2	79 - 123				
Trichlorofluoromethane	52.84	1.0	50	0	106	65 - 141				
Vinyl chloride	50.95	1.0	50	0	102	58 - 137				
Surr: 1,2-Dichloroethane-d4	*46.83*	*1.0*	*50*	*0*	*93.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.15*	*1.0*	*50*	*0*	*98.3*	*85 - 114*				
Surr: Dibromofluoromethane	*47.87*	*1.0*	*50*	*0*	*95.7*	*80 - 119*				
Surr: Toluene-d8	*46.64*	*1.0*	*50*	*0*	*93.3*	*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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

QC BATCH REPORT

Batch ID: R308234 **Instrument: VOA2** **Method: SW8260**

MSD Sample ID: **HS17121224-01MSD** Units: **ug/L** Analysis Date: **01-Jan-2018 01:09**
Client ID: Run ID: **VOA2_308234** SeqNo: **4375170** 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	46.34	1.0	50	0	92.7	78 - 124	47.04	1.51	20	
1,1,1-Trichloroethane	48.97	1.0	50	0	97.9	74 - 131	48.9	0.149	20	
1,1,2,2-Tetrachloroethane	40.71	1.0	50	0	81.4	71 - 121	40.4	0.767	20	
1,1,2-Trichloroethane	45.32	1.0	50	0	90.6	80 - 119	44.91	0.901	20	
1,1-Dichloroethane	46.42	1.0	50	0	92.8	77 - 125	45.71	1.56	20	
1,1-Dichloroethene	51.21	1.0	50	0	102	71 - 131	51.49	0.547	20	
1,1-Dichloropropene	52.6	1.0	50	0	105	79 - 125	51.53	2.04	20	
1,2,3-Trichlorobenzene	49.28	1.0	50	0	98.6	69 - 129	49.47	0.389	20	
1,2,3-Trichloropropane	41.66	1.0	50	0	83.3	73 - 122	41.84	0.434	20	
1,2,4-Trichlorobenzene	49.76	1.0	50	0	99.5	69 - 130	48.75	2.06	20	
1,2,4-Trimethylbenzene	39.67	1.0	50	0	79.3	76 - 124	40.85	2.93	20	
1,2-Dibromo-3-chloropropane	43.31	1.0	50	0	86.6	62 - 128	41.97	3.13	20	
1,2-Dibromoethane	47.75	1.0	50	0	95.5	77 - 121	47.88	0.282	20	
1,2-Dichlorobenzene	41.6	1.0	50	0	83.2	80 - 119	42.75	2.73	20	
1,2-Dichloroethane	48.63	1.0	50	0	97.3	73 - 128	50.56	3.88	20	
1,2-Dichloropropane	45.87	1.0	50	0	91.7	78 - 122	46.39	1.13	20	
1,3,5-Trimethylbenzene	40.48	1.0	50	0	81.0	75 - 124	41.56	2.65	20	
1,3-Dichlorobenzene	41.64	1.0	50	0	83.3	80 - 119	42.78	2.72	20	
1,3-Dichloropropane	44.75	1.0	50	0	89.5	80 - 119	44.3	1	20	
1,4-Dichlorobenzene	41.85	1.0	50	0	83.7	79 - 118	42.48	1.48	20	
2,2-Dichloropropane	43.76	1.0	50	0	87.5	60 - 139	43.91	0.35	20	
2-Butanone	87.75	2.0	100	0	87.8	56 - 143	87.07	0.785	20	
2-Chlorotoluene	39.92	1.0	50	0	79.8	79 - 122	40.98	2.62	20	
2-Hexanone	87.81	2.0	100	0	87.8	57 - 139	86.07	2	20	
4-Chlorotoluene	40.01	1.0	50	0	80.0	78 - 122	41.09	2.68	20	
4-Isopropyltoluene	42.11	1.0	50	0	84.2	77 - 127	42.85	1.74	20	
4-Methyl-2-pentanone	88.49	2.0	100	0	88.5	67 - 130	87.52	1.09	20	
Acetone	95.78	2.0	100	0	95.8	39 - 160	93.39	2.52	20	
Benzene	47.41	1.0	50	0	94.8	79 - 120	47.56	0.31	20	
Bromobenzene	41.03	1.0	50	0	82.1	80 - 120	41.47	1.07	20	
Bromochloromethane	48.61	1.0	50	0	97.2	78 - 123	48.01	1.26	20	
Bromodichloromethane	47.86	1.0	50	0	95.7	79 - 125	47.87	0.0172	20	
Bromoform	49.89	1.0	50	0	99.8	66 - 130	49.09	1.63	20	
Bromomethane	44.08	1.0	50	0	88.2	53 - 141	44.46	0.858	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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

QC BATCH REPORT

Batch ID: R308234 **Instrument: VOA2** **Method: SW8260**

MSD Sample ID: **HS17121224-01MSD** Units: **ug/L** Analysis Date: **01-Jan-2018 01:09**
Client ID: Run ID: **VOA2_308234** SeqNo: **4375170** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	98.72	2.0	100	0	98.7	64 - 133	99.01	0.294	20	
Carbon tetrachloride	43.69	1.0	50	0	87.4	72 - 136	43.9	0.479	20	
Chlorobenzene	45.36	1.0	50	0	90.7	80 - 120	45.69	0.726	20	
Chloroethane	42.34	1.0	50	0	84.7	82 - 118	44.2	4.31	20	
Chloroform	46.14	1.0	50	0	92.3	79 - 124	45.8	0.75	20	
Chloromethane	50	1.0	50	0	100.0	50 - 139	53.01	5.85	20	
cis-1,2-Dichloroethene	47.11	1.0	50	0	94.2	78 - 123	47.51	0.846	20	
cis-1,3-Dichloropropene	49.73	1.0	50	0	99.5	75 - 124	50.46	1.45	20	
Dibromochloromethane	47.49	1.0	50	0	95.0	74 - 126	47.38	0.242	20	
Dibromomethane	48.72	1.0	50	0	97.4	79 - 123	49.4	1.39	20	
Dichlorodifluoromethane	54.4	1.0	50	0	109	32 - 152	55.3	1.65	20	
Ethylbenzene	45.12	1.0	50	0	90.2	79 - 121	45.71	1.31	20	
Hexachlorobutadiene	46.3	1.0	50	0	92.6	66 - 134	45.23	2.34	20	
Isopropylbenzene	46.69	1.0	50	0	93.4	72 - 131	47.41	1.54	20	
m,p-Xylene	90.36	2.0	100	0	90.4	80 - 121	91.1	0.813	20	
Methylene chloride	44.91	2.0	50	0	89.8	74 - 124	45.7	1.75	20	
Naphthalene	47.07	1.0	50	0	94.1	61 - 128	47.28	0.45	20	
n-Butylbenzene	43.71	1.0	50	0	87.4	75 - 128	44.14	0.973	20	
n-Propylbenzene	41.18	1.0	50	0	82.4	76 - 126	42.52	3.2	20	
o-Xylene	45.96	1.0	50	0	91.9	78 - 122	45.9	0.14	20	
sec-Butylbenzene	42.94	1.0	50	0	85.9	77 - 126	43.8	1.98	20	
Styrene	46.51	1.0	50	0	93.0	78 - 128	46.71	0.428	20	
tert-Butylbenzene	42.01	1.0	50	0	84.0	78 - 124	43.15	2.68	20	
Tetrachloroethene	50.69	1.0	50	0	101	74 - 129	51.95	2.46	20	
Toluene	45.44	1.0	50	0	90.9	80 - 121	45.86	0.932	20	
trans-1,2-Dichloroethene	51.43	1.0	50	0	103	75 - 124	51.36	0.135	20	
trans-1,3-Dichloropropene	50.28	1.0	50	0	101	73 - 127	50.22	0.109	20	
Trichloroethene	49.1	1.0	50	0	98.2	79 - 123	49.6	1.01	20	
Trichlorofluoromethane	52.07	1.0	50	0	104	65 - 141	52.84	1.45	20	
Vinyl chloride	50.1	1.0	50	0	100	58 - 137	50.95	1.7	20	
Surr: 1,2-Dichloroethane-d4	*47.86*	*1.0*	*50*	*0*	*95.7*	*81 - 118*	*46.83*	*2.19*	*20*	
Surr: 4-Bromofluorobenzene	*49.38*	*1.0*	*50*	*0*	*98.8*	*85 - 114*	*49.15*	*0.463*	*20*	
Surr: Dibromofluoromethane	*48.38*	*1.0*	*50*	*0*	*96.8*	*80 - 119*	*47.87*	*1.05*	*20*	
Surr: Toluene-d8	*46.83*	*1.0*	*50*	*0*	*93.7*	*89 - 112*	*46.64*	*0.406*	*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:	Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder:	HS17121169

QC BATCH REPORT

Batch ID:	**R308234**	**Instrument:**	**VOA2**	**Method:**	**SW8260**

The following samples were analyzed in this batch:	HS17121169-01	HS17121169-02

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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

QC BATCH REPORT

Batch ID: R308604 **Instrument: Balance1** **Method: E1664A**

MBLK Sample ID: **WBLKW-010818** Units: **mg/L** Analysis Date: **08-Jan-2018 11:00**
Client ID: Run ID: **Balance1_308604** SeqNo: **4384461** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Oil and Grease	1.00	2.00								U

LCS Sample ID: **WLCSW-010818** Units: **mg/L** Analysis Date: **08-Jan-2018 11:00**
Client ID: Run ID: **Balance1_308604** SeqNo: **4384463** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Oil and Grease	40.8	2.00	40	0	102	78 - 114				

LCSD Sample ID: **WLCSDW-010818** Units: **mg/L** Analysis Date: **08-Jan-2018 11:00**
Client ID: Run ID: **Balance1_308604** SeqNo: **4384462** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Oil and Grease	39.2	2.00	40	0	98.0	78 - 114	40.8	4	18	

MS Sample ID: **HS17121405-01MS** Units: **mg/L** Analysis Date: **08-Jan-2018 11:00**
Client ID: Run ID: **Balance1_308604** SeqNo: **4384456** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Oil and Grease	36	2.00	40	1.2	87.0	78 - 114				

The following samples were analyzed in this batch: HS17121169-01

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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

QC BATCH REPORT

Batch ID: R308618 **Instrument: WetChem_HS** **Method: E410.4**

MBLK Sample ID: **MBLK-R308618** Units: **mg/L** Analysis Date: **08-Jan-2018 16:00**
Client ID: Run ID: **WetChem_HS_308618** SeqNo: **4384758** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	7.50	15.0								U

LCS Sample ID: **LCS-R308618** Units: **mg/L** Analysis Date: **08-Jan-2018 16:00**
Client ID: Run ID: **WetChem_HS_308618** SeqNo: **4384757** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	102	15.0	100	0	102	85 - 115				

MS Sample ID: **HS17121318-01MS** Units: **mg/L** Analysis Date: **08-Jan-2018 16:00**
Client ID: Run ID: **WetChem_HS_308618** SeqNo: **4384759** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	400	75.0	250	125	110	80 - 120				

DUP Sample ID: **HS17121318-01DUP** Units: **mg/L** Analysis Date: **08-Jan-2018 16:00**
Client ID: Run ID: **WetChem_HS_308618** SeqNo: **4384760** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	140	75.0					125	11.3	20	

The following samples were analyzed in this batch: HS17121169-01

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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

QC BATCH REPORT

Batch ID: R308643 **Instrument: ICS2100** **Method: SW9056**

MBLK Sample ID: **WBLKW1-010818** Units: **mg/L** Analysis Date: **09-Jan-2018 12:00**
Client ID: Run ID: **ICS2100_308643** SeqNo: **4385653** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.250	0.500								U
Sulfate	0.250	0.500								U

LCS Sample ID: **WLCSW1-010818** Units: **mg/L** Analysis Date: **08-Jan-2018 21:25**
Client ID: Run ID: **ICS2100_308643** SeqNo: **4385611** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.95	0.500	20	0	105	80 - 120				
Sulfate	20.99	0.500	20	0	105	80 - 120				

LCSD Sample ID: **WLCSDW1-010818** Units: **mg/L** Analysis Date: **08-Jan-2018 21:39**
Client ID: Run ID: **ICS2100_308643** SeqNo: **4385612** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.58	0.500	20	0	103	80 - 120	20.95	1.79	20	
Sulfate	20.51	0.500	20	0	103	80 - 120	20.99	2.33	20	

MS Sample ID: **HS17121169-01MS** Units: **mg/L** Analysis Date: **08-Jan-2018 23:35**
Client ID: **LH18/24-SP140_122017** Run ID: **ICS2100_308643** SeqNo: **4385619** PrepDate: DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	650.5	10.0	200	470.1	90.2	80 - 120				
Sulfate	265.5	10.0	200	57.8	104	80 - 120				

MS Sample ID: **HS17121151-10MS** Units: **mg/L** Analysis Date: **09-Jan-2018 02:15**
Client ID: Run ID: **ICS2100_308643** SeqNo: **4385629** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	204.3	5.00	100	101.3	103	80 - 120				
Sulfate	480.4	5.00	100	378.5	102	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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

QC BATCH REPORT

Batch ID: R308643 **Instrument: ICS2100** **Method: SW9056**

MSD Sample ID: **HS17121169-01MSD** Units: **mg/L** Analysis Date: **08-Jan-2018 23:50**
Client ID: **LH18/24-SP140_122017** Run ID: **ICS2100_308643** SeqNo: **4385620** PrepDate: DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	651.3	10.0	200	470.1	90.6	80 - 120	650.5	0.115	20	
Sulfate	264.5	10.0	200	57.8	103	80 - 120	265.5	0.371	20	

MSD Sample ID: **HS17121151-10MSD** Units: **mg/L** Analysis Date: **09-Jan-2018 02:30**
Client ID: Run ID: **ICS2100_308643** SeqNo: **4385630** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	197.3	5.00	100	101.3	96.0	80 - 120	204.3	3.5	20	
Sulfate	467.4	5.00	100	378.5	88.9	80 - 120	480.4	2.76	20	

The following samples were analyzed in this batch: HS17121169-01

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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: **HS17121169**

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 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

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
Work Order: HS17121169

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS17121169-01	LH18/24-SP140_122017	Login	12/21/2017 3:49:19 PM	CL	WET214
HS17121169-01	LH18/24-SP140_122017	Login	12/21/2017 3:49:19 PM	CL	WET214
HS17121169-01	LH18/24-SP140_122017	Login	12/21/2017 3:49:19 PM	CL	WET214
HS17121169-01	LH18/24-SP140_122017	Login	12/21/2017 3:49:19 PM	CL	Sub

ALS Group USA, Corp Date: 11-Jan-18

Sample Receipt Checklist

Client Name: Bhate Environmental
Work Order: HS17121169
Date/Time Received: **21-Dec-2017 09:40**
Received by: **JRM**

Checklist completed by: *Cesar A. Lira* eSignature — 21-Dec-2017 Date
Reviewed by: *Sonia West* eSignature — 27-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):	2.6C/2.9C UC/C	IR11	
Cooler(s)/Kit(s):	42568		
Date/Time sample(s) sent to storage:	12/21/2017 12:30		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd., Suite 210 Houston, Tx. 77099 ATTN: SONIA WEST

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

Project No. NWO1312.0150.0 16.0001

Job: GROUNDWATER TREATMENT PLANT QUARTERLY INFLUENT SAMPLES

Prepared By: Scott Beesinger

P. O. Number

HS17121169

Bhate Environmental Associates, Inc.
nghorn GW Treatment Plant Quarterly Influent Samp

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: ROD Volatiles	Total Metals	Oil & Grease	Chemnical Oxygen Demand	Chloride & Sulfate	1, 4 - DIOXANE	Perchlorate				Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP140_122017	Water	12/20/17 / 14:00		4	3		1								HCL	
LH18/24-SP140_122017	Water	12/20/17 / 14:00		1		1									HNO3	
LH18/24-SP140_122017	Water	12/20/17 / 14:00		3					1	1	1				NONE	
LH18/24-SP140_122017	Water	12/20/17 / 14:00		1				1							H2SO4	
Trip Blank	Water	12/20/17		2	2										HCL	

Additional Remarks: STANDARD TURN AROUND TIME

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	12/20/17	14:30	JM	12.21.17	0940						

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
JM	12.21.17	0940			12.21.17	0940	2.6 w/ CF +0.7		6

Remarks:

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

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

CUSTODY SEAL
Date: 12/20/17 Time: 1430
Name: Scott Beeringer
Company: [illegible]
Seal Broken By: PM
Date: 12-21-17

FedEx
TRK# 0221 7376 9751 1371

THU - 21 DEC 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

FID 5090257 20DEC17 GGGA 546C1/574C/0C8A

42568

Volatile Organics Raw Data

Bhate Environmental Associates, Inc.
Project: LONGHORN GW TREATMENT PLANT
QUARTERLY INFLUENT SAMPLES
ALS WO# HS17121169

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121169

	CLIENT SAMPLE NO.	SMC1 (DCE) #	SMC2 #	SMC3 (TOL) #	OTHER #	TOT OUT
01	VLCSW-171231	94	95	93	100	0
02	VBLKW-171231	91	98	97	96	0
03	HS17121169-02	91	98	97	97	0
04	HS17121169-01	93	94	98	98	0
05	HS17121169-01	91	98	98	95	0
06	HS17121224-01	94	96	93	98	0
07	HS17121224-01	96	97	94	99	0
08						
09						
10						
11						
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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.: HS17121169

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.: HS17121169

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.: HS17121169

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.: HS17121169

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.: HS17121169

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.: HS1712116

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.: HS1712116

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.: HS1712116

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.: HS1712116

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.: HS1712116

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: 30160
Date: 12-19-2017
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	12-19-2017 09:21 am	1.00	50 mL	50 mL	D121901.D	Liquid	Y	NA
	Not reported									
2	BFB	TUNE	12-19-2017 09:45 am	1.00	50 mL	50 mL	D121902.D	Liquid	Y	NA
	Auto find/purged									
3	VSTD00.5	ICAL1	12-19-2017 10:10 am	1.00	50 mL	50 mL	D121903.D	Liquid	Y	NA
	0.5 uL cal std/250 mL DI									
4	VSTD001	ICAL2	12-19-2017 10:34 am	1.00	50 mL	50 mL	D121904.D	Liquid	Y	NA
	1 uL cal std/250 mL DI									
5	VSTD002	ICAL3	12-19-2017 10:59 am	1.00	50 mL	50 mL	D121905.D	Liquid	Y	NA
	2 uL cal std/250 mL DI									
6	VSTD005	ICAL4	12-19-2017 11:23 am	1.00	50 mL	50 mL	D121906.D	Liquid	Y	NA
	5 uL cal std/250 mL DI									
7	VSTD010	ICAL5	12-19-2017 11:47 am	1.00	50 mL	50 mL	D121907.D	Liquid	Y	NA
	2 uL cal std/50 mL DI									
8	VSTD020	ICAL6	12-19-2017 12:14 pm	1.00	50 mL	50 mL	D121908.D	Liquid	Y	NA
	4 uL cal std/50 mL DI									
9	VSTD050	ICAL7	12-19-2017 12:39 pm	1.00	50 mL	50 mL	D121909.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
10	VSTD100	ICAL8	12-19-2017 01:03 pm	1.00	50 mL	50 mL	D121910.D	Liquid	Y	NA
	20 uL cal std/50 mL DI									
11	VSTD200	ICAL9	12-19-2017 01:27 pm	1.00	50 mL	50 mL	D121911.D	Liquid	Y	NA
	40 uL cal std/50 mL DI									
12	BLK	SAMP	12-19-2017 01:52 pm	1.00	50 mL	50 mL	D121912.D	Liquid	Y	NA
	Cleanup blk									
13	VSTD-ICV	ICV	12-19-2017 02:16 pm	1.00	50 mL	50 mL	D121913.D	Liquid	Y	NA
	10 uL ICV std/50 mL DI									
14	VLCSW-171219	LCS	12-19-2017 02:54 pm	1.00	50 mL	50 mL	D121914.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
15	BLK	SAMP	12-19-2017 03:18 pm	1.00	50 mL	50 mL	D121915.D	Liquid	Y	NA
16	VBLKW171202	MBLK	12-19-2017 03:43 pm	1.00	50 mL	50 mL	D121916.D	Liquid	Y	NA
17	HS17120758-10	SAMP	12-19-2017 04:08 pm	1.00	50 mL	50 mL	D121917.D	Liquid	Y	<2
18	HS17120999-01	SAMP	12-19-2017 04:32 pm	1.00	50 mL	50 mL	D121918.D	Liquid	Y	<2
19	HS17121026-03	SAMP	12-19-2017 04:57 pm	1.00	50 mL	50 mL	D121919.D	Liquid	Y	<2
20	HS17121026-01	SAMP	12-19-2017 05:21 pm	1.00	50 mL	50 mL	D121920.D	Liquid	Y	<2
21	HS17121026-02	SAMP	12-19-2017 05:46 pm	1.00	50 mL	50 mL	D121921.D	Liquid	Y	<2
22	HS17120806-02	SAMP	12-19-2017 06:10 pm	1.00	50 mL	50 mL	D121922.D	Liquid	Y	<2
23	HS17120282-02	SAMP	12-19-2017 06:35 pm	1.00	50 mL	50 mL	D121923.D	Liquid	Y	<2
24	HS17120282-01	SAMP	12-19-2017 07:00 pm	1000.0	50 µL	50 mL	D121924.D	Liquid	Y	<2
25	HS17120282-01	SAMP	12-19-2017 07:27 pm	10000.(	5 µL	50 mL	D121925.D	Liquid	Y	<2
26	HS17120806-02MS	MS	12-19-2017 07:52 pm	1.00	50 mL	50 mL	D121926.D	Liquid	Y	<2
	8 uL cal std/40 mL sample									
27	HS17120806-02MSD	MSD	12-19-2017 08:16 pm	1.00	50 mL	50 mL	D121927.D	Liquid	N	<2
	8 uL cal std/40 mL sample									
28	HS17120743-28	SAMP	12-19-2017 08:43 pm	5.00	10 mL	50 mL	D121928.D	Liquid	Y	<2
29	HS17120743-29	SAMP	12-19-2017 09:11 pm	5.00	10 mL	50 mL	D121929.D	Liquid	Y	<2
30	BLK	BLK	12-19-2017 09:35 pm	1.00	50 mL	50 mL	E121901.D	Liquid	Y	NA
	Cleanup blk									
31	BFB	TUNE	12-19-2017 10:00 pm	1.00	50 mL	50 mL	E121902.D	Liquid	Y	NA
	Auto find/purged									

MSVOA02 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
32	CCV	CCV	12-19-2017 10:24 pm	1.00	50 mL	50 mL	E121903.D	Liquid	Y	NA
33	*10 uL cal std/50 mL DI* VLCSW-171219	LCS	12-19-2017 10:49 pm	1.00	50 mL	50 mL	E121904.D	Liquid	Y	NA
34	*10 uL cal std/50 mL DI* BLK	SAMP	12-19-2017 11:13 pm	1.00	50 mL	50 mL	E121905.D	Liquid	Y	NA
35	*Cleanup blk* VBLKW-171219	MBLK	12-19-2017 11:38 pm	1.00	50 mL	50 mL	E121906.D	Liquid	Y	NA
36	HS17120806-14	SAMP	12-20-2017 12:02 am	1.00	50 mL	50 mL	E121907.D	Liquid	Y	<2
37	HS17120806-12	SAMP	12-20-2017 12:30 am	5.00	10 mL	50 mL	E121908.D	Liquid	Y	<2
38	HS17120806-14MS	MS	12-20-2017 12:54 am	1.00	50 mL	50 mL	E121909.D	Liquid	Y	<2
39	*8 uL cal std/40 mL sample* HS17120806-14MSD	MSD	12-20-2017 01:19 am	1.00	50 mL	50 mL	E121910.D	Liquid	Y	<2
40	*8 uL cal std/40 mL sample* BLK	SAMP	12-20-2017 01:43 am	1.00	50 mL	50 mL	E121911.D	Liquid	Y	NA
41	HS17120743-38	SAMP	12-20-2017 02:08 am	1.00	50 mL	50 mL	E121912.D	Liquid	Y	<2
42	HS17120743-38	SAMP	12-20-2017 02:35 am	5.00	10 mL	50 mL	E121913.D	Liquid	Y	<2
43	HS17120806-10	SAMP	12-20-2017 03:00 am	1.00	50 mL	50 mL	E121914.D	Liquid	Y	<2
44	HS17120806-10	SAMP	12-20-2017 03:27 am	5.00	10 mL	50 mL	E121915.D	Liquid	Y	<2
45	HS17120743-32	SAMP	12-20-2017 03:51 am	1.00	50 mL	50 mL	E121916.D	Liquid	Y	<2
46	HS17120743-32	SAMP	12-20-2017 04:18 am	10.00	5 mL	50 mL	E121917.D	Liquid	Y	<2
47	HS17120806-01	SAMP	12-20-2017 04:43 am	1.00	50 mL	50 mL	E121918.D	Liquid	Y	<2
48	HS17120806-01	SAMP	12-20-2017 05:10 am	10.00	5 mL	50 mL	E121919.D	Liquid	Y	<2
49	HS17120806-13	SAMP	12-20-2017 05:35 am	1.00	50 mL	50 mL	E121920.D	Liquid	Y	<2
50	HS17120806-13	SAMP	12-20-2017 06:02 am	10.00	5 mL	50 mL	E121921.D	Liquid	Y	<2
51	HS17120806-03	SAMP	12-20-2017 06:29 am	5.00	10 mL	50 mL	E121922.D	Liquid	Y	<2
52	HS17120806-03	SAMP	12-20-2017 06:56 am	25.00	2 mL	50 mL	E121923.D	Liquid	Y	<2
53	HS17120743-43	SAMP	12-20-2017 07:24 am	10.00	5 mL	50 mL	E121924.D	Liquid	Y	<2
54	HS17120743-43	SAMP	12-20-2017 07:51 am	100.0(	500 µL	50 mL	E121925.D	Liquid	Y	<2
55	HS17120743-34	SAMP	12-20-2017 08:18 am	10.00	5 mL	50 mL	E121926.D	Liquid	Y	<2
56	HS17120743-34	SAMP	12-20-2017 08:45 am	100.0(	500 µL	50 mL	E121927.D	Liquid	Y	<2
57	HS17120806-16	SAMP	12-20-2017 09:10 am	1.00	50 mL	50 mL	E121928.D	Liquid	Y	<2
58	HS17120806-16	SAMP	12-20-2017 09:37 am	10.00	5 mL	50 mL	E121929.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\D171219.b\D121901.D

Date : 19-DEC-2017 09:21

Client ID: BFB

Instrument: VOA2.i

Sample Info: BFB;BFB;3;;BFB

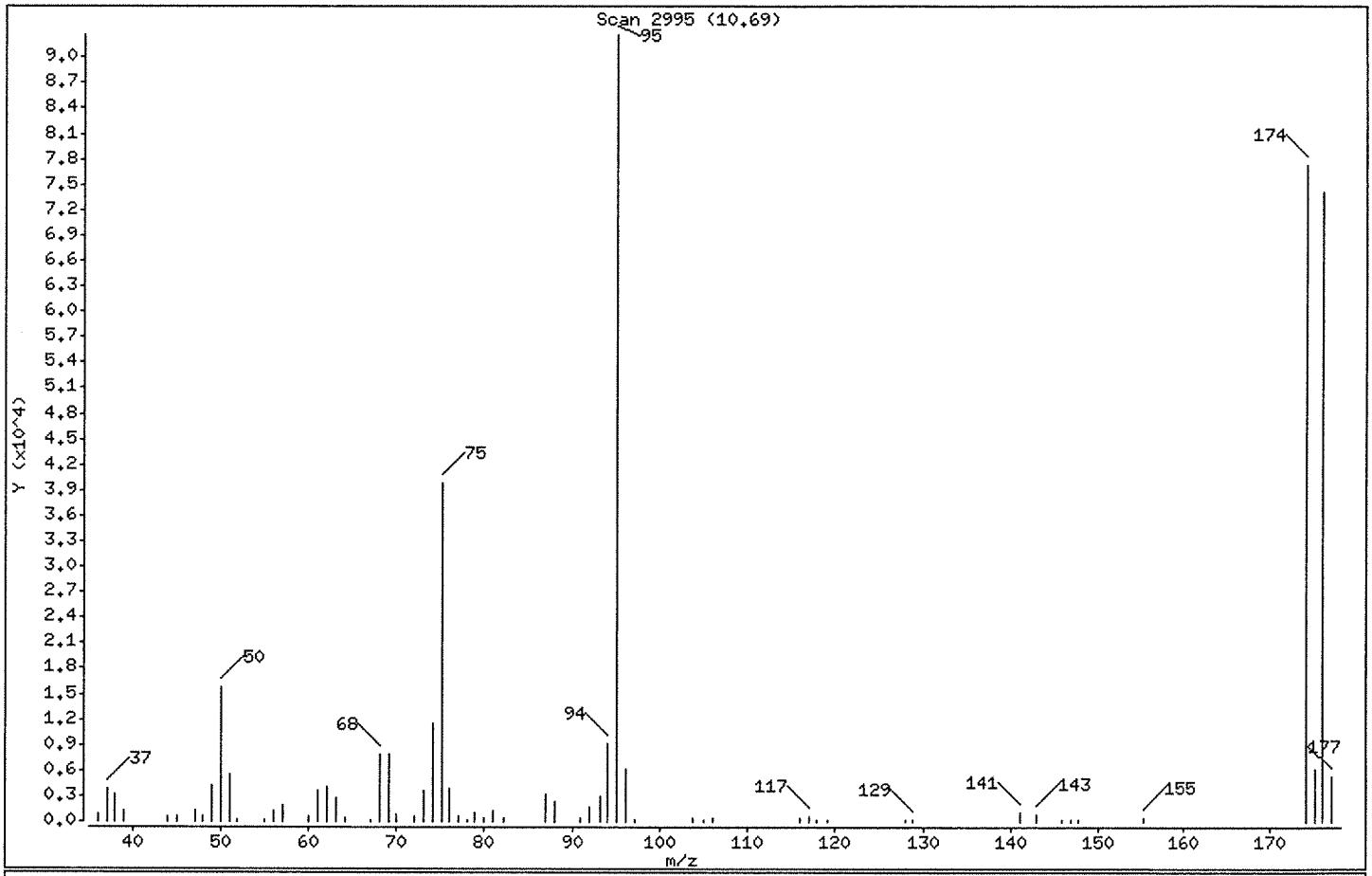
Volume Injected (uL): 2.0

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

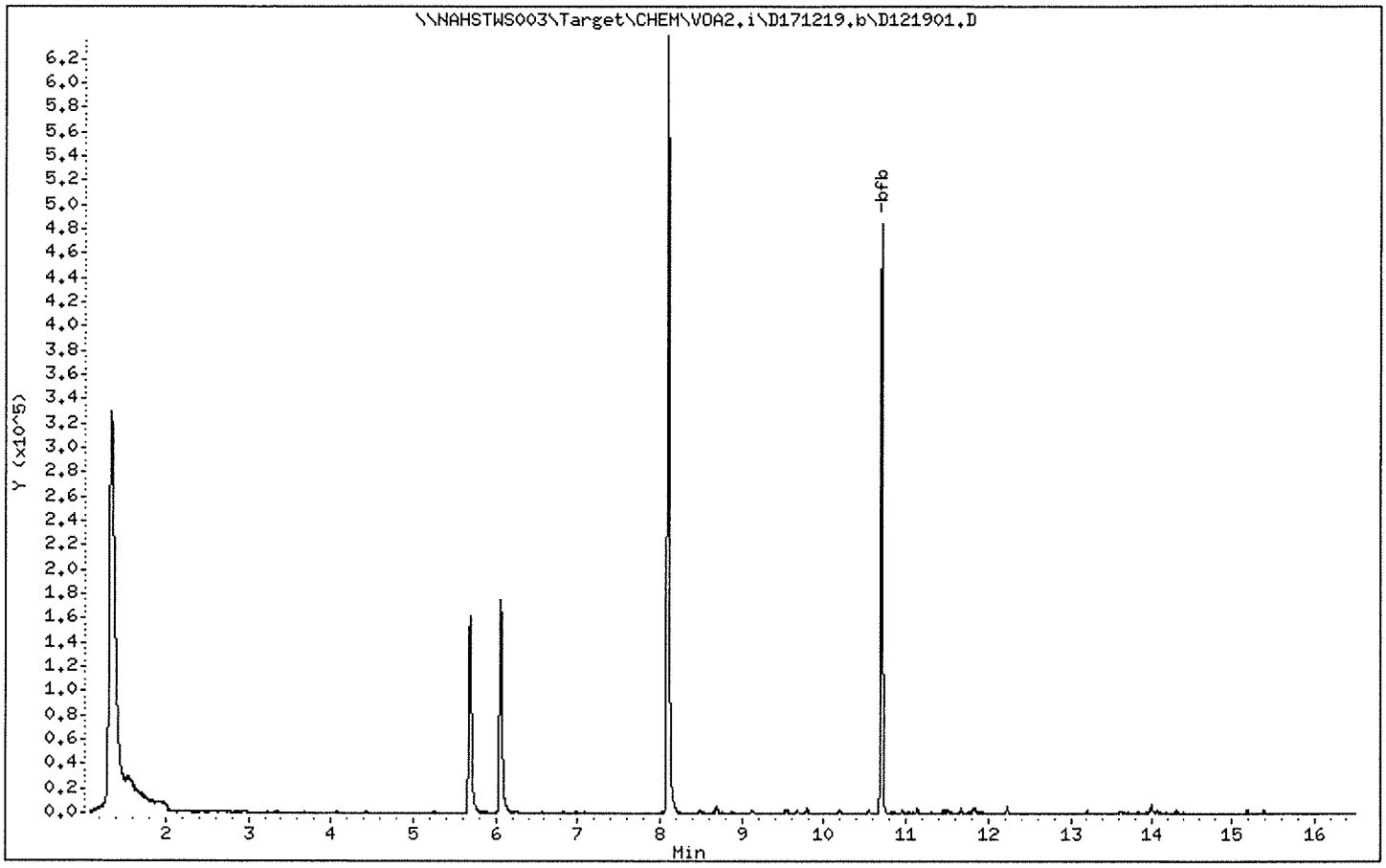
Sample Info: BFB;BFB;3;;BFB

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 16:44

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 16:44 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)

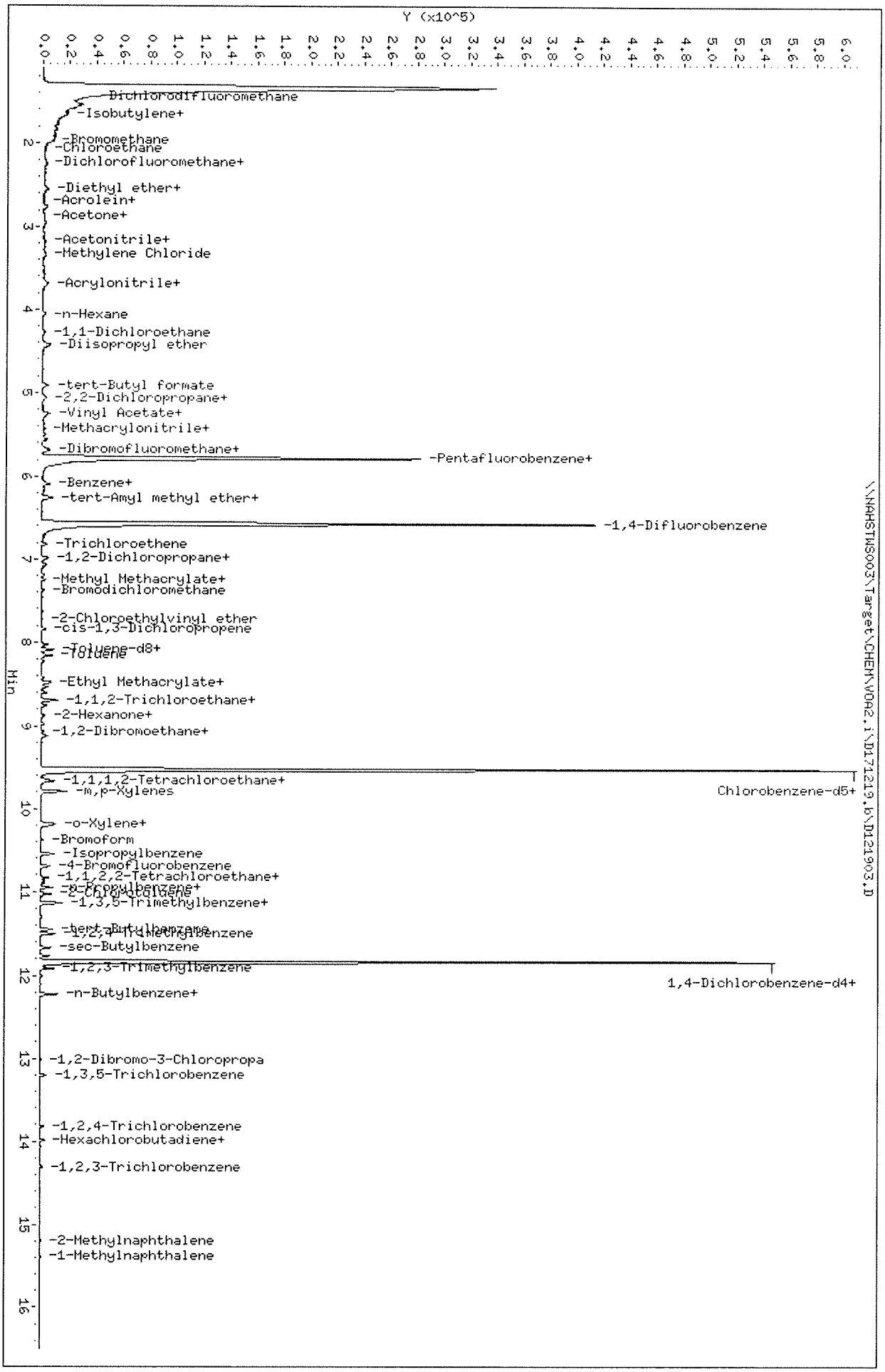
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121903.D
Report Date: 09-Feb-2018 16:44

	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)	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 16:44

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\VOA2.i\D171219.b\D121903.D
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 16:44

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 16:44 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)

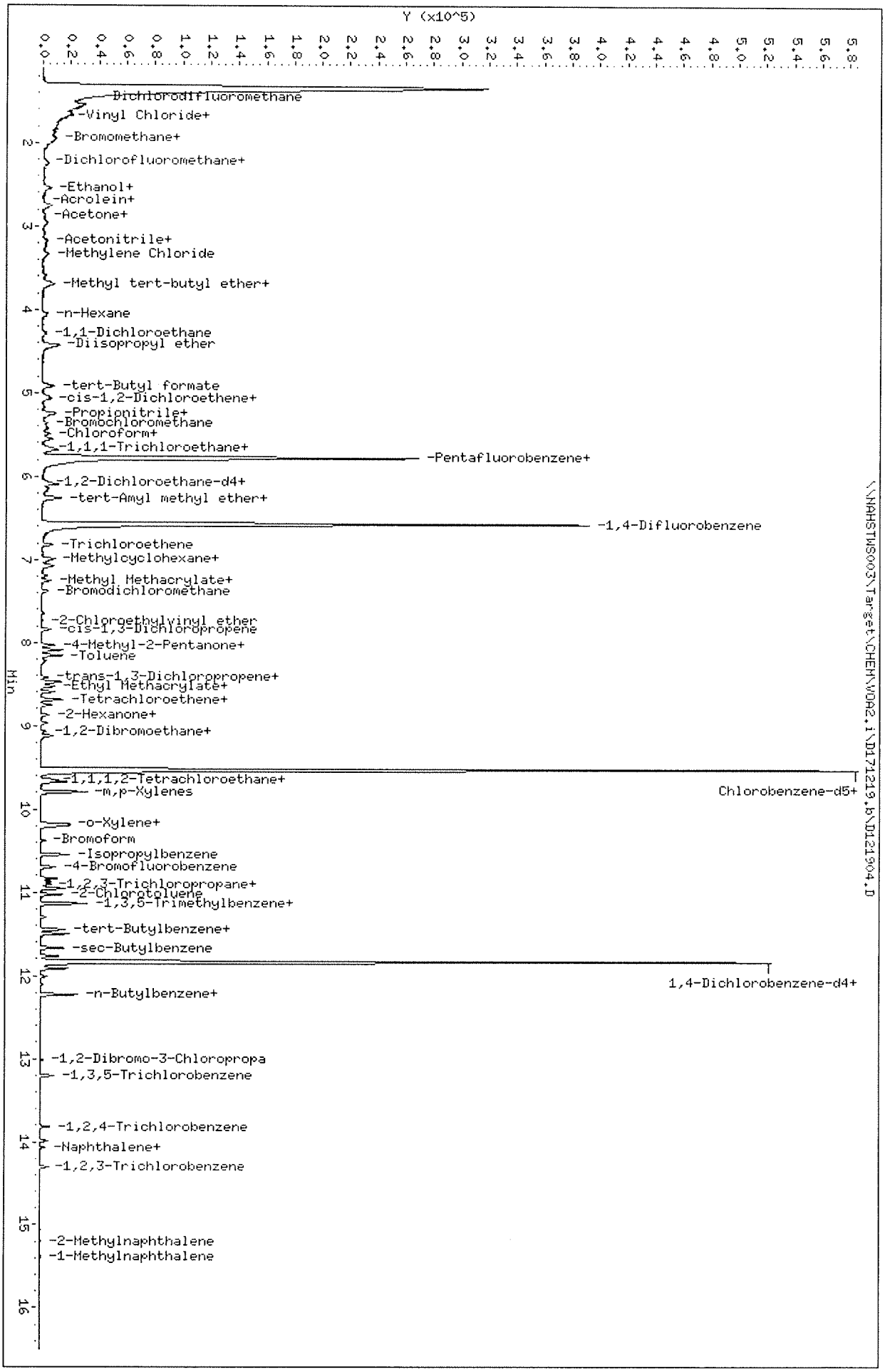
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121904.D
Report Date: 09-Feb-2018 16:44

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
84	1,4-Dichlorobenzene	146	11.860	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 16:44

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-Chlorgethylvinyl 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 16:44

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 16:44 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)

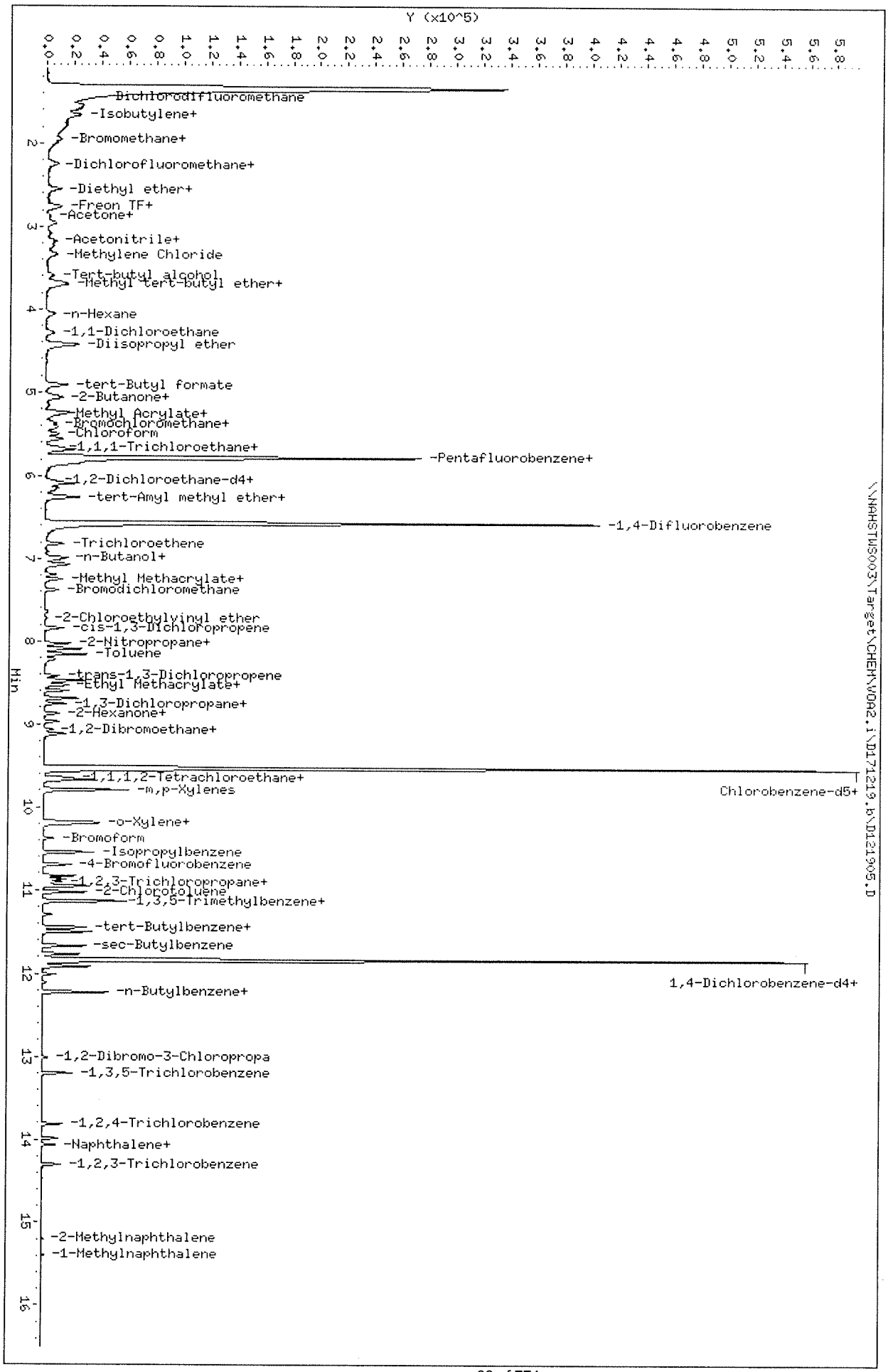
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121905.D
Report Date: 09-Feb-2018 16:44

	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 16:44

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
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
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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 16:44

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 16:44 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)

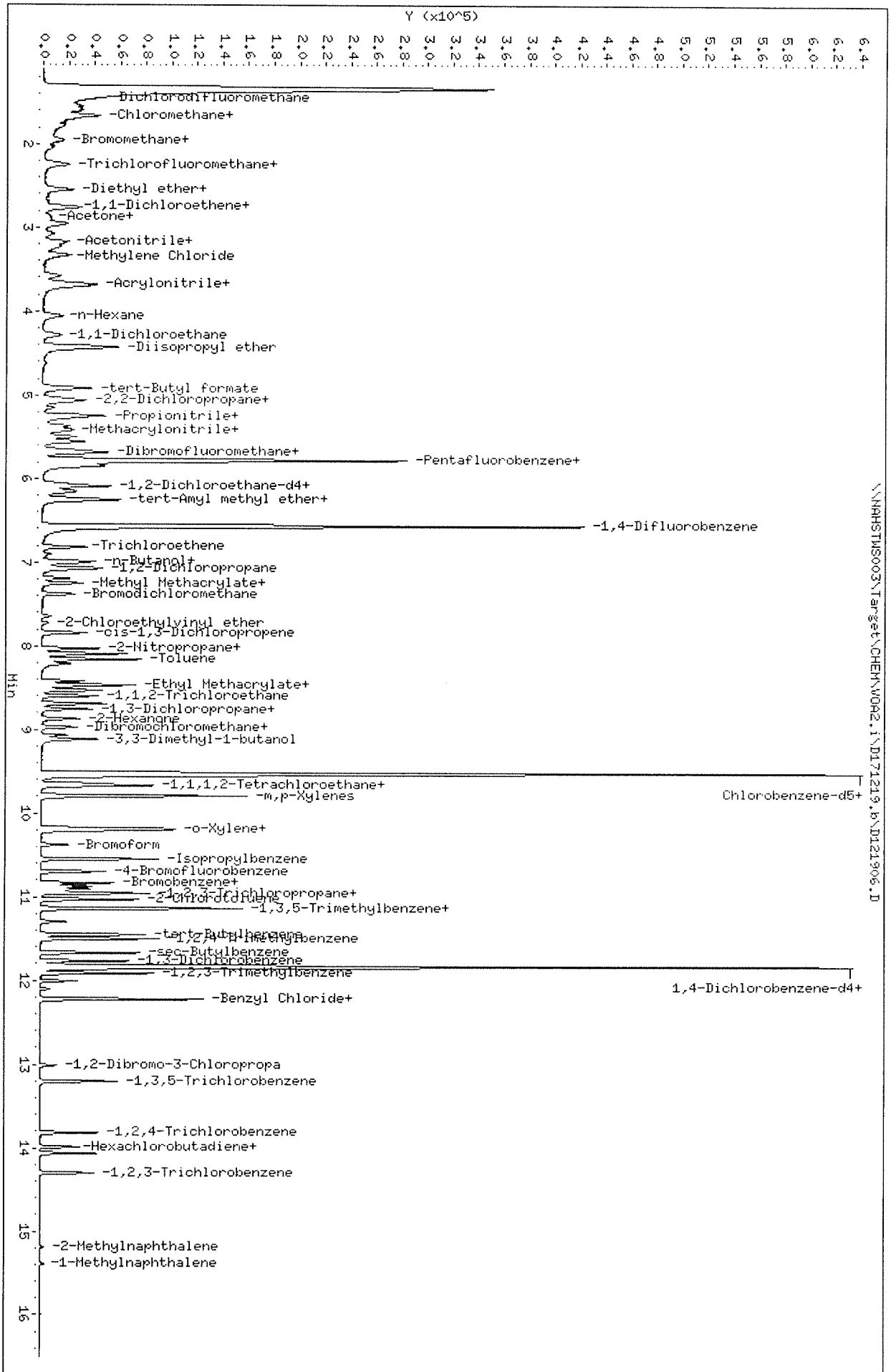
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121906.D
Report Date: 09-Feb-2018 16:44

	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 16:44

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 16:44

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 16:44 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

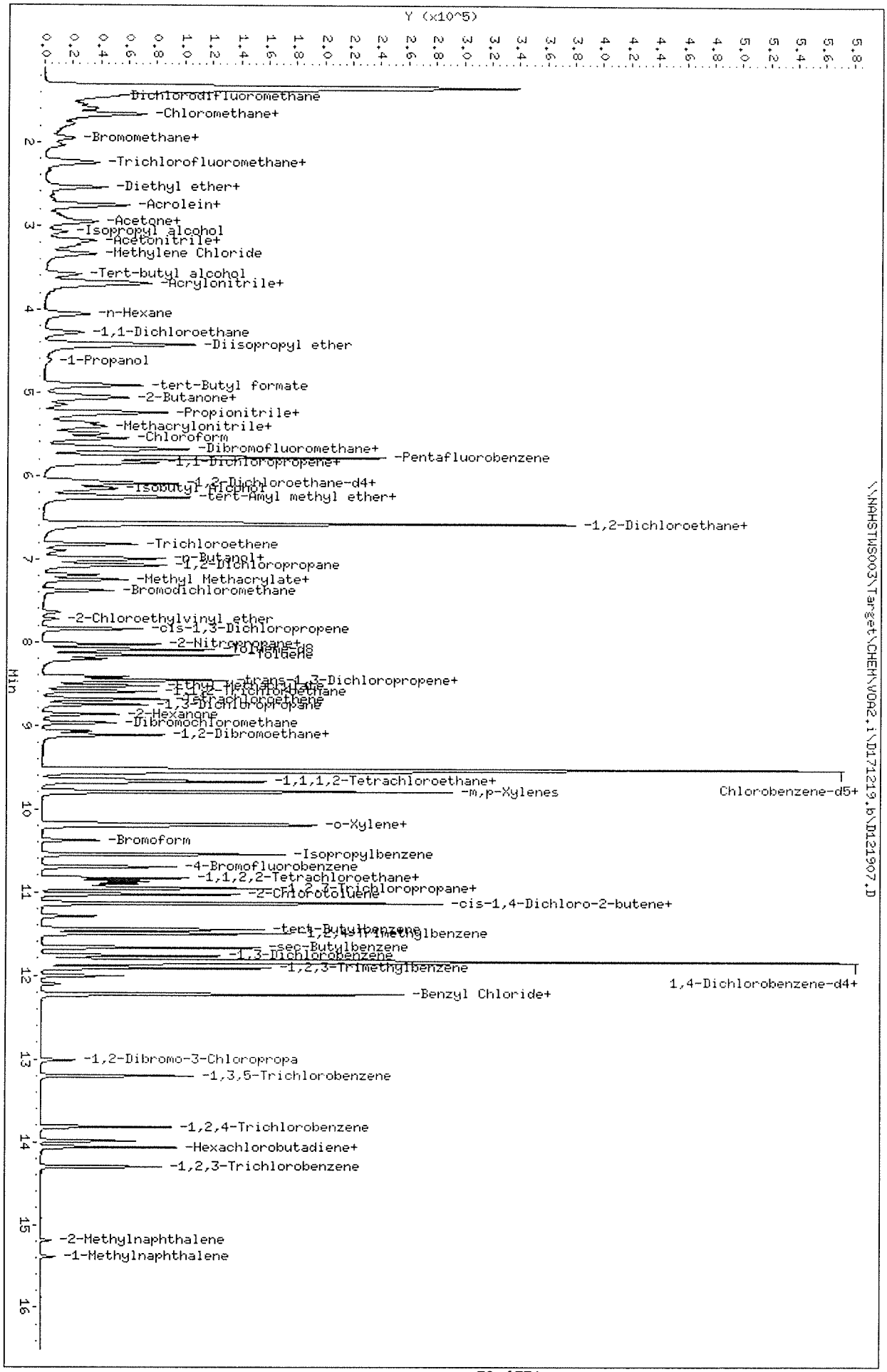
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121907.D
Report Date: 09-Feb-2018 16:44

	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 16:44

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+
-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

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121908.D
Report Date: 09-Feb-2018 16:44

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 16:44 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

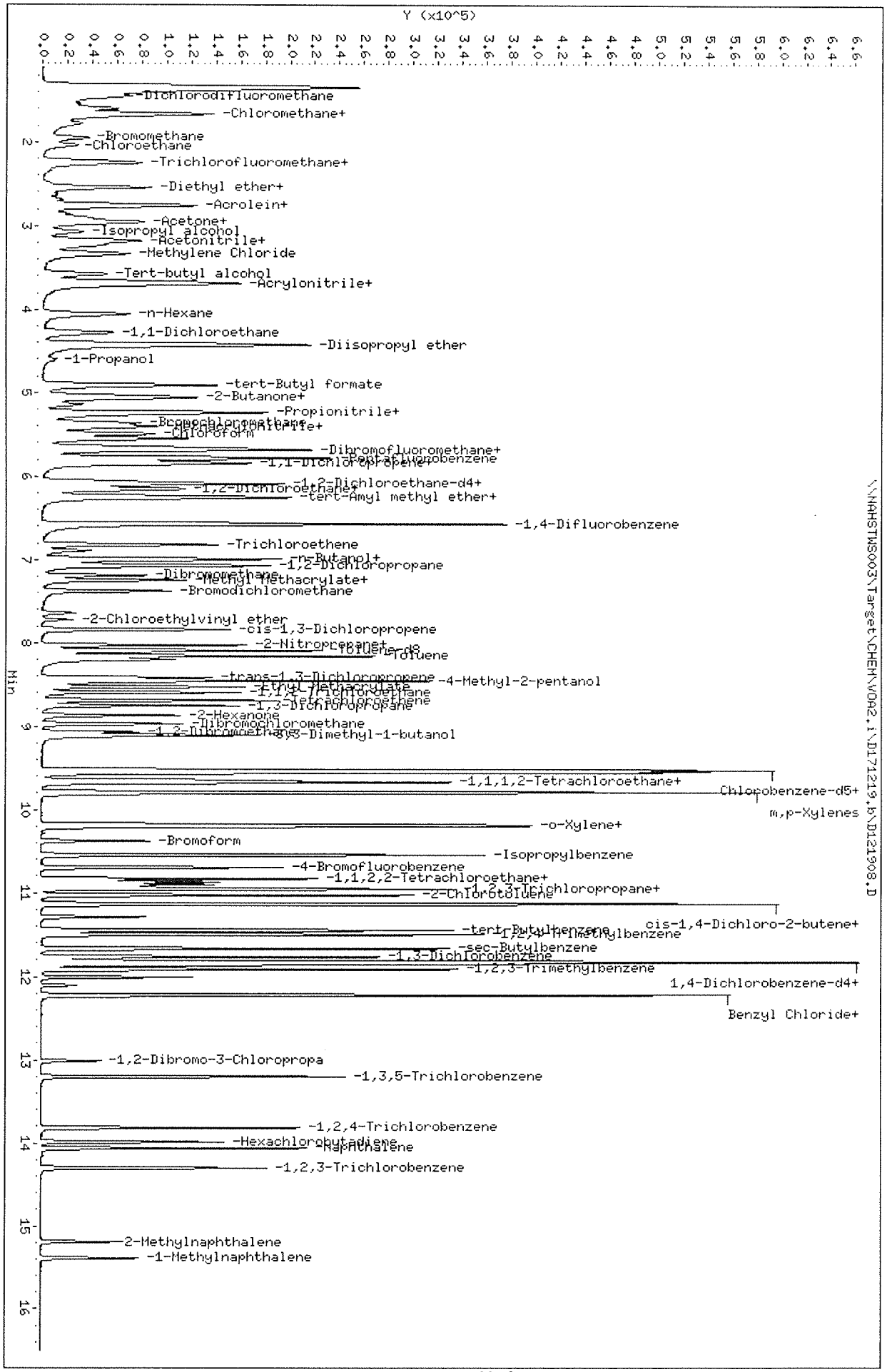
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121908.D
Report Date: 09-Feb-2018 16:44

	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 16:44

QC Flag Legend

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


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+
-Chloroform
-Dibromofluoromethane+
-1,1-Dichloropropene
-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-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
\\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 16:44

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 16:44 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

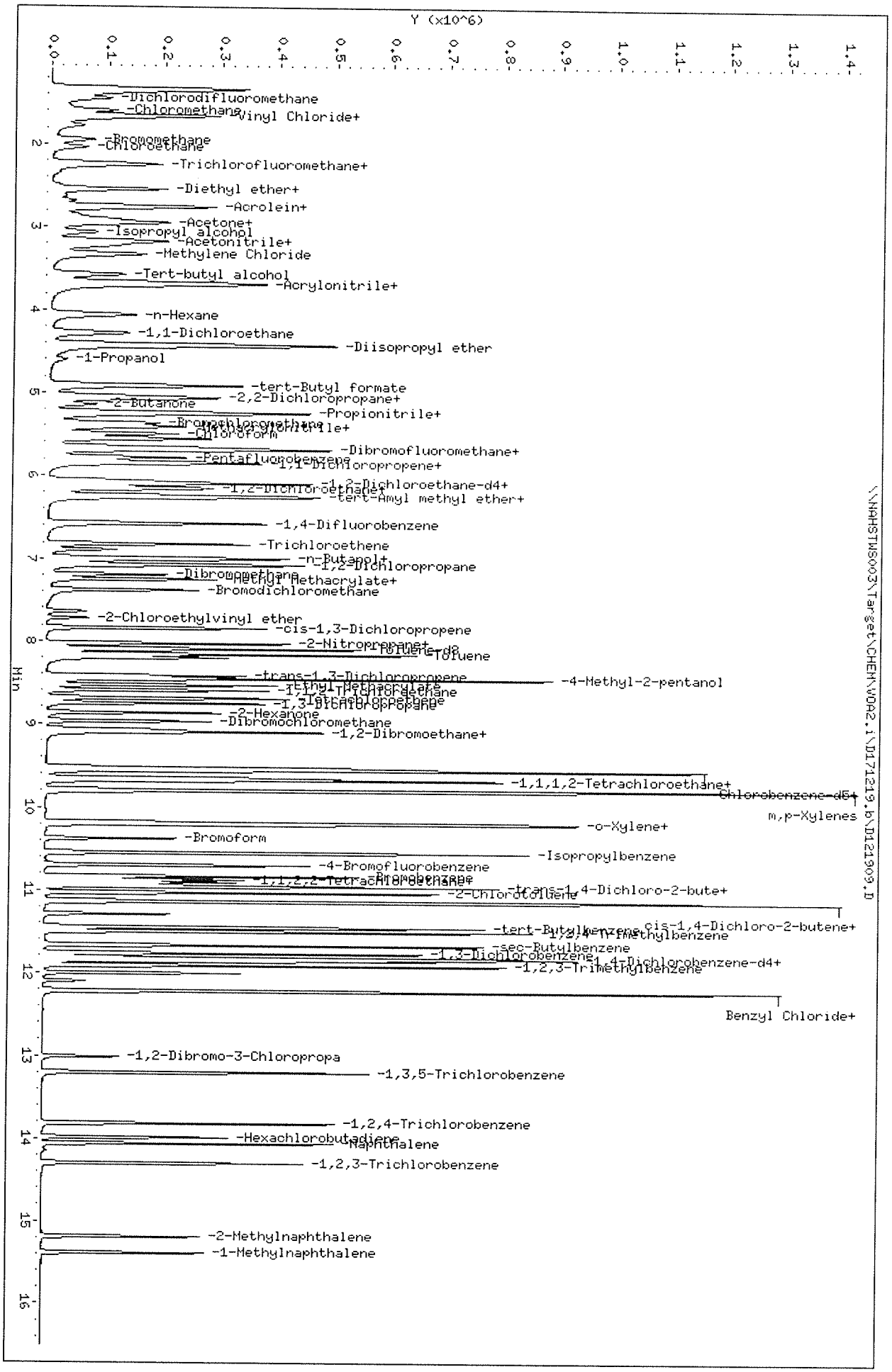
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121909.D
Report Date: 09-Feb-2018 16:44

	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 16:44

QC Flag Legend

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


Y (x10^6)
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0.1
0.2
0.3
0.4
0.5
0.6
0.7
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1.0
1.1
1.2
1.3
1.4
Min
2
3
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
-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
-Styrene
-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
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Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121909.D
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Client ID: VSTD050
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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 16:44

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D
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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;
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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

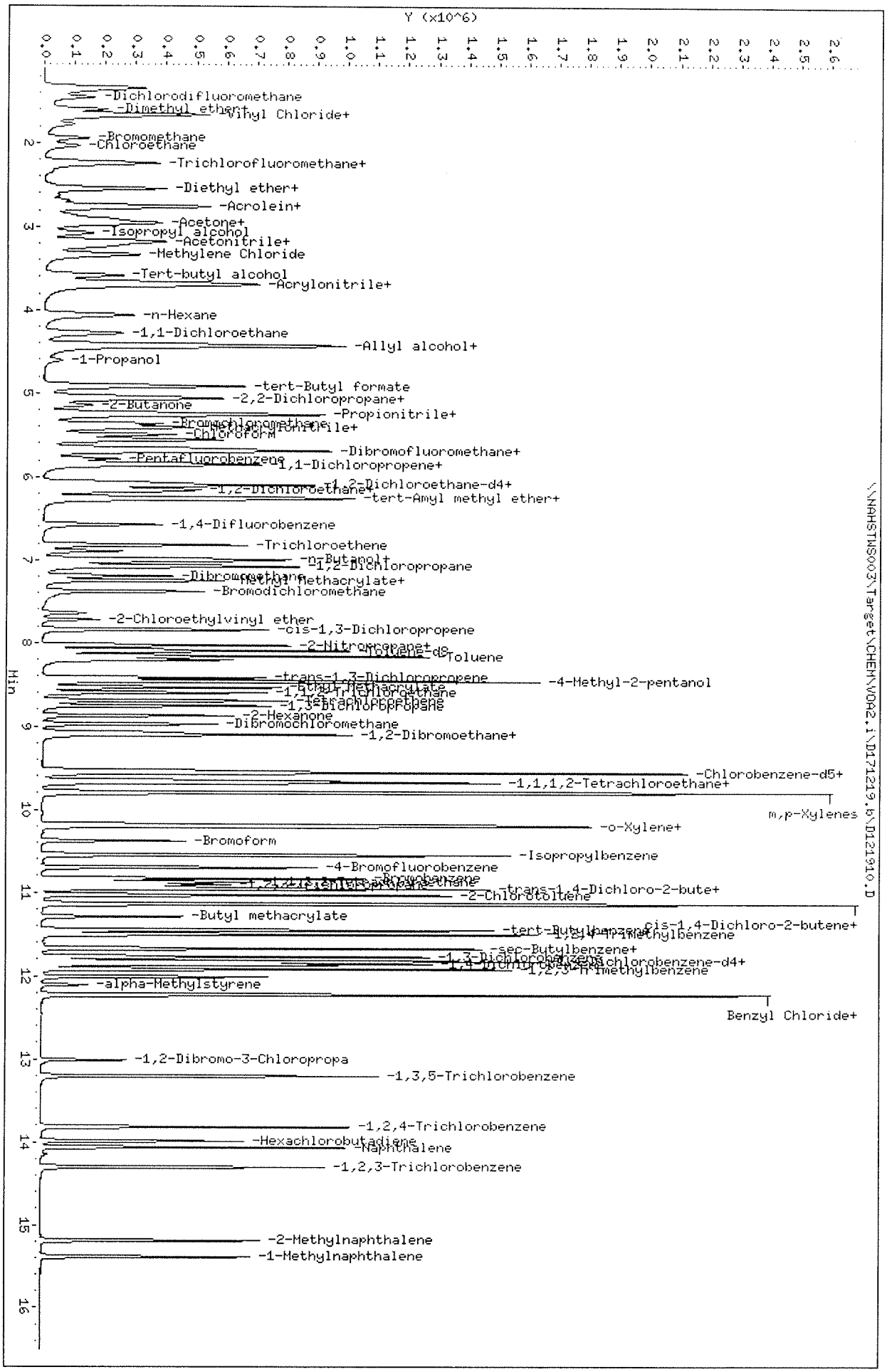
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D
Report Date: 09-Feb-2018 16:44

	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 16:44

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: WSTD100
Sample Info: WSTD100;WSTD100;1;8;
Purge Volume: 5.0
Column phase: DB624

\\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D

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 16:44

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 16:44 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 16:44

	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 16:44

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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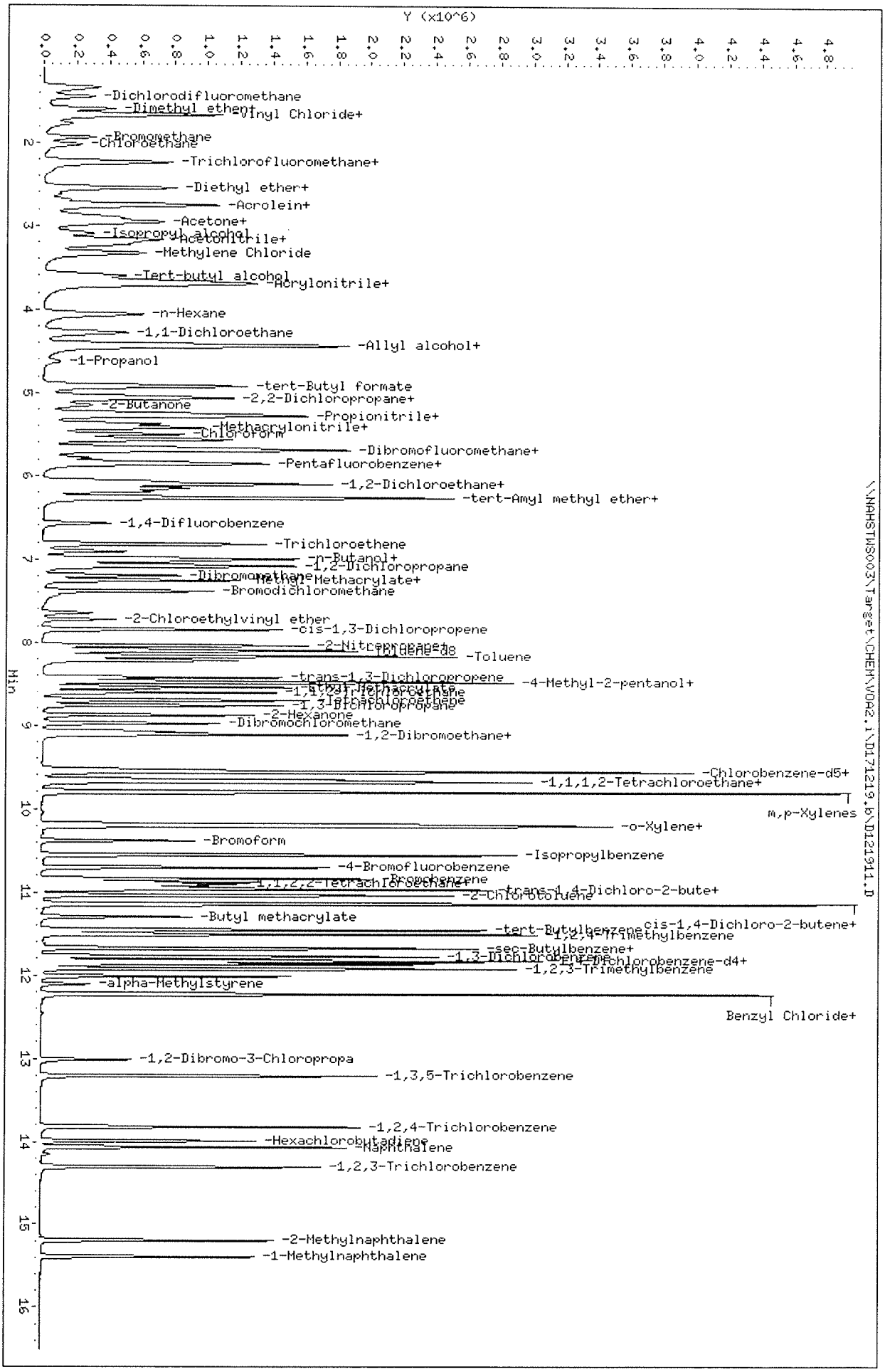
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Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121911.D
Date : 19-DEC-2017 13:27
Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;9;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
-Dichlorodifluoromethane
-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+
-2-Chlorotoluene
-trans-1,4-Dichloro-2-bute+
-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\D121913.D
Report Date: 09-Feb-2018 16:44

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 16:44 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

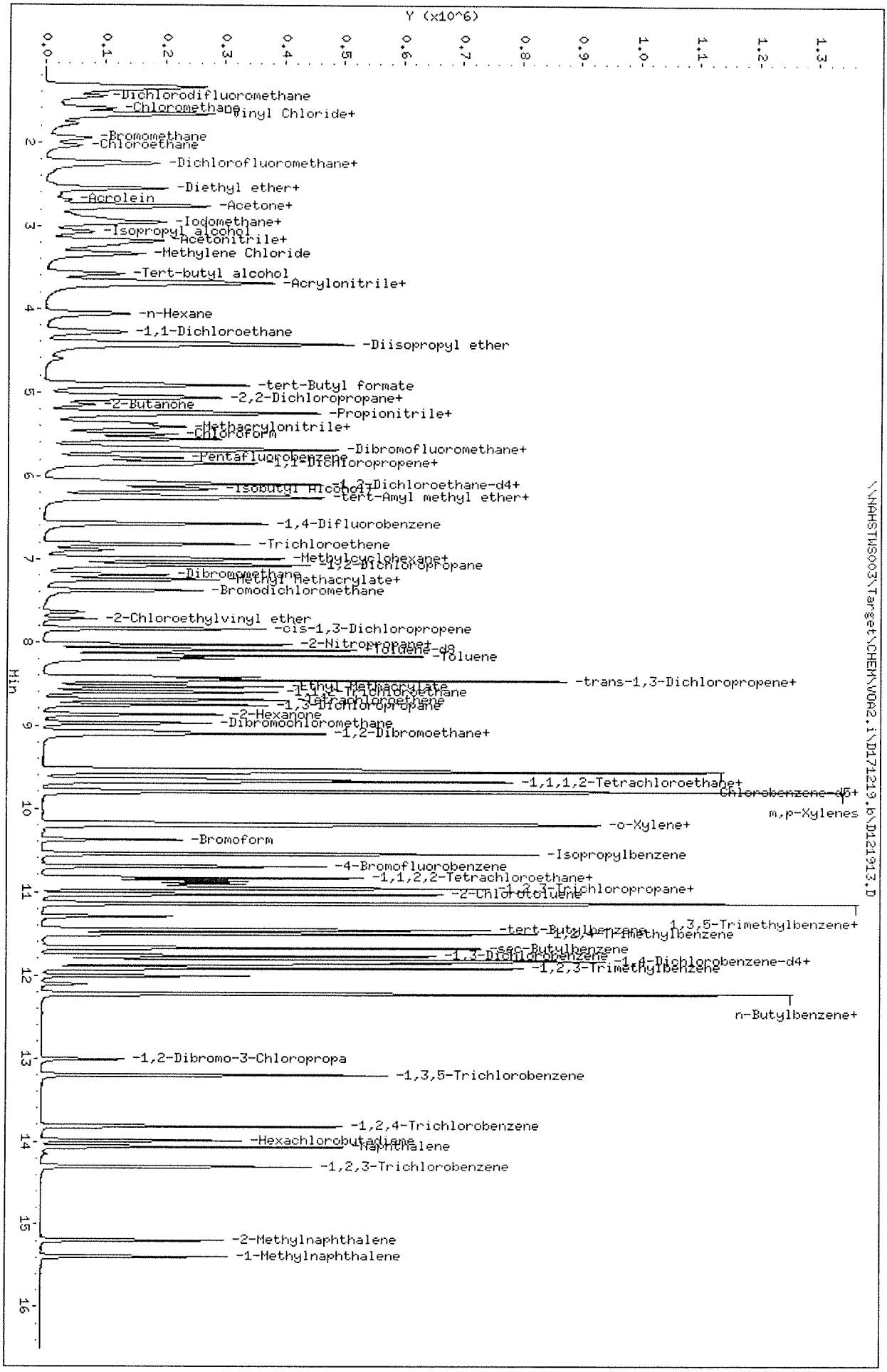
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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 16:44

	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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-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
-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\D171219.b\D121913.D
Date : 19-DEC-2017 14:16
Client ID: WSTD-ICV
Sample Info: WSTD-ICV;WSTD-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.: HS17121169

Lab File ID: D123101 BFB Injection Date: 12/31/17

Instrument ID: VOA2 BFB Injection Time: 1339

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	18.9
75	30.0 - 60.0% of mass 95	46.4
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	86.7
175	5.0 - 9.0% of mass 174	6.1 (7.0)1
176	95.0 - 101.0% of mass 174	87.4 (100.8)1
177	5.0 - 9.0% of mass 176	6.0 (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	D123102	12/31/17	1404
02	VLCSW-171231	VLCSW-171231	D123103	12/31/17	1428
03	VBLKW-171231	VBLKW-171231	D123105	12/31/17	1517
04	HS17121169-0	HS17121169-02	D123108	12/31/17	1631
05	HS17121169-0	HS17121169-01	D123119	12/31/17	2112
06	HS17121169-0	HS17121169-01	D123120	12/31/17	2139
07	HS17121224-0	HS17121224-01M	D123127	01/01/18	0044
08	HS17121224-0	HS17121224-01M	D123128	01/01/18	0109
09	CCV_END	CCV_END	D123129	01/01/18	0133
10					
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FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121169

Instrument ID: VOA2 Calibration Date: 12/31/17 Time: 1404

Lab File ID: D123102 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	0.7834339	0.7834339	0.1	1.35	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3990000	0.4087837	0.4087837	0.1	2.45	20.00	AVRG
tert-Butylbenzene	2.7210000	2.5109828	2.5109828	0.1	-7.72	20.00	AVRG
Naphthalene	50.534291	50.000000	2.5922796	0.2	1.07	20.00	LINR
sec-Butylbenzene	3.5940000	3.4383425	3.4383425	0.1	-4.33	20.00	AVRG
1,1,2,2-Tetrachloroethane	1.1930000	1.0296246	1.0296246	0.3	-13.69	20.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.2967527	0.2967527	0.1	-3.02	20.00	AVRG
1,1-Dichloropropene	55.339572	50.000000	0.4305061	0.1	10.68	20.00	LINR
1,1-Dichloroethane	1.0440000	1.0211278	1.0211278	0.2	-2.19	20.00	AVRG
1,1-Dichloroethene	0.4120000	0.4477394	0.4477394	0.1	8.67	20.00	AVRG
1,2,4-Trichlorobenzene	0.9850000	1.0807638	1.0807638	0.2	9.72	20.00	AVRG
1,2-Dibromo-3-Chloropropane	45.120955	50.000000	0.1854610	0.05	-9.76	20.00	LINR
1,2-Dibromoethane	0.3830000	0.3898563	0.3898563	0.1	1.79	20.00	AVRG
1,2-Dichlorobenzene	1.7970000	1.6511734	1.6511734	0.4	-8.12	20.00	AVRG
1,2-Dichloroethane	55.344501	50.000000	0.4885679	0.1	10.69	20.00	LINR
1,2-Dichloropropane	0.3940000	0.3959015	0.3959015	0.1	0.48	20.00	AVRG
1,3-Dichlorobenzene	1.8700000	1.7376490	1.7376490	0.6	-7.08	20.00	AVRG
1,4-Dichlorobenzene	1.7890000	1.6616677	1.6616677	0.4	-7.12	20.00	AVRG
2-Butanone	0.2700000	0.2468740	0.2468740	0.1	-8.56	20.00	AVRG
2-Hexanone	0.2930000	0.2651312	0.2651312	0.1	-9.51	20.00	AVRG
4-Methyl-2-Pentanone	0.4540000	0.4144808	0.4144808	0.1	-8.70	20.00	AVRG
Acetone	94.842113	100.00000	0.1573868	0.1	-5.16	20.00	LINR
Benzene	1.3160000	1.3372083	1.3372083	0.5	1.61	20.00	AVRG
Bromodichloromethane	0.4660000	0.4795462	0.4795462	0.2	2.91	20.00	AVRG
Bromoform	0.2970000	0.3131957	0.3131957	0.1	5.45	20.00	AVRG
Bromomethane	55.990199	50.000000	0.3814083	0.1	11.98	20.00	LINR
Carbon Disulfide	0.9420000	0.9802868	0.9802868	0.1	4.06	20.00	AVRG
Carbon Tetrachloride	0.4750000	0.4294329	0.4294329	0.1	-9.59	20.00	AVRG
Chlorobenzene	1.0300000	1.0009252	1.0009252	0.5	-2.82	20.00	AVRG
Chloroethane	0.4040000	0.3716144	0.3716144	0.1	-8.02	20.00	AVRG
Chloroform	0.9120000	0.8900055	0.8900055	0.2	-2.41	20.00	AVRG
Chloromethane	53.642269	50.000000	0.8960420	0.1	7.28	20.00	LINR
cis-1,2-Dichloroethene	0.5690000	0.5747831	0.5747831	0.1	1.02	20.00	AVRG
cis-1,3-Dichloropropene	0.5350000	0.5950174	0.5950174	0.2	11.22	20.00	AVRG
Dibromochloromethane	0.4320000	0.4420124	0.4420124	0.1	2.32	20.00	AVRG
Dichlorodifluoromethane	0.4270000	0.4274784	0.4274784	0.1	0.11	20.00	AVRG
Ethylbenzene	0.5510000	0.5387145	0.5387145	0.1	-2.23	20.00	AVRG
Isopropylbenzene	1.7050000	1.7094839	1.7094839	0.1	0.26	20.00	AVRG
Methylene Chloride	0.5470000	0.5129354	0.5129354	0.1	-6.23	20.00	AVRG
Tetrachloroethene	55.199033	50.000000	0.3393426	0.2	10.40	20.00	LINR
Toluene	1.5840000	1.5305698	1.5305698	0.4	-3.37	20.00	AVRG
trans-1,2-Dichloroethene	0.4460000	0.4940603	0.4940603	0.1	10.78	20.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712116

Instrument ID: VOA2 Calibration Date: 12/31/17 Time: 1404

Lab File ID: D123102 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	0.5111178	0.5111178	0.1	12.33	20.00	AVRG
Trichloroethene	0.3700000	0.3886201	0.3886201	0.2	5.03	20.00	AVRG
Trichlorofluoromethane	0.6160000	0.6655858	0.6655858	0.1	8.05	20.00	AVRG
Vinyl Chloride	0.6130000	0.6361688	0.6361688	0.1	3.78	20.00	AVRG
m,p-Xylenes	0.6740000	0.6544416	0.6544416	0.1	-2.90	20.00	AVRG
o-Xylene	0.7050000	0.6927751	0.6927751	0.3	-1.73	20.00	AVRG
Xylenes (total)	0.6190000	0.6178747	0.6178747	0.1	-0.18	20.00	AVRG
1,2,3-Trichloropropane	1.1910000	1.0950432	1.0950432	0.1	-8.06	20.00	AVRG
1,2,3-Trichlorobenzene	0.8490000	0.9206641	0.9206641	0.1	8.44	20.00	AVRG
1,2,4-Trimethylbenzene	3.3300000	2.9414887	2.9414887	0.1	-11.67	20.00	AVRG
1,3,5-Trimethylbenzene	3.2430000	2.9257814	2.9257814	0.1	-9.78	20.00	AVRG
2,2-Dichloropropane	0.7280000	0.7708198	0.7708198	0.1	5.88	20.00	AVRG
1,3-Dichloropropane	0.6170000	0.5926122	0.5926122	0.1	-3.95	20.00	AVRG
2-Chlorotoluene	2.8400000	2.4939296	2.4939296	0.1	-12.18	20.00	AVRG
4-Chlorotoluene	3.0920000	2.7441465	2.7441465	0.1	-11.25	20.00	AVRG
p-Isopropyltoluene	3.0780000	2.9208622	2.9208622	0.1	-5.10	20.00	AVRG
Bromochloromethane	0.2700000	0.2818500	0.2818500	0.1	4.39	20.00	AVRG
Bromobenzene	1.1090000	1.0003348	1.0003348	0.1	-9.80	20.00	AVRG
Dibromomethane	0.2040000	0.2202961	0.2202961	0.1	7.99	20.00	AVRG
Hexachlorobutadiene	52.873285	50.000000	0.4845284	0.1	5.75	20.00	LINR
n-Propylbenzene	4.2270000	3.8888054	3.8888054	0.1	-8.00	20.00	AVRG
n-Butylbenzene	2.2870000	2.2817135	2.2817135	0.05	-0.23	20.00	AVRG
Styrene	1.1240000	1.1369645	1.1369645	0.3	1.15	20.00	AVRG
1,2-Dichloroethane-d4	0.5560000	0.5226369	0.5226369	0.1	-6.00	20.00	AVRG
Dibromofluoromethane	0.4500000	0.4232590	0.4232590	0.1	-5.94	20.00	AVRG
Toluene-d8	1.3180000	1.2274044	1.2274044	0.1	-6.87	20.00	AVRG
4-Bromofluorobenzene	0.4810000	0.4741749	0.4741749	0.1	-1.42	20.00	AVRG

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121169

Instrument ID: VOA2 Calibration Date: 01/01/18 Time: 0133

Lab File ID: D123129 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	0.7345603	0.7345603	0.1	-4.97	50.00	AVRG
1,1,1,2-Tetrachloroethane	0.3990000	0.3878466	0.3878466	0.1	-2.80	50.00	AVRG
tert-Butylbenzene	2.7210000	2.3251743	2.3251743	0.1	-14.55	50.00	AVRG
Naphthalene	50.422099	50.000000	2.5865840	0.2	0.84	50.00	LINR
sec-Butylbenzene	3.5940000	3.0788206	3.0788206	0.1	-14.33	50.00	AVRG
1,1,2,2-Tetrachloroethane	1.1930000	1.0194698	1.0194698	0.3	-14.54	50.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.2880370	0.2880370	0.1	-5.87	50.00	AVRG
1,1-Dichloropropene	49.603025	50.000000	0.3866199	0.1	-0.79	50.00	LINR
1,1-Dichloroethane	1.0440000	0.9682337	0.9682337	0.2	-7.26	50.00	AVRG
1,1-Dichloroethene	0.4120000	0.4082224	0.4082224	0.1	-0.92	50.00	AVRG
1,2,4-Trichlorobenzene	0.9850000	1.0040318	1.0040318	0.2	1.93	50.00	AVRG
1,2-Dibromo-3-Chloropropane	46.711683	50.000000	0.1920784	0.05	-6.58	50.00	LINR
1,2-Dibromoethane	0.3830000	0.3839427	0.3839427	0.1	0.25	50.00	AVRG
1,2-Dichlorobenzene	1.7970000	1.5599921	1.5599921	0.4	-13.19	50.00	AVRG
1,2-Dichloroethane	51.377117	50.000000	0.4536080	0.1	2.75	50.00	LINR
1,2-Dichloropropane	0.3940000	0.3679965	0.3679965	0.1	-6.60	50.00	AVRG
1,3-Dichlorobenzene	1.8700000	1.6138171	1.6138171	0.6	-13.70	50.00	AVRG
1,4-Dichlorobenzene	1.7890000	1.5160043	1.5160043	0.4	-15.26	50.00	AVRG
2-Butanone	0.2700000	0.2661324	0.2661324	0.1	-1.43	50.00	AVRG
2-Hexanone	0.2930000	0.2817528	0.2817528	0.1	-3.84	50.00	AVRG
4-Methyl-2-Pentanone	0.4540000	0.4348170	0.4348170	0.1	-4.22	50.00	AVRG
Acetone	104.38284	100.00000	0.1728369	0.1	4.38	50.00	LINR
Benzene	1.3160000	1.2313394	1.2313394	0.5	-6.43	50.00	AVRG
Bromodichloromethane	0.4660000	0.4511987	0.4511987	0.2	-3.18	50.00	AVRG
Bromoform	0.2970000	0.3120199	0.3120199	0.1	5.06	50.00	AVRG
Bromomethane	46.945176	50.000000	0.3224283	0.1	-6.11	50.00	LINR
Carbon Disulfide	0.9420000	0.9064839	0.9064839	0.1	-3.77	50.00	AVRG
Carbon Tetrachloride	0.4750000	0.3949022	0.3949022	0.1	-16.86	50.00	AVRG
Chlorobenzene	1.0300000	0.9482240	0.9482240	0.5	-7.94	50.00	AVRG
Chloroethane	0.4040000	0.3471433	0.3471433	0.1	-14.07	50.00	AVRG
Chloroform	0.9120000	0.8427925	0.8427925	0.2	-7.59	50.00	AVRG
Chloromethane	50.641248	50.000000	0.8467903	0.1	1.28	50.00	LINR
cis-1,2-Dichloroethene	0.5690000	0.5404282	0.5404282	0.1	-5.02	50.00	AVRG
cis-1,3-Dichloropropene	0.5350000	0.5365532	0.5365532	0.2	0.29	50.00	AVRG
Dibromochloromethane	0.4320000	0.4270479	0.4270479	0.1	-1.15	50.00	AVRG
Dichlorodifluoromethane	0.4270000	0.3741881	0.3741881	0.1	-12.37	50.00	AVRG
Ethylbenzene	0.5510000	0.4989157	0.4989157	0.1	-9.45	50.00	AVRG
Isopropylbenzene	1.7050000	1.5850098	1.5850098	0.1	-7.04	50.00	AVRG
Methylene Chloride	0.5470000	0.4938533	0.4938533	0.1	-9.72	50.00	AVRG
Tetrachloroethene	49.359535	50.000000	0.3045222	0.2	-1.28	50.00	LINR
Toluene	1.5840000	1.4357542	1.4357542	0.4	-9.36	50.00	AVRG
trans-1,2-Dichloroethene	0.4460000	0.4518983	0.4518983	0.1	1.32	50.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712116

Instrument ID: VOA2 Calibration Date: 01/01/18 Time: 0133

Lab File ID: D123129 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	0.4724271	0.4724271	0.1	3.83	50.00	AVRG
Trichloroethene	0.3700000	0.3600414	0.3600414	0.2	-2.69	50.00	AVRG
Trichlorofluoromethane	0.6160000	0.6129933	0.6129933	0.1	-0.49	50.00	AVRG
Vinyl Chloride	0.6130000	0.5874974	0.5874974	0.1	-4.16	50.00	AVRG
m,p-Xylenes	0.6740000	0.6064089	0.6064089	0.1	-10.03	50.00	AVRG
o-Xylene	0.7050000	0.6473246	0.6473246	0.3	-8.18	50.00	AVRG
Xylenes (total)	0.6190000	0.5603096	0.5603096	0.1	-9.48	50.00	AVRG
1,2,3-Trichloropropane	1.1910000	1.0839644	1.0839644	0.1	-8.99	50.00	AVRG
1,2,3-Trichlorobenzene	0.8490000	0.8878406	0.8878406	0.1	4.57	50.00	AVRG
1,2,4-Trimethylbenzene	3.3300000	2.7044192	2.7044192	0.1	-18.79	50.00	AVRG
1,3,5-Trimethylbenzene	3.2430000	2.6552399	2.6552399	0.1	-18.12	50.00	AVRG
2,2-Dichloropropane	0.7280000	0.5966358	0.5966358	0.1	-18.04	50.00	AVRG
1,3-Dichloropropane	0.6170000	0.5806728	0.5806728	0.1	-5.89	50.00	AVRG
2-Chlorotoluene	2.8400000	2.3147231	2.3147231	0.1	-18.50	50.00	AVRG
4-Chlorotoluene	3.0920000	2.5268170	2.5268170	0.1	-18.28	50.00	AVRG
p-Isopropyltoluene	3.0780000	2.6035774	2.6035774	0.1	-15.41	50.00	AVRG
Bromochloromethane	0.2700000	0.2739339	0.2739339	0.1	1.46	50.00	AVRG
Bromobenzene	1.1090000	0.9413587	0.9413587	0.1	-15.12	50.00	AVRG
Dibromomethane	0.2040000	0.2077250	0.2077250	0.1	1.82	50.00	AVRG
Hexachlorobutadiene	46.391042	50.000000	0.4256136	0.1	-7.22	50.00	LINR
n-Propylbenzene	4.2270000	3.5433670	3.5433670	0.1	-16.17	50.00	AVRG
n-Butylbenzene	2.2870000	2.0465665	2.0465665	0.05	-10.51	50.00	AVRG
Styrene	1.1240000	1.0647645	1.0647645	0.3	-5.27	50.00	AVRG
1,2-Dichloroethane-d4	0.5560000	0.5281435	0.5281435	0.1	-5.01	50.00	AVRG
Dibromofluoromethane	0.4500000	0.4281762	0.4281762	0.1	-4.85	50.00	AVRG
Toluene-d8	1.3180000	1.2418907	1.2418907	0.1	-5.77	50.00	AVRG
4-Bromofluorobenzene	0.4810000	0.4801812	0.4801812	0.1	-0.17	50.00	AVRG

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121169

Lab File ID (Standard): D123102 Date Analyzed: 12/31/17

Instrument ID: VOA2 Time Analyzed: 1404

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	227284	5.78	337296	6.57	312351	9.53
	UPPER LIMIT	454568	6.28	674592	7.07	624702	10.03
	LOWER LIMIT	113642	5.28	168648	6.07	156176	9.03
	CLIENT SAMPLE NO.						
01	VLCSW-171231	232173	5.78	350112	6.57	319446	9.53
02	VBLKW-171231	248348	5.78	350622	6.57	318957	9.52
03	HS17121169-02	248937	5.78	351093	6.57	317240	9.52
04	HS17121169-01	241080	5.78	340177	6.57	289527	9.52
05	HS17121169-01	245827	5.78	346213	6.57	314244	9.52
06	HS17121224-01	230121	5.78	338952	6.57	312265	9.52
07	HS17121224-01	227155	5.78	338925	6.57	312827	9.53
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.: HS17121169

Lab File ID (Standard): D123102 Date Analyzed: 12/31/17

Instrument ID: VOA2 Time Analyzed: 1404

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

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	146365	11.84				
	UPPER LIMIT	292730	12.34				
	LOWER LIMIT	73183	11.34				
	CLIENT SAMPLE NO.						
01	VLCSW-171231	147881	11.83				
02	VBLKW-171231	141116	11.83				
03	HS17121169-02	140206	11.83				
04	HS17121169-01	132882	11.84				
05	HS17121169-01	136003	11.84				
06	HS17121224-01	147666	11.83				
07	HS17121224-01	149308	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: 30338
Date: 12-31-2017
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	12-31-2017 01:39 pm	1.00	50 mL	50 mL	D123101.D	Liquid	Y	NA
	Auto find/purged									
2	CCV	CCV	12-31-2017 02:04 pm	1.00	50 mL	50 mL	D123102.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
3	VLCSW-171231	LCS	12-31-2017 02:28 pm	1.00	50 mL	50 mL	D123103.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
4	BLK	SAMP	12-31-2017 02:53 pm	1.00	50 mL	50 mL	D123104.D	Liquid	Y	NA
	CLeanup Blk									
5	VBLKW-171231	MBLK	12-31-2017 03:17 pm	1.00	50 mL	50 mL	D123105.D	Liquid	Y	NA
6	HS17121158-03	SAMP	12-31-2017 03:42 pm	1.00	50 mL	50 mL	D123106.D	Liquid	Y	<2
7	HS17121168-02	SAMP	12-31-2017 04:06 pm	1.00	50 mL	50 mL	D123107.D	Liquid	Y	<2
8	HS17121169-02	SAMP	12-31-2017 04:31 pm	1.00	50 mL	50 mL	D123108.D	Liquid	Y	<2
9	HS17121224-09	SAMP	12-31-2017 04:56 pm	1.00	50 mL	50 mL	D123109.D	Liquid	Y	<2
10	HS17121400-02	SAMP	12-31-2017 05:20 pm	1.00	50 mL	50 mL	D123110.D	Liquid	Y	<2
11	HS17121168-01	SAMP	12-31-2017 05:45 pm	1.00	50 mL	50 mL	D123111.D	Liquid	Y	<2
12	HS17121224-01	SAMP	12-31-2017 06:09 pm	1.00	50 mL	50 mL	D123112.D	Liquid	Y	<2
13	HS17121224-08	SAMP	12-31-2017 06:34 pm	1.00	50 mL	50 mL	D123113.D	Liquid	Y	<2
14	HS17121400-01	SAMP	12-31-2017 06:58 pm	1.00	50 mL	50 mL	D123114.D	Liquid	Y	<2
15	HS17121224-05	SAMP	12-31-2017 07:23 pm	1.00	50 mL	50 mL	D123115.D	Liquid	Y	<2
16	HS17121224-05	SAMP	12-31-2017 07:50 pm	10.00	5 mL	50 mL	D123116.D	Liquid	Y	<2
17	HS17121224-06	SAMP	12-31-2017 08:17 pm	5.00	10 mL	50 mL	D123117.D	Liquid	Y	<2
18	HS17121224-06	SAMP	12-31-2017 08:45 pm	50.00	1 mL	50 mL	D123118.D	Liquid	Y	<2
19	HS17121169-01	SAMP	12-31-2017 09:12 pm	10.00	5 mL	50 mL	D123119.D	Liquid	Y	<2
20	HS17121169-01	SAMP	12-31-2017 09:39 pm	100.0(	500 µL	50 mL	D123120.D	Liquid	Y	<2
21	HS17121224-02	SAMP	12-31-2017 10:06 pm	10.00	5 mL	50 mL	D123121.D	Liquid	Y	<2
22	HS17121224-02	SAMP	12-31-2017 10:33 pm	100.0(	500 µL	50 mL	D123122.D	Liquid	Y	<2
23	HS17121224-04	SAMP	12-31-2017 11:01 pm	10.00	5 mL	50 mL	D123123.D	Liquid	Y	<2
24	HS17121224-04	SAMP	12-31-2017 11:28 pm	100.0(	500 µL	50 mL	D123124.D	Liquid	Y	<2
25	HS17121224-03	SAMP	12-31-2017 11:53 pm	100.0(	500 µL	50 mL	D123125.D	Liquid	Y	<2
26	HS17121224-03	SAMP	01-01-2018 12:20 am	1000.0	50 µL	50 mL	D123126.D	Liquid	Y	<2
27	HS17121224-01MS	MS	01-01-2018 12:44 am	1.00	50 mL	50 mL	D123127.D	Liquid	Y	<2
	8 uL cal std/40 mL sample									
28	HS17121224-01MSD	MSD	01-01-2018 01:09 am	1.00	50 mL	50 mL	D123128.D	Liquid	Y	<2
	8 uL cal std/40 mL sample									
29	CCV_END	CCV	01-01-2018 01:33 am	1.00	50 mL	50 mL	D123129.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
30	BFB	TUNE	01-01-2018 01:58 am	1.00	50 mL	50 mL	E123101.D	Liquid	Y	NA
31	CCV	CCV	01-01-2018 02:23 am	1.00	50 mL	50 mL	E123102.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
32	CCV	CCV	01-01-2018 02:47 am	1.00	50 mL	50 mL	E123103.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
33	VLCSW-171231	LCS	01-01-2018 03:12 am	1.00	50 mL	50 mL	E123104.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
34	BLK	SAMP	01-01-2018 03:37 am	1.00	50 mL	50 mL	E123105.D	Liquid	Y	NA
	Cleanup blk									
35	VBLKW-171231	MBLK	01-01-2018 04:01 am	1.00	50 mL	50 mL	E123106.D	Liquid	Y	NA

MSVOA02 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
36	HS17121073-10	SAMP	01-01-2018 04:26 am	1.00	50 mL	50 mL	E123107.D	Liquid	Y	<2
37	HS17121073-08	SAMP	01-01-2018 04:50 am	1.00	50 mL	50 mL	E123108.D	Liquid	Y	<2
38	HS17121073-09	SAMP	01-01-2018 05:15 am	1.00	50 mL	50 mL	E123109.D	Liquid	Y	<2
39	HS17121073-08MS	MS	01-01-2018 05:40 am	1.00	50 mL	50 mL	E123110.D	Liquid	Y	<2
40	*8 uL cal std/40 mL sample* HS17121073-08MSD	MSD	01-01-2018 06:04 am	1.00	50 mL	50 mL	E123111.D	Liquid	Y	<2
41	*8 uL cal std/40 mL sample* HS17121037-03	SAMP	01-01-2018 06:29 am	1.00	50 mL	50 mL	E123112.D	Liquid	Y	<2
42	HS17121006-03	SAMP	01-01-2018 06:54 am	1.00	50 mL	50 mL	E123113.D	Liquid	Y	<2
43	HS17121219-05	SAMP	01-01-2018 07:18 am	1.00	50 mL	50 mL	E123114.D	Liquid	Y	<2
44	HS17121219-06	SAMP	01-01-2018 07:43 am	1.00	50 mL	50 mL	E123115.D	Liquid	Y	<2
45	HS17121006-01	SAMP	01-01-2018 08:08 am	1.00	50 mL	50 mL	E123116.D	Liquid	Y	<2
46	HS17121006-02	SAMP	01-01-2018 08:32 am	1.00	50 mL	50 mL	E123117.D	Liquid	Y	<2
47	HS17121171-15	SAMP	01-01-2018 08:57 am	1.00	50 mL	50 mL	E123118.D	Liquid	Y	<2
48	HS17121171-16	SAMP	01-01-2018 09:21 am	1.00	50 mL	50 mL	E123119.D	Liquid	Y	<2
49	HS17121171-17	SAMP	01-01-2018 09:46 am	1.00	50 mL	50 mL	E123120.D	Liquid	Y	<2
50	HS17121171-18	SAMP	01-01-2018 10:11 am	1.00	50 mL	50 mL	E123121.D	Liquid	Y	<2
51	HS17121171-19	SAMP	01-01-2018 10:35 am	1.00	50 mL	50 mL	E123122.D	Liquid	Y	<2
52	HS17121171-20	SAMP	01-01-2018 11:00 am	1.00	50 mL	50 mL	E123123.D	Liquid	Y	<2
53	HS17121171-21	SAMP	01-01-2018 11:24 am	1.00	50 mL	50 mL	E123124.D	Liquid	Y	<2
54	HS17121171-21	SAMP	01-01-2018 11:52 am	10.00	5 mL	50 mL	E123125.D	Liquid	Y	<2
55	HS17121073-03	SAMP	01-01-2018 12:16 pm	100.0(	500 µL	50 mL	E123126.D	Liquid	Y	<2
56	HS17121073-03	SAMP	01-01-2018 12:44 pm	1000.0	50 µL	50 mL	E123127.D	Liquid	Y	<2
57	HS17121073-06	SAMP	01-01-2018 01:08 pm	100.0(	500 µL	50 mL	E123128.D	Liquid	Y	<2
58	HS17121073-06	SAMP	01-01-2018 01:36 pm	1000.0	50 µL	50 mL	E123129.D	Liquid	Y	<2

Chemical	Value
SURR ID	29814-99-03
IS ID	29814-99-04
LCS/MS ID	29814-99-01
CAL STD ID	29814-99-01
BFB ID	29814-99-03
pH Paper	634-37-03

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123101.D

Date : 31-DEC-2017 13:39

Client ID: BFB

Instrument: VOA2.i

Sample Info: BFB;BFB;3;;BFB

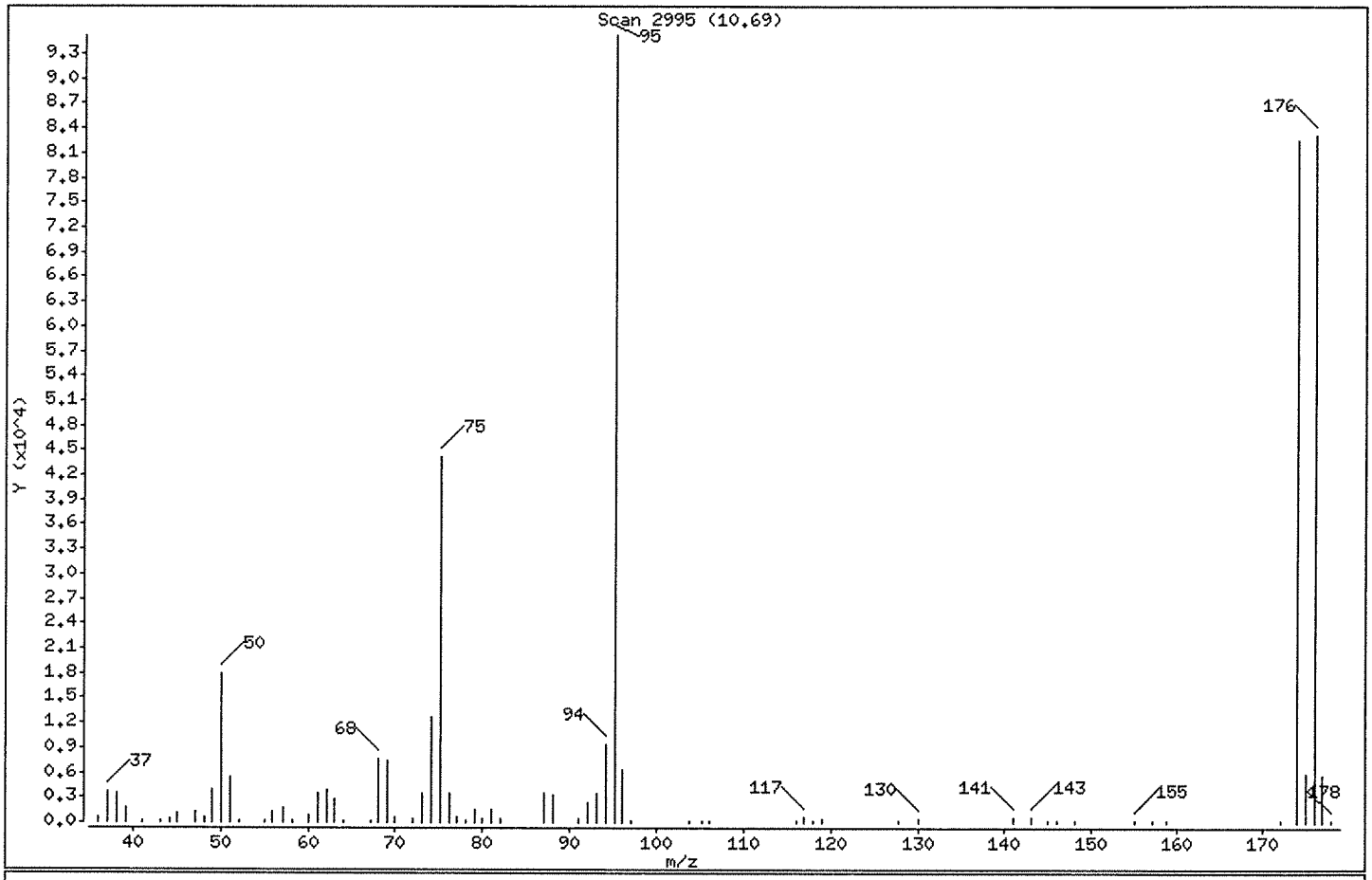
Volume Injected (uL): 2.0

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	18.94
75	30.00 - 60.00% of mass 95	46.44
96	5.00 - 9.00% of mass 95	6.67
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	86.67
175	5.00 - 9.00% of mass 174	6.10 (7.04)
176	95.00 - 101.00% of mass 174	87.40 (100.84)
177	5.00 - 9.00% of mass 176	5.99 (6.85)

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123101.D

Date : 31-DEC-2017 13:39

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: D123101.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
36.00	619	60.10	853	80.90	1581	127.80	228
37.10	3633	61.10	3473	82.00	478	130.00	458
38.10	3566	62.10	3859	87.00	3554	141.00	737
39.10	1752	63.10	2859	88.00	3308	143.00	732
41.10	303	64.00	216	91.00	350	145.00	192
43.10	249	67.10	153	92.10	2431	145.90	281
44.10	460	68.10	7760	93.00	3459	148.00	192
45.00	1004	69.10	7520	94.10	9447	155.00	321
47.10	1343	70.00	712	95.10	95192	157.00	151
48.10	607	72.00	411	96.10	6349	158.80	158
49.10	3926	73.10	3507	97.10	157	172.20	189
50.10	18032	74.10	12652	103.80	248	174.00	82504
51.10	5374	75.10	44208	105.20	171	175.10	5807
52.20	260	76.10	3572	106.00	233	176.00	83200
55.10	232	77.10	760	116.00	157	177.00	5699
56.00	1334	78.00	264	117.00	551	178.00	220
57.10	1833	79.00	1485	117.90	245		
58.10	151	80.00	514	119.00	427		

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123101.D

Date : 31-DEC-2017 13:39

Client ID: BFB

Instrument: VOA2.i

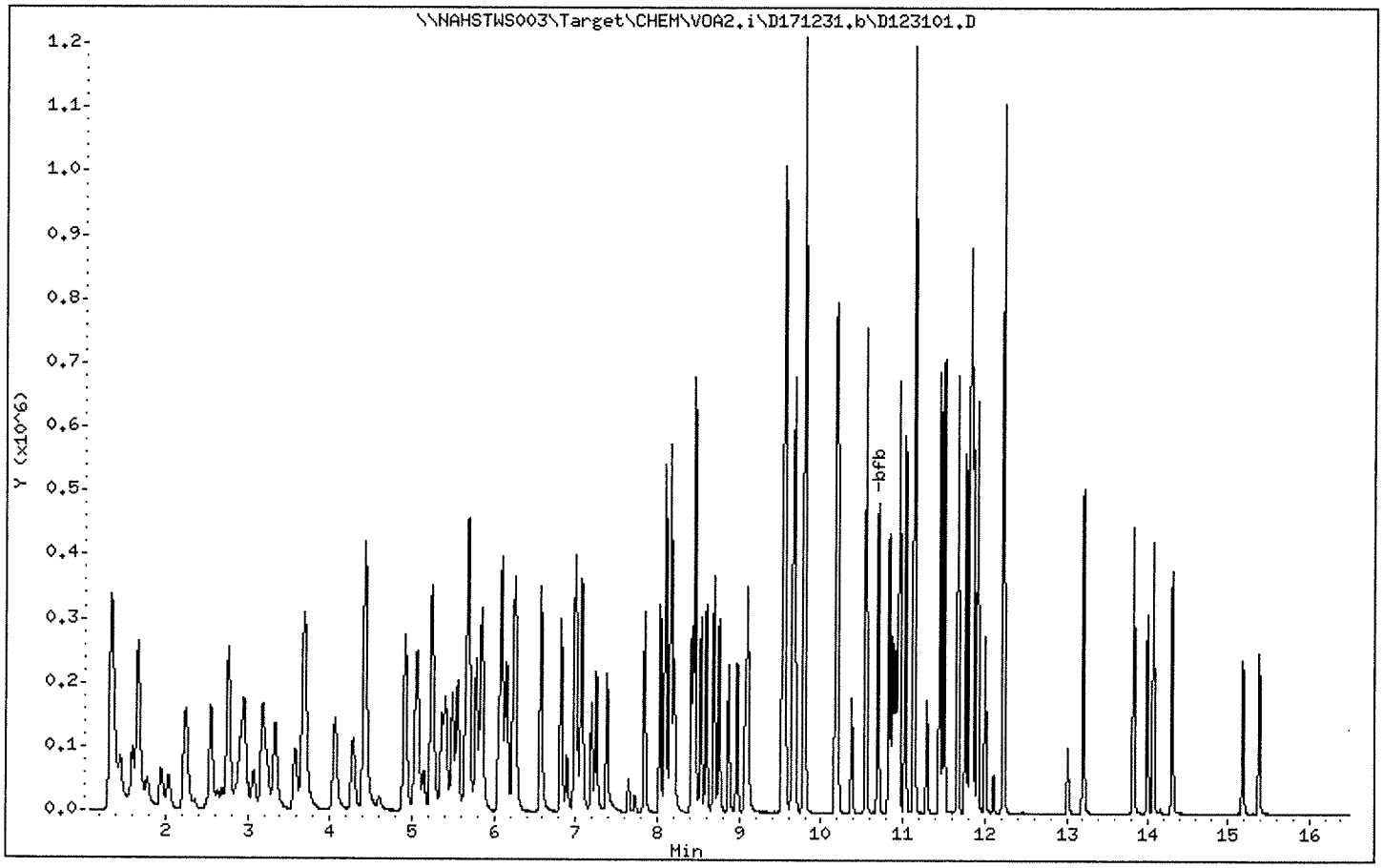
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123102.D
Report Date: 09-Feb-2018 16:29

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123102.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 31-DEC-2017 14:04
Operator : AP Inst ID: VOA2.i
Smp Info : CCV;CCV;2;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\8260LL.m
Meth Date : 09-Feb-2018 16:29 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	5.654	5.654	(0.978)	178062	50.0000	50.69
*	1 Pentafluorobenzene	168	5.782	5.782	(1.000)	227284	50.0000	
$	30 Dibromofluoromethane	113	5.689	5.689	(0.984)	96200	50.0000	46.97
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	337296	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.055	6.055	(1.047)	118787	50.0000	46.96
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	312351	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.849)	383381	50.0000	46.55
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	148109	50.0000	49.24
*	70 1,4-Dichlorobenzene-d4	152	11.838	11.838	(1.000)	146365	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.918)	150701	50.0000	43.16
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	92691	50.0000	48.51
	32 1,1-Dichloropropene	75	5.856	5.856	(0.891)	145208	50.0000	55.33
	22 1,1-Dichloroethane	63	4.277	4.277	(0.740)	232086	50.0000	48.91
	11 1,1-Dichloroethene	96	2.750	2.750	(0.476)	101764	50.0000	54.24
	90 1,2,4-Trichlorobenzene	180	13.818	13.818	(1.167)	158186	50.0000	54.86
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	27145	50.0000	45.12
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	121772	50.0000	50.88
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	241674	50.0000	45.93
	33 1,2-Dichloroethane	62	6.145	6.145	(0.935)	164792	50.0000	55.34
	42 1,2-Dichloropropane	63	7.066	7.066	(1.075)	133536	50.0000	50.26
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	254331	50.0000	46.45

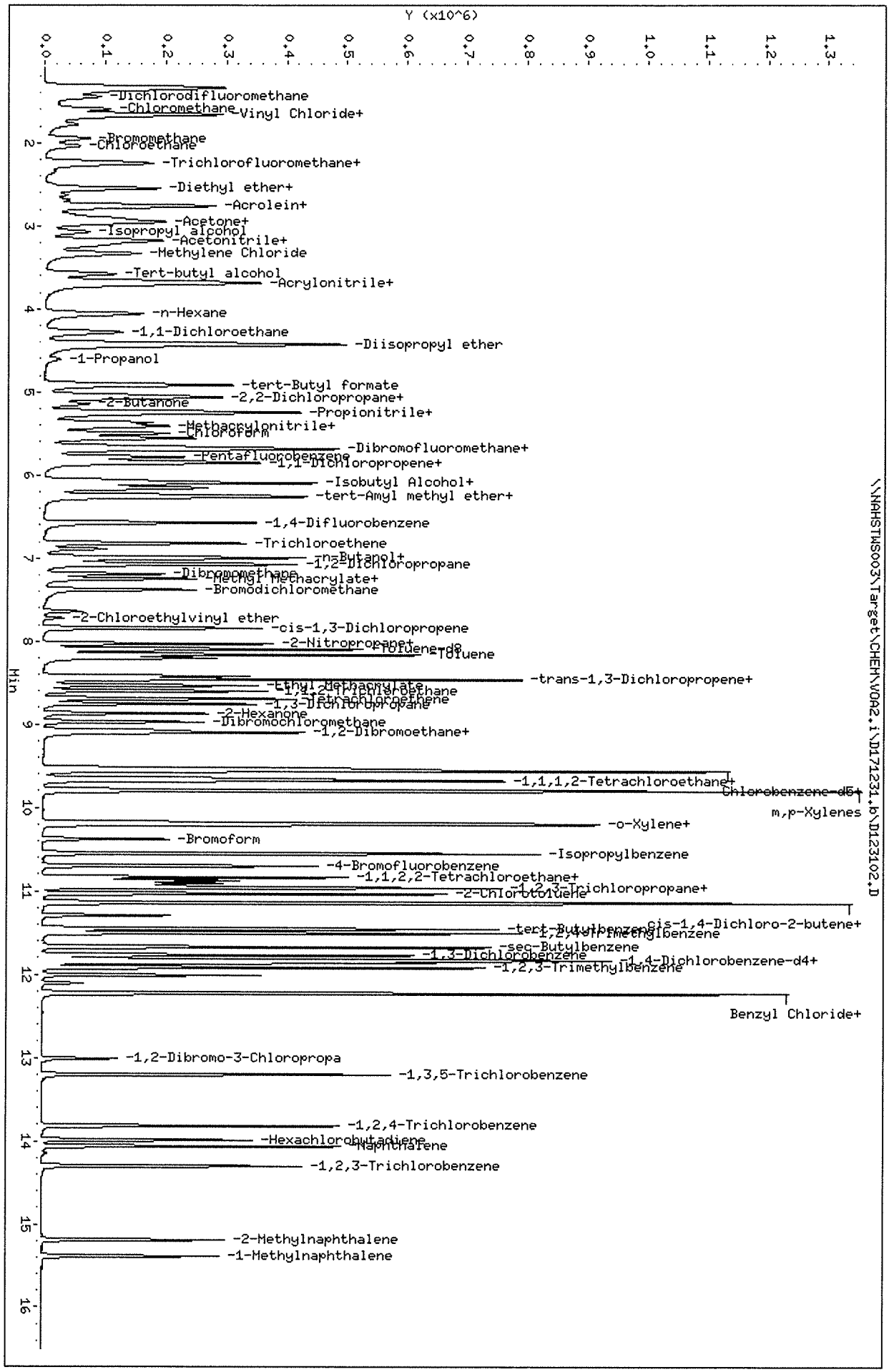
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123102.D
Report Date: 09-Feb-2018 16:29

	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	11.860	11.860	(1.002)	243210	50.0000	46.44	
24	2-Butanone	43	5.144	5.144	(0.890)	112221	100.000	91.50	
52	2-Hexanone	43	8.866	8.866	(0.931)	165628	100.000	90.50	
45	4-Methyl-2-Pentanone	43	8.025	8.025	(0.842)	258927	100.000	91.37	
10	Acetone	43	2.862	2.862	(0.495)	71543	100.000	94.84	
37	Benzene	78	6.090	6.090	(0.927)	451035	50.0000	50.82	
39	Bromodichloromethane	83	7.377	7.377	(1.123)	161749	50.0000	51.49	
66	Bromoform	173	10.378	10.378	(1.089)	97827	50.0000	52.79	
6	Bromomethane	94	1.941	1.941	(0.336)	86688	50.0000	55.99	
19	Carbon Disulfide	76	2.952	2.952	(0.511)	445607	100.000	104.01	
34	Carbon Tetrachloride	117	5.834	5.834	(0.888)	144846	50.0000	45.20	
59	Chlorobenzene	112	9.553	9.553	(1.003)	312640	50.0000	48.60	
7	Chloroethane	64	2.041	2.041	(0.353)	84462	50.0000	45.93	
28	Chloroform	83	5.494	5.494	(0.950)	202284	50.0000	48.81	
3	Chloromethane	50	1.588	1.588	(0.275)	203656	50.0000	53.64	
27	cis-1,2-Dichloroethene	96	5.067	5.067	(0.876)	130639	50.0000	50.52	
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	200697	50.0000	55.63	
55	Dibromochloromethane	129	8.972	8.972	(0.942)	138063	50.0000	51.19	
2	Dichlorodifluoromethane	85	1.447	1.447	(0.250)	97159	50.0000	50.00	
61	Ethylbenzene	106	9.672	9.672	(1.015)	168268	50.0000	48.87	
67	Isopropylbenzene	105	10.548	10.548	(1.107)	533959	50.0000	50.13	
17	Methylene Chloride	84	3.334	3.334	(0.577)	116582	50.0000	46.86	
56	Tetrachloroethene	164	8.690	8.690	(0.912)	105994	50.0000	55.19	
50	Toluene	91	8.157	8.157	(0.856)	478075	50.0000	48.29	
20	trans-1,2-Dichloroethene	96	3.671	3.671	(0.635)	112292	50.0000	55.34	
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	172398	50.0000	56.16	
38	Trichloroethene	130	6.819	6.819	(1.038)	131080	50.0000	52.46	
8	Trichlorofluoromethane	101	2.256	2.256	(0.390)	151277	50.0000	53.98	
5	Vinyl Chloride	62	1.685	1.685	(0.291)	144591	50.0000	51.90	
62	m,p-Xylenes	106	9.790	9.790	(1.028)	408831	100.000	97.09	
63	o-Xylene	106	10.179	10.179	(1.068)	216389	50.0000	49.12	
M 95	Xylenes (total)	106				625220	150.000	(a)	
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	160276	50.0000	45.96	
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.208)	134753	50.0000	54.23	
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	430531	50.0000	44.16	
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.940)	428232	50.0000	45.10	
26	2,2-Dichloropropane	77	5.041	5.041	(0.872)	175195	50.0000	52.90	
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	185103	50.0000	48.03	
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	365024	50.0000	43.90	
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	401647	50.0000	44.36	
82	p-Isopropyltoluene	119	11.818	11.818	(0.998)	427512	50.0000	47.45	
29	Bromochloromethane	128	5.365	5.365	(0.928)	64060	50.0000	52.05	
74	Bromobenzene	156	10.833	10.833	(0.915)	146414	50.0000	45.09	
44	Dibromomethane	93	7.188	7.188	(1.094)	74305	50.0000	53.97	
91	Hexachlorobutadiene	225	13.991	13.991	(1.182)	70918	50.0000	52.87	
73	n-Propylbenzene	91	10.955	10.955	(0.925)	569185	50.0000	45.99	
87	n-Butylbenzene	91	12.223	12.223	(1.033)	333963	50.0000	49.87	
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	503253	50.0000	47.83	
92	Naphthalene	128	14.061	14.061	(1.188)	379419	50.0000	50.53	
78	tert-Butylbenzene	119	11.453	11.453	(0.967)	367520	50.0000	46.14	
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	127684	50.0000	51.22	
64	Styrene	104	10.198	10.198	(1.070)	355132	50.0000	50.54	

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123102.D
Report Date: 09-Feb-2018 16:29

QC Flag Legend

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


Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123102.D
Date : 31-DEC-2017 14:04
Client ID: CCV
Sample Info: CCV;CCV;2;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
\\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123102.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+
-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\D171231.b\D123103.D
Report Date: 09-Feb-2018 16:29

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123103.D
Lab Smp Id: VLCSW-171231 Client Smp ID: VLCSW-171231
Inj Date : 31-DEC-2017 14:28
Operator : AP Inst ID: VOA2.i
Smp Info : VLCSW-171231;VLCSW-171231;3;;LCS
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\8260LL.m
Meth Date : 09-Feb-2018 16:29 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

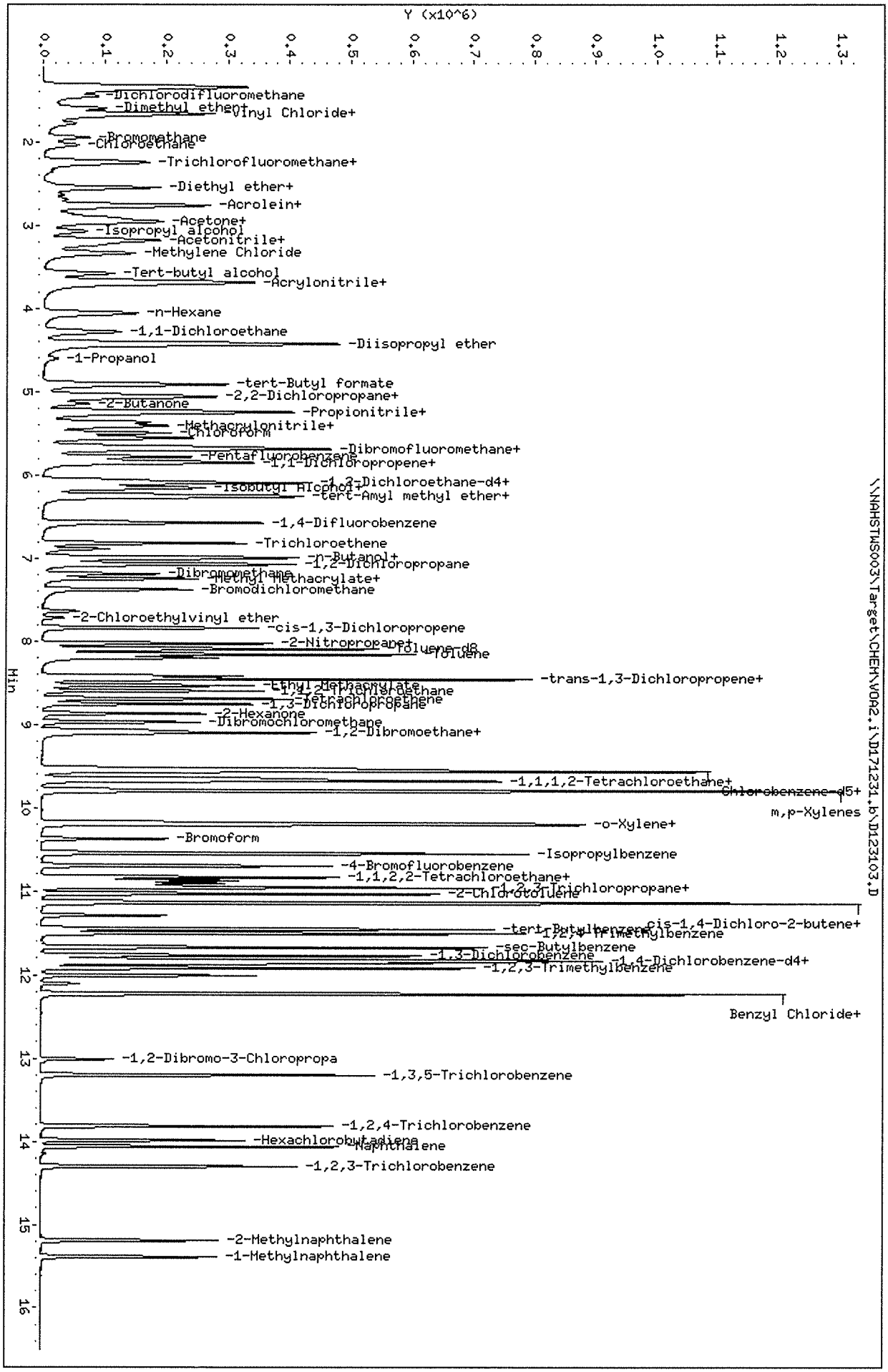
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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)	171718	47.8547	47.85
*	1 Pentafluorobenzene	168	5.779	5.782	(1.000)	232173	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.689	(0.984)	99128	47.3885	47.38
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	350112	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.055	(1.048)	121862	47.1689	47.16
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	319446	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.849)	392219	46.5681	46.56
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	153094	49.7765	49.77
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.838	(1.000)	147881	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	146527	41.5359	41.53
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	90075	46.0943	46.09
	32 1,1-Dichloropropene	75	5.856	5.856	(0.891)	139971	51.3244	51.32
	22 1,1-Dichloroethane	63	4.284	4.277	(0.741)	225301	46.4807	46.48
	11 1,1-Dichloroethene	96	2.753	2.750	(0.476)	94660	49.3995	49.39
	90 1,2,4-Trichlorobenzene	180	13.817	13.818	(1.168)	153234	52.5982	52.59
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	26376	43.4139	43.41
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	118224	48.3039	48.30
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	233845	43.9938	43.99
	33 1,2-Dichloroethane	62	6.145	6.145	(0.935)	152345	49.2804	49.28
	42 1,2-Dichloropropane	63	7.069	7.066	(1.076)	129453	46.9438	46.94
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	245556	44.3919	44.39

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123103.D
Report Date: 09-Feb-2018 16:29

	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	11.860	(1.002)	235222	44.4594	44.45
24	2-Butanone	43	5.144	5.144	(0.890)	108816	86.8575	86.85
52	2-Hexanone	43	8.866	8.866	(0.931)	161951	86.5263	86.52
45	4-Methyl-2-Pentanone	43	8.029	8.025	(0.843)	255275	88.0817	88.08
10	Acetone	43	2.856	2.862	(0.494)	68837	89.1969	89.19
37	Benzene	78	6.094	6.090	(0.927)	435166	47.2396	47.23
39	Bromodichloromethane	83	7.377	7.377	(1.123)	156945	48.1347	48.13
66	Bromoform	173	10.374	10.378	(1.089)	95718	50.5132	50.51
6	Bromomethane	94	1.941	1.941	(0.336)	85834	54.1944	54.19
19	Carbon Disulfide	76	2.955	2.952	(0.511)	431981	98.7150	98.71
34	Carbon Tetrachloride	117	5.834	5.834	(0.888)	136308	40.9876	40.98
59	Chlorobenzene	112	9.553	9.553	(1.003)	305466	46.4327	46.43
7	Chloroethane	64	2.038	2.041	(0.353)	80986	43.1139	43.11
28	Chloroform	83	5.493	5.494	(0.951)	196984	46.5368	46.53
3	Chloromethane	50	1.591	1.588	(0.275)	193609	49.8558	49.85
27	cis-1,2-Dichloroethene	96	5.067	5.067	(0.877)	125121	47.3694	47.36
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	194892	52.0488	52.04
55	Dibromochloromethane	129	8.969	8.972	(0.941)	134079	48.6143	48.61
2	Dichlorodifluoromethane	85	1.447	1.447	(0.250)	92301	46.5043	46.50
61	Ethylbenzene	106	9.672	9.672	(1.015)	161739	45.9333	45.93
67	Isopropylbenzene	105	10.548	10.548	(1.107)	517914	47.5456	47.54
17	Methylene Chloride	84	3.334	3.334	(0.577)	114439	45.0325	45.03
56	Tetrachloroethene	164	8.690	8.690	(0.912)	102757	52.2357	52.23
50	Toluene	91	8.160	8.157	(0.857)	468018	46.2300	46.23
20	trans-1,2-Dichloroethene	96	3.671	3.671	(0.635)	106296	51.2839	51.28
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	165207	51.8510	51.85
38	Trichloroethene	130	6.819	6.819	(1.038)	127063	48.9987	48.99
8	Trichlorofluoromethane	101	2.256	2.256	(0.390)	148345	51.8203	51.82
5	Vinyl Chloride	62	1.678	1.685	(0.290)	138226	48.5737	48.57
62	m,p-Xylenes	106	9.790	9.790	(1.028)	397178	92.2346	92.23
63	o-Xylene	106	10.179	10.179	(1.068)	211437	46.9333	46.93
M 95	Xylenes (total)	106				608615	139.168	139.16
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	157169	44.6150	44.61
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	130196	51.8657	51.86
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	417571	42.3923	42.39
75	1,3,5-Trimethylbenzene	105	11.135	11.132	(0.941)	414908	43.2534	43.25
26	2,2-Dichloropropane	77	5.044	5.041	(0.873)	169202	50.0238	50.02
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	178741	45.3497	45.34
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	354956	42.2537	42.25
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	393530	43.0235	43.02
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	407643	44.7830	44.78
29	Bromochloromethane	128	5.368	5.365	(0.929)	62014	49.3348	49.33
74	Bromobenzene	156	10.833	10.833	(0.915)	143613	43.7795	43.77
44	Dibromomethane	93	7.188	7.188	(1.094)	71234	49.8468	49.84
91	Hexachlorobutadiene	225	13.987	13.991	(1.182)	68912	50.8342	50.83
73	n-Propylbenzene	91	10.955	10.955	(0.926)	551824	44.1350	44.13
87	n-Butylbenzene	91	12.223	12.223	(1.033)	321788	47.5659	47.56
81	sec-Butylbenzene	105	11.667	11.668	(0.986)	483657	45.5013	45.50
92	Naphthalene	128	14.061	14.061	(1.188)	370060	48.7642	48.76
78	tert-Butylbenzene	119	11.449	11.453	(0.967)	352496	43.8058	43.80
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	121998	47.8589	47.85
64	Styrene	104	10.198	10.198	(1.070)	344378	47.9289	47.92



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Date : 31-DEC-2017 14:28
Client ID: VLCSW-171231
Sample Info: VLCSW-171231;VLCSW-171231;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\D171231.b\D123105.D
Report Date: 09-Feb-2018 16:29

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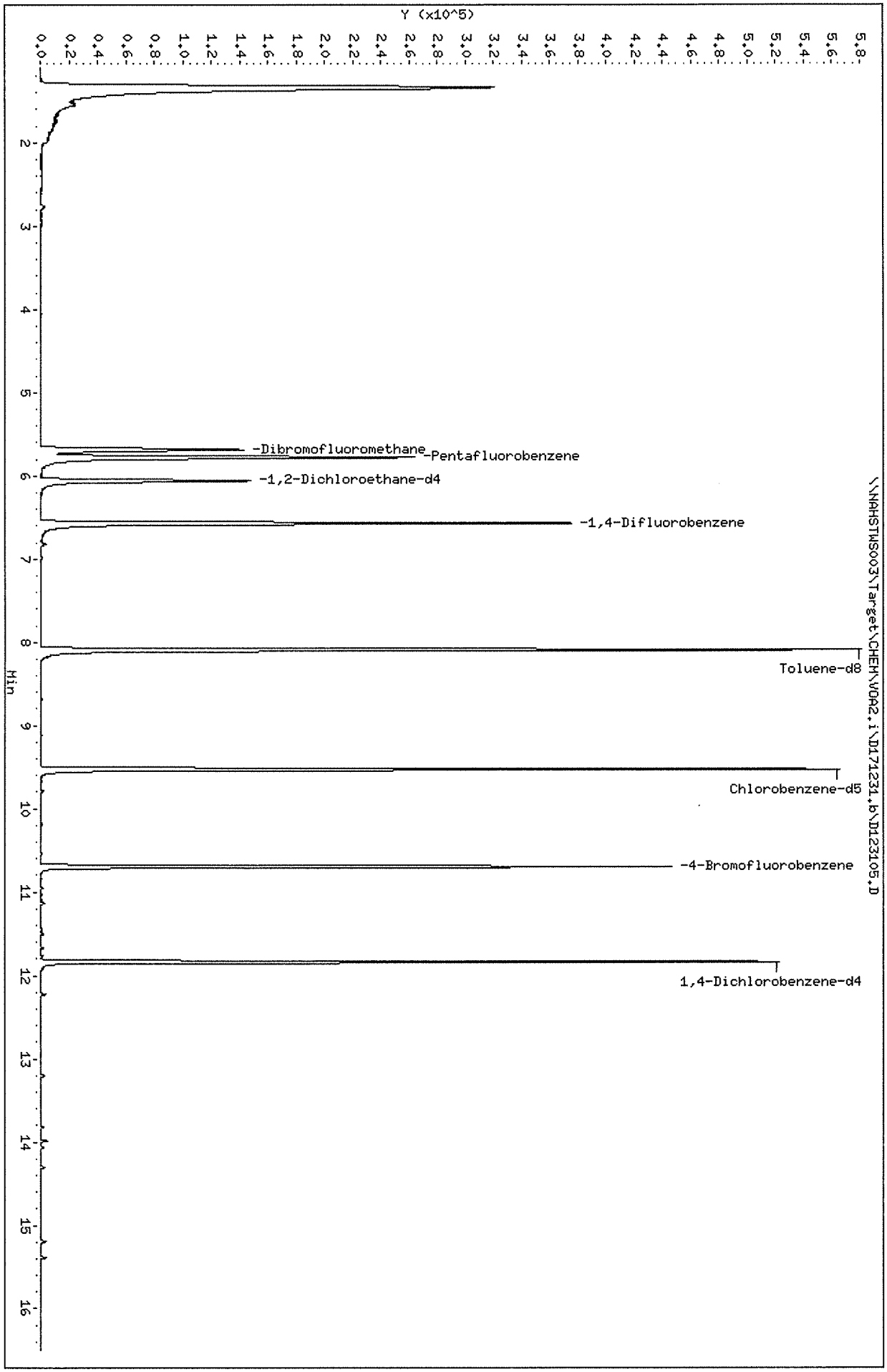
Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123105.D
Lab Smp Id: VBLKW-171231 Client Smp ID: VBLKW-171231
Inj Date : 31-DEC-2017 15:17
Operator : AP Inst ID: VOA2.i
Smp Info : VBLKW-171231;VBLKW-171231;3;;BLANK
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\8260LL.m
Meth Date : 09-Feb-2018 16:29 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)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	5.779	5.782	(1.000)	248348	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.689	(0.984)	110129	49.2186	49.21
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	350622	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.052	6.055	(1.047)	126009	45.5974	45.59
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	318957	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	408314	48.5534	48.55
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	147537	48.0432	48.04
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.838	(1.000)	141116	50.0000	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Date : 31-DEC-2017 15:17
Client ID: VBLKW-171231
Sample Info: VBLKW-171231;VBLKW-171231;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
\\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123105.D

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123108.D
Report Date: 09-Feb-2018 16:29

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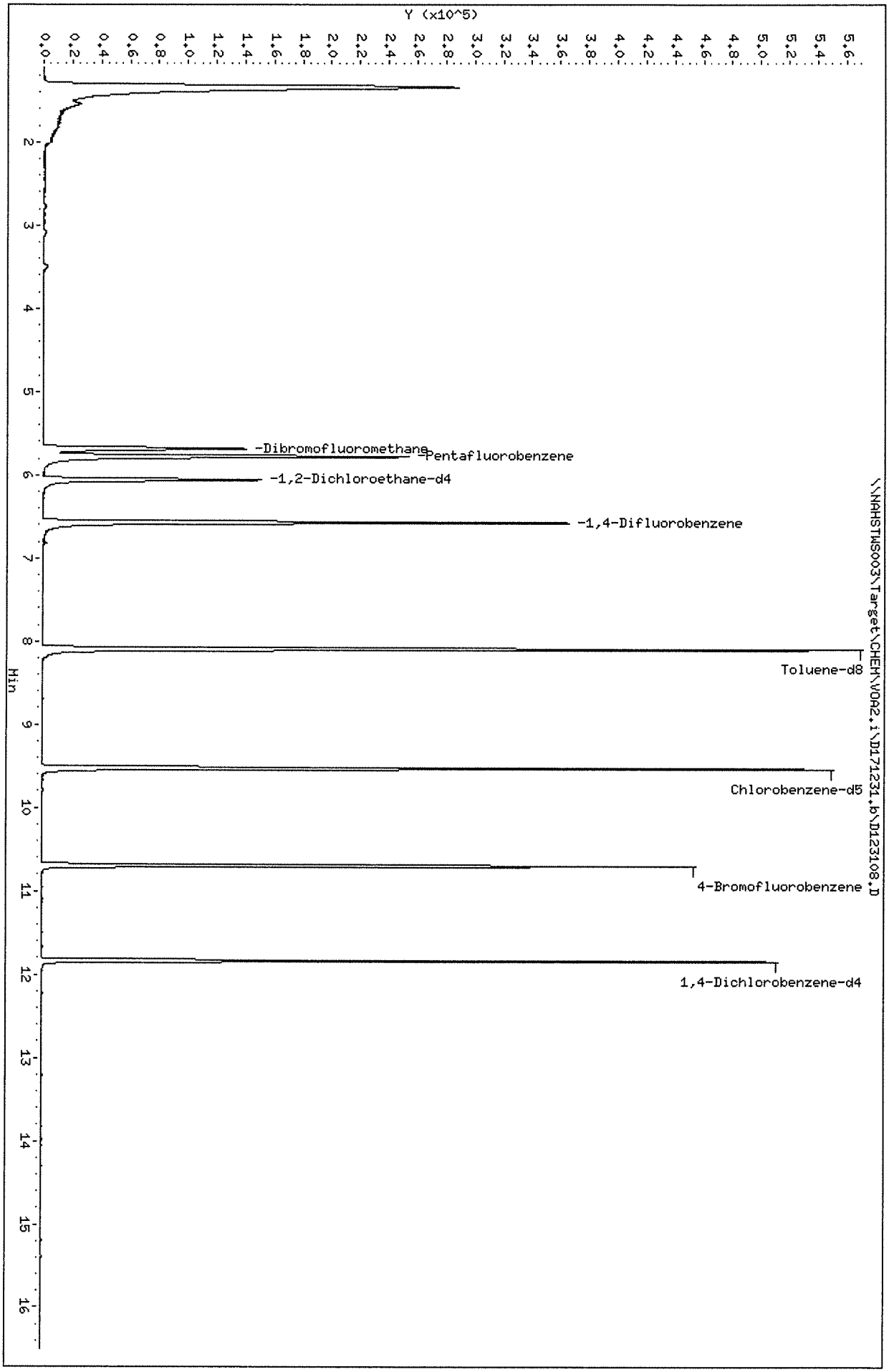
Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123108.D
Lab Smp Id: HS17121169-02 Client Smp ID: HS17121169-02
Inj Date : 31-DEC-2017 16:31
Operator : AP Inst ID: VOA2.i
Smp Info : HS17121169-02;HS17121169-02;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\8260LL.m
Meth Date : 09-Feb-2018 16:29 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 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	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	5.776	5.782	(1.000)	248937	50.0000	
$ 30 Dibromofluoromethane	113	5.683	5.689	(0.984)	109536	48.8378	48.83
* 36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	351093	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.058	6.055	(1.049)	125970	45.4755	45.47
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	317240	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	404845	48.4014	48.40
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	148781	48.7105	48.71
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.838	(1.000)	140206	50.0000	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Date : 31-DEC-2017 16:31
Client ID: HS17121169-02
Sample Info: HS17121169-02;HS17121169-02;;;
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\D171231,b\D123108.D

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123119.D
Report Date: 09-Feb-2018 16:29

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123119.D
Lab Smp Id: HS17121169-01 Client Smp ID: HS17121169-01
Inj Date : 31-DEC-2017 21:12
Operator : AP Inst ID: VOA2.i
Smp Info : HS17121169-01;HS17121169-01;;;
Misc Info : HS15080001;WATER;0;10;
Comment :
Method : \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\8260LL.m
Meth Date : 09-Feb-2018 16:29 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

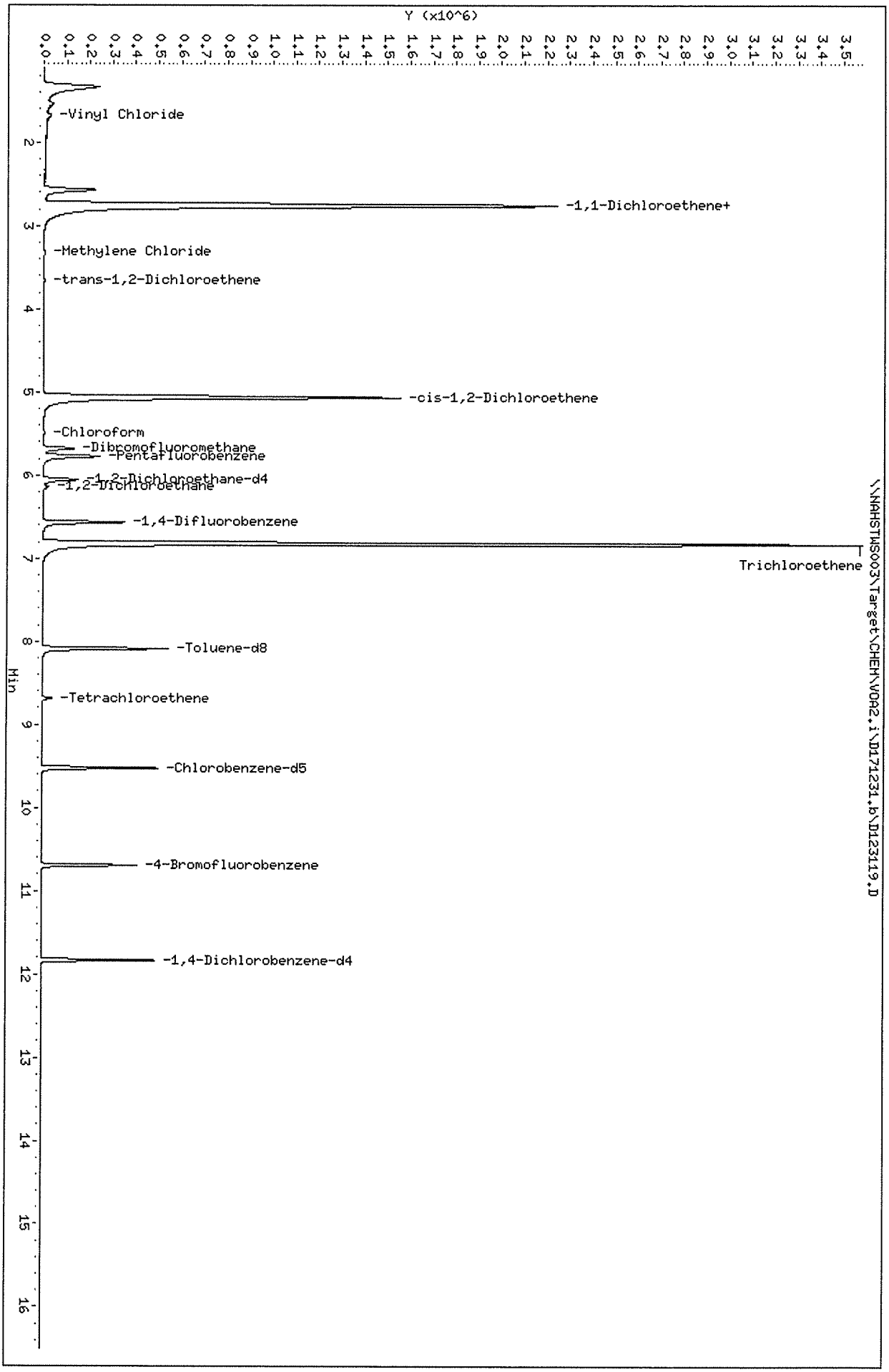
Name	Value	Description
DF	10.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	5.776	5.782	(1.000)	241080	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.689	(0.984)	102059	46.9871	46.98
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	340177	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.055	(1.048)	124418	46.3790	46.37
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	289527	50.0000	
$ 48 Toluene-d8	98	8.087	8.093	(0.849)	374662	49.0804	49.08
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	136042	48.8031	48.80
* 70 1,4-Dichlorobenzene-d4	152	11.835	11.838	(1.000)	132882	50.0000	
11 1,1-Dichloroethene	96	2.747	2.750	(0.476)	18250	9.17211	91.72
33 1,2-Dichloroethane	62	6.139	6.145	(0.935)	18043	5.91912	59.19(M)
28 Chloroform	83	5.494	5.494	(0.951)	6154	1.40015	14.00(aM)
27 cis-1,2-Dichloroethene	96	5.064	5.067	(0.877)	1025933	374.057	3740.56(A)
17 Methylene Chloride	84	3.334	3.334	(0.577)	5551	2.10365	21.03(aM)
56 Tetrachloroethene	164	8.687	8.690	(0.912)	10421	4.32631	43.26(a)
20 trans-1,2-Dichloroethene	96	3.661	3.671	(0.634)	3422	1.58999	15.89(aM)
38 Trichloroethene	130	6.822	6.819	(1.039)	1503144	596.579	5965.78(A)
5 Vinyl Chloride	62	1.675	1.685	(0.290)	35006	11.8469	118.46

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123119.D
Report Date: 09-Feb-2018 16:29

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 : 31-DEC-2017 21:12
Client ID: HS17121169-01
Sample Info: HS17121169-01;HS17121169-01;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123119.D

Date : 31-DEC-2017 21:12

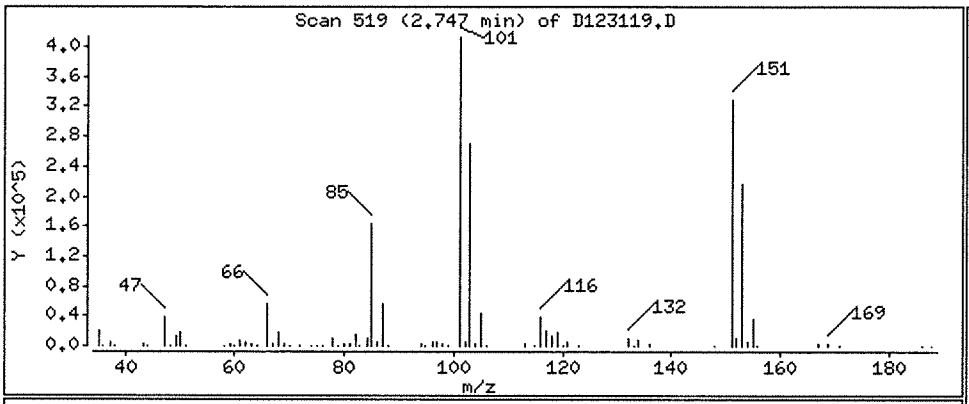
Client ID: HS17121169-01 Instrument: VOA2.i

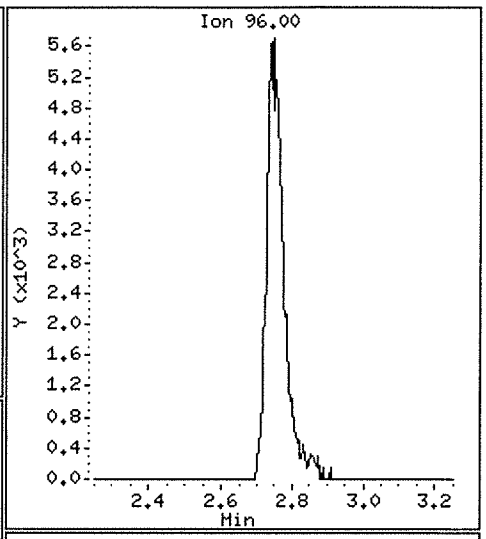
Sample Info: HS17121169-01;HS17121169-01;;;

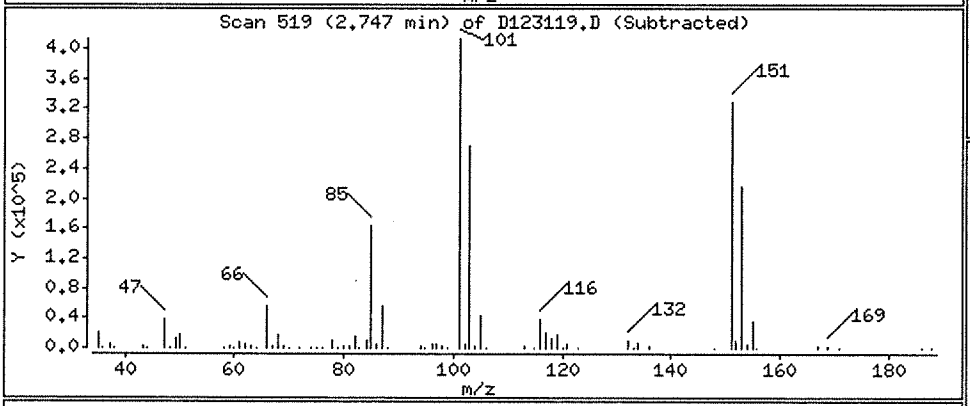
Purge Volume: 5.0 Operator: AP

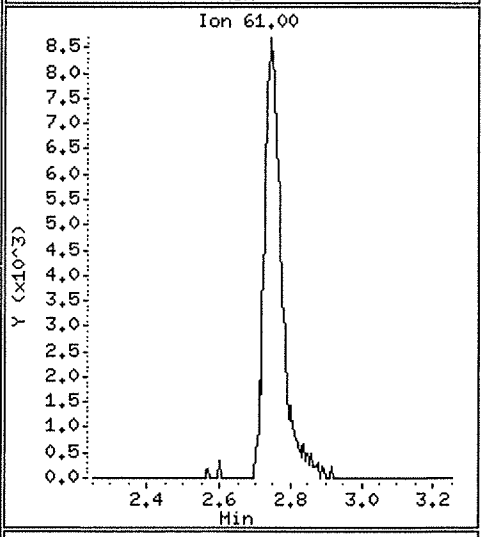
Column phase: DB624 Column diameter: 0.18

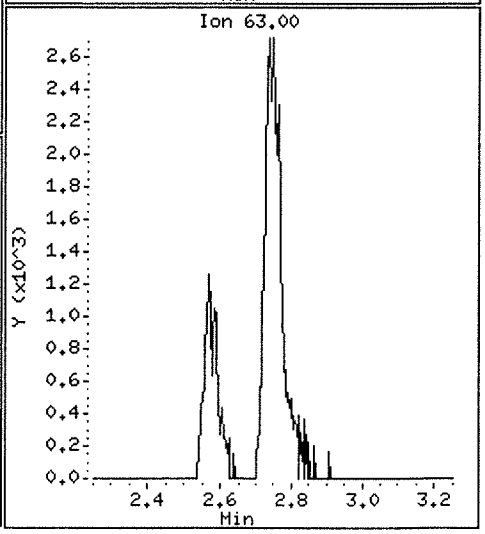
11 1,1-Dichloroethene Concentration: 91.72 ug/l Review Code:











Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123119.D

Date : 31-DEC-2017 21:12

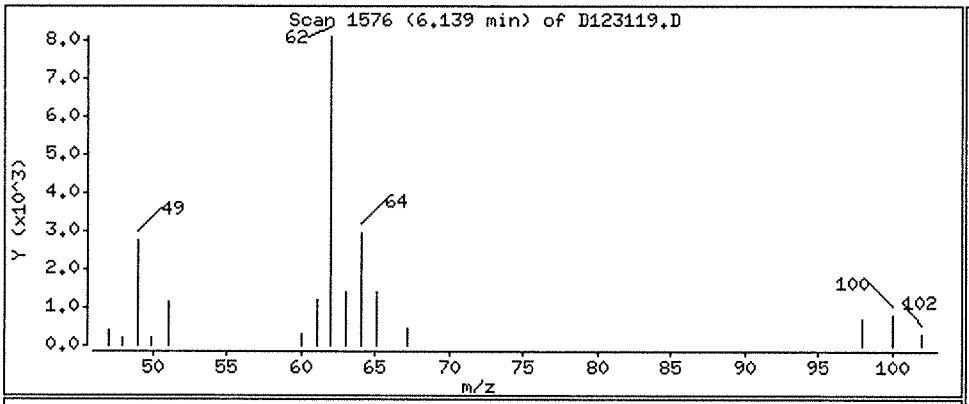
Client ID: HS17121169-01 Instrument: VOA2.i

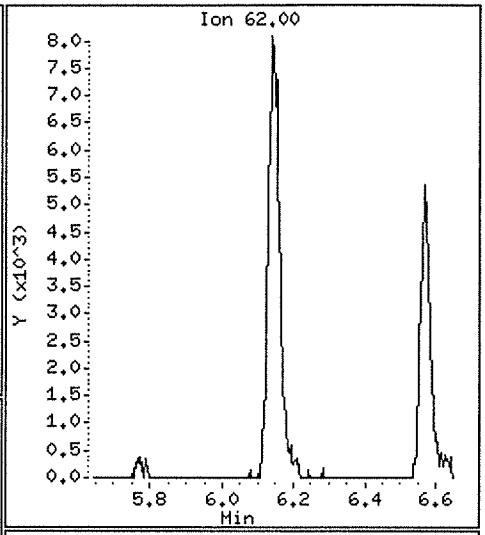
Sample Info: HS17121169-01;HS17121169-01;;;

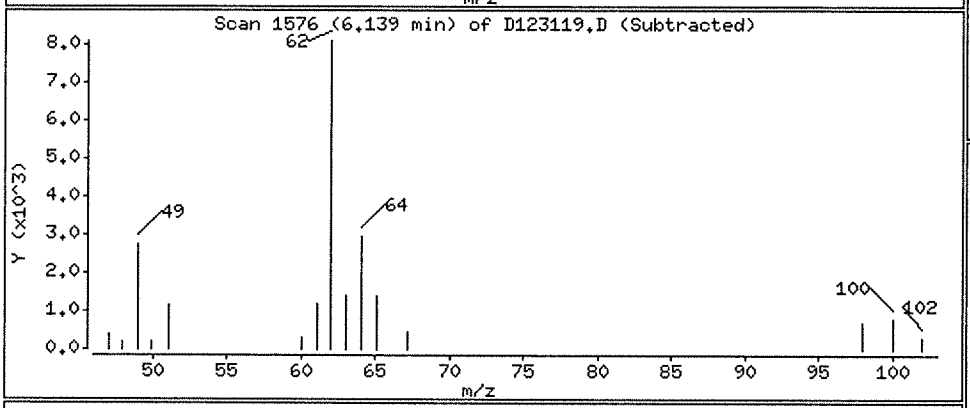
Purge Volume: 5.0 Operator: AP

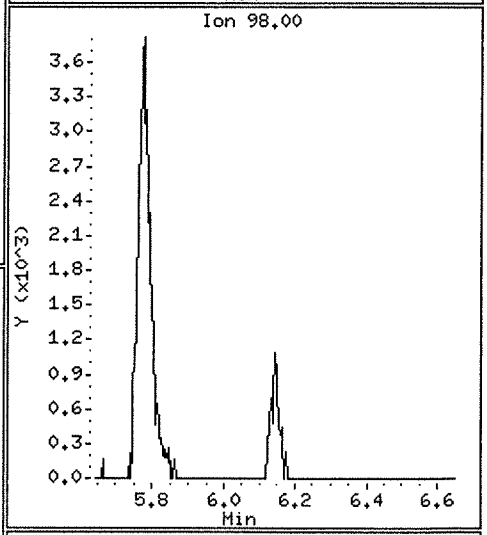
Column phase: DB624 Column diameter: 0.18

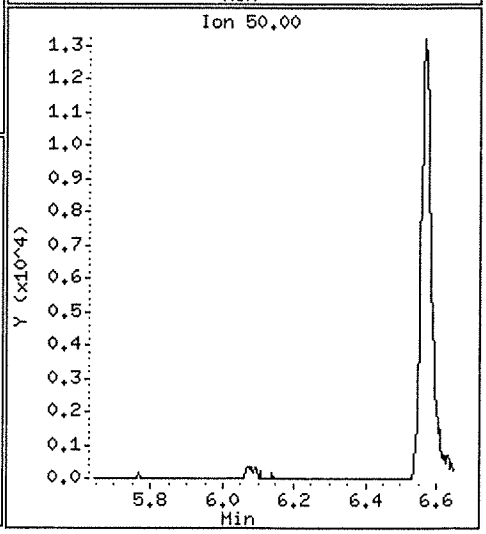
33 1,2-Dichloroethane Concentration: 59.19 ug/l Review Code:











Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123119.D

Date : 31-DEC-2017 21:12

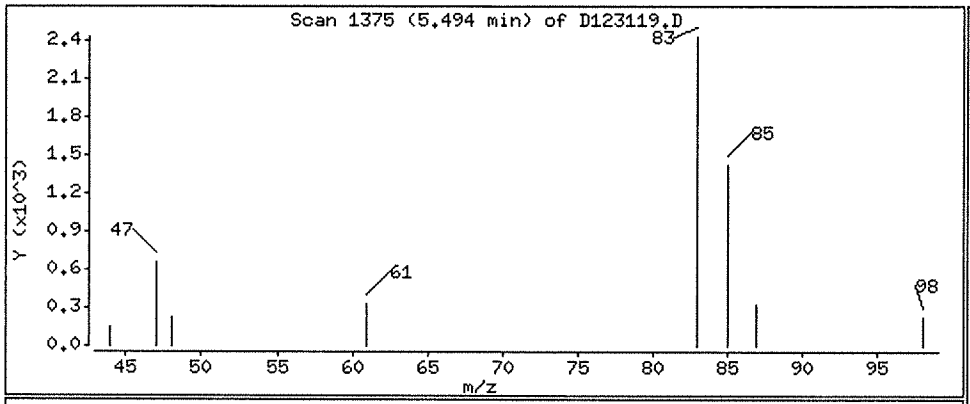
Client ID: HS17121169-01 Instrument: VOA2.i

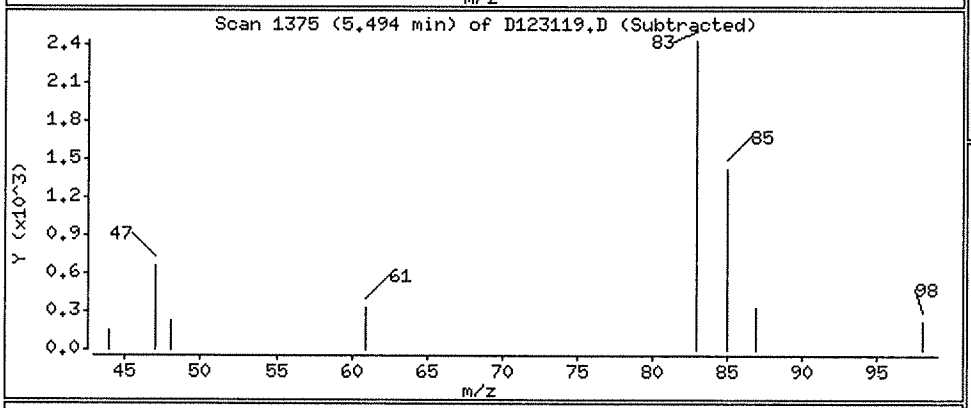
Sample Info: HS17121169-01;HS17121169-01;;;

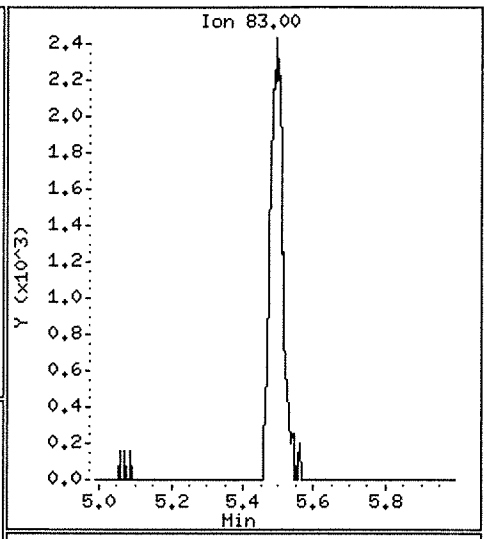
Purge Volume: 5.0 Operator: AP

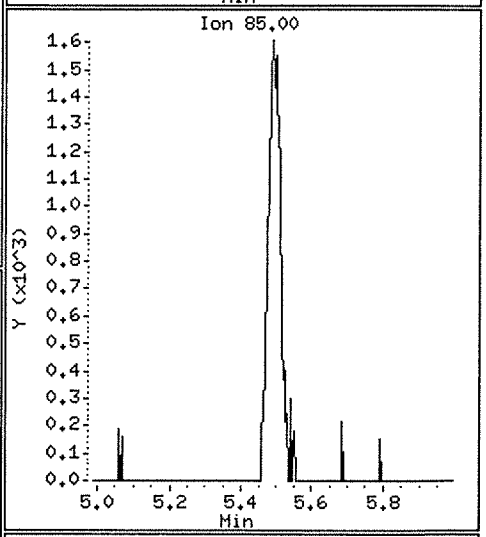
Column phase: DB624 Column diameter: 0.18

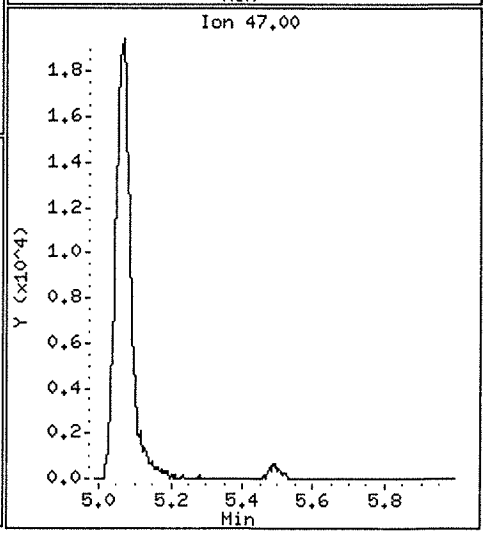
28 Chloroform Concentration: 14.00 ug/l Review Code:











Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123119.D

Date : 31-DEC-2017 21:12

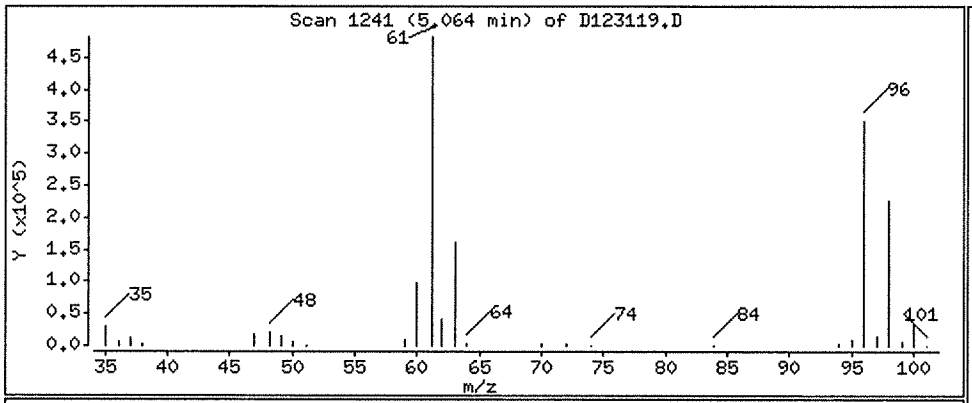
Client ID: HS17121169-01 Instrument: VOA2.i

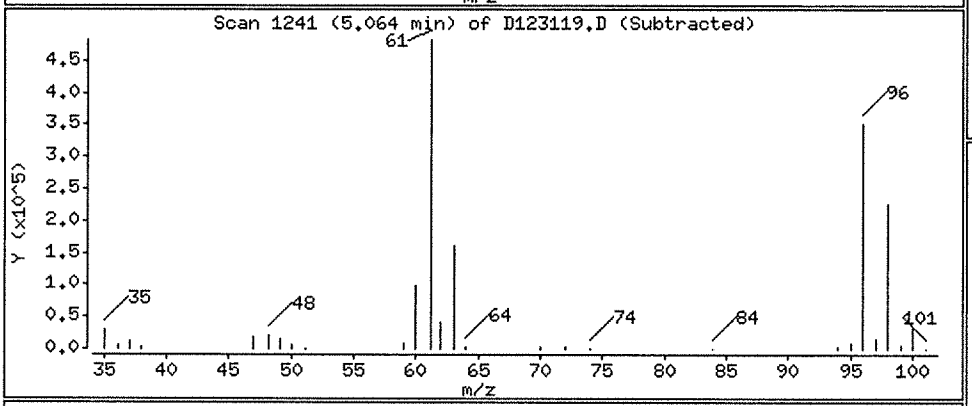
Sample Info: HS17121169-01;HS17121169-01;;;

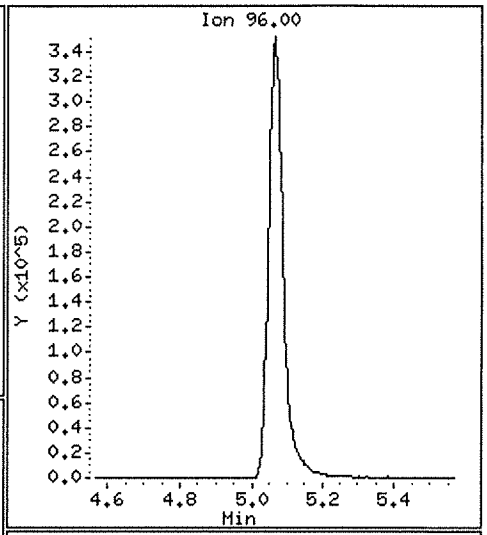
Purge Volume: 5.0 Operator: AP

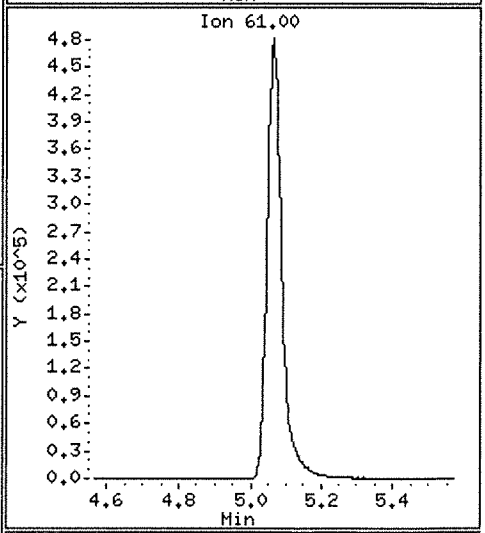
Column phase: DB624 Column diameter: 0.18

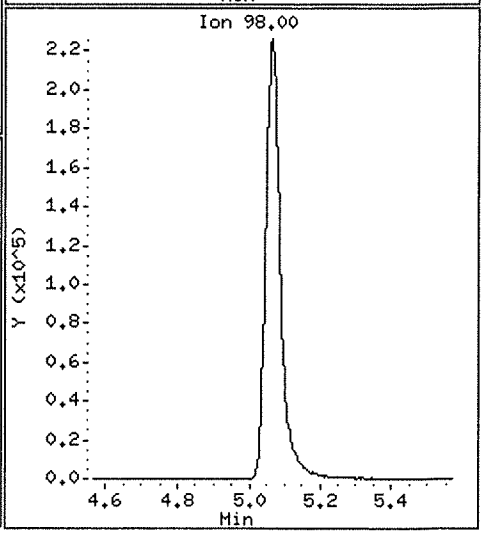
27 cis-1,2-Dichloroethene Concentration: 3740.56 ug/l Review Code:











Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123119.D

Date : 31-DEC-2017 21:12

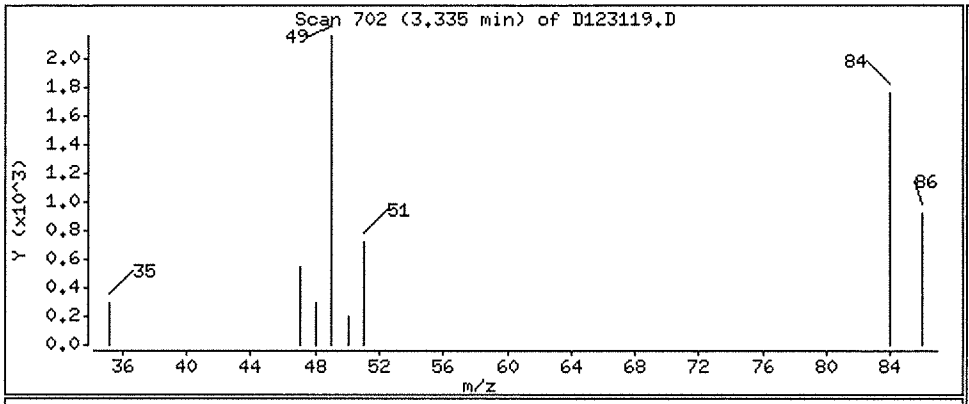
Client ID: HS17121169-01 Instrument: VOA2.i

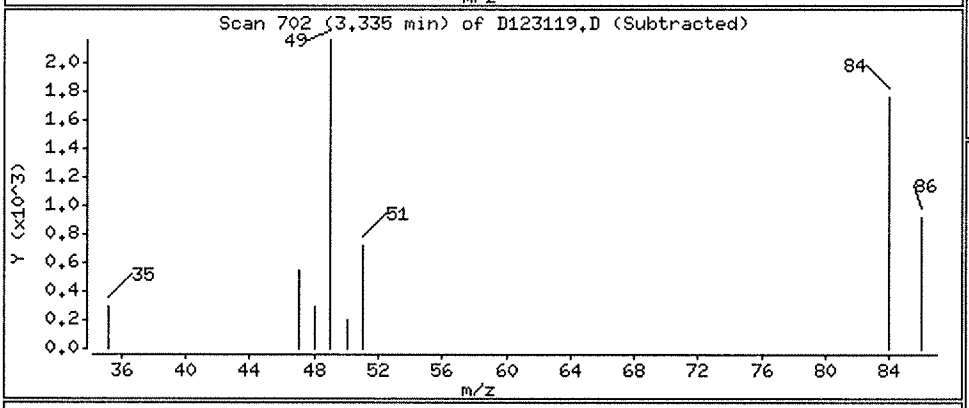
Sample Info: HS17121169-01;HS17121169-01;;;

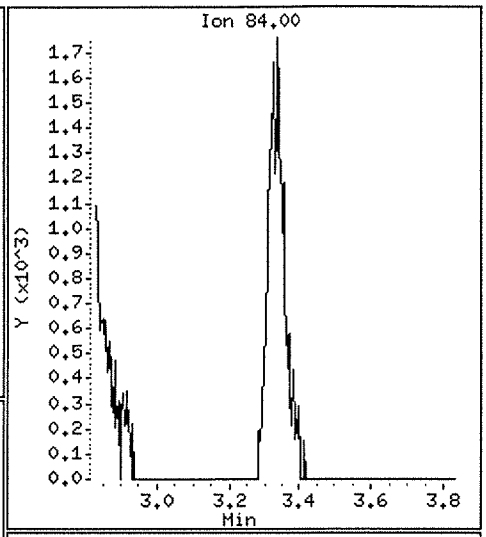
Purge Volume: 5.0 Operator: AP

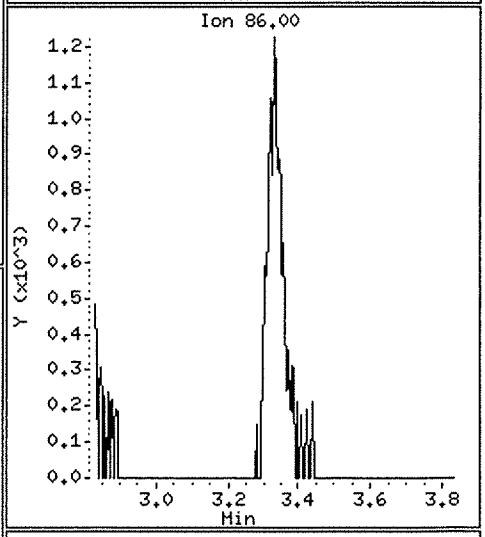
Column phase: DB624 Column diameter: 0.18

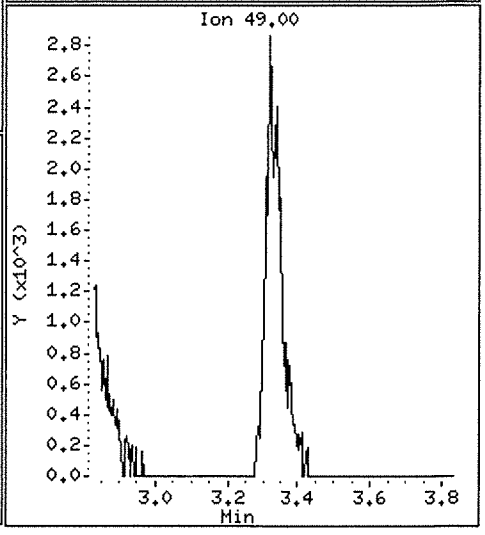
17 Methylene Chloride Concentration: 21.03 ug/l Review Code:











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Date : 31-DEC-2017 21:12

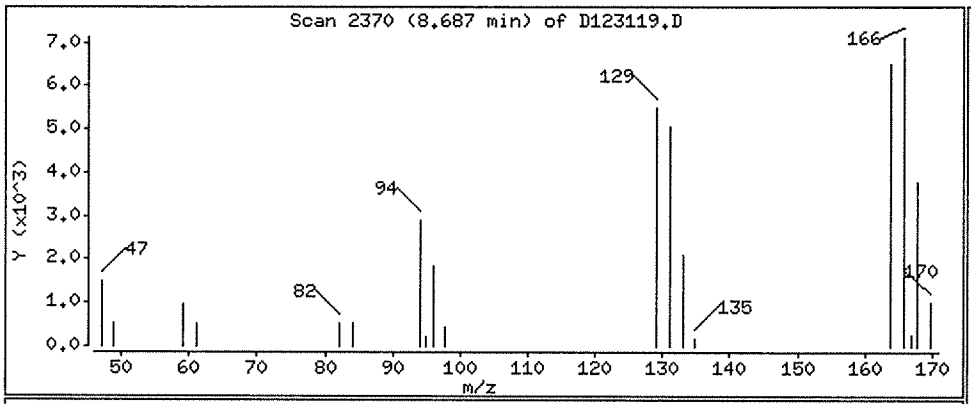
Client ID: HS17121169-01 Instrument: VOA2.i

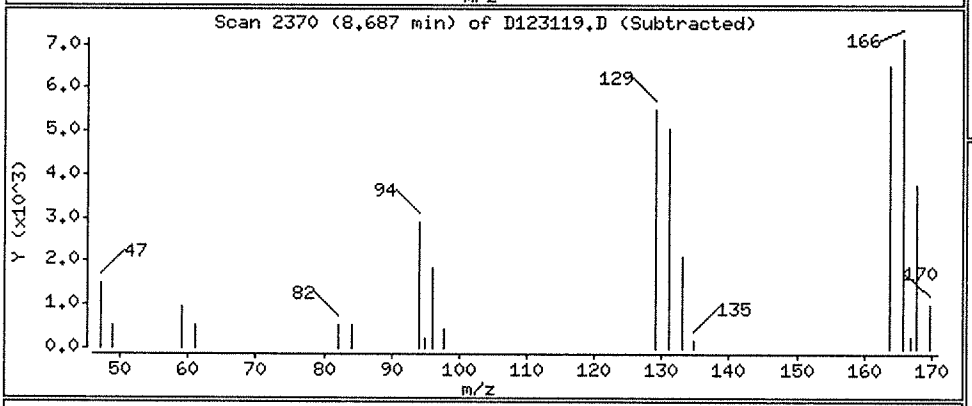
Sample Info: HS17121169-01;HS17121169-01;;;

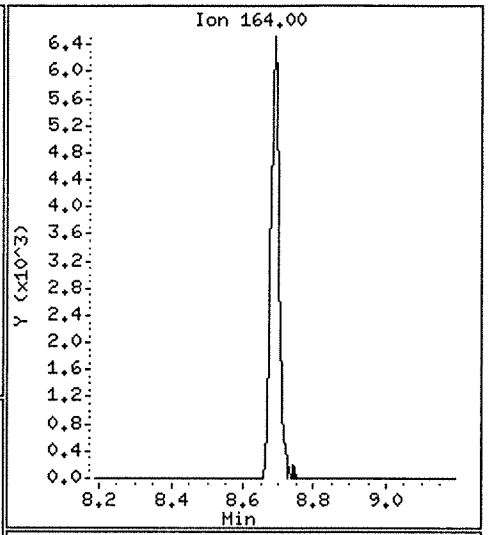
Purge Volume: 5.0 Operator: AP

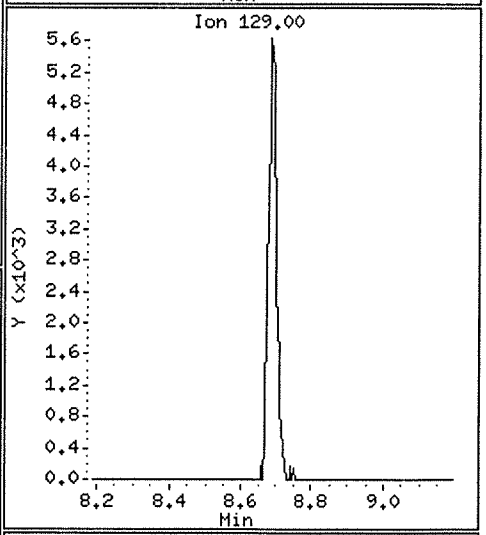
Column phase: DB624 Column diameter: 0.18

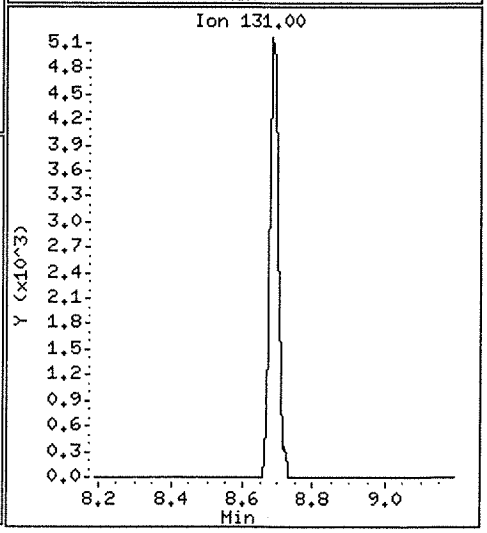
56 Tetrachloroethene Concentration: 43.26 ug/l Review Code:











Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123119.D

Date : 31-DEC-2017 21:12

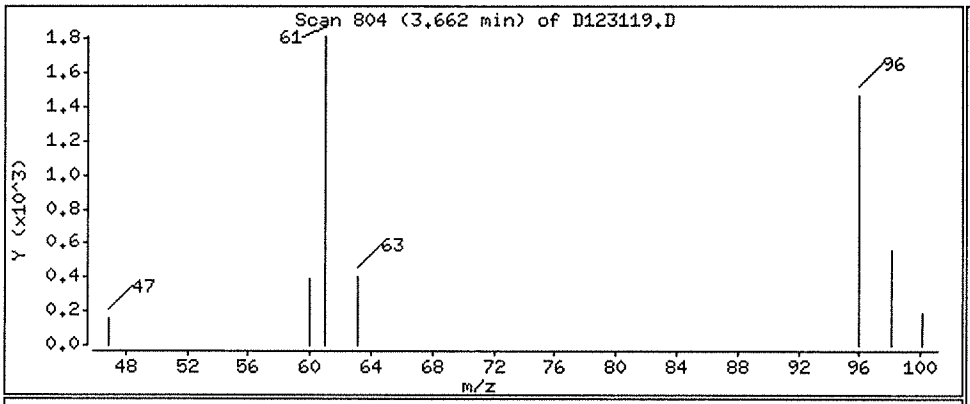
Client ID: HS17121169-01 Instrument: VOA2.i

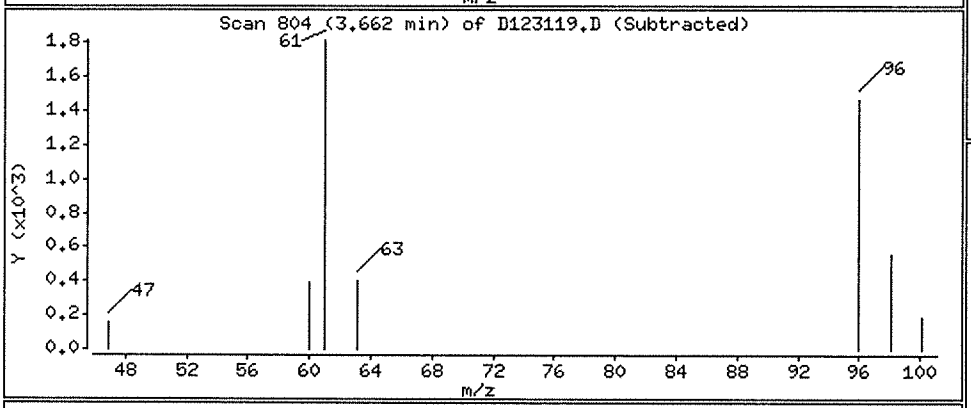
Sample Info: HS17121169-01;HS17121169-01;;;

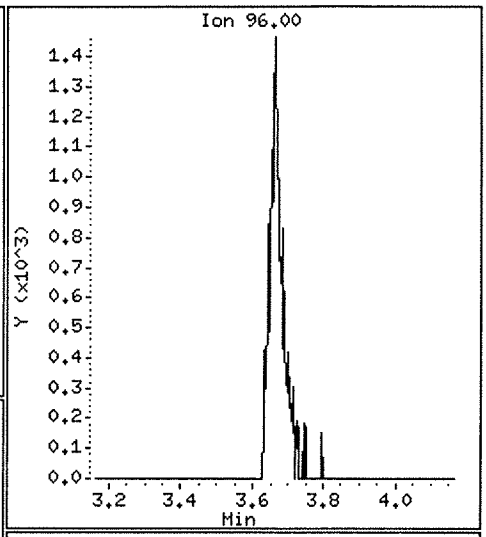
Purge Volume: 5.0 Operator: AP

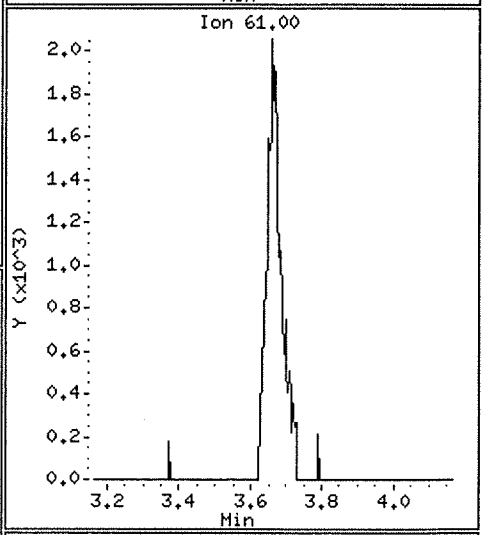
Column phase: DB624 Column diameter: 0.18

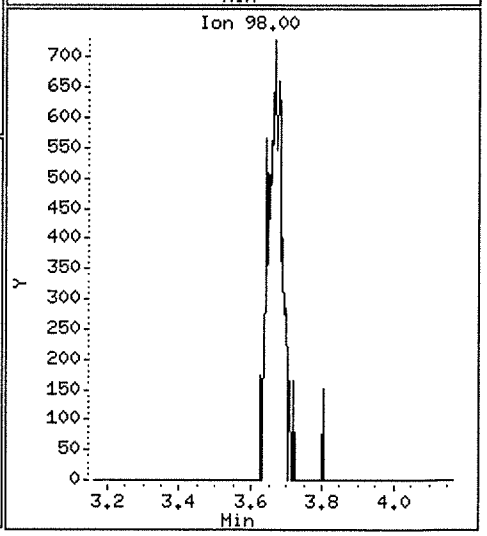
20 trans-1,2-Dichloroethene Concentration: 15.89 ug/l Review Code:











Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123119.D

Date : 31-DEC-2017 21:12

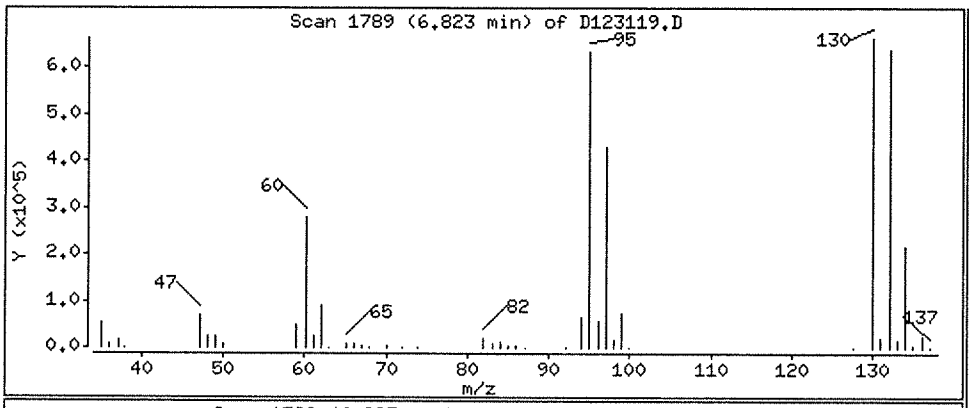
Client ID: HS17121169-01 Instrument: VOA2.i

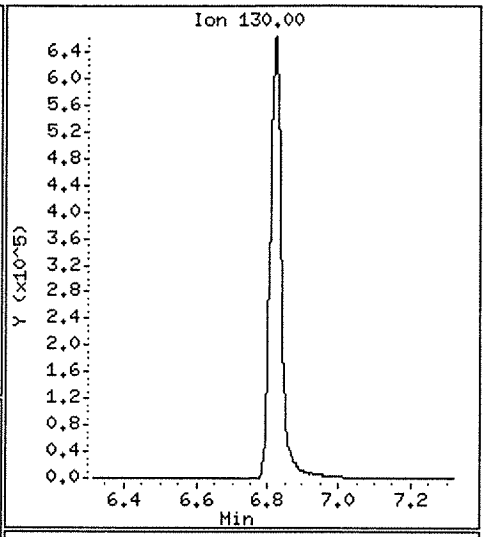
Sample Info: HS17121169-01;HS17121169-01;;;

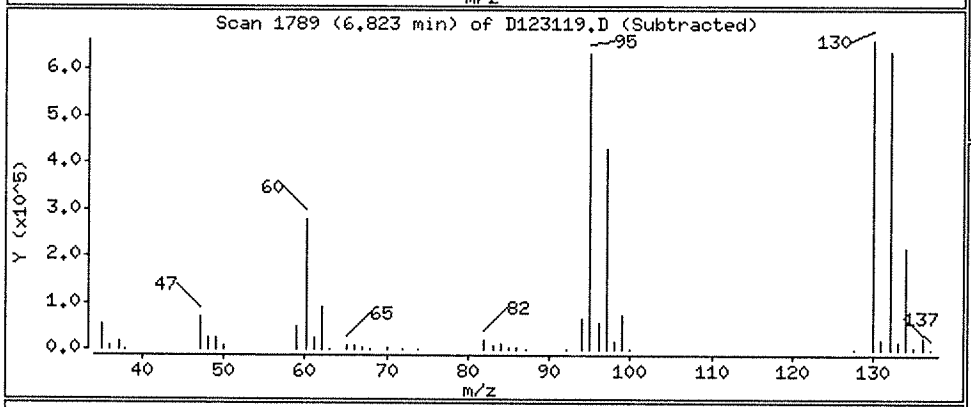
Purge Volume: 5.0 Operator: AP

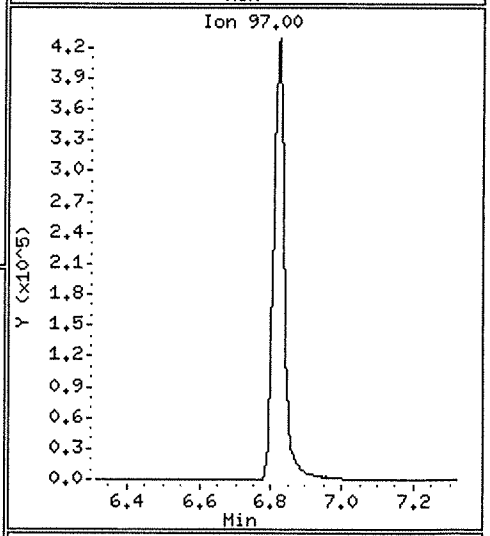
Column phase: DB624 Column diameter: 0.18

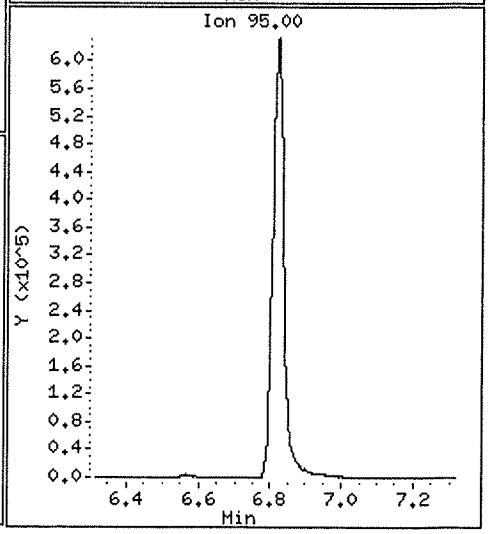
38 Trichloroethene Concentration: 5965.78 ug/l Review Code:











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Date : 31-DEC-2017 21:12

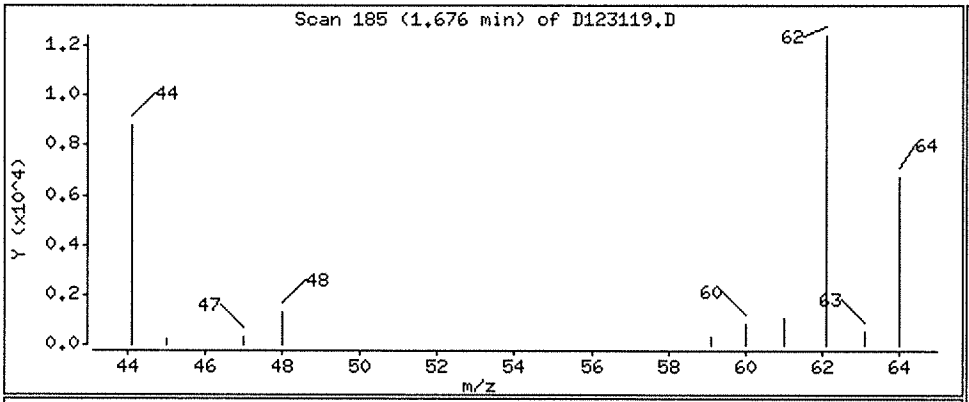
Client ID: HS17121169-01 Instrument: VOA2.i

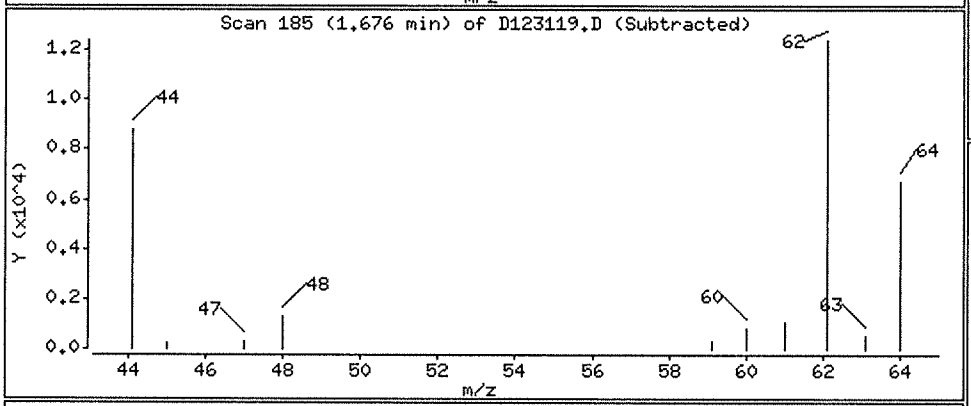
Sample Info: HS17121169-01;HS17121169-01;;;

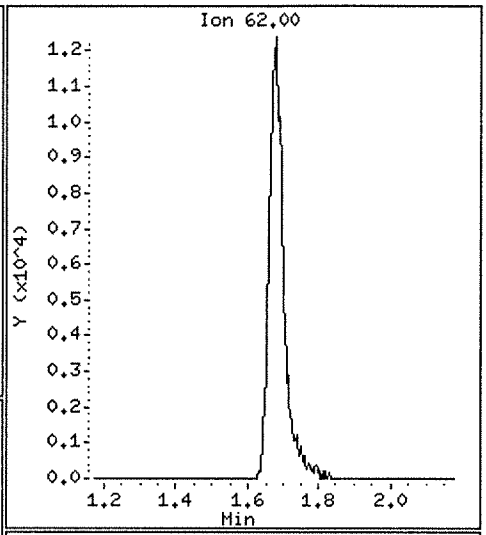
Purge Volume: 5.0 Operator: AP

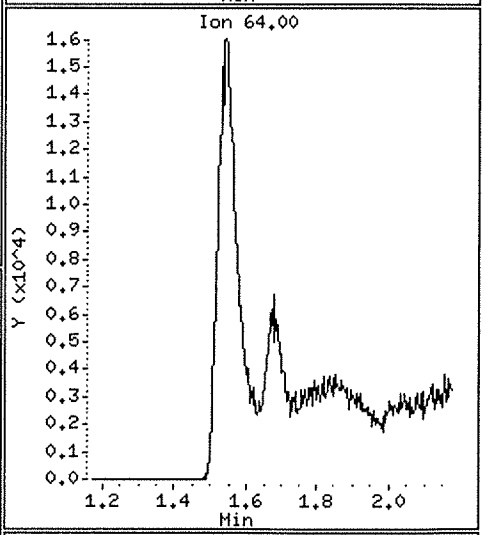
Column phase: DB624 Column diameter: 0.18

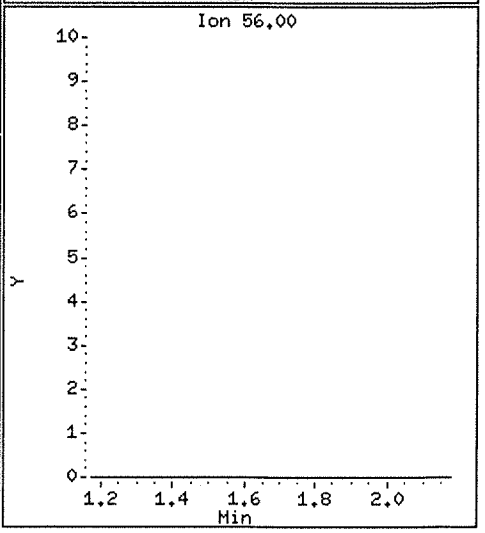
5 Vinyl Chloride Concentration: 118.46 ug/l Review Code:











Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123120.D
Report Date: 09-Feb-2018 16:29

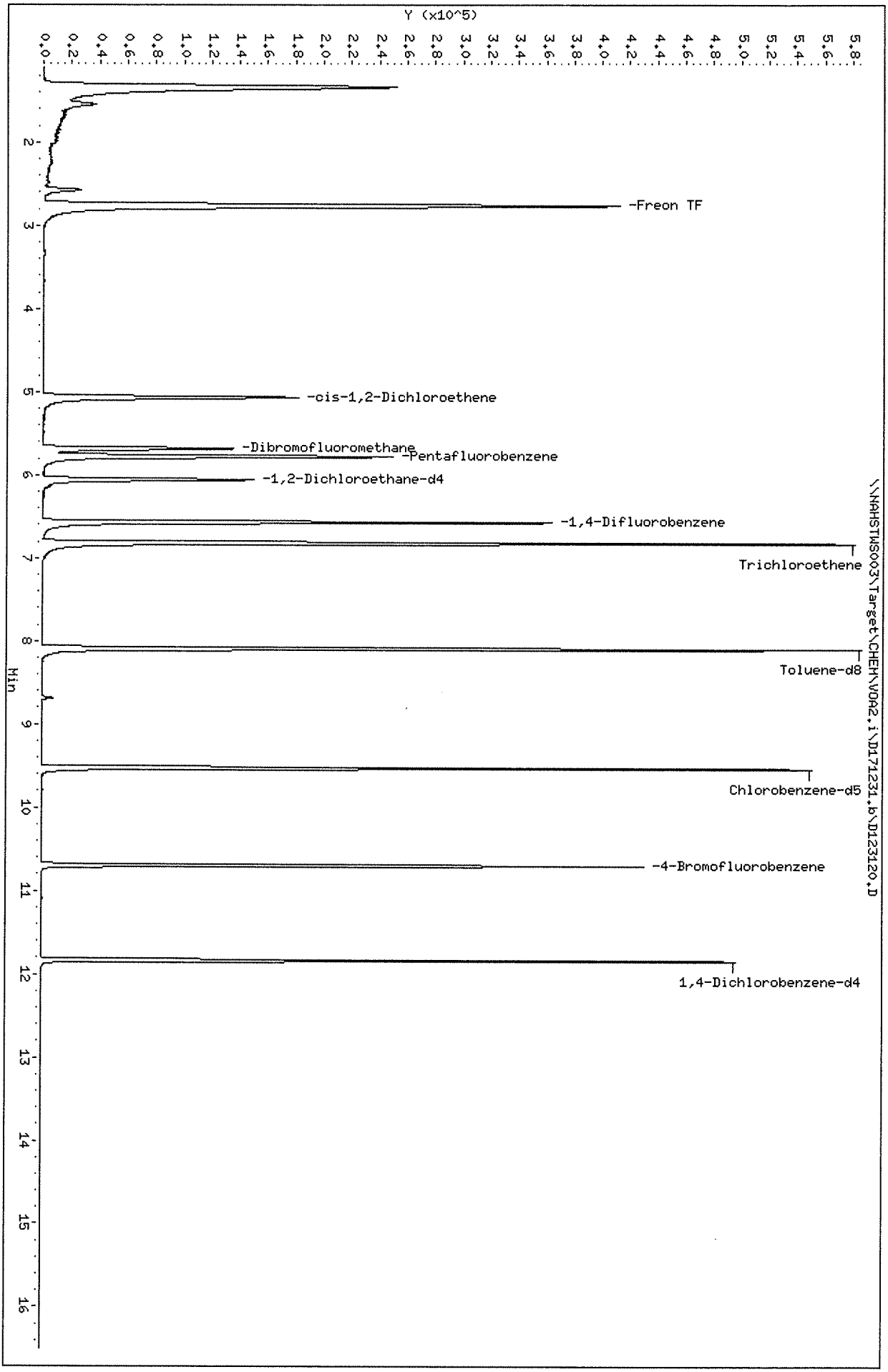
ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123120.D
Lab Smp Id: HS17121169-01 Client Smp ID: HS17121169-01
Inj Date : 31-DEC-2017 21:39
Operator : AP Inst ID: VOA2.i
Smp Info : HS17121169-01;HS17121169-01;;;
Misc Info : HS15080001;WATER;0;100;
Comment :
Method : \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\8260LL.m
Meth Date : 09-Feb-2018 16:29 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 17
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	5.779	5.782	(1.000)	245827	50.0000	
$ 30 Dibromofluoromethane	113	5.683	5.689	(0.983)	108892	49.1648	49.16
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	346213	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.058	6.055	(1.048)	124328	45.4505	45.45
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	314244	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	405129	48.8972	48.89
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	143383	47.3908	47.39
* 70 1,4-Dichlorobenzene-d4	152	11.835	11.838	(1.000)	136003	50.0000	
27 cis-1,2-Dichloroethene	96	5.067	5.067	(0.877)	119730	42.8108	4281.07
38 Trichloroethene	130	6.816	6.819	(1.038)	229725	89.5854	8958.53


Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123120.D
Date : 31-DEC-2017 21:39
Client ID: HS17121169-01
Sample Info: HS17121169-01;HS17121169-01;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
Y (x10^5)
-Freon TF
-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\D171231.b\D123120.D
Min

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123120.D

Date : 31-DEC-2017 21:39

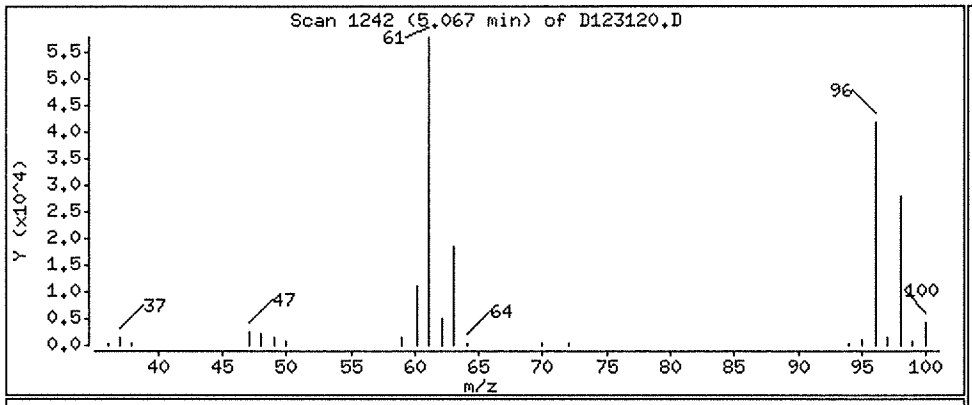
Client ID: HS17121169-01 Instrument: VOA2.i

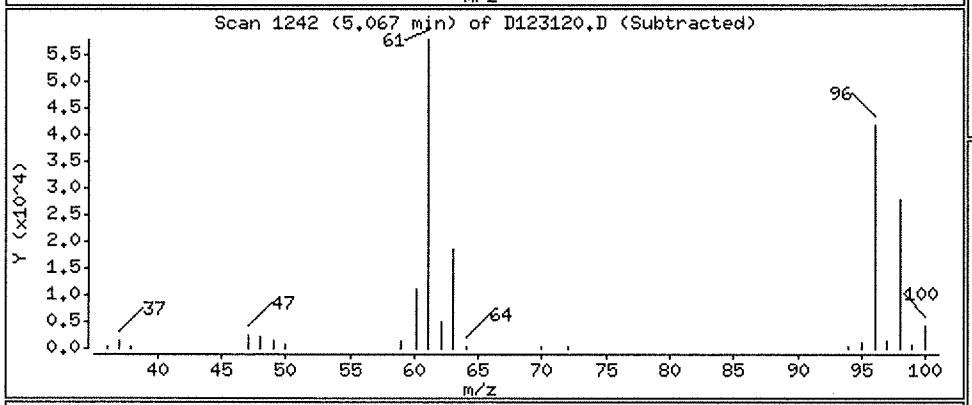
Sample Info: HS17121169-01;HS17121169-01;;;

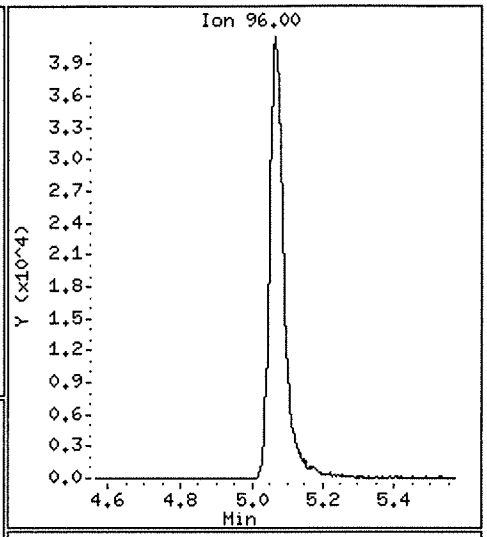
Purge Volume: 5.0 Operator: AP

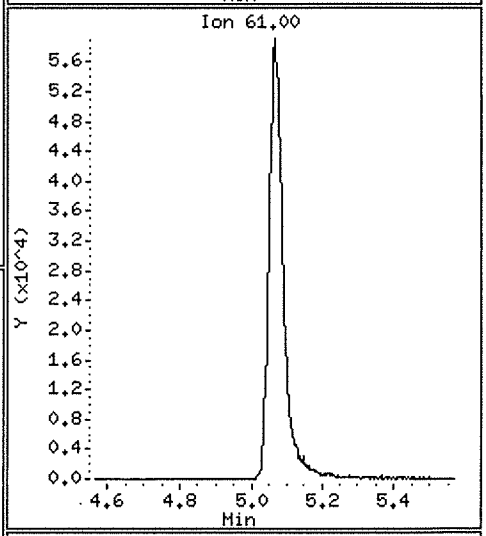
Column phase: DB624 Column diameter: 0.18

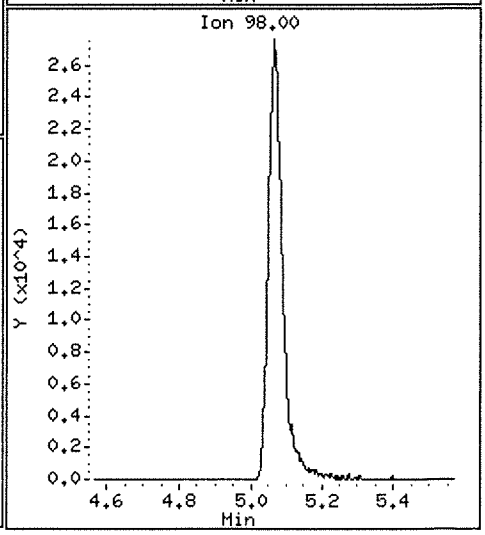
27 cis-1,2-Dichloroethene Concentration: 4281.07 ug/l Review Code:











Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123120.D

Date : 31-DEC-2017 21:39

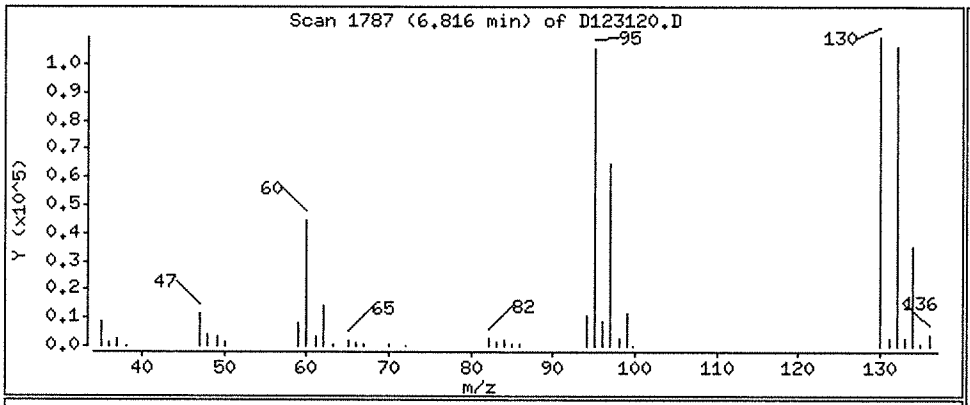
Client ID: HS17121169-01 Instrument: VOA2.i

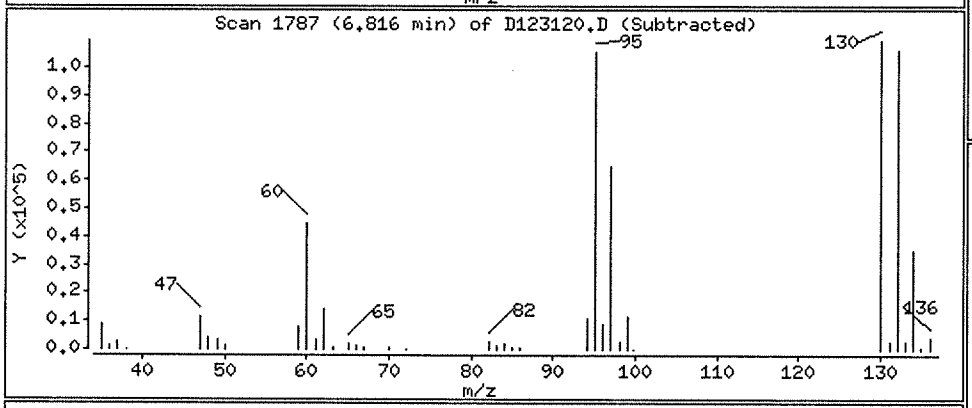
Sample Info: HS17121169-01;HS17121169-01;;;

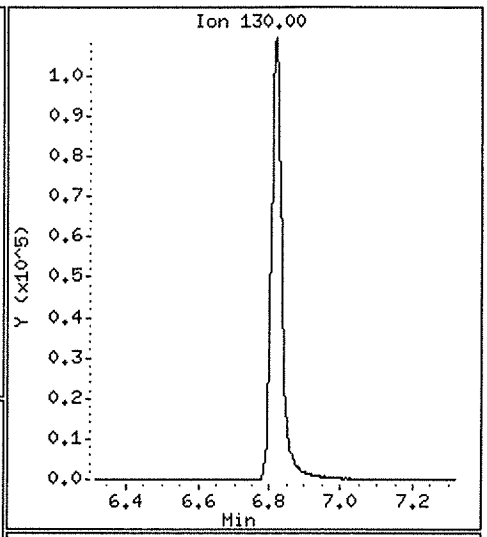
Purge Volume: 5.0 Operator: AP

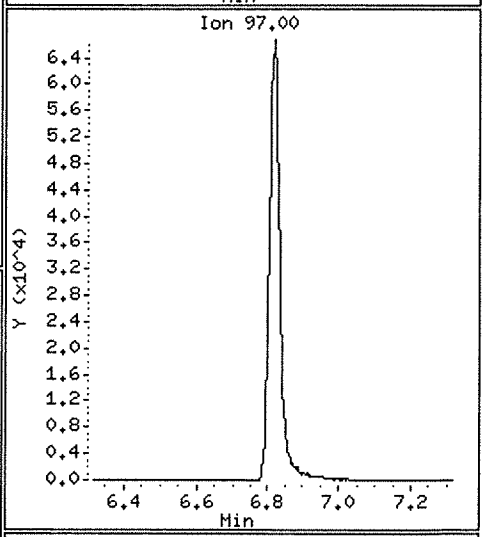
Column phase: DB624 Column diameter: 0.18

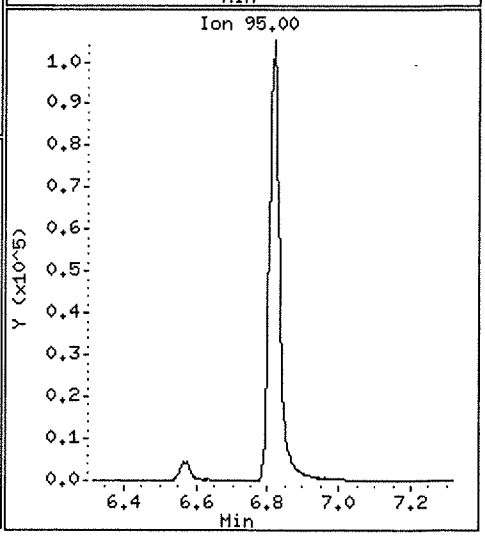
38 Trichloroethene Concentration: 8958.53 ug/l Review Code:











Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123127.D
Report Date: 09-Feb-2018 16:29

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Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123127.D
Lab Smp Id: HS17121224-01MS Client Smp ID: HS17121224-01MS
Inj Date : 01-JAN-2018 00:44
Operator : AP Inst ID: VOA2.i
Smp Info : HS17121224-01MS;HS17121224-01MS;3;;MS
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\8260LL.m
Meth Date : 09-Feb-2018 16:29 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 21 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

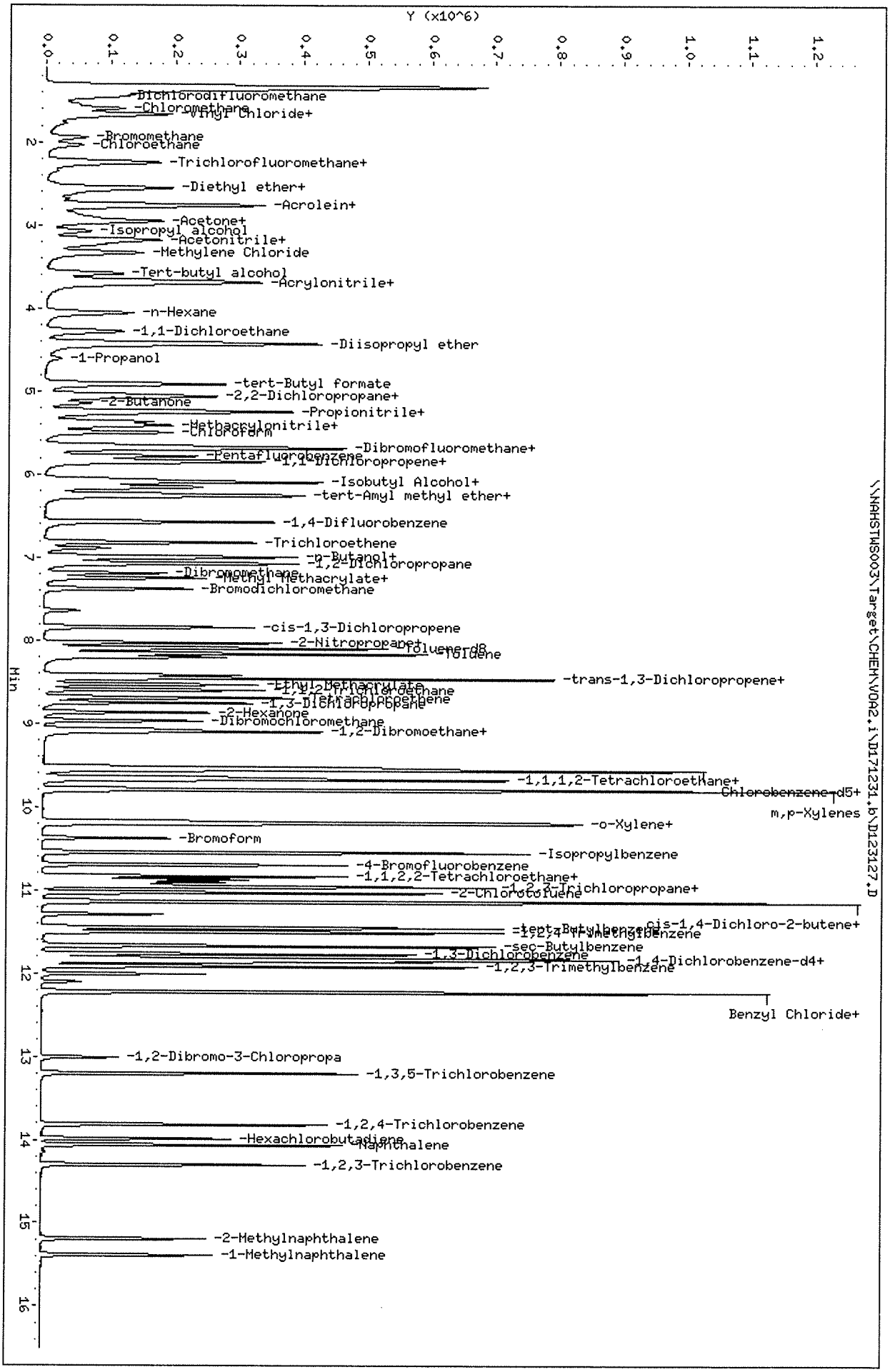
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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	5.651	5.654	(0.978)	173916	48.8994	48.89
*	1 Pentafluorobenzene	168	5.779	5.782	(1.000)	230121	50.0000	
$	30 Dibromofluoromethane	113	5.683	5.689	(0.983)	99252	47.8709	47.87
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	338952	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.055	(1.048)	119908	46.8265	46.82
*	47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	312265	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.850)	383964	46.6363	46.63
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	147778	49.1530	49.15
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.838	(1.000)	147666	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	142303	40.3973	40.39
	53 1,1,2-Trichloroethane	83	8.597	8.593	(0.903)	85797	44.9148	44.91
	32 1,1-Dichloropropene	75	5.853	5.856	(0.891)	136052	51.5337	51.53
	22 1,1-Dichloroethane	63	4.281	4.277	(0.741)	219590	45.7065	45.70
	11 1,1-Dichloroethene	96	2.747	2.750	(0.475)	97799	51.4927	51.49
	90 1,2,4-Trichlorobenzene	180	13.814	13.818	(1.167)	141805	48.7460	48.74
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	25453	41.9737	41.97
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	114562	47.8841	47.88
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	226910	42.7513	42.75
	33 1,2-Dichloroethane	62	6.145	6.145	(0.935)	151297	50.5554	50.55
	42 1,2-Dichloropropane	63	7.066	7.066	(1.075)	123842	46.3877	46.38
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	236316	42.7836	42.78

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123127.D
Report Date: 09-Feb-2018 16:29

	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)	224403	42.4763	42.47
24	2-Butanone	43	5.147	5.144	(0.891)	108113	87.0658	87.06
52	2-Hexanone	43	8.866	8.866	(0.931)	157478	86.0713	86.07
45	4-Methyl-2-Pentanone	43	8.026	8.025	(0.843)	247953	87.5227	87.52
10	Acetone	43	2.859	2.862	(0.495)	71357	93.3944	93.39
37	Benzene	78	6.091	6.090	(0.927)	424120	47.5564	47.55
39	Bromodichloromethane	83	7.377	7.377	(1.123)	151097	47.8669	47.86
66	Bromoform	173	10.374	10.378	(1.089)	90923	49.0862	49.08
6	Bromomethane	94	1.935	1.941	(0.335)	70466	44.4584	44.45
19	Carbon Disulfide	76	2.952	2.952	(0.511)	429426	99.0062	99.00
34	Carbon Tetrachloride	117	5.831	5.834	(0.887)	141334	43.8982	43.89
59	Chlorobenzene	112	9.553	9.553	(1.003)	293796	45.6857	45.68
7	Chloroethane	64	2.034	2.041	(0.352)	82297	44.2025	44.20
28	Chloroform	83	5.494	5.494	(0.951)	192140	45.7972	45.79
3	Chloromethane	50	1.592	1.588	(0.275)	203798	53.0068	53.00
27	cis-1,2-Dichloroethene	96	5.067	5.067	(0.877)	124396	47.5149	47.51
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	182912	50.4578	50.45
55	Dibromochloromethane	129	8.969	8.972	(0.942)	127728	47.3766	47.37
2	Dichlorodifluoromethane	85	1.450	1.447	(0.251)	108794	55.3028	55.30
61	Ethylbenzene	106	9.668	9.672	(1.015)	157350	45.7145	45.71
67	Isopropylbenzene	105	10.545	10.548	(1.107)	504851	47.4122	47.41
17	Methylene Chloride	84	3.334	3.334	(0.577)	115107	45.6993	45.69
56	Tetrachloroethene	164	8.690	8.690	(0.912)	99913	51.9489	51.94
50	Toluene	91	8.157	8.157	(0.856)	453870	45.8635	45.86
20	trans-1,2-Dichloroethene	96	3.671	3.671	(0.635)	105515	51.3610	51.36
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	154912	50.2207	50.22
38	Trichloroethene	130	6.816	6.819	(1.037)	124529	49.6026	49.60
8	Trichlorofluoromethane	101	2.253	2.256	(0.390)	149913	52.8350	52.83
5	Vinyl Chloride	62	1.678	1.685	(0.290)	143715	50.9529	50.95
62	m,p-Xylenes	106	9.790	9.790	(1.028)	383483	91.1023	91.10
63	o-Xylene	106	10.175	10.179	(1.068)	202134	45.9001	45.90
M 95	Xylenes (total)	106				585617	137.002	137.00
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	147179	41.8400	41.83
93	1,2,3-Trichlorobenzene	182	14.299	14.302	(1.208)	123997	49.4682	49.46
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	401757	40.8462	40.84
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	398100	41.5616	41.56
26	2,2-Dichloropropane	77	5.041	5.041	(0.872)	147221	43.9134	43.91
54	1,3-Dichloropropane	76	8.751	8.754	(0.919)	170685	44.3017	44.30
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	343788	40.9839	40.98
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	375304	41.0907	41.09
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	389481	42.8500	42.85
29	Bromochloromethane	128	5.365	5.365	(0.928)	59812	48.0073	48.00
74	Bromobenzene	156	10.833	10.833	(0.915)	135830	41.4672	41.46
44	Dibromomethane	93	7.188	7.188	(1.094)	68345	49.3998	49.39
91	Hexachlorobutadiene	225	13.988	13.991	(1.182)	61289	45.2289	45.22
73	n-Propylbenzene	91	10.955	10.955	(0.926)	530888	42.5223	42.52
87	n-Butylbenzene	91	12.220	12.223	(1.033)	298175	44.1396	44.13
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	464879	43.7984	43.79
92	Naphthalene	128	14.061	14.061	(1.188)	358413	47.2823	47.28
78	tert-Butylbenzene	119	11.449	11.453	(0.967)	346706	43.1489	43.14
60	1,1,1,2-Tetrachloroethane	131	9.643	9.646	(1.012)	117226	47.0444	47.04
64	Styrene	104	10.198	10.198	(1.071)	328096	46.7130	46.71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Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
\\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123127.D
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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+
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\D171231.b\D123128.D
Report Date: 09-Feb-2018 16:29

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123128.D
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Misc Info : HS15080001;WATER;0;1;
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Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

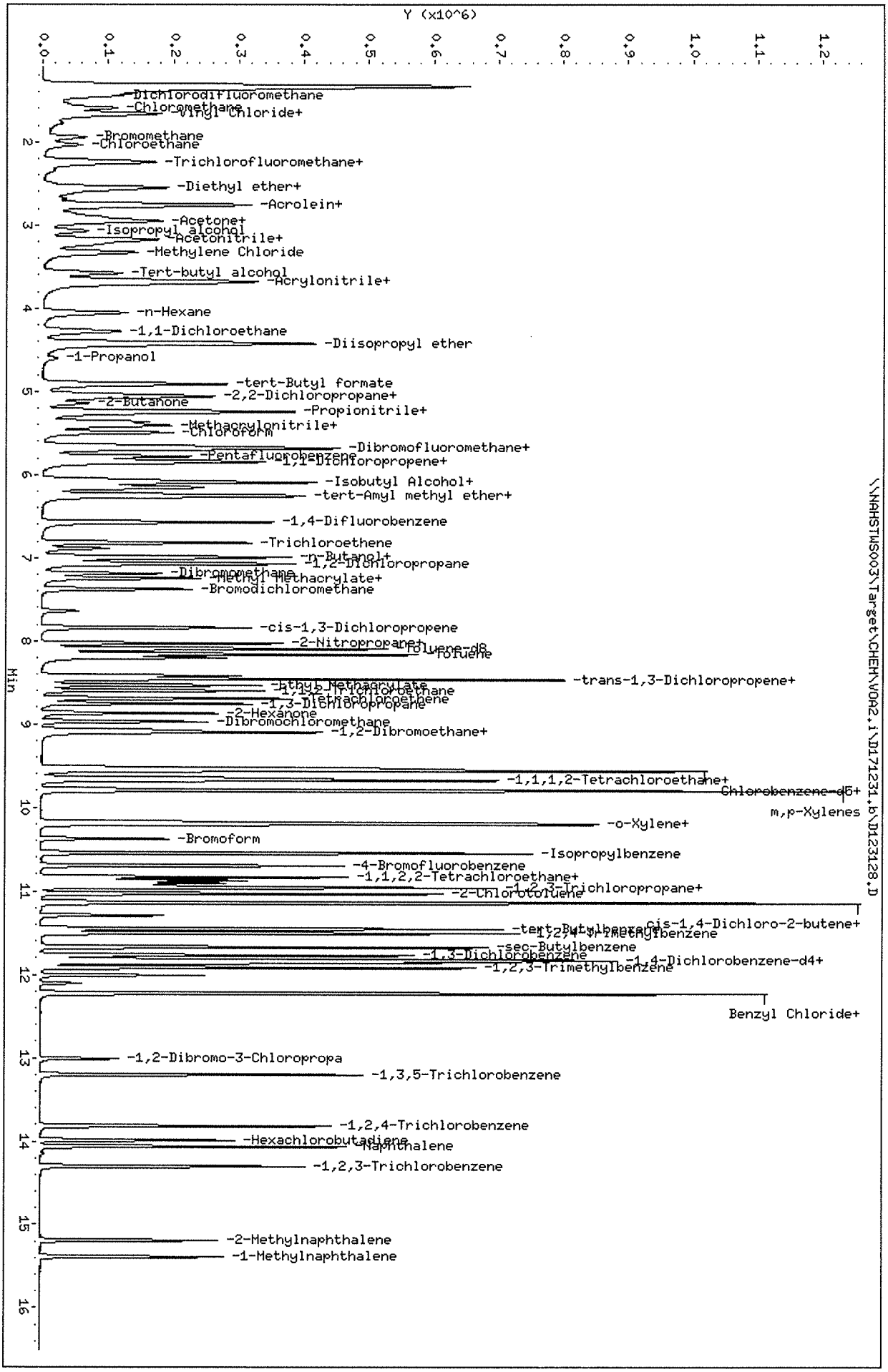
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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	5.648	5.654	(0.977)	171931	48.9725	48.97
*	1 Pentafluorobenzene	168	5.783	5.782	(1.000)	227155	50.0000	
$	30 Dibromofluoromethane	113	5.683	5.689	(0.983)	99011	48.3782	48.37
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	338925	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.055	6.055	(1.047)	120984	47.8636	47.86
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	312827	50.0000	
$	48 Toluene-d8	98	8.090	8.093	(0.849)	386220	46.8261	46.82
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	148731	49.3811	49.38
*	70 1,4-Dichlorobenzene-d4	152	11.835	11.838	(1.000)	149308	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	144993	40.7083	40.70
	53 1,1,2-Trichloroethane	83	8.590	8.593	(0.902)	86729	45.3211	45.32
	32 1,1-Dichloropropene	75	5.850	5.856	(0.890)	138798	52.5969	52.59
	22 1,1-Dichloroethane	63	4.278	4.277	(0.740)	220157	46.4228	46.42
	11 1,1-Dichloroethene	96	2.750	2.750	(0.476)	96012	51.2119	51.21
	90 1,2,4-Trichlorobenzene	180	13.818	13.818	(1.168)	146361	49.7588	49.75
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	26564	43.3068	43.30
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	114445	47.7492	47.74
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	223255	41.6001	41.60
	33 1,2-Dichloroethane	62	6.142	6.145	(0.935)	145541	48.6321	48.63
	42 1,2-Dichloropropane	63	7.066	7.066	(1.075)	122438	45.8655	45.86
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	232534	41.6359	41.63

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123128.D
Report Date: 09-Feb-2018 16:29

	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)	223574	41.8540	41.85
24	2-Butanone	43	5.141	5.144	(0.889)	107561	87.7523	87.75
52	2-Hexanone	43	8.866	8.866	(0.931)	160945	87.8082	87.80
45	4-Methyl-2-Pentanone	43	8.029	8.025	(0.843)	251132	88.4856	88.48
10	Acetone	43	2.859	2.862	(0.495)	72194	95.7822	95.78
37	Benzene	78	6.087	6.090	(0.926)	422773	47.4091	47.40
39	Bromodichloromethane	83	7.377	7.377	(1.123)	151059	47.8587	47.85
66	Bromoform	173	10.378	10.378	(1.089)	92582	49.8920	49.89
6	Bromomethane	94	1.935	1.941	(0.335)	68995	44.0785	44.07
19	Carbon Disulfide	76	2.949	2.952	(0.510)	422646	98.7154	98.71
34	Carbon Tetrachloride	117	5.831	5.834	(0.887)	140648	43.6886	43.68
59	Chlorobenzene	112	9.550	9.553	(1.002)	292197	45.3555	45.35
7	Chloroethane	64	2.035	2.041	(0.352)	77805	42.3354	42.33
28	Chloroform	83	5.494	5.494	(0.950)	191091	46.1418	46.14
3	Chloromethane	50	1.595	1.588	(0.276)	189945	49.9954	49.99
27	cis-1,2-Dichloroethene	96	5.067	5.067	(0.876)	121758	47.1145	47.11
46	cis-1,3-Dichloropropene	75	7.836	7.839	(1.192)	180267	49.7321	49.73
55	Dibromochloromethane	129	8.969	8.972	(0.941)	128268	47.4914	47.49
2	Dichlorodifluoromethane	85	1.447	1.447	(0.250)	105630	54.3956	54.39
61	Ethylbenzene	106	9.672	9.672	(1.015)	155586	45.1208	45.12
67	Isopropylbenzene	105	10.545	10.548	(1.107)	498027	46.6873	46.68
17	Methylene Chloride	84	3.328	3.334	(0.576)	111651	44.9060	44.90
56	Tetrachloroethene	164	8.690	8.690	(0.912)	97741	50.6881	50.68
50	Toluene	91	8.157	8.157	(0.856)	450471	45.4383	45.43
20	trans-1,2-Dichloroethene	96	3.661	3.671	(0.633)	104296	51.4305	51.43
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	155068	50.2753	50.27
38	Trichloroethene	130	6.816	6.819	(1.037)	123267	49.1038	49.10
8	Trichlorofluoromethane	101	2.250	2.256	(0.389)	145852	52.0749	52.07
5	Vinyl Chloride	62	1.678	1.685	(0.290)	139478	50.0964	50.09
62	m,p-Xylenes	106	9.790	9.790	(1.028)	381064	90.3650	90.36
63	o-Xylene	106	10.176	10.179	(1.068)	202782	45.9646	45.96
M 95	Xylenes (total)	106				583846	136.330	136.32
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	148171	41.6588	41.65
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	124889	49.2761	49.27
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	394486	39.6659	39.66
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	392018	40.4765	40.47
26	2,2-Dichloropropane	77	5.041	5.041	(0.872)	144816	43.7600	43.76
54	1,3-Dichloropropane	76	8.751	8.754	(0.918)	172718	44.7488	44.74
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	338614	39.9232	39.92
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	369459	40.0059	40.00
82	p-Isopropyltoluene	119	11.819	11.818	(0.999)	387038	42.1130	42.11
29	Bromochloromethane	128	5.359	5.365	(0.927)	59788	48.6146	48.61
74	Bromobenzene	156	10.830	10.833	(0.915)	135883	41.0272	41.02
44	Dibromomethane	93	7.191	7.188	(1.094)	67393	48.7156	48.71
91	Hexachlorobutadiene	225	13.988	13.991	(1.182)	63426	46.3015	46.30
73	n-Propylbenzene	91	10.955	10.955	(0.926)	519861	41.1812	41.18
87	n-Butylbenzene	91	12.220	12.223	(1.033)	298570	43.7120	43.71
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	460849	42.9412	42.94
92	Naphthalene	128	14.062	14.061	(1.188)	360790	47.0701	47.07
78	tert-Butylbenzene	119	11.449	11.453	(0.967)	341296	42.0085	42.00
60	1,1,1,2-Tetrachloroethane	131	9.643	9.646	(1.012)	115679	46.3402	46.34
64	Styrene	104	10.198	10.198	(1.070)	327282	46.5133	46.51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Min
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12
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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+
-Isobutyl Alcohol+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-n-Butanol+
-1,2-Dichloropropane
-Dibromomethane
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-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\D171231.b\D123128.D
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123128.D
Date : 01-JAN-2018 01:09
Client ID: HS17121224-01MSD
Sample Info: HS17121224-01MSD;HS17121224-01MSD;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\D171231.b\D123129.D
Report Date: 09-Feb-2018 16:29

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123129.D
Lab Smp Id: CCV_END Client Smp ID: CCV_END
Inj Date : 01-JAN-2018 01:33
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\D171231.b\8260LL.m
Meth Date : 09-Feb-2018 16:29 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 22 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)	166469	50.0000	47.52
*	1 Pentafluorobenzene	168	5.779	5.779	(1.000)	226624	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.984)	97035	50.0000	47.52
*	36 1,4-Difluorobenzene	114	6.569	6.569	(1.000)	342419	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	119690	50.0000	47.46
*	47 Chlorobenzene-d5	117	9.524	9.524	(1.000)	309429	50.0000	
$	48 Toluene-d8	98	8.090	8.090	(0.849)	384277	50.0000	47.10
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	148582	50.0000	49.87
*	70 1,4-Dichlorobenzene-d4	152	11.835	11.835	(1.000)	146586	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	149440	50.0000	42.73
	53 1,1,2-Trichloroethane	83	8.594	8.594	(0.902)	89127	50.0000	47.08
	32 1,1-Dichloropropene	75	5.850	5.850	(0.891)	132386	50.0000	49.60
	22 1,1-Dichloroethane	63	4.274	4.274	(0.740)	219425	50.0000	46.37
	11 1,1-Dichloroethene	96	2.750	2.750	(0.476)	92513	50.0000	49.46
	90 1,2,4-Trichlorobenzene	180	13.814	13.814	(1.167)	147177	50.0000	50.96
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	28156	50.0000	46.71
	57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	118803	50.0000	50.11
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	228673	50.0000	43.40
	33 1,2-Dichloroethane	62	6.145	6.145	(0.936)	155324	50.0000	51.37
	42 1,2-Dichloropropane	63	7.066	7.066	(1.076)	126009	50.0000	46.72
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	236563	50.0000	43.14

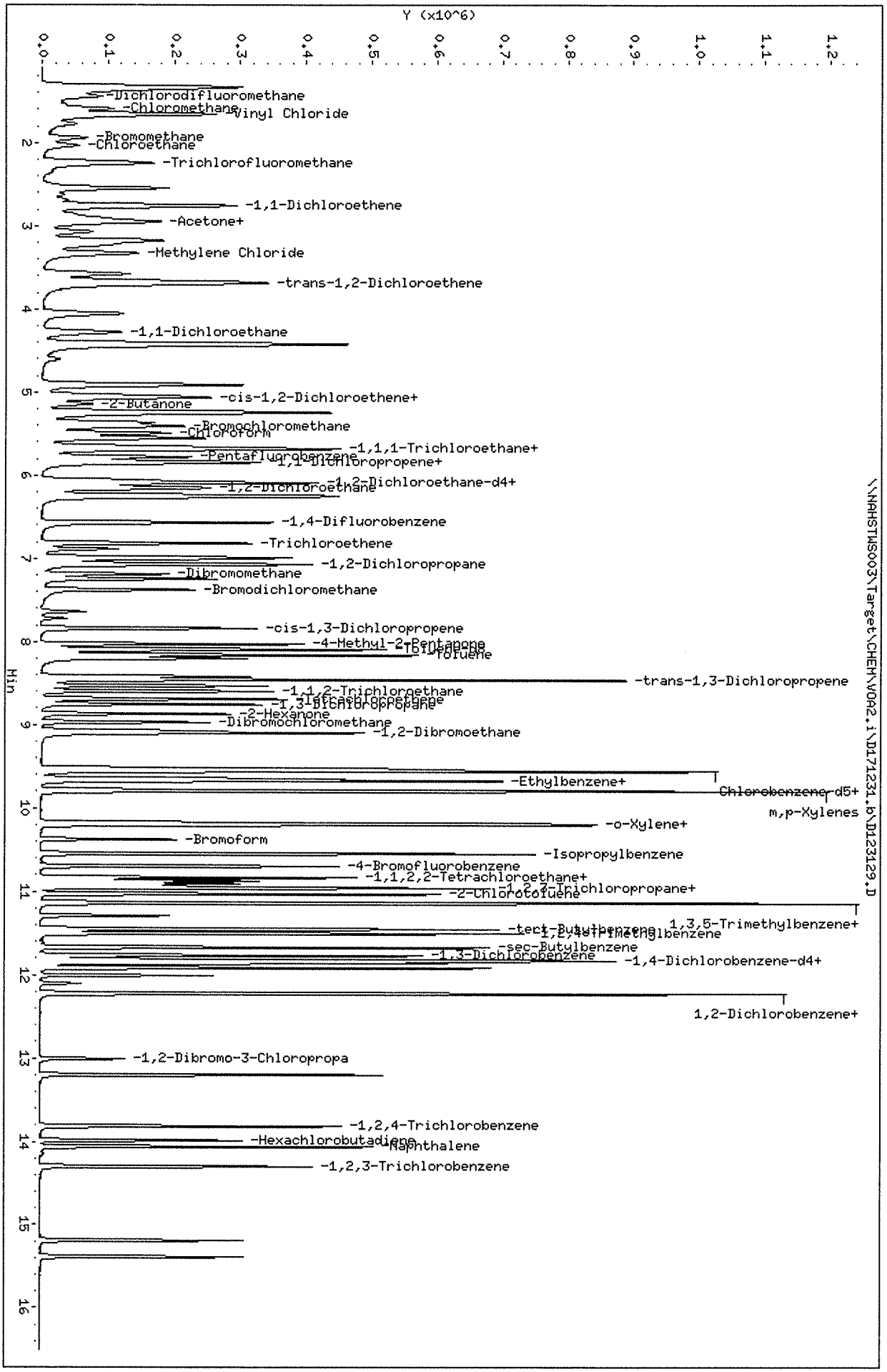
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123129.D
Report Date: 09-Feb-2018 16:29

	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)	222225	50.0000	42.37	
24	2-Butanone	43	5.147	5.147	(0.891)	120624	100.000	98.64	
52	2-Hexanone	43	8.866	8.866	(0.931)	174365	100.000	96.17	
45	4-Methyl-2-Pentanone	43	8.026	8.026	(0.843)	269090	100.000	95.85	
10	Acetone	43	2.859	2.859	(0.495)	78338	100.000	104.38	
37	Benzene	78	6.087	6.087	(0.927)	421634	50.0000	46.79	
39	Bromodichloromethane	83	7.377	7.377	(1.123)	154499	50.0000	48.44	
66	Bromoform	173	10.378	10.378	(1.090)	96548	50.0000	52.60	
6	Bromomethane	94	1.932	1.932	(0.334)	73070	50.0000	46.94	
19	Carbon Disulfide	76	2.949	2.949	(0.510)	410862	100.000	96.18	
34	Carbon Tetrachloride	117	5.834	5.834	(0.888)	135222	50.0000	41.57	
59	Chlorobenzene	112	9.553	9.553	(1.003)	293408	50.0000	46.04	
7	Chloroethane	64	2.031	2.031	(0.352)	78671	50.0000	42.90	
28	Chloroform	83	5.491	5.491	(0.950)	190997	50.0000	46.22	
3	Chloromethane	50	1.592	1.592	(0.275)	191903	50.0000	50.64	
27	cis-1,2-Dichloroethene	96	5.067	5.067	(0.877)	122474	50.0000	47.50	
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	183726	50.0000	50.16	
55	Dibromochloromethane	129	8.969	8.969	(0.942)	132141	50.0000	49.46	
2	Dichlorodifluoromethane	85	1.447	1.447	(0.250)	84800	50.0000	43.77	
61	Ethylbenzene	106	9.672	9.672	(1.015)	154379	50.0000	45.26	
67	Isopropylbenzene	105	10.545	10.545	(1.107)	490448	50.0000	46.48	
17	Methylene Chloride	84	3.331	3.331	(0.576)	111919	50.0000	45.11	
56	Tetrachloroethene	164	8.690	8.690	(0.912)	94228	50.0000	49.35	
50	Toluene	91	8.157	8.157	(0.856)	444264	50.0000	45.30	
20	trans-1,2-Dichloroethene	96	3.665	3.665	(0.634)	102411	50.0000	50.61	
51	trans-1,3-Dichloropropene	75	8.414	8.414	(1.281)	161768	50.0000	51.91	
38	Trichloroethene	130	6.816	6.816	(1.038)	123285	50.0000	48.60	
8	Trichlorofluoromethane	101	2.250	2.250	(0.389)	138919	50.0000	49.71	
5	Vinyl Chloride	62	1.675	1.675	(0.290)	133141	50.0000	47.93	
62	m,p-Xylenes	106	9.790	9.790	(1.028)	375281	100.000	89.97	
63	o-Xylene	106	10.176	10.176	(1.068)	200301	50.0000	45.90	
M 95	Xylenes (total)	106				575582	150.000		(a)
71	1,2,3-Trichloropropane	75	10.901	10.901	(0.921)	158894	50.0000	45.50	
93	1,2,3-Trichlorobenzene	182	14.299	14.299	(1.208)	130145	50.0000	52.30	
79	1,2,4-Trimethylbenzene	105	11.498	11.498	(0.972)	396430	50.0000	40.60	
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	389221	50.0000	40.93	
26	2,2-Dichloropropane	77	5.038	5.038	(0.872)	135212	50.0000	40.95	
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	179677	50.0000	47.06	
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	339306	50.0000	40.74	
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	370396	50.0000	40.85	
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	381648	50.0000	42.29	
29	Bromochloromethane	128	5.365	5.365	(0.928)	62080	50.0000	50.59	
74	Bromobenzene	156	10.830	10.830	(0.915)	137990	50.0000	42.43	
44	Dibromomethane	93	7.191	7.191	(1.095)	71129	50.0000	50.89	
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	62389	50.0000	46.39	
73	n-Propylbenzene	91	10.955	10.955	(0.926)	519408	50.0000	41.90	
87	n-Butylbenzene	91	12.220	12.220	(1.033)	299998	50.0000	44.73	
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	451312	50.0000	42.83	
92	Naphthalene	128	14.062	14.062	(1.188)	379157	50.0000	50.42	
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	340838	50.0000	42.73	
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.013)	120011	50.0000	48.60	
64	Styrene	104	10.198	10.198	(1.071)	329469	50.0000	47.33	

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123129.D
Report Date: 09-Feb-2018 16:29

QC Flag Legend

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



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171231.b\D123129.D
Date : 01-JAN-2018 01:33
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\FID-7.i\180209.b\FID70005.D
Lab Smp Id: MBLK-125085 Client Smp ID: MBLK-125085
Inj Date : 09-FEB-2018 10:27
Operator : AP Inst ID: FID-7.i
Smp Info : MBLK-125085
Misc Info :
Comment :
Method : \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\DROMO0118.m
Meth Date : 09-Feb-2018 16:19 jjuarez Quant Type: ESTD
Cal Date : 16-JAN-2018 18:12 Cal File: FID70008.D
Als bottle: 5 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: tph.sub
Target Version: 4.14
Processing Host: NAHSTWX028

Concentration Formula: Amt * DF * 100*Vt/(Ws*(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	1.000	Final Volume (mL)
Ws	30.000	Sample Weight (g)
M	0.00000	%Moisture
100*Vt/(Ws*(10	0.00000	
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppm)	CONCENTRATIONS FINAL (mg/Kg)
$ 7 2-Fluorobiphenyl	5.525	5.527	-0.002	180761	71.8723	2.395

ALS Laboratory Group

RECOVERY REPORT

Client Name:
Client SDG: SDGa02112
Sample Matrix: SOLID
Fraction: TPH
Lab Smp Id: MBLK-125085
Client Smp ID: MBLK-125085
Level: LOW
Operator: AP
Data Type: GC DATA
SampleType: BLANK
SpikeList File: spk.spk
Quant Type: ESTD
Sublist File: tph.sub
Method File: \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\DROMO0118.m
Misc Info:

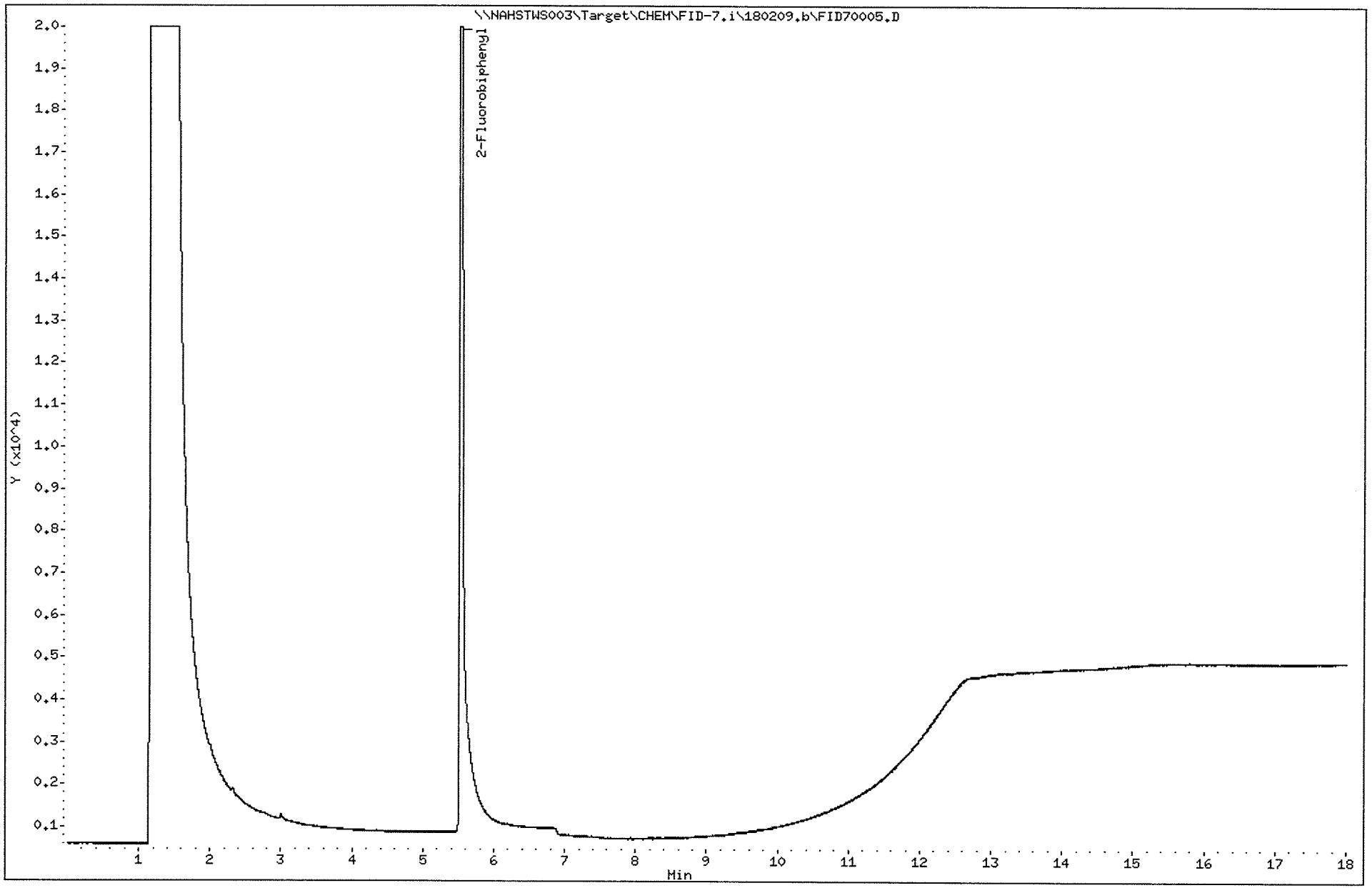
SURROGATE COMPOUND	AMOUNT ADDED ppm	AMOUNT RECOVERED ppm	% RECOVERED	LIMITS
$ 7 2-Fluorobiphenyl	100.000	71.872	71.87	70-130

Data File: \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\FID70005.D
Date : 09-FEB-2018 10:27
Client ID: MBLK-125085
Sample Info: MBLK-125085

Column phase: RTX-5

Instrument: FID-7.i

Operator: AP
Column diameter: 530.00



ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\FID70006.D
Lab Smp Id: LCS-125085 Client Smp ID: LCS-125085
Inj Date : 09-FEB-2018 10:51
Operator : AP Inst ID: FID-7.i
Smp Info : LCS-125085
Misc Info :
Comment :
Method : \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\DROMO0118.m
Meth Date : 09-Feb-2018 16:19 jjuarez Quant Type: ESTD
Cal Date : 16-JAN-2018 18:12 Cal File: FID70008.D
Als bottle: 6 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: tph.sub
Target Version: 4.14
Processing Host: NAHSTWX028

Concentration Formula: Amt * DF * 100*Vt/(Ws*(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	1.000	Final Volume (mL)
Ws	30.000	Sample Weight (g)
M	0.00000	%Moisture
100*Vt/(Ws*(10	0.00000	
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppm)	CONCENTRATIONS FINAL (mg/Kg)
$ 7 2-Fluorobiphenyl	5.526	5.527	-0.001	206632	82.1589	2.738 (M)
S 8 TPH (Diesel Range)	3.202-9.097			1600921	859.511	28.650
S 12 TPH (Motor Oil Range)	9.200-13.910			902786	933.224	31.107

QC Flag Legend

M - Compound response manually integrated.

ALS Laboratory Group

RECOVERY REPORT

Client Name:
Client SDG: SDGa02112
Sample Matrix: SOLID
Fraction: TPH
Lab Smp Id: LCS-125085
Client Smp ID: LCS-125085
Level: LOW
Operator: AP
Data Type: GC DATA
SampleType: LCS
SpikeList File: spk.spk
Quant Type: ESTD
Sublist File: tph.sub
Method File: \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\DROMO0118.m
Misc Info:

SPIKE COMPOUND	AMOUNT ADDED ppm	AMOUNT RECOVERED ppm	% RECOVERED	LIMITS
S 8 TPH (Diesel Range)	1000.000	859.510	85.95	70-130
S 12 TPH (Motor Oil Ran	1000.000	933.224	93.32	70-130

SURROGATE COMPOUND	AMOUNT ADDED ppm	AMOUNT RECOVERED ppm	% RECOVERED	LIMITS
$ 7 2-Fluorobiphenyl	100.000	82.158	82.16	70-130

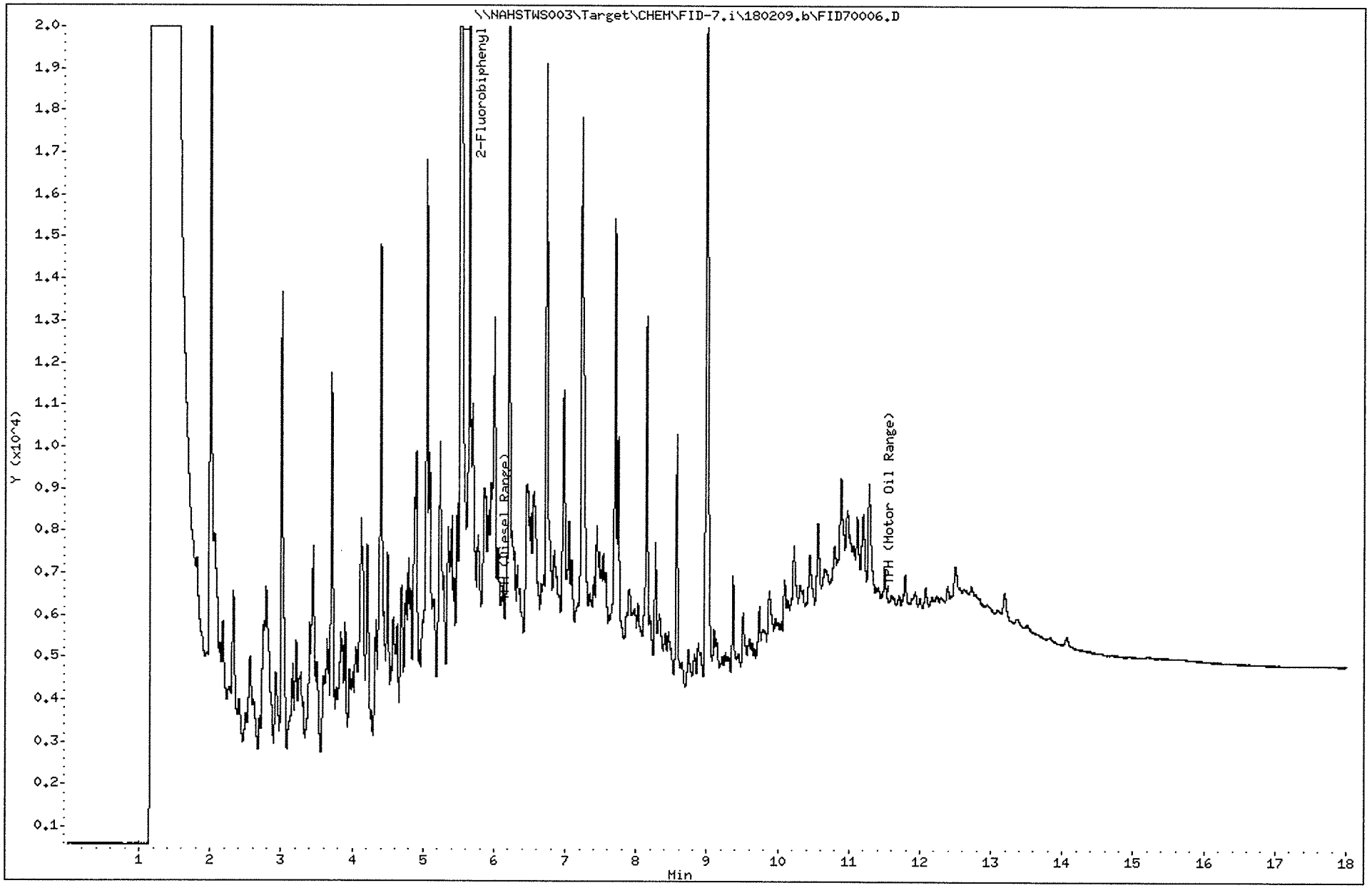
00880481

Data File: \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\FID70006.D
Date : 09-FEB-2018 10:51
Client ID: LCS-125085
Sample Info: LCS-125085

Column phase: RTX-5

Instrument: FID-7.i

Operator: AP
Column diameter: 530.00



ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\FID70015.D
Lab Smp Id: HS18020327-01 Client Smp ID: HS18020327-01
Inj Date : 09-FEB-2018 14:25
Operator : AP Inst ID: FID-7.i
Smp Info : HS18020327-01100
Misc Info :
Comment :
Method : \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\DROMO0118.m
Meth Date : 09-Feb-2018 16:19 jjuarez Quant Type: ESTD
Cal Date : 16-JAN-2018 18:12 Cal File: FID70008.D
Als bottle: 14
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: tph.sub
Target Version: 4.14
Processing Host: NAHSTWX028

Concentration Formula: Amt * DF * 100*Vt/(Ws*(100-M)) * CpndVariable

Name	Value	Description
DF	100.000	Dilution Factor
Vt	1.000	Final Volume (mL)
Ws	30.040	Sample Weight (g)
M	0.00000	%Moisture
100*Vt/(Ws*(10	0.00000	
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppm)	CONCENTRATIONS FINAL (mg/Kg)
S 8 TPH (Diesel Range)	3.202-9.097			3027001	1643.78	5471.961(M)
S 12 TPH (Motor Oil Range)	9.200-13.910			166957	217.531	724.138(M)

QC Flag Legend

M - Compound response manually integrated.

ALS Laboratory Group

RECOVERY REPORT

Client Name:
Client SDG: SDGa02112
Sample Matrix: SOLID
Fraction: TPH
Lab Smp Id: HS18020327-01
Client Smp ID: HS18020327-01
Level: LOW
Operator: AP
Data Type: GC DATA
SampleType: SAMPLE
SpikeList File: spk.spk
Quant Type: ESTD
Sublist File: tph.sub
Method File: \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\DROMO0118.m
Misc Info:

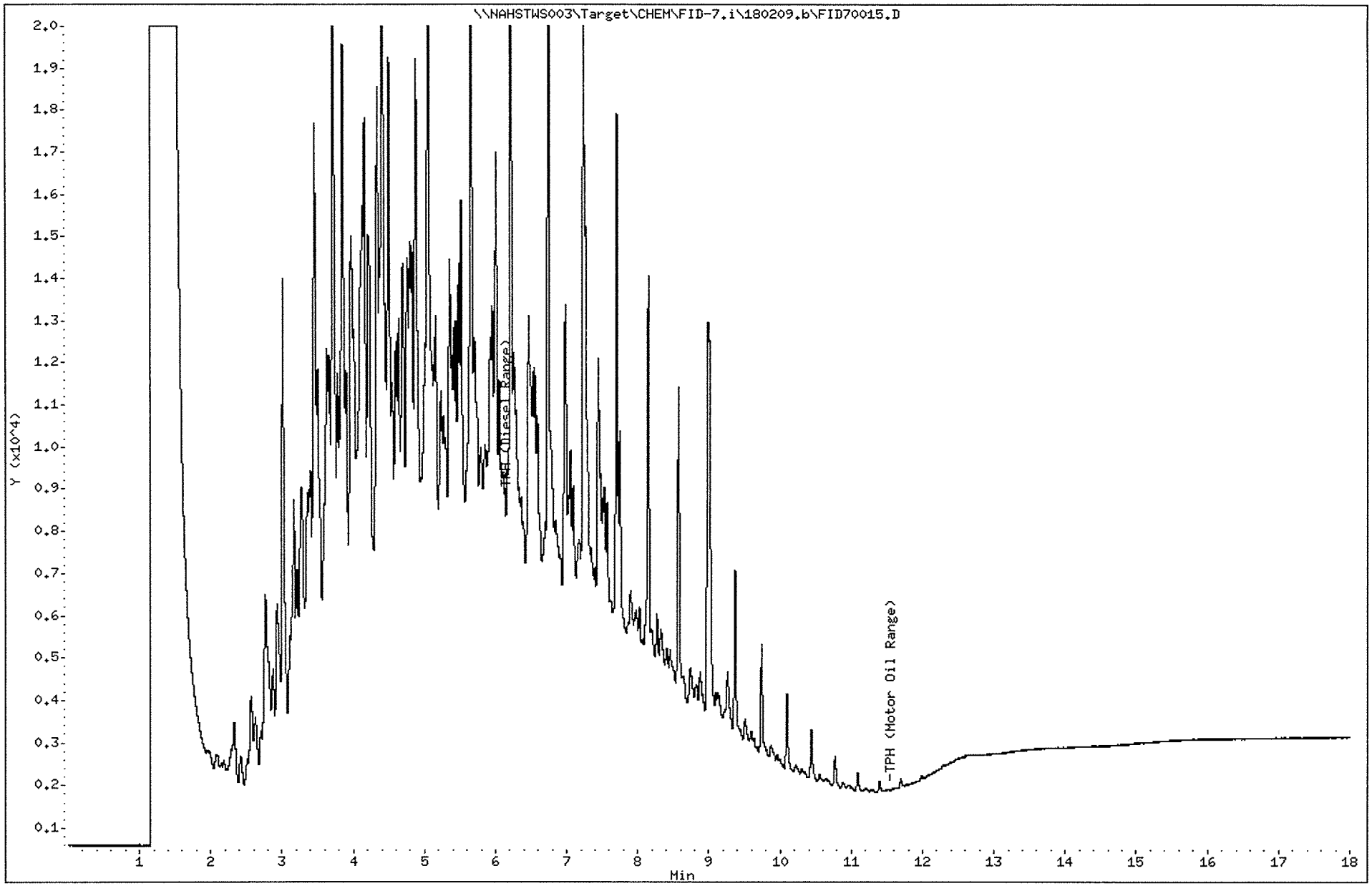
SURROGATE COMPOUND	AMOUNT ADDED ppm	AMOUNT RECOVERED ppm	% RECOVERED	LIMITS
$ 7 2-Fluorobiphenyl	3.328	0.000	*	70-130

Data File: \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\FID70015.D
Date : 09-FEB-2018 14:25
Client ID: HS18020327-01
Sample Info: HS18020327-01100

Instrument: FID-7.i

Operator: AP
Column diameter: 530.00

Column phase: RTX-5



ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\FID70016.D
Lab Smp Id: HS18020327-02 Client Smp ID: HS18020327-02
Inj Date : 09-FEB-2018 14:49
Operator : AP Inst ID: FID-7.i
Smp Info : HS18020327-02100
Misc Info :
Comment :
Method : \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\DROMO0118.m
Meth Date : 09-Feb-2018 16:19 jjuarez Quant Type: ESTD
Cal Date : 16-JAN-2018 18:12 Cal File: FID70008.D
Als bottle: 15
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: tph.sub
Target Version: 4.14
Processing Host: NAHSTWX028

Concentration Formula: Amt * DF * 100*Vt/(Ws*(100-M)) * CpndVariable

Name	Value	Description
DF	100.000	Dilution Factor
Vt	1.000	Final Volume (mL)
Ws	30.060	Sample Weight (g)
M	0.00000	%Moisture
100*Vt/(Ws*(10	0.00000	
Cpnd Variable		Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppm)	(mg/Kg)
S 8 TPH (Diesel Range)	3.202-9.097			3258837	1773.04	5898.330(M)
S 12 TPH (Motor Oil Range)	9.200-13.910			182775	231.639	770.588(M)

QC Flag Legend

M - Compound response manually integrated.

ALS Laboratory Group

RECOVERY REPORT

Client Name:
Client SDG: SDGa02112
Sample Matrix: SOLID
Fraction: TPH
Lab Smp Id: HS18020327-02
Client Smp ID: HS18020327-02
Level: LOW
Operator: AP
Data Type: GC DATA
SampleType: SAMPLE
SpikeList File: spk.spk
Quant Type: ESTD
Sublist File: tph.sub
Method File: \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\DROMO0118.m
Misc Info:

SURROGATE COMPOUND	AMOUNT ADDED ppm	AMOUNT RECOVERED ppm	% RECOVERED	LIMITS
$ 7 2-Fluorobiphenyl	3.326	0.000	*	70-130

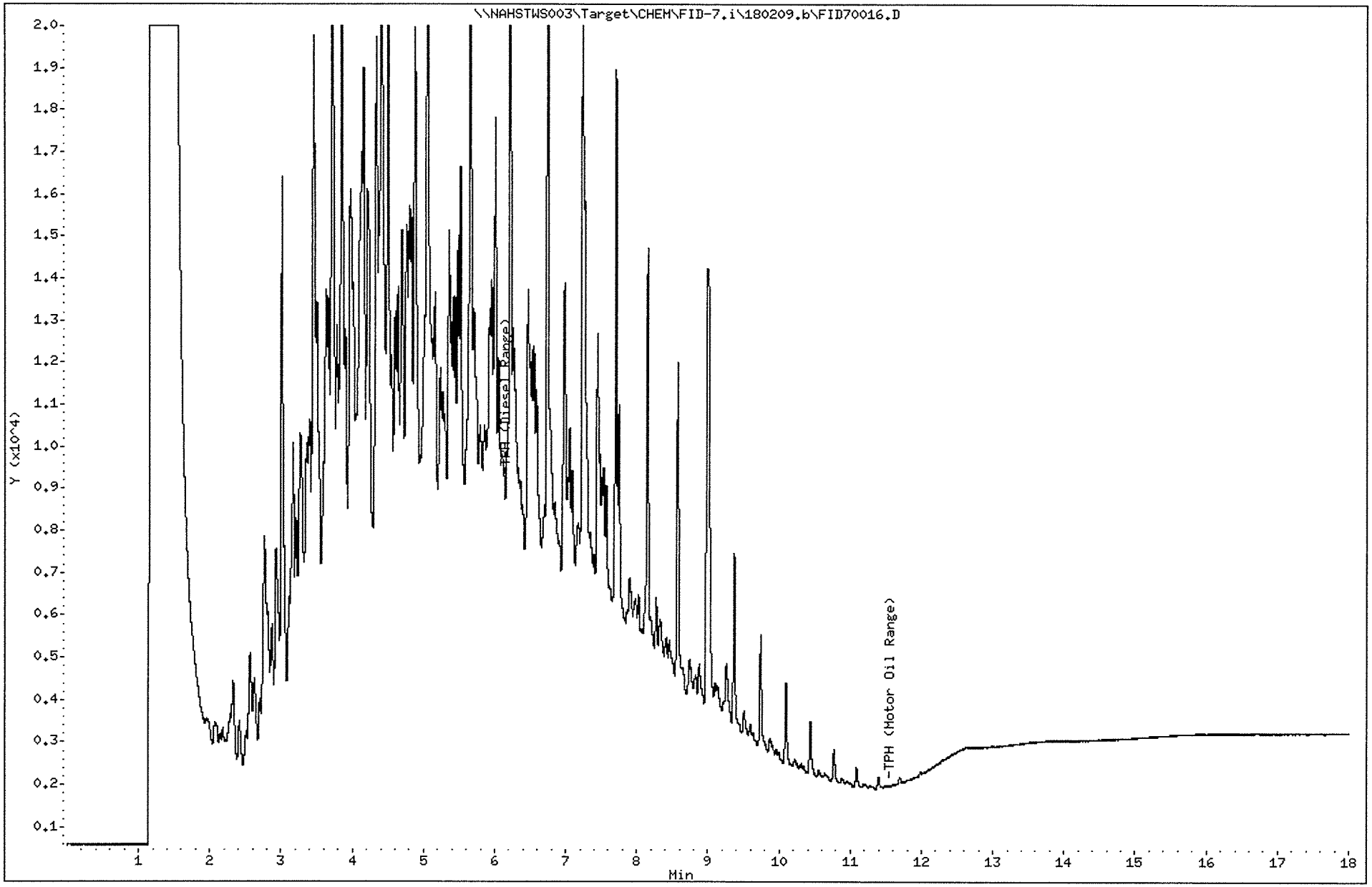
00880487

Data File: \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\FID70016.D
Date : 09-FEB-2018 14:49
Client ID: HS18020327-02
Sample Info: HS18020327-02100

Column phase: RTX-5

Instrument: FID-7.i

Operator: AP
Column diameter: 530.00



ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\FID70017.D
Lab Smp Id: HS18020327-02MS Client Smp ID: HS18020327-02MS
Inj Date : 09-FEB-2018 15:13
Operator : AP Inst ID: FID-7.i
Smp Info : HS18020327-02MS
Misc Info :
Comment :
Method : \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\DROMO0118.m
Meth Date : 09-Feb-2018 16:19 jjuarez Quant Type: ESTD
Cal Date : 16-JAN-2018 18:12 Cal File: FID70008.D
Als bottle: 16 QC Sample: MS
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: tph.sub
Target Version: 4.14
Processing Host: NAHSTWX028

Concentration Formula: Amt * DF * 100*Vt/(Ws*(100-M)) * CpndVariable

Name	Value	Description
DF	100.000	Dilution Factor
Vt	1.000	Final Volume (mL)
Ws	30.090	Sample Weight (g)
M	0.00000	%Moisture
100*Vt/(Ws*(10	0.00000	
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppm)	CONCENTRATIONS FINAL (mg/Kg)
S 8 TPH (Diesel Range)	3.202-9.097			4903347	2704.10	8986.699(ARM)
S 12 TPH (Motor Oil Range)	9.200-13.910			218736	263.921	877.103(RM)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

ALS Laboratory Group

RECOVERY REPORT

Client Name:
Client SDG: SDGa02112
Sample Matrix: SOLID
Fraction: TPH
Lab Smp Id: HS18020327-02MS
Client Smp ID: HS18020327-02MS
Level: LOW
Operator: AP
Data Type: GC DATA
SampleType: MS
SpikeList File: spk.spk
Quant Type: ESTD
Sublist File: tph.sub
Method File: \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\DROMO0118.m
Misc Info:

SPIKE COMPOUND	AMOUNT ADDED ppm	AMOUNT RECOVERED ppm	% RECOVERED	LIMITS
S 8 TPH (Diesel Range)	1000.000	2704.097	270.41*	70-130
S 12 TPH (Motor Oil Ran	1000.000	263.920	26.39*	70-130

SURROGATE COMPOUND	AMOUNT ADDED ppm	AMOUNT RECOVERED ppm	% RECOVERED	LIMITS
$ 7 2-Fluorobiphenyl	3.323	0.000	*	70-130

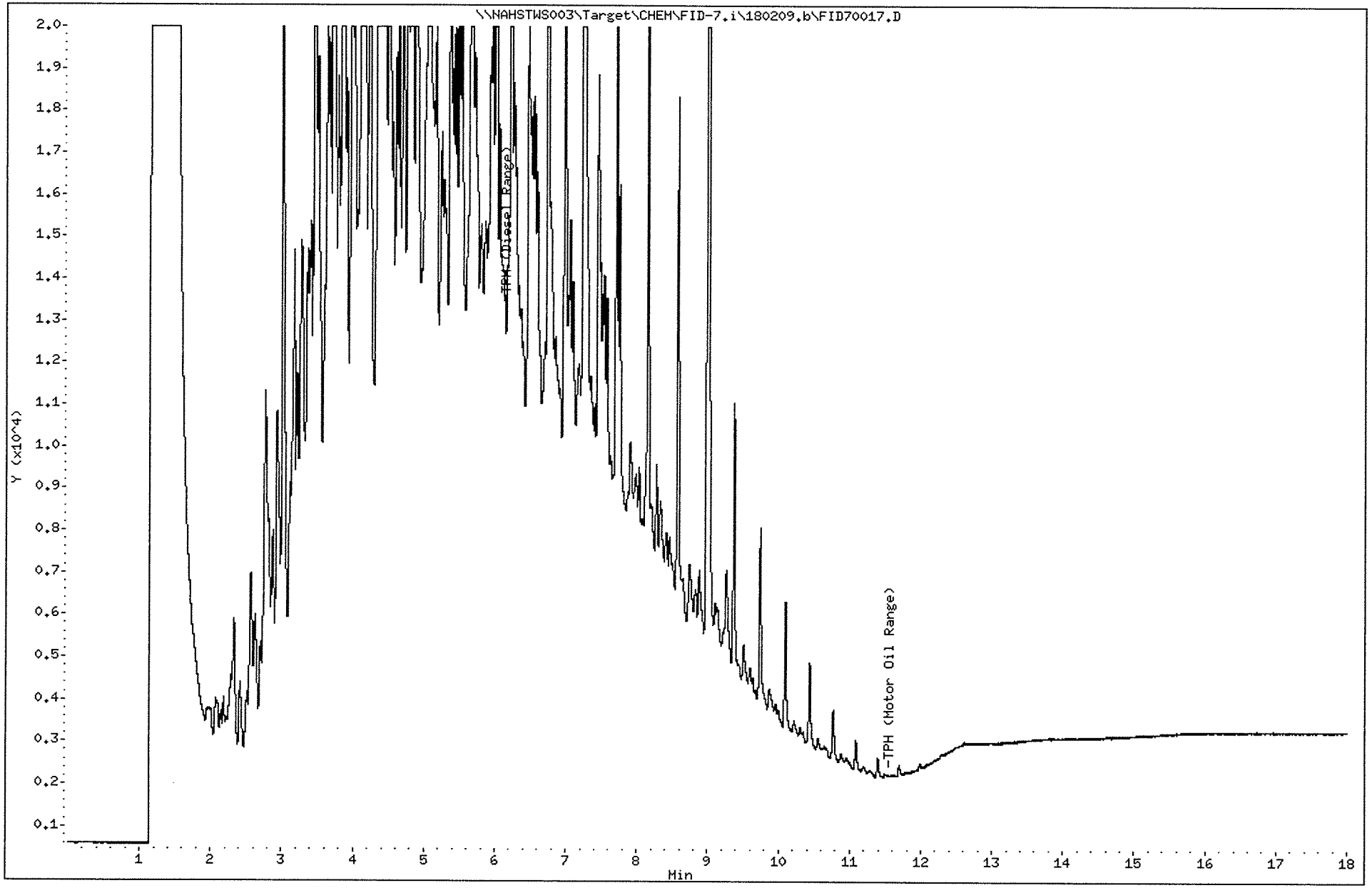
00880490

Data File: \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\FID70017.D
Date : 09-FEB-2018 15:13
Client ID: HS18020327-02MS
Sample Info: HS18020327-02MS

Column phase: RTX-5

Instrument: FID-7.i

Operator: AP
Column diameter: 530.00



ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\FID70018.D
Lab Smp Id: HS18020327-02MSD Client Smp ID: HS18020327-02MSD
Inj Date : 09-FEB-2018 15:37
Operator : AP Inst ID: FID-7.i
Smp Info : HS18020327-02MS
Misc Info :
Comment :
Method : \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\DROMO0118.m
Meth Date : 09-Feb-2018 16:19 jjuarez Quant Type: ESTD
Cal Date : 16-JAN-2018 18:12 Cal File: FID70008.D
Als bottle: 17 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: tph.sub
Target Version: 4.14
Processing Host: NAHSTWX028

Concentration Formula: Amt * DF * 100*Vt/(Ws*(100-M)) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	1.000	Final Volume (mL)
Ws	30.070	Sample Weight (g)
M	0.00000	%Moisture
100*Vt/(Ws*(10	0.00000	
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppm)	CONCENTRATIONS FINAL (mg/Kg)
S 8 TPH (Diesel Range)	3.202-9.097			4145274	2271.82	75.551(ARM)
S 12 TPH (Motor Oil Range)	9.200-13.910			258140	299.626	9.964(RM)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

ALS Laboratory Group

RECOVERY REPORT

Client Name:
Sample Matrix: SOLID
Lab Smp Id: HS18020327-02MSD
Level: LOW
Data Type: GC DATA
SpikeList File: spk.spk
Sublist File: tph.sub
Method File: \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\DROMO0118.m
Misc Info:

Client SDG: SDGa02112
Fraction: TPH
Client Smp ID: HS18020327-02MSD
Operator: AP
SampleType: MSD
Quant Type: ESTD

SPIKE COMPOUND	AMOUNT ADDED ppm	AMOUNT RECOVERED ppm	% RECOVERED	LIMITS
S 8 TPH (Diesel Range)	1000.000	2271.822	227.18*	70-130
S 12 TPH (Motor Oil Ran	1000.000	299.626	29.96*	70-130

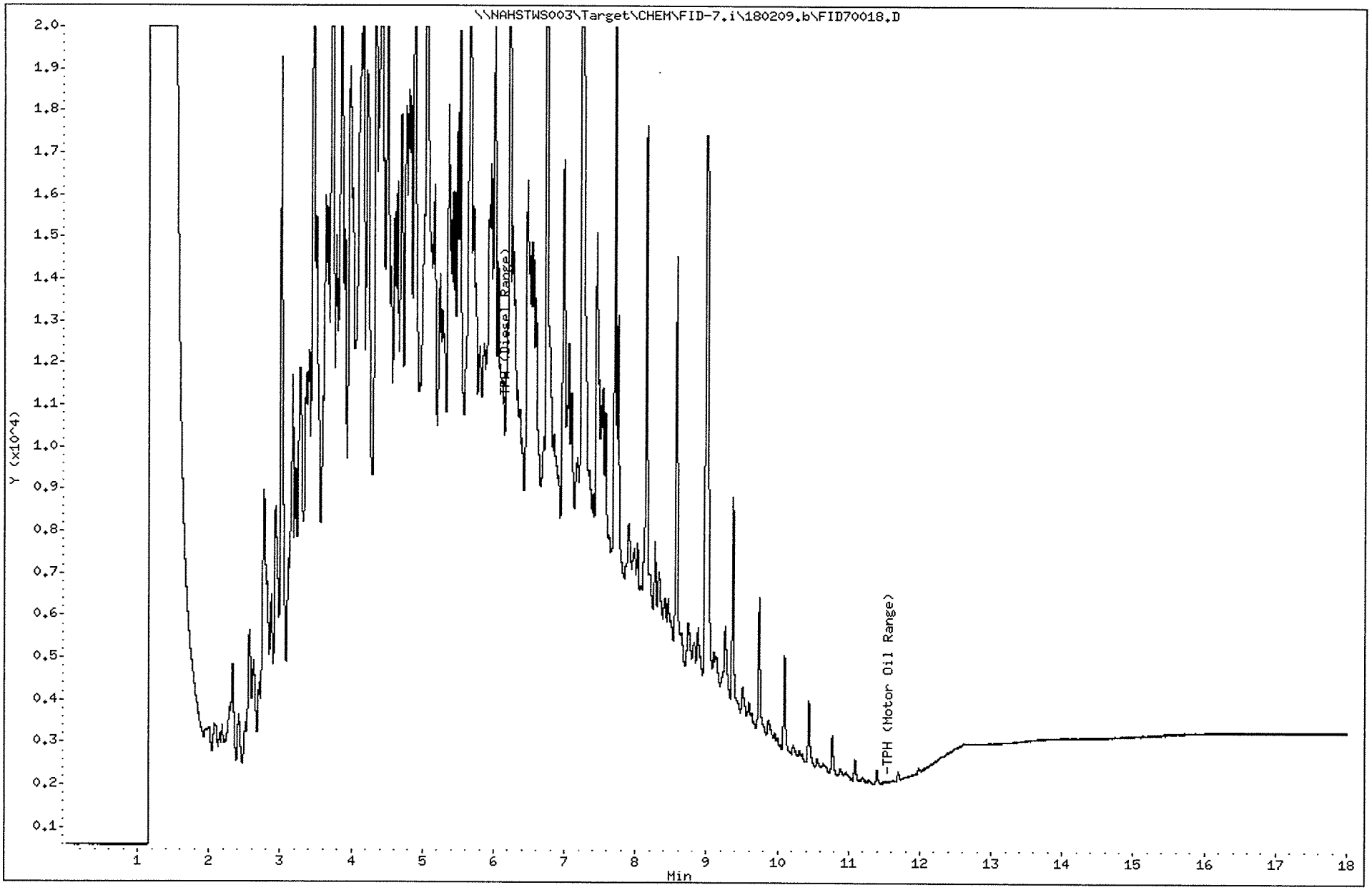
SURROGATE COMPOUND	AMOUNT ADDED ppm	AMOUNT RECOVERED ppm	% RECOVERED	LIMITS
$ 7 2-Fluorobiphenyl	3.325	0.000	*	70-130

Data File: \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\FID70018.D
Date : 09-FEB-2018 15:37
Client ID: HS18020327-02MSD
Sample Info: HS18020327-02MS

Column phase: RTX-5

Instrument: FID-7.i

Operator: AP
Column diameter: 530.00



ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\FID70019.D
Lab Smp Id: HS18020327-03
Inj Date : 09-FEB-2018 16:01
Operator : AP Inst ID: FID-7.i
Smp Info : HS18020327-03200
Misc Info :
Comment :
Method : \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\DROMO0118.m
Meth Date : 09-Feb-2018 16:19 jjuarez Quant Type: ESTD
Cal Date : 16-JAN-2018 18:12 Cal File: FID70008.D
Als bottle: 18
Dil Factor: 200.00000
Integrator: Falcon Compound Sublist: tph.sub
Target Version: 4.14
Processing Host: NAHSTWX028

Concentration Formula: Amt * DF * 100*Vt/(Ws*(100-M)) * CpndVariable

Name	Value	Description
DF	200.000	Dilution Factor
Vt	1.000	Final Volume (mL)
Ws	30.030	Sample Weight (g)
M	0.00000	%Moisture
100*Vt/(Ws*(10	0.00000	
Cpnd Variable		Local Compound Variable

				CONCENTRATIONS	
				ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppm)	(mg/Kg)
S 8 TPH (Diesel Range)	3.202-9.097			2212249	1193.42	7948.202(M)
S 12 TPH (Motor Oil Range)	9.200-13.910			142507	195.835	1304.262(M)

QC Flag Legend

M - Compound response manually integrated.

ALS Laboratory Group

RECOVERY REPORT

Client Name: Client SDG: SDGa02112
Sample Matrix: SOLID Fraction: TPH
Lab Smp Id: HS18020327-03
Level: LOW Operator: AP
Data Type: GC DATA SampleType: SAMPLE
SpikeList File: spk.spk Quant Type: ESTD
Sublist File: tph.sub
Method File: \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\DROMO0118.m
Misc Info:

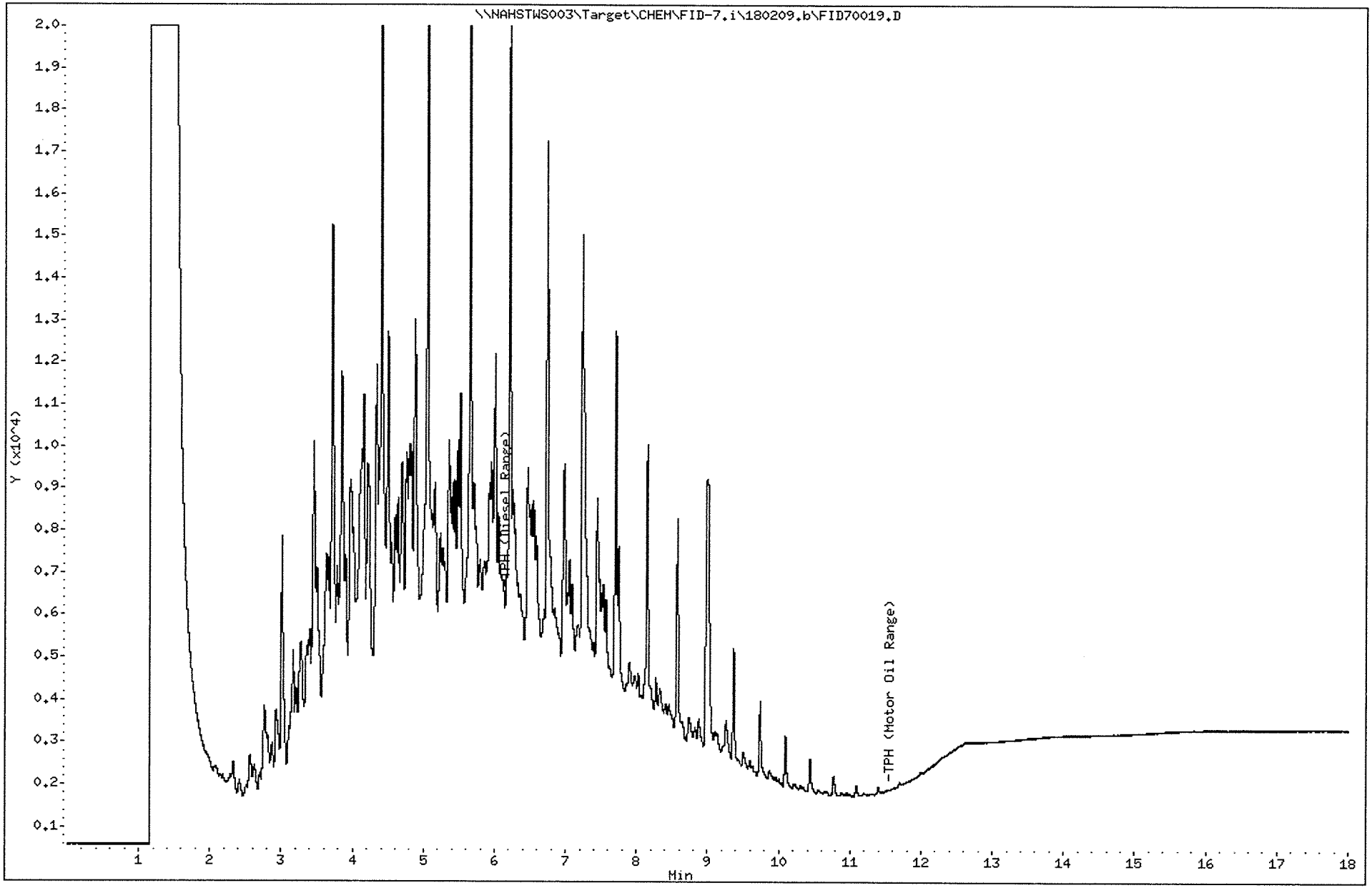
SURROGATE COMPOUND	AMOUNT ADDED ppm	AMOUNT RECOVERED ppm	% RECOVERED	LIMITS
$ 7 2-Fluorobiphenyl	3.330	0.000	*	70-130

Data File: \\NAHSTWS003\Target\CHEM\FID-7.i\180209.b\FID70019.D
Date : 09-FEB-2018 16:01
Client ID:
Sample Info: HS18020327-03200

Column phase: RTX-5

Instrument: FID-7.i

Operator: AP
Column diameter: 530.00



Semivolatile Organics Raw Data

Bhate Environmental Associates, Inc.
Project: LONGHORN GW TREATMENT PLANT
QUARTERLY INFLUENT SAMPLES
ALS WO# HS17121169

FORM 2
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121169

	CLIENT SAMPLE NO.	S1 (NBZ)#	S2 #	S3 (FBP)#	S4 #	S5 #	S6 #	S7 #	S8 #	TOT OUT
01	MBLK-123757	84	109	122						0
02	LCSD-123757	103	105	113						0
03	LCS-123757	81	91	103						0
04										
05										
06										
07										
08										
09										
10										
11										
12										
13										
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23										
24										
25										
26										
27										
28										

	QC LIMITS
S1 (NBZ) = Nitrobenzene-d5	(41-120)
S2 = 4-Terphenyl-d14	(40-140)
S3 (FBP) = 2-Fluorobiphenyl	(40-140)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

SV05 -Logbook

Batch: 29699
Date: 11-27-2017
Method: 8270D(SIM)
Comments: MSSV-003(SIM)

Analyst: Andrew Neir
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	DFTPP	TUNE	11-27-2017 04:32 pm	1.00			01.D		Y	NA
2	DX-0.08	CAL	11-27-2017 04:47 pm	1.00			02.D		Y	NA
3	DX-0.01	CAL	11-27-2017 05:19 pm	1.00			03.D		Y	NA
4	DX-0.03	CAL	11-27-2017 05:40 pm	1.00			04.D		Y	NA
5	DX-0.05	CAL	11-27-2017 06:00 pm	1.00			05.D		Y	NA
6	DX-0.1	CAL	11-27-2017 06:21 pm	1.00			06.D		Y	NA
7	DX-0.15	CAL	11-27-2017 06:41 pm	1.00			07.D		Y	NA
8	DX-0.2	CAL	11-27-2017 07:01 pm	1.00			08.D		Y	NA
9	DX-0.5	CAL	11-27-2017 07:22 pm	1.00			09.D		Y	NA
10	DX-ICV	SAMP	11-27-2017 07:42 pm	1.00			10.D		Y	NA
11	CCB	SAMP	11-27-2017 08:03 pm	1.00			11.D		Y	NA
12	MBLK-122270	MBLK	11-27-2017 08:23 pm	1.00	1000.00 mL	1.00 mL	12.D	Liquid	Y	NA
13	LCS-122270	LCS	11-27-2017 08:44 pm	1.00	1000.00 mL	1.00 mL	13.D	Liquid	Y	NA
14	LCSD-122270	LCSD	11-27-2017 09:05 pm	1.00	1000.00 mL	1.00 mL	14.D	Liquid	Y	NA
15	HS17110800-01	SAMP	11-27-2017 09:25 pm	20.00	1000.00 mL	1.00 mL	15.D	Liquid	Y	NA
16	HS17110800-02	SAMP	11-27-2017 09:46 pm	10.00	1000.00 mL	1.00 mL	16.D	Liquid	Y	NA
17	HS17110800-03	SAMP	11-27-2017 10:06 pm	10.00	1000.00 mL	1.00 mL	17.D	Liquid	Y	NA
18	HS17110800-04	SAMP	11-27-2017 10:27 pm	4.00	1000.00 mL	1.00 mL	18.D	Liquid	Y	NA
19	HS17110800-05	SAMP	11-27-2017 10:47 pm	20.00	1000.00 mL	1.00 mL	19.D	Liquid	Y	NA
20	HS17110800-06	SAMP	11-27-2017 11:08 pm	20.00	1000.00 mL	1.00 mL	20.D	Liquid	Y	NA
21	HS17110731-01	SAMP	11-27-2017 11:28 pm	4.00	1000.00 mL	11.00 mL	21.D	Liquid	Y	NA
22	HS17110731-02	SAMP	11-27-2017 11:49 pm	100.0(	1000.00 mL	1.00 mL	22.D	Liquid	Y	NA
23	HS17110731-03	SAMP	11-28-2017 12:09 am	500.0(	1000.00 mL	1.00 mL	23.D	Liquid	Y	NA
24	HS17110732-01	SAMP	11-28-2017 12:30 am	20.00	1000.00 mL	1.00 mL	24.D	Liquid	Y	NA
25	HS17110732-02	SAMP	11-28-2017 12:50 am	500.0(	1000.00 mL	1.00 mL	25.D	Liquid	Y	NA
26	HS17110813-01	SAMP	11-28-2017 01:11 am	20.00	1000.00 mL	1.00 mL	26.D	Liquid	Y	NA
27	HS17110813-02	SAMP	11-28-2017 01:31 am	20.00	1000.00 mL	1.00 mL	27.D	Liquid	Y	NA
28	HS17110816-01	SAMP	11-28-2017 01:52 am	20.00	1000.00 mL	1.00 mL	28.D	Liquid	Y	NA
29	HS17110816-02	SAMP	11-28-2017 02:12 am	20.00	1000.00 mL	1.00 mL	29.D	Liquid	Y	NA
30	DX-0.08	SAMP	11-28-2017 11:28 am	1.00	1000.00 mL	1000.00 mL	30.D	Liquid	Y	NA

SV05 -Logbook

Chemical	Value
IS ID	3041118-01
CAL STD ID	3041117-04
DFTPP ID	29722-96-01
PCP Tailing	0.67
Benz. Tailing	0.86
STD-01	3041117-01
STD-02	3041117-02
STD-03	3041117-03
STD-04	3041117-05
STD-05	3041117-06
STD-06	3041117-07
ICV ID	3041117-08

FORM 3
WATER SEMIVOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

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

Matrix Spike - Sample No.: DX-ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	% REC #	QC. LIMITS REC.
1,4-Dioxane	0.08000	0.08408	105	75-125

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

COMMENTS: _____

_____

FORM III SV

FORM 5
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Contract:

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

Lab File ID: 01 DFTPP Injection Date: 11/27/17

Instrument ID: SV5 DFTPP Injection Time: 1632

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	47.4
68	Less than 2.0% of mass 69	0.9 (1.6)1
69	Mass 69 relative abundance	58.7
70	Less than 2.0% of mass 69	0.4 (0.7)1
127	10.0 - 80.0% of mass 198	62.4
197	Less than 2.0% of mass 198	0.7
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	8.3
275	10.0 - 60.0% of mass 198	26.8
365	1.0 - 100.0% of mass 198	2.7
441	Present, but less than mass 443	9.7
442	50.0 - 150.0% of mass 198	63.2
443	15.0 - 24.0% of mass 442	13.5 (21.3)2

1-Value is % mass 69 2-Value is % mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	DX-0.08	DX-0.08	02	11/27/17	1647
02	DX-0.01	DX-0.01	03	11/27/17	1719
03	DX-0.03	DX-0.03	04	11/27/17	1740
04	DX-0.05	DX-0.05	05	11/27/17	1800
05	DX-0.1	DX-0.1	06	11/27/17	1821
06	DX-0.15	DX-0.15	07	11/27/17	1841
07	DX-0.2	DX-0.2	08	11/27/17	1901
08	DX-0.5	DX-0.5	09	11/27/17	1922
09	DX-ICV	DX-ICV	10	11/27/17	1942
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 6
SEMIVOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

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

Instrument ID: SV5 Calibration Date(s): 11/27/17 11/27/17

Column: RTX-5SIL MS ID: 0.28 (mm) Calibration Time(s): 1647 1922

LAB FILE ID: RF0.01: 03 RF0.025: 04 RF0.05: 05
RF0.08: 02 RF0.1: 06 RF0.15: 07

COMPOUND	RF0.01	RF0.025	RF0.05	RF0.08	RF0.1	RF0.15
1,4-Dioxane	0.082	0.080	0.075	0.082	0.082	0.084
Nitrobenzene-d5	0.654	0.579	0.439	0.385	0.438	0.456
4-Terphenyl-d14	1622	5762	17709	16179	39094	22443
2-Fluorobiphenyl	0.785	0.995	0.834	0.847	0.871	0.908

FORM VI SV

FORM 6
SEMIVOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

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

Instrument ID: SV5 Calibration Date(s): 11/27/17 11/27/17

Column: RTX-5SIL MS ID: 0.28 (mm) Calibration Time(s): 1647 1922

LAB FILE ID: RF0.2: 08 RF0.5: 09

COMPOUND	RF0.2	RF0.5
1,4-Dioxane	0.086	0.091
Nitrobenzene-d5	0.455	0.408
4-Terphenyl-d14	31676	145184
2-Fluorobiphenyl	0.918	0.933

FORM VI SV

FORM 6
SEMIVOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

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

Instrument ID: SV5 Calibration Date(s): 11/27/17 11/27/17

Column: RTX-5SIL MS ID: 0.28 (mm) Calibration Time(s): 1647 1922

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MAX %RSD OR R^2
1,4-Dioxane	AVRG		8.286e-002		5.457	20.000
Nitrobenzene-d5	AVRG		0.47670052		19.241	20.000
4-Terphenyl-d14	2ORDR	0.14589860	1.02412250	-3.79e-002	0.9949042	0.9900000
2-Fluorobiphenyl	AVRG		0.88628899		7.424	20.000

FORM VI SV

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\01.D

Date : 27-NOV-2017 16:32

Client ID: DFTPP

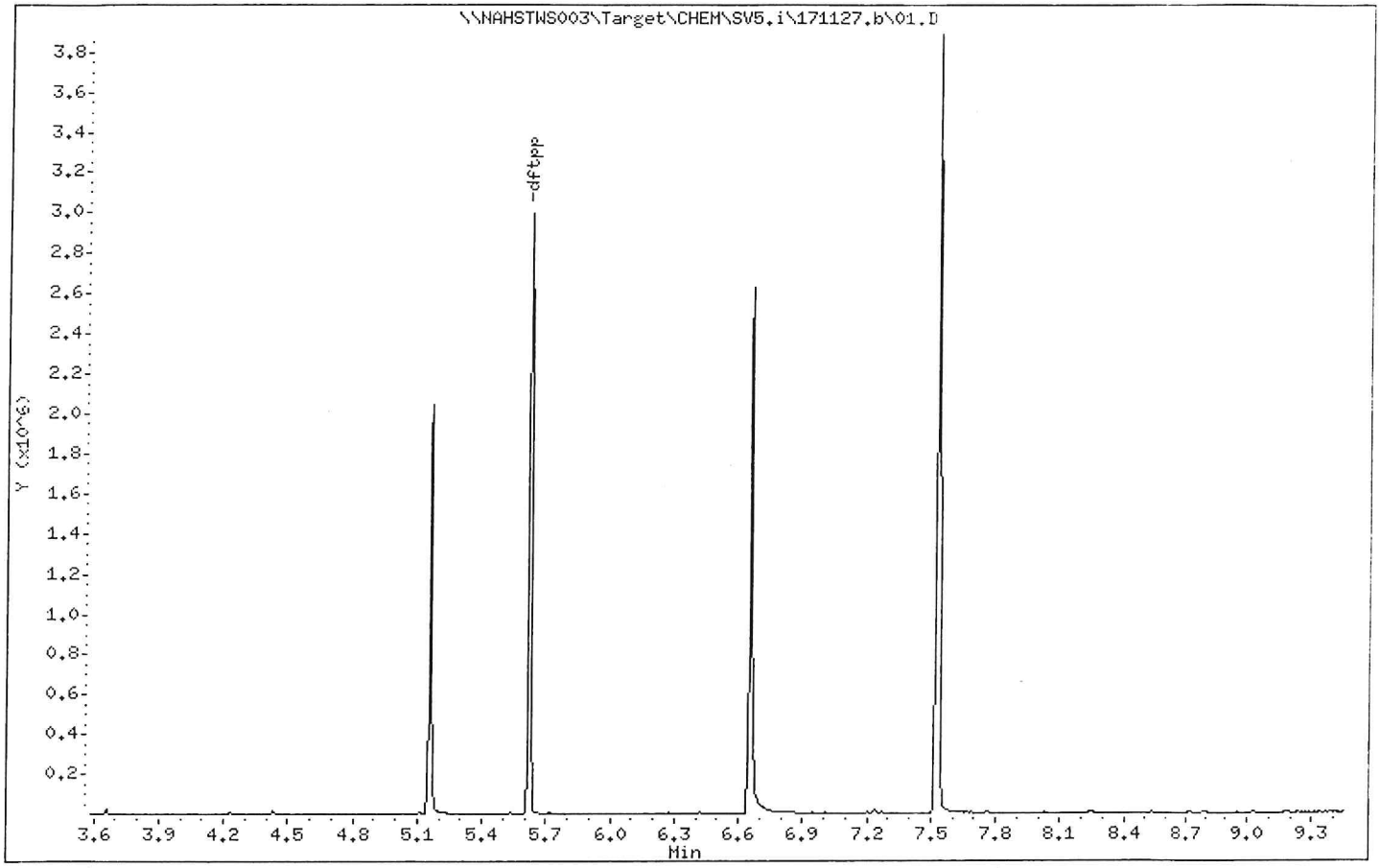
Instrument: SV5.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: GY

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\01.D

Date : 27-NOV-2017 16:32

Client ID: DFTPP

Instrument: SV5.i

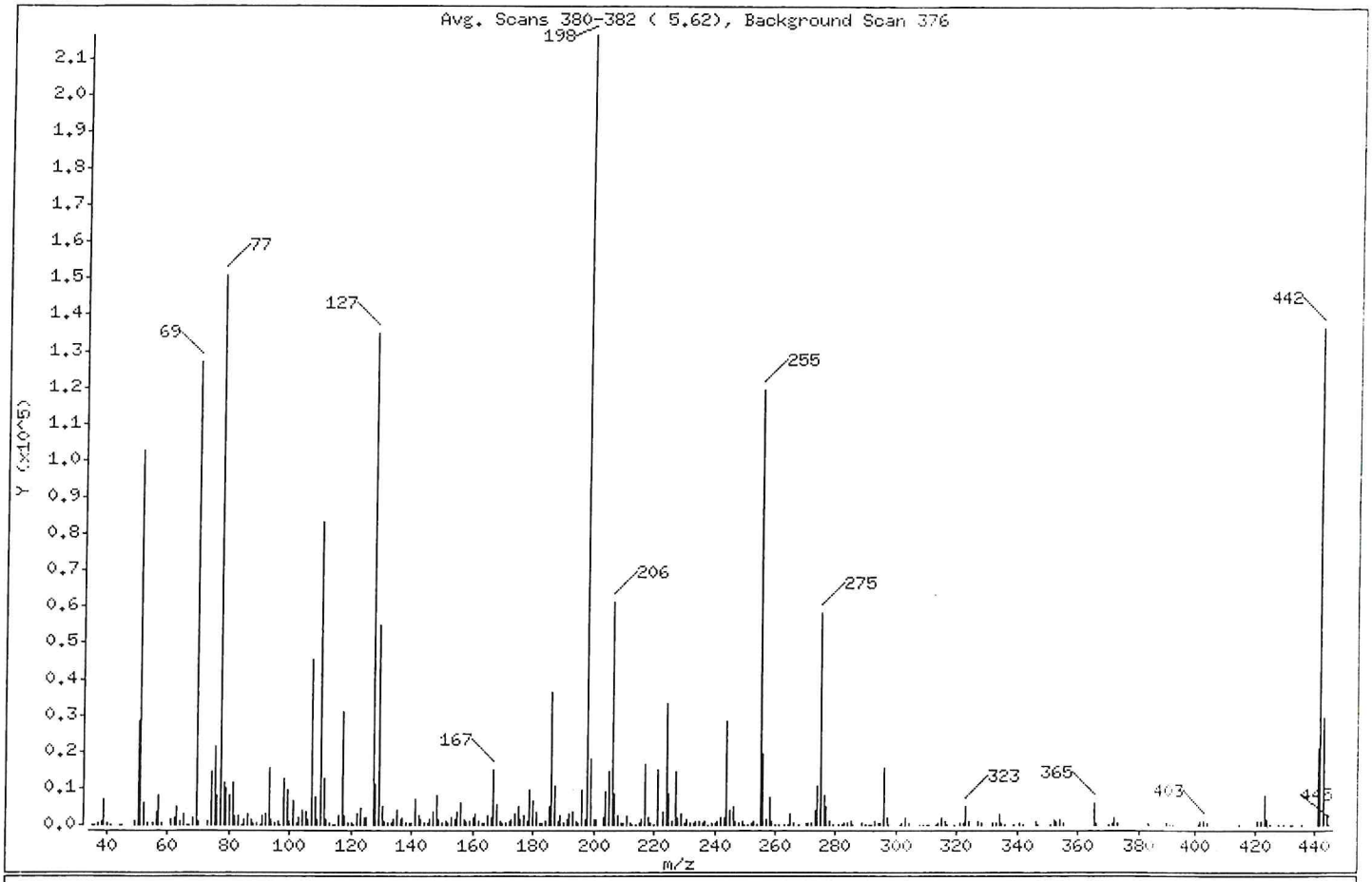
Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: GY

Column phase: DB-5MS

Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	47.36
68	Less than 2.00% of mass 69	0.92 (1.57)
69	Mass 69 relative abundance	58.68
70	Less than 2.00% of mass 69	0.43 (0.73)
127	10.00 - 80.00% of mass 198	62.40
197	Less than 2.00% of mass 198	0.70
199	5.00 - 9.00% of mass 198	8.31
275	10.00 - 60.00% of mass 198	26.85
365	1.00 - 100.00% of mass 198	2.68
441	Present, but less than mass 443	9.71
442	50.00 - 150.00% of mass 198	63.22
443	15.00 - 24.00% of mass 442	13.47 (21.30)

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\01.D Page 3

Date : 27-NOV-2017 16:32

Client ID: DFTPP Instrument: SV5.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: GY

Column phase: DB-5MS Column diameter: 0.25

Data File: 01.D
Spectrum: Avg. Scans 380-382 (5.62), Background Scan 376
Location of Maximum: 198.00
Number of points: 311

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	64	123.00	4367	203.00	1836	286.00	163
36.00	179	124.00	1955	204.00	8877	289.00	252
37.00	524	125.00	1853	205.00	14549	290.00	180
38.00	1167	127.00	134976	206.00	61392	291.00	51
39.00	7068	128.00	10832	207.00	8276	292.00	164
40.00	376	129.00	54648	208.00	2239	293.00	1211
41.00	227	130.00	5039	209.00	641	294.00	331
44.00	62	131.00	760	210.00	737	295.00	305
45.00	158	132.00	443	211.00	2528	296.00	15231
49.00	855	133.00	285	212.00	478	297.00	2060
50.00	28200	134.00	1641	213.00	220	298.00	168
51.00	102448	135.00	4151	214.00	62	301.00	141
52.00	5837	136.00	1588	215.00	744	302.00	254
53.00	268	137.00	2001	216.00	1491	303.00	1992
55.00	442	138.00	436	217.00	16600	304.00	485
56.00	3389	139.00	385	218.00	2218	308.00	211
57.00	7803	140.00	693	219.00	297	309.00	59
58.00	295	141.00	6880	220.00	135	310.00	212
61.00	1446	142.00	2474	221.00	15007	311.00	79
62.00	1853	143.00	1584	223.00	3574	313.00	60
63.00	4945	144.00	424	224.00	33280	314.00	719
64.00	785	145.00	396	225.00	8598	315.00	1801
65.00	2792	146.00	1411	226.00	993	316.00	916
66.00	173	147.00	3551	227.00	14374	317.00	165
67.00	213	148.00	7951	228.00	1888	319.00	53
68.00	1993	149.00	1446	229.00	3181	321.00	590
69.00	126936	150.00	490	230.00	371	322.00	263
70.00	922	151.00	1135	231.00	1318	323.00	4734
73.00	1073	152.00	643	232.00	300	324.00	1033
74.00	14177	153.00	2120	233.00	393	327.00	1117
75.00	21464	154.00	1634	234.00	909	328.00	440
76.00	8028	155.00	3726	235.00	1155	332.00	342
77.00	150656	156.00	5846	236.00	600	333.00	530
78.00	11390	157.00	1245	237.00	1152	334.00	2964
79.00	9952	158.00	1237	238.00	68	335.00	698

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\01.D

Date : 27-NOV-2017 16:32

Client ID: DFTPP Instrument: SV5.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: GY

Column phase: DB-5MS Column diameter: 0.25

Data File: 01.D
Spectrum: Avg. Scans 380-382 (5.62), Background Scan 376
Location of Maximum: 198.00
Number of points: 311

m/z	Y	m/z	Y	m/z	Y	m/z	Y
80.00	8009	159.00	919	239.00	624	336.00	83
81.00	11268	160.00	2200	240.00	319	339.00	127
82.00	2605	161.00	3181	241.00	801	341.00	498
83.00	2536	162.00	821	242.00	1868	342.00	197
84.00	91	163.00	316	243.00	1973	346.00	825
85.00	1564	164.00	494	244.00	28352	347.00	99
86.00	2774	165.00	2389	245.00	4068	351.00	55
87.00	1457	166.00	1859	246.00	5194	352.00	1396
88.00	640	167.00	14805	247.00	1109	353.00	1086
89.00	314	168.00	5607	248.00	377	354.00	1448
90.00	56	169.00	990	249.00	1137	355.00	310
91.00	2323	170.00	460	250.00	244	365.00	5793
92.00	3022	171.00	551	251.00	197	366.00	674
93.00	15440	172.00	1178	252.00	367	370.00	69
94.00	1256	173.00	1556	253.00	886	371.00	287
95.00	377	174.00	2888	254.00	194	372.00	2202
96.00	851	175.00	5089	255.00	119520	373.00	605
97.00	166	176.00	1670	256.00	19512	383.00	527
98.00	12622	177.00	2269	257.00	1635	384.00	134
99.00	9552	178.00	869	258.00	7227	390.00	306
100.00	846	179.00	9433	259.00	1170	391.00	166
101.00	6363	180.00	6527	260.00	227	392.00	111
102.00	355	181.00	3394	261.00	203	401.00	76
103.00	2141	182.00	578	263.00	63	402.00	864
104.00	4035	183.00	400	264.00	201	403.00	1064
105.00	3704	184.00	889	265.00	2960	404.00	544
106.00	1296	185.00	4909	266.00	674	415.00	52
107.00	45168	186.00	36312	268.00	69	421.00	1112
108.00	7315	187.00	10594	270.00	291	422.00	1216
109.00	1533	188.00	1161	271.00	280	423.00	8029
110.00	82920	189.00	2311	272.00	444	424.00	1632
111.00	12346	190.00	401	273.00	4022	425.00	182
112.00	1525	191.00	1280	274.00	10527	428.00	72
113.00	622	192.00	3160	275.00	58072	430.00	117
114.00	121	193.00	3303	276.00	8016	432.00	104

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\01.D

Date : 27-NOV-2017 16:32

Client ID: DFTPP Instrument: SV5.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: GY

Column phase: DB-5MS Column diameter: 0.25

Data File: 01.D
Spectrum: Avg. Scans 380-382 (5.62), Background Scan 376
Location of Maximum: 198.00
Number of points: 311

m/z	Y	m/z	Y	m/z	Y	m/z	Y
115.00	211	194.00	802	277.00	4976	433.00	62
116.00	2538	195.00	631	278.00	778	436.00	56
117.00	30648	196.00	9545	279.00	222	441.00	21008
118.00	2305	197.00	1505	281.00	52	442.00	136768
119.00	288	198.00	216320	282.00	50	443.00	29136
120.00	476	199.00	17976	283.00	528	444.00	2817
121.00	231	200.00	1509	284.00	434	445.00	88
122.00	2773	201.00	1436	285.00	858		

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\02.D Page 1
Report Date: 08-Feb-2018 09:59

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\02.D
Lab Smp Id: DX-0.08 Client Smp ID: DX-0.08
Inj Date : 27-NOV-2017 16:47 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : DX-0.08;DX-0.08
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\DXSIM.m
Meth Date : 11-Jan-2018 15:47 aneir Quant Type: ISTD
Cal Date : 20-NOV-2017 15:12 Cal File: 010.D
Als bottle: 2 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)	
* 45 Naphthalene-d8	136	4.800	4.800	(1.000)	80734	0.10000		(H)
$ 33 Nitrobenzene-d5	82	4.146	4.147	(0.864)	24870	0.08000	0.06456	(MH)
* 86 Acenaphthene-d10	164	6.480	6.479	(1.000)	53474	0.10000		(H)
$ 69 2-Fluorobiphenyl	172	5.821	5.825	(0.938)	36229	0.08000	0.07644	
* 126 Phenanthrene-d10	188	7.811	7.811	(1.000)	68006	0.10000		
* 182 Chrysene-d12	240	10.198	10.198	(1.000)	36826	0.10000		
$ 158 4-Terphenyl-d14	244	9.097	9.097	(0.892)	16179	0.08000	0.05060	M)
* 198 Perylene-d12	264	12.114	12.120	(1.000)	19912	0.10000		(M)
1 1,4-Dioxane	58	1.978	2.032	(0.441)	5306	0.08000	0.07932	(aH)

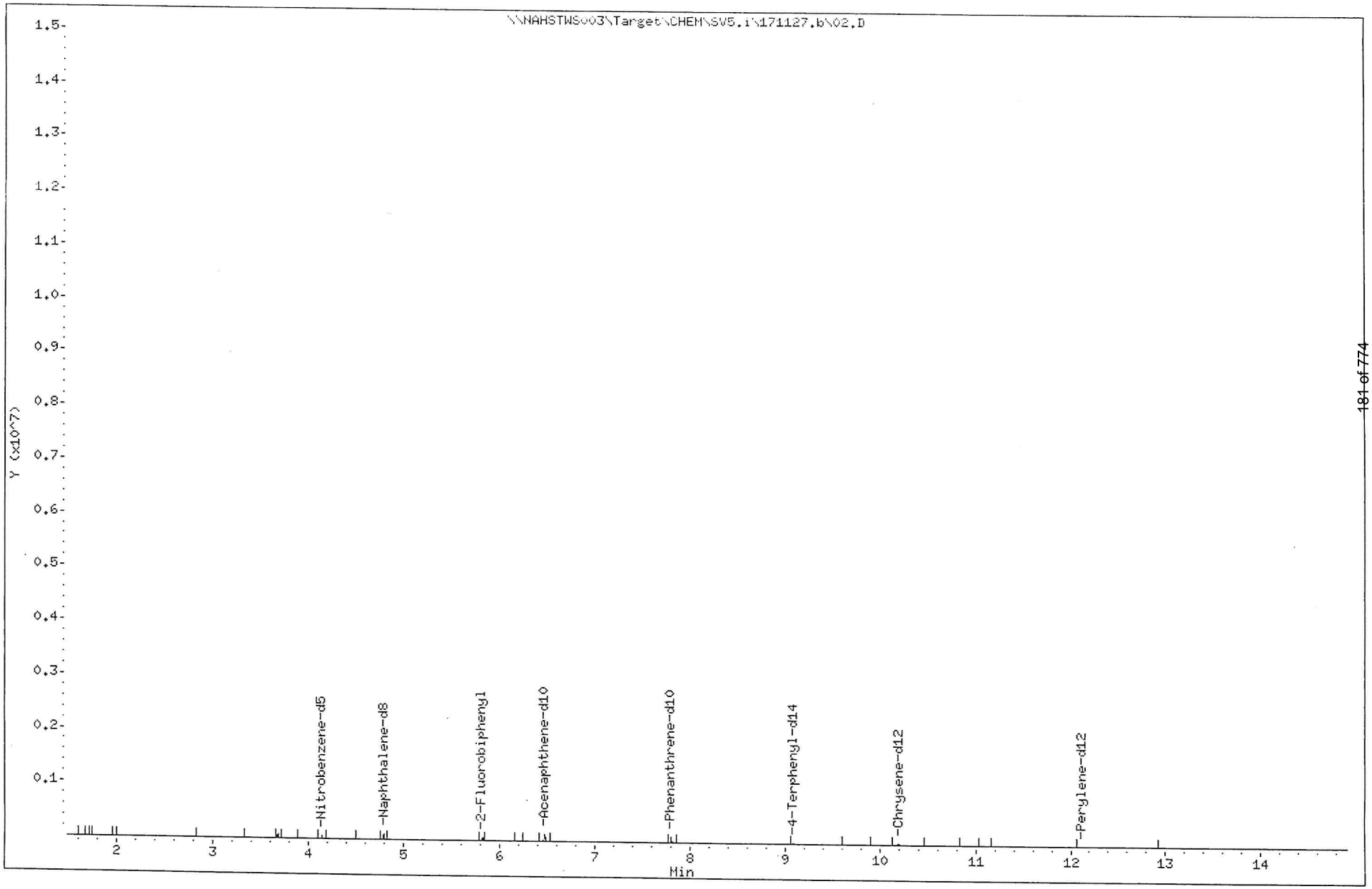
QC Flag Legend

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\SV5.i\171127.b\02.D
Date : 27-NOV-2017 16:47
Client ID: DX-0.08
Sample Info: DX-0.08;DX-0.08
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV5.i

Operator: GY
Column diameter: 0.28



Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\03.D Page 1
Report Date: 08-Feb-2018 09:59

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\03.D
Lab Smp Id: DX-0.01 Client Smp ID: DX-0.01
Inj Date : 27-NOV-2017 17:19 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : DX-0.01;DX-0.01
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\DXSIM.m
Meth Date : 11-Jan-2018 15:47 aneir Quant Type: ISTD
Cal Date : 20-NOV-2017 15:12 Cal File: 010.D
Als bottle: 3 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-CO.. (NC)
* 45 Naphthalene-d8	136	4.800	4.800	(1.000)	67668	0.10000	
$ 33 Nitrobenzene-d5	82	4.146	4.147	(0.864)	2358	0.01000	0.008596 (M)
* 86 Acenaphthene-d10	164	6.480	6.479	(1.000)	44655	0.10000	
$ 69 2-Fluorobiphenyl	172	5.821	5.825	(0.898)	3504	0.01000	0.008854
* 126 Phenanthrene-d10	188	7.811	7.811	(1.000)	59120	0.10000	
* 182 Chrysene-d12	240	10.198	10.198	(1.000)	21732	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.097	9.097	(0.892)	1493	0.01000	0.008669 (M)
* 198 Perylene-d12	264	12.120	12.120	(1.000)	11157	0.10000	

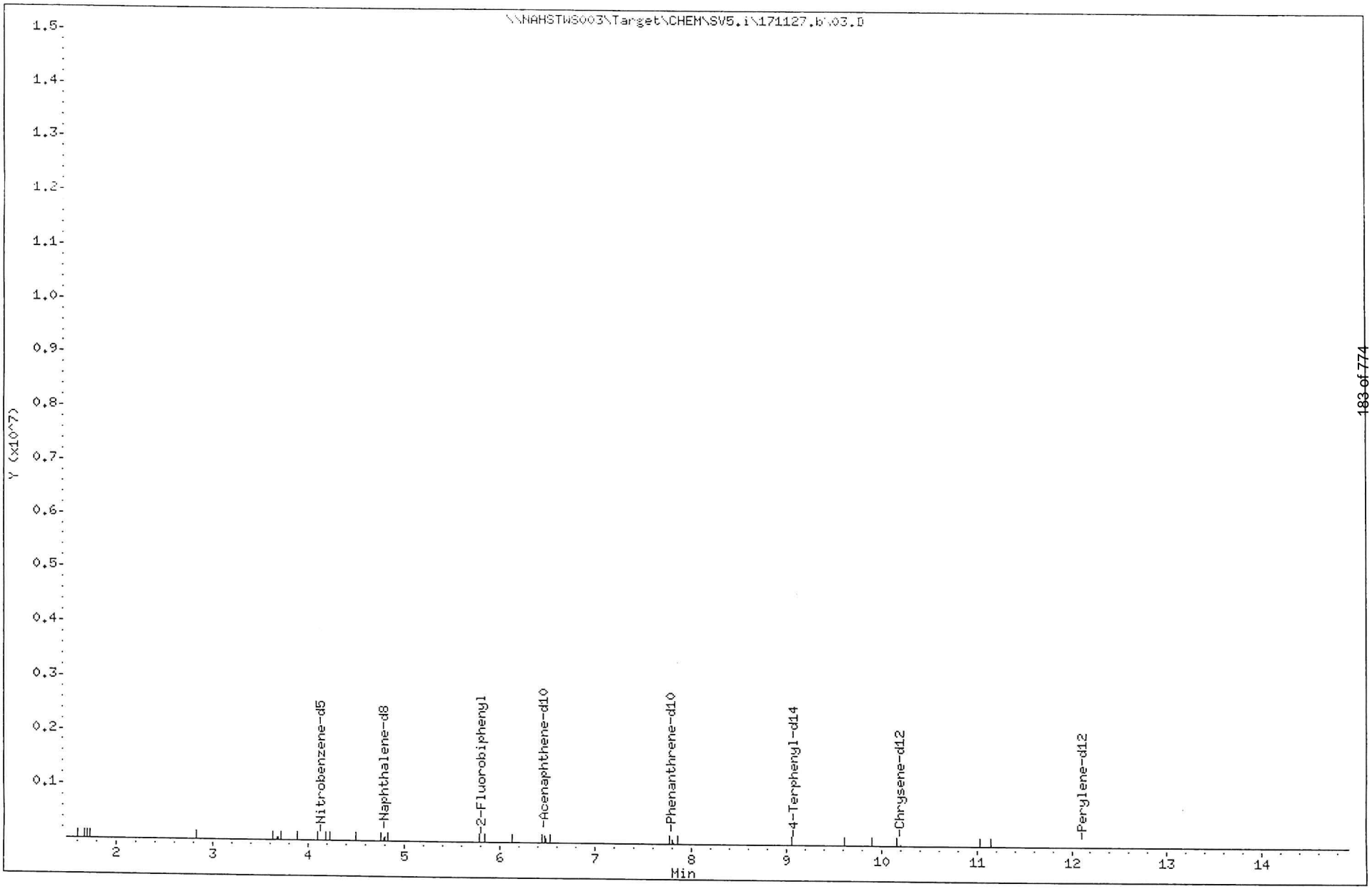
QC Flag Legend

M - Compound response manually integrated.

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\03.D
Date : 27-NOV-2017 17:19
Client ID: DX-0.01
Sample Info: DX-0.01;DX-0.01
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV5.i

Operator: GY
Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\04.D
Lab Smp Id: DX-0.03 Client Smp ID: DX-0.03
Inj Date : 27-NOV-2017 17:40 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : DX-0.03;DX-0.03
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\DXSIM.m
Meth Date : 11-Jan-2018 15:47 aneir Quant Type: ISTD
Cal Date : 20-NOV-2017 15:12 Cal File: 010.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 45 Naphthalene-d8	136	4.800	4.800	(1.000)	71168	0.10000	
$ 33 Nitrobenzene-d5	82	4.146	4.147	(0.864)	8040	0.02500	0.02787 (M)
* 86 Acenaphthene-d10	164	6.480	6.479	(1.000)	47659	0.10000	
$ 69 2-Fluorobiphenyl	172	5.821	5.825	(0.898)	11858	0.02500	0.02807
* 126 Phenanthrene-d10	188	7.811	7.811	(1.000)	64839	0.10000	
* 182 Chrysene-d12	240	10.213	10.198	(1.000)	26518	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.102	9.097	(0.891)	5050	0.02500	0.02381 (M)
* 198 Perylene-d12	264	12.130	12.120	(1.000)	13137	0.10000	

QC Flag Legend

M - Compound response manually integrated.

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\04.D

Date : 27-NOV-2017 17:40

Client ID: DX-0.03

Sample Info: DX-0.03;DX-0.03

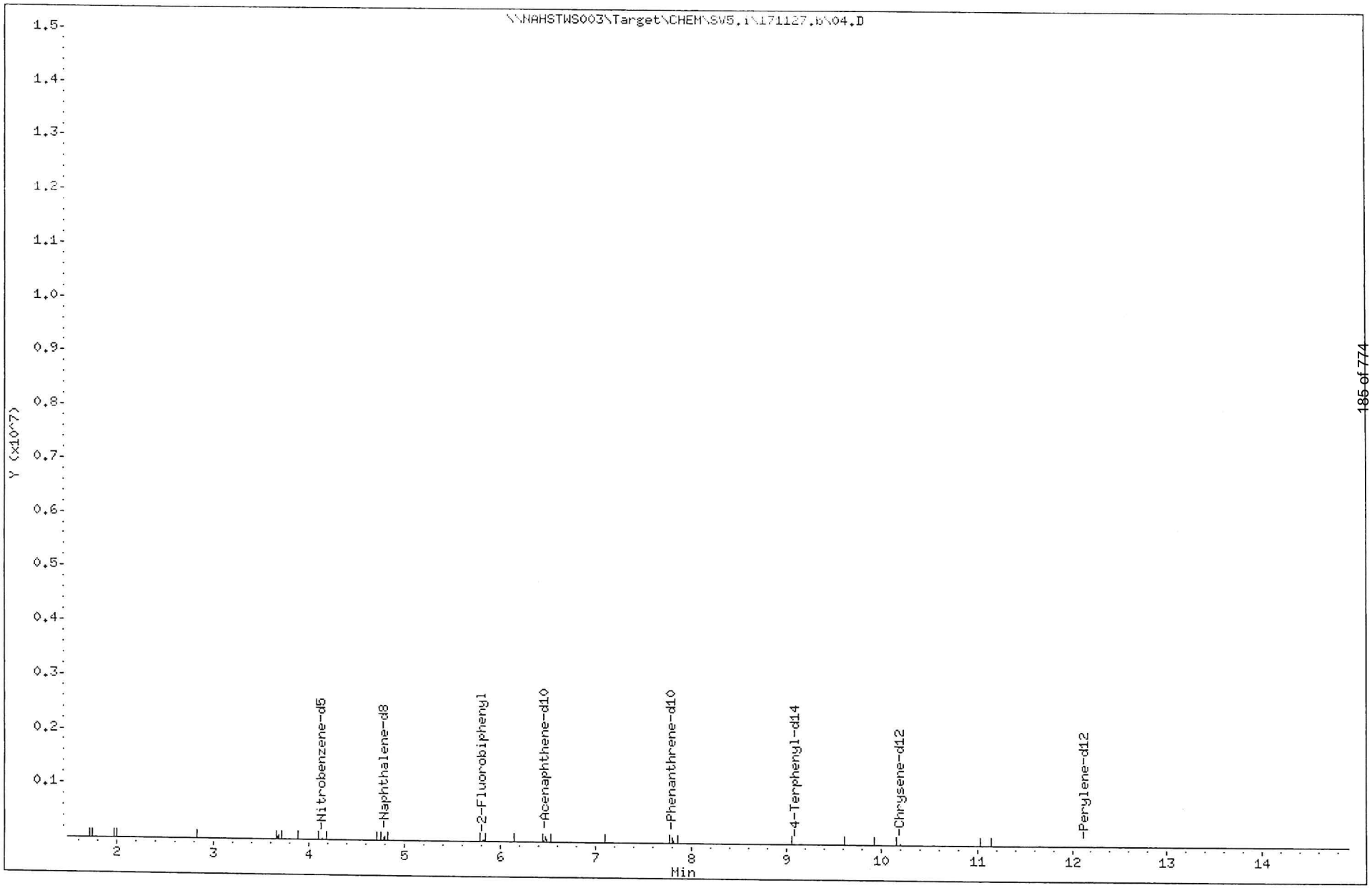
Purge Volume: 1000.0

Column phase: RTX-5SIL MS

Instrument: SV5.i

Operator: CY

Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\05.D
Lab Smp Id: DX-0.05 Client Smp ID: DX-0.05
Inj Date : 27-NOV-2017 18:00 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : DX-0.05;DX-0.05
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\DXSIM.m
Meth Date : 11-Jan-2018 15:47 aneir Quant Type: ISTD
Cal Date : 20-NOV-2017 15:12 Cal File: 010.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 45 Naphthalene-d8	136	4.796	4.800	(1.000)	125682	0.10000	
$ 33 Nitrobenzene-d5	82	4.146	4.147	(0.865)	24393	0.05000	0.04788 (M)
* 86 Acenaphthene-d10	164	6.479	6.479	(1.000)	83458	0.10000	
$ 69 2-Fluorobiphenyl	172	5.821	5.825	(0.898)	34818	0.05000	0.04707
* 126 Phenanthrene-d10	188	7.806	7.811	(1.000)	111086	0.10000	
* 182 Chrysene-d12	240	10.191	10.198	(1.000)	52655	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.091	9.097	(0.892)	15896	0.05000	0.03712 (M)
* 198 Perylene-d12	264	12.114	12.120	(1.000)	31570	0.10000	

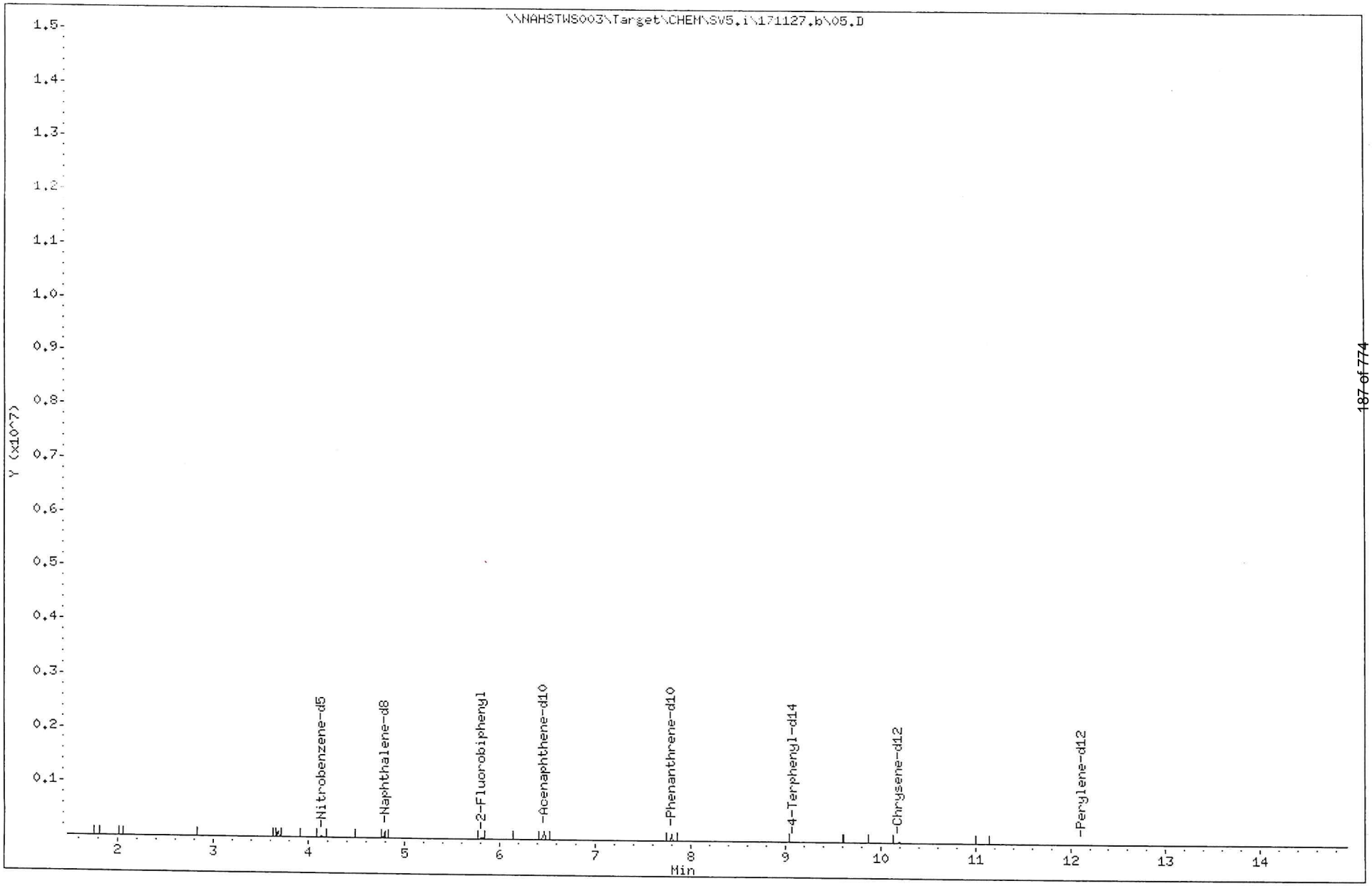
QC Flag Legend

M - Compound response manually integrated.

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\05.D
Date : 27-NOV-2017 18:00
Client ID: DX-0.05
Sample Info: DX-0.05;DX-0.05
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV5.i

Operator: GY
Column diameter: 0.28



Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\06.D Page 1
Report Date: 08-Feb-2018 09:59

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\06.D
Lab Smp Id: DX-0.1 Client Smp ID: DX-0.1
Inj Date : 27-NOV-2017 18:21 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : DX-0.1;DX-0.1
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\DXSIM.m
Meth Date : 11-Jan-2018 15:47 aneir Quant Type: ISTD
Cal Date : 20-NOV-2017 15:12 Cal File: 010.D
Als bottle: 6 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 45 Naphthalene-d8	136	4.796	4.800	(1.000)	127490	0.10000	
$ 33 Nitrobenzene-d5	82	4.146	4.147	(0.865)	51947	0.10000	0.10[illegible](M)
* 86 Acenaphthene-d10	164	6.474	6.479	(1.000)	84497	0.10000	
$ 69 2-Fluorobiphenyl	172	5.821	5.825	(0.899)	73577	0.10000	0.09824
* 126 Phenanthrene-d10	188	7.806	7.811	(1.000)	107687	0.10000	
* 182 Chrysene-d12	240	10.184	10.198	(1.000)	51138	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.086	9.097	(0.892)	36635	0.10000	0.08716(M)
* 198 Perylene-d12	264	12.093	12.120	(1.000)	28102	0.10000	
1 1,4-Dioxane	58	2.034	2.032	(0.424)	10469	0.10000	0.09910(aM)

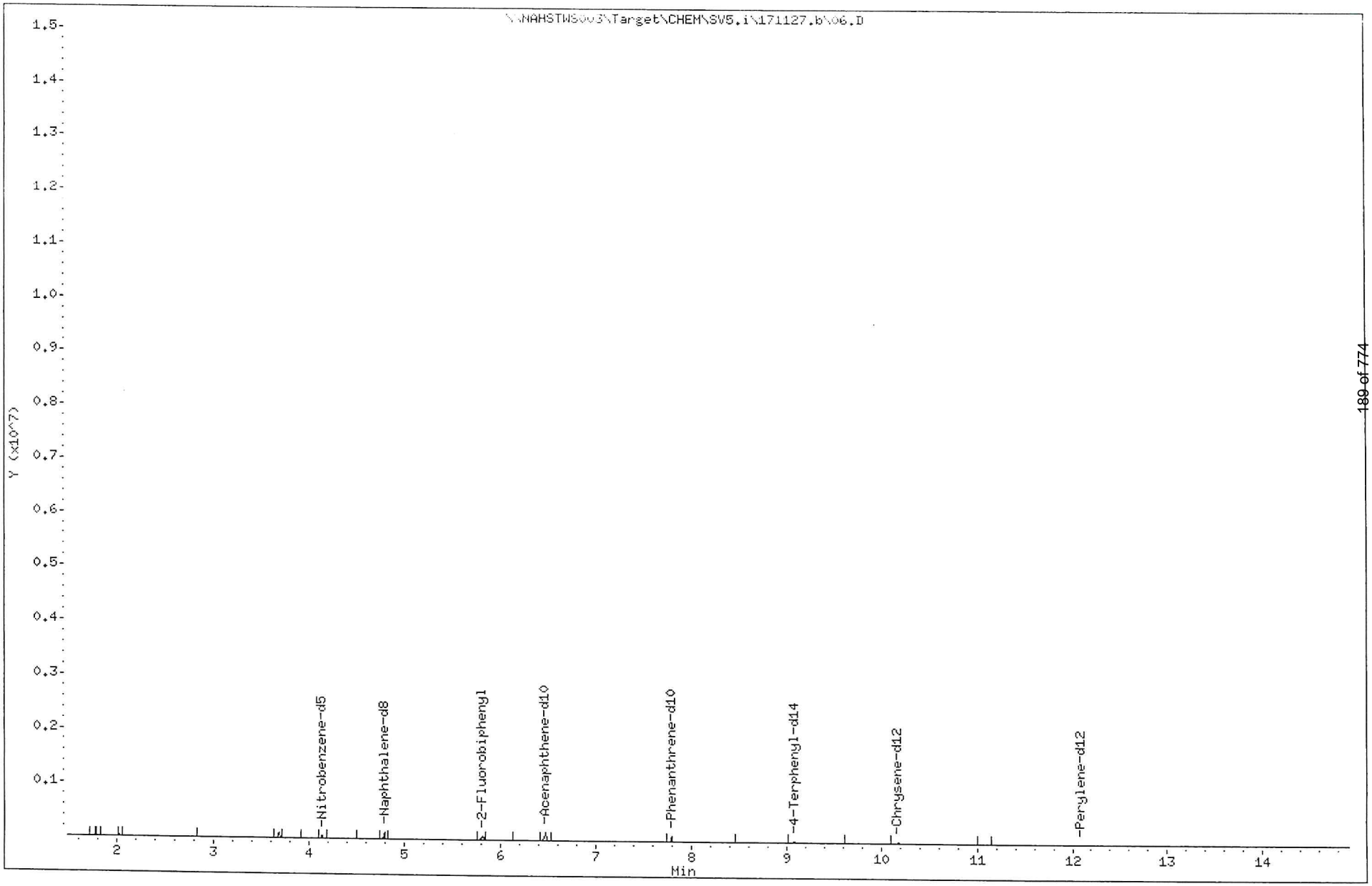
QC Flag Legend

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

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\06.D
Date : 27-NOV-2017 18:21
Client ID: DX-0.1
Sample Info: DX-0.1;DX-0.1
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV5.i

Operator: GY
Column diameter: 0.28



Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\07.D Page 1
Report Date: 08-Feb-2018 09:59

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\07.D
Lab Smp Id: DX-0.15 Client Smp ID: DX-0.15
Inj Date : 27-NOV-2017 18:41 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : DX-0.15;DX-0.15
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\DXSIM.m
Meth Date : 11-Jan-2018 15:47 aneir Quant Type: ISTD
Cal Date : 20-NOV-2017 15:12 Cal File: 010.D
Als bottle: 7 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 45 Naphthalene-d8	136	4.800	4.800	(1.000)	53764	0.10000	
$ 33 Nitrobenzene-d5	82	4.146	4.147	(0.864)	34032	0.15000	0.1550 (AM)
* 86 Acenaphthene-d10	164	6.479	6.479	(1.000)	35421	0.10000	
$ 69 2-Fluorobiphenyl	172	5.821	5.825	(0.898)	47953	0.15000	0.1536 (A)
* 126 Phenanthrene-d10	188	7.811	7.811	(1.000)	46821	0.10000	
* 182 Chrysene-d12	240	10.198	10.198	(1.000)	16112	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.097	9.097	(0.892)	22443	0.15000	0.1604 (AM)
* 198 Perylene-d12	264	12.114	12.120	(1.000)	8327	0.10000	
1 1,4-Dioxane	58	1.968	2.032	(0.410)	6762	0.15000	0.1518 (aM)

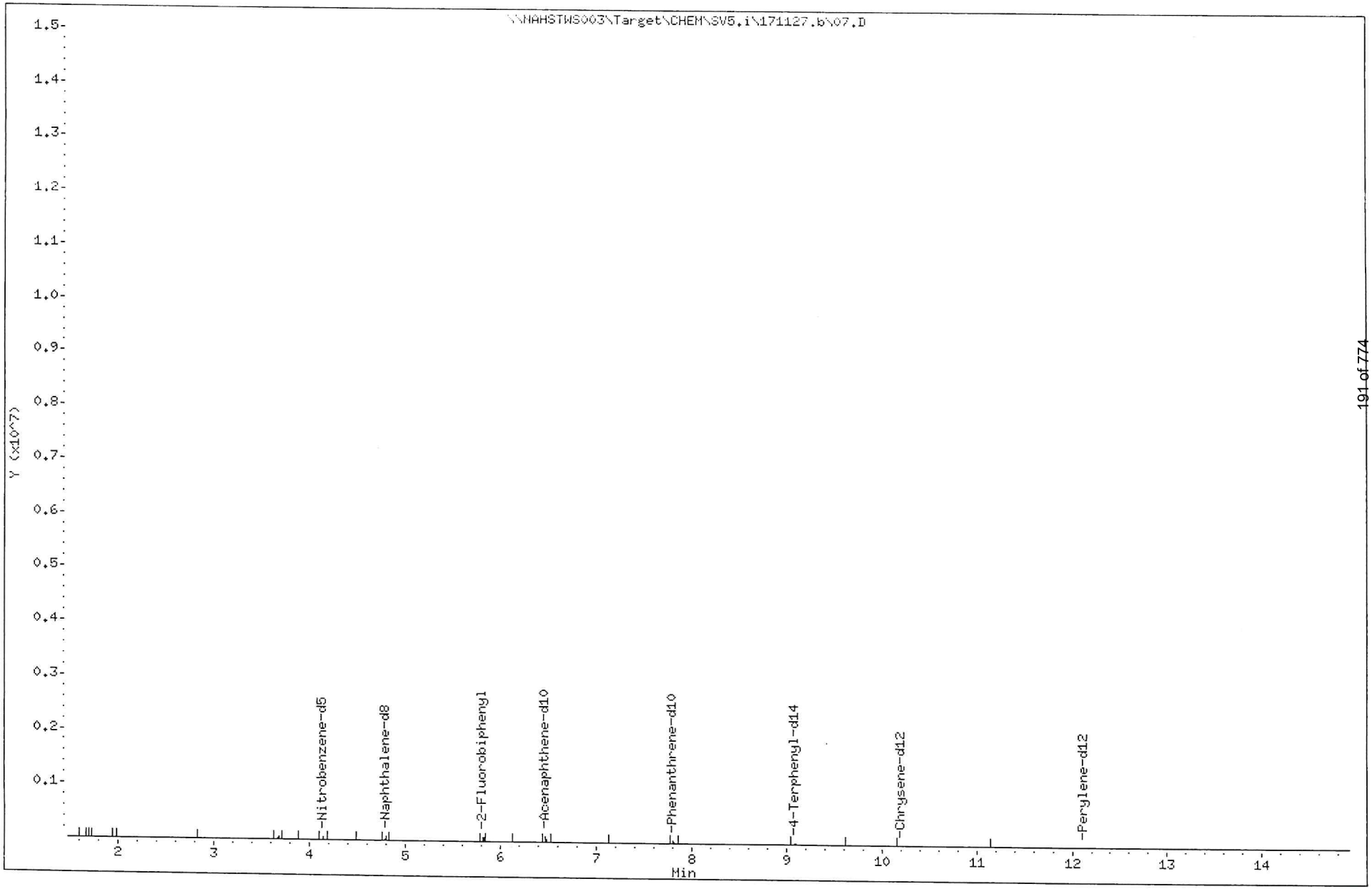
QC Flag Legend

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\SV5.i\171127.b\07.D
Date : 27-NOV-2017 18:41
Client ID: DX-0.15
Sample Info: DX-0.15:DX-0.15
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV5.i

Operator: GY
Column diameter: 0.28



Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\08.D Page 1
Report Date: 08-Feb-2018 09:59

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\08.D
Lab Smp Id: DX-0.2 Client Smp ID: DX-0.2
Inj Date : 27-NOV-2017 19:01 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : DX-0.2;DX-0.2
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\DXSIM.m
Meth Date : 11-Jan-2018 15:47 aneir Quant Type: ISTD
Cal Date : 20-NOV-2017 15:12 Cal File: 010.D
Als bottle: 8 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 45 Naphthalene-d8	136	4.800	4.800	(1.000)	52772	0.10000	
$ 33 Nitrobenzene-d5	82	4.146	4.147	(0.864)	45367	0.20000	0.2121 (AM)
* 86 Acenaphthene-d10	164	6.480	6.479	(1.000)	34095	0.10000	
$ 69 2-Fluorobiphenyl	172	5.821	5.825	(0.898)	62591	0.20000	0.2071 (A)
* 126 Phenanthrene-d10	188	7.806	7.811	(1.000)	44633	0.10000	
* 182 Chrysene-d12	240	10.184	10.198	(1.000)	15430	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.086	9.097	(0.892)	28702	0.20000	0.2247 (AM)
* 198 Perylene-d12	264	12.093	12.120	(1.000)	7217	0.10000	(M)
1 1,4-Dioxane	58	1.960	2.032	(0.408)	9096	0.20000	0.2080 (M)

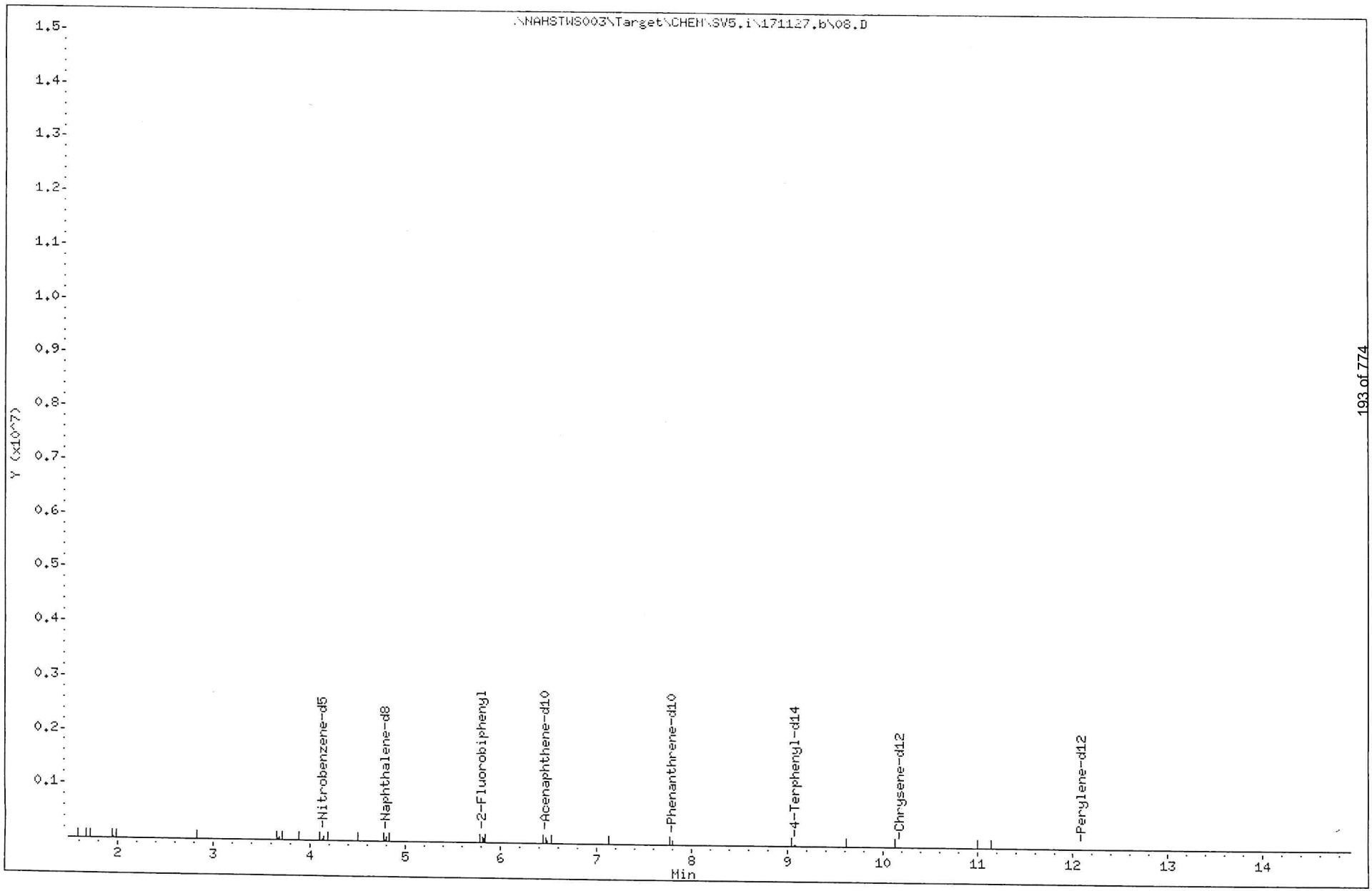
QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\08.D
Date : 27-NOV-2017 19:01
Client ID: DX-0.2
Sample Info: DX-0.2;DX-0.2
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV5.i

Operator: CY
Column diameter: 0.28



Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\09.D Page 1
Report Date: 08-Feb-2018 09:59

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\09.D
Lab Smp Id: DX-0.5 Client Smp ID: DX-0.5
Inj Date : 27-NOV-2017 19:22 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : DX-0.5;DX-0.5
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\DXSIM.m
Meth Date : 11-Jan-2018 15:47 aneir Quant Type: ISTD
Cal Date : 20-NOV-2017 15:12 Cal File: 010.D
Als bottle: 9 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL AMT (NG)	ON CC (NG)
* 45 Naphthalene-d8	136	4.800	4.800	(1.000)	81886	0.10000	
$ 33 Nitrobenzene-d5	82	4.146	4.147	(0.864)	167850	0.50000	0.5057(AM)
* 86 Acenaphthene-d10	164	6.479	6.479	(1.000)	49217	0.10000	
$ 69 2-Fluorobiphenyl	172	5.821	5.825	(0.898)	229568	0.50000	0.5263(A)
* 126 Phenanthrene-d10	188	7.806	7.811	(1.000)	62795	0.10000	
* 182 Chrysene-d12	240	10.191	10.198	(1.000)	23734	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.097	9.097	(0.893)	135623	0.50000	0.6803(AM)
* 198 Perylene-d12	264	12.114	12.120	(1.000)	11478	0.10000	
1 1,4-Dioxane	58	2.006	2.032	(0.418)	37264	0.50000	0.5492(M)

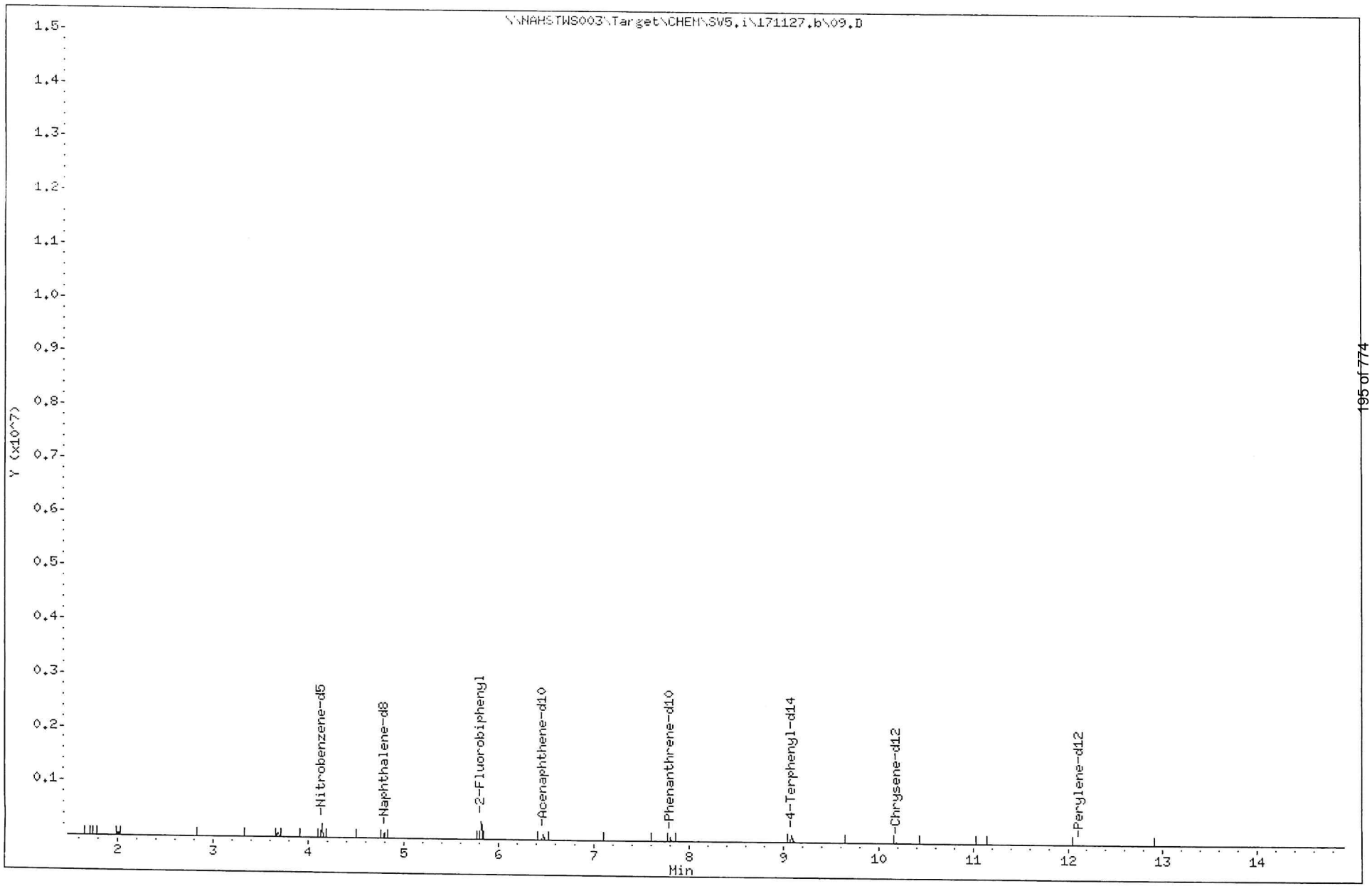
QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\09.D
Date : 27-NOV-2017 19:22
Client ID: DX-0.5
Sample Info: DX-0.5;DX-0.5
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV5.i

Operator: GY
Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\10.D
Lab Smp Id: DX-ICV Client Smp ID: DX-ICV
Inj Date : 27-NOV-2017 19:42 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : DX-ICV;DX-ICV
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\DXSIM.m
Meth Date : 11-Jan-2018 15:47 aneir Quant Type: ISTD
Cal Date : 20-NOV-2017 15:12 Cal File: 010.D
Als bottle: 10 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

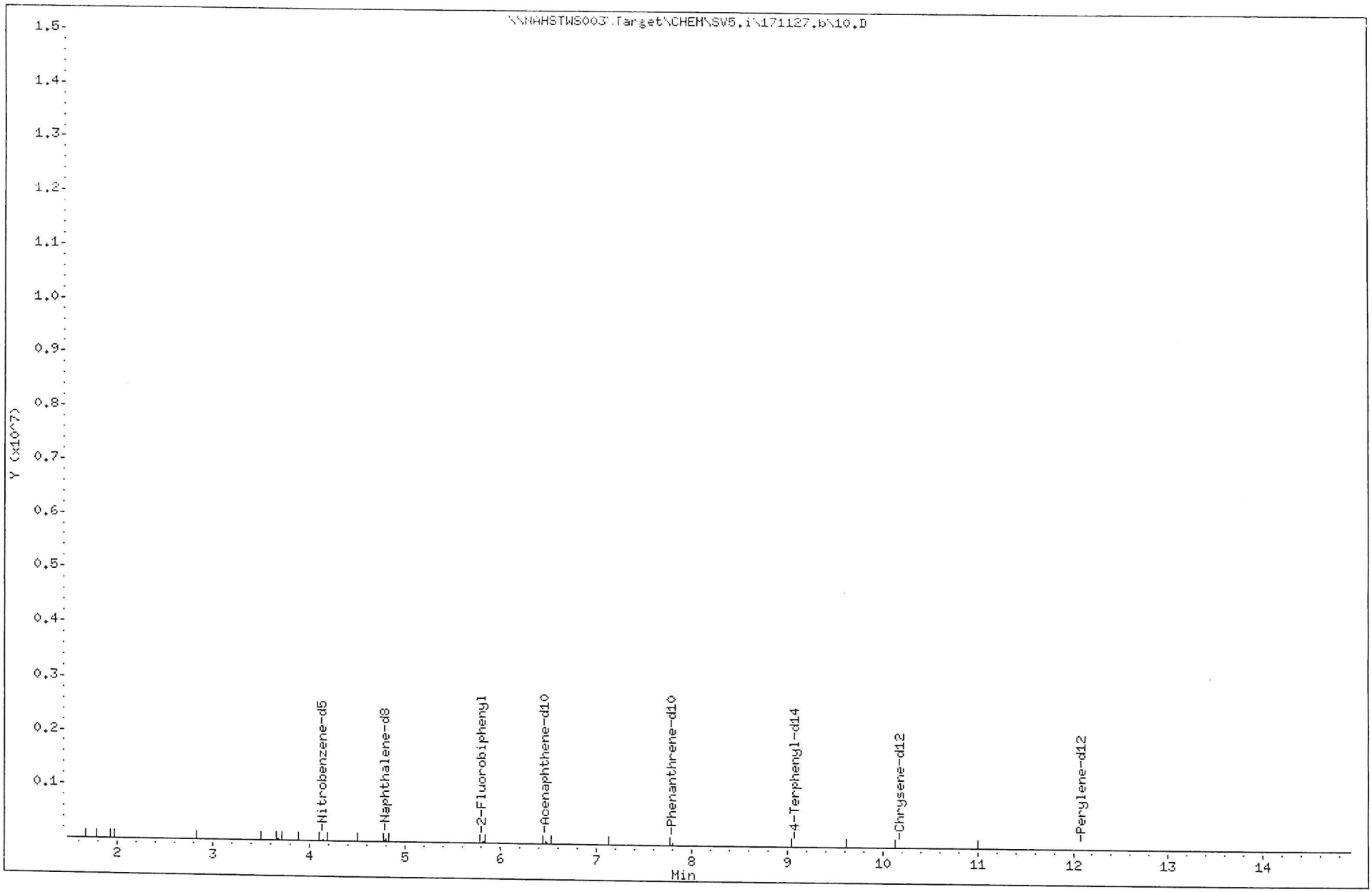
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/L)
* 45 Naphthalene-d8	136	4.800	4.800	(1.000)	39413	0.10000	
$ 33 Nitrobenzene-d5	82	4.146	4.147	(0.864)	13722	0.07304	0.07304 (M)
* 86 Acenaphthene-d10	164	6.480	6.479	(1.000)	18308	0.10000	
$ 69 2-Fluorobiphenyl	172	5.825	5.825	(0.899)	19682	0.12130	0.12[illegible] (R)
* 126 Phenanthrene-d10	188	7.806	7.811	(1.000)	25287	0.10000	
* 182 Chrysene-d12	240	10.184	10.198	(1.000)	7225	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.086	9.097	(0.892)	5850	0.09553	0.09553 (M)
* 198 Perylene-d12	264	12.098	12.120	(1.000)	3902	0.10000	
1 1,4-Dioxane	58	1.946	2.032	(0.406)	2746	0.08409	0.08408 (aM)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\10.D
Date : 27-NOV-2017 19:42
Client ID: DX-ICV
Sample Info: DX-ICV;DX-ICV
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV5.i
Operator: GY
Column diameter: 0.28



SV05 -Logbook

Batch: 30768
Date: 01-09-2018
Method: 8270(SIM)
Comments: mssv-003(SIM)

Analyst: Andrew Neir
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	DFTPP	TUNE	01-09-2018 12:45 pm	1.00			01.D		Y	NA
2	DX-0.08	SAMP	01-09-2018 01:00 pm	1.00			02.D		Y	NA
3	CCB	SAMP	01-09-2018 01:41 pm	1.00			03.D		Y	NA
4	MBLK-123757	MBLK	01-09-2018 02:01 pm	1.00	1000.00 mL	1.00 mL	04.D	Liquid	Y	NA
5	LCS-123757	LCS	01-09-2018 02:22 pm	1.00	1000.00 mL	1.00 mL	05.D	Liquid	Y	NA
6	LCSD-123757	LCSD	01-09-2018 02:43 pm	1.00	1000.00 mL	1.00 mL	06.D	Liquid	Y	NA
7	HS17121168-01	SAMP	01-09-2018 03:03 pm	1.00	1000.00 mL	1.00 mL	07.D	Liquid	Y	NA
8	HS17121169-01	SAMP	01-09-2018 04:20 pm	1.00	1000.00 mL	1.00 mL	08.D	Liquid	Y	NA
9	HS17121168-01	SAMP	01-09-2018 04:40 pm	10.00	1000.00 mL	1.00 mL	09.D	Liquid	Y	NA
10	HS17121169-01	SAMP	01-09-2018 05:01 pm	100.0(	1000.00 mL	1.00 mL	10.D	Liquid	Y	NA
11	LCS-123757	LCS	01-09-2018 06:13 pm	1.00	1000.00 mL	1.00 mL	11.D	Liquid	Y	NA
12	DX-0.08	SAMP	01-09-2018 06:54 pm	1.00			12.D		Y	NA

Chemical	Value
IS ID	30411-18-01
CAL STD ID	30411-17-04
DFTPP ID	30411-19-01
PCP Tailing	1.24
Benz. Tailing	1.02

FORM 3
WATER SEMIVOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121169

Matrix Spike - Sample No.: DX-0.08

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	% REC #	QC. LIMITS REC.
1,4-Dioxane	0.08000	0.08460	106	40-140

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

COMMENTS: _____

FORM III SV

FORM 5
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121169

Lab File ID: 01 DFTPP Injection Date: 01/09/18

Instrument ID: SV5 DFTPP Injection Time: 1245

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	50.0
68	Less than 2.0% of mass 69	0.9 (1.7)1
69	Mass 69 relative abundance	53.5
70	Less than 2.0% of mass 69	0.4 (0.8)1
127	10.0 - 80.0% of mass 198	57.7
197	Less than 2.0% of mass 198	0.5
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.8
275	10.0 - 60.0% of mass 198	24.8
365	1.0 - 100.0% of mass 198	3.2
441	Present, but less than mass 443	12.3
442	50.0 - 150.0% of mass 198	72.0
443	15.0 - 24.0% of mass 442	15.1 (20.9)2

1-Value is % mass 69 2-Value is % mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	DX-0.08	DX-0.08	02	01/09/18	1300
02	MBLK-123757	MBLK-123757	04	01/09/18	1401
03	LCSD-123757	LCSD-123757	06	01/09/18	1443
04	HS17121169-0	HS17121169-01	10	01/09/18	1701
05	LCS-123757	LCS-123757	11	01/09/18	1813
06	DX-0.08	DX-0.08	12	01/09/18	1854
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7B
SEMIVOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121169

Instrument ID: SV5 Calibration Date: 01/09/18 Time: 1300

Lab File ID: 02 Init. Calib. Date(s): 11/27/17 11/27/17

Init. Calib. Times: 1647 1922

GC Column: RTX-5SIL MS ID: 0.28 (mm)

COMPOUND	RRF OR AMOUNT	RRF8e-002 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
1,4-Dioxane	8.3e-002	8.46e-002	0.01	1.93	20.00	AVRG
Nitrobenzene-d5	0.4770000	0.4488066	0.01	-5.91	20.00	AVRG
4-Terphenyl-d14	0.8680000	0.8846107	0.01	1.91	20.00	AVRG
2-Fluorobiphenyl	0.8860000	0.8978096	0.01	1.33	20.00	AVRG

FORM VII SV

FORM 8
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121169

Lab File ID (Standard): 02 Date Analyzed: 01/09/18

Instrument ID: SV5 Time Analyzed: 1300

		IS1(NPT) AREA #	RT #	IS2(ANT) AREA #	RT #	IS3(PHN) AREA #	RT #
	12 HOUR STD	76294	4.73	49398	6.41	61758	7.76
	UPPER LIMIT	152588	5.23	98796	6.91	123516	8.26
	LOWER LIMIT	38147	4.23	24699	5.91	30879	7.26
	CLIENT SAMPLE NO.						
01	MBLK-123757	74254	4.73	34125	6.41	45500	7.76
02	LCSD-123757	63169	4.73	29769	6.41	38129	7.76
03	HS17121169-01	88807	4.73	43332	6.41	62666	7.76
04	LCS-123757	39542	4.73	20170*	6.42	28286*	7.76
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (NPT) = Naphthalene-d8
IS2 (ANT) = Acenaphthene-d10
IS3 (PHN) = Phenanthrene-d10

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

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

FORM VIII SV

FORM 8
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121169

Lab File ID (Standard): 02 Date Analyzed: 01/09/18

Instrument ID: SV5 Time Analyzed: 1300

		IS4 (CRY) AREA #	RT #	IS5 (PRY) AREA #	RT #	AREA #	RT #
	12 HOUR STD	12343	10.11	7368	12.01		
	UPPER LIMIT	24686	10.61	14736	12.51		
	LOWER LIMIT	6172	9.61	3684	11.51		
	CLIENT SAMPLE NO.						
01	MBLK-123757	11178	10.11	6200	12.01		
02	LCSD-123757	10244	10.13	5421	12.02		
03	HS17121169-01	24606	10.11	12456	12.01		
04	LCS-123757	7552	10.11	4864	12.01		
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS4 (CRY) = Chrysene-d12
IS5 (PRY) = Perylene-d12

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

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

FORM VIII SV

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\01.D

Date : 09-JAN-2018 12:45

Client ID: DFTPP

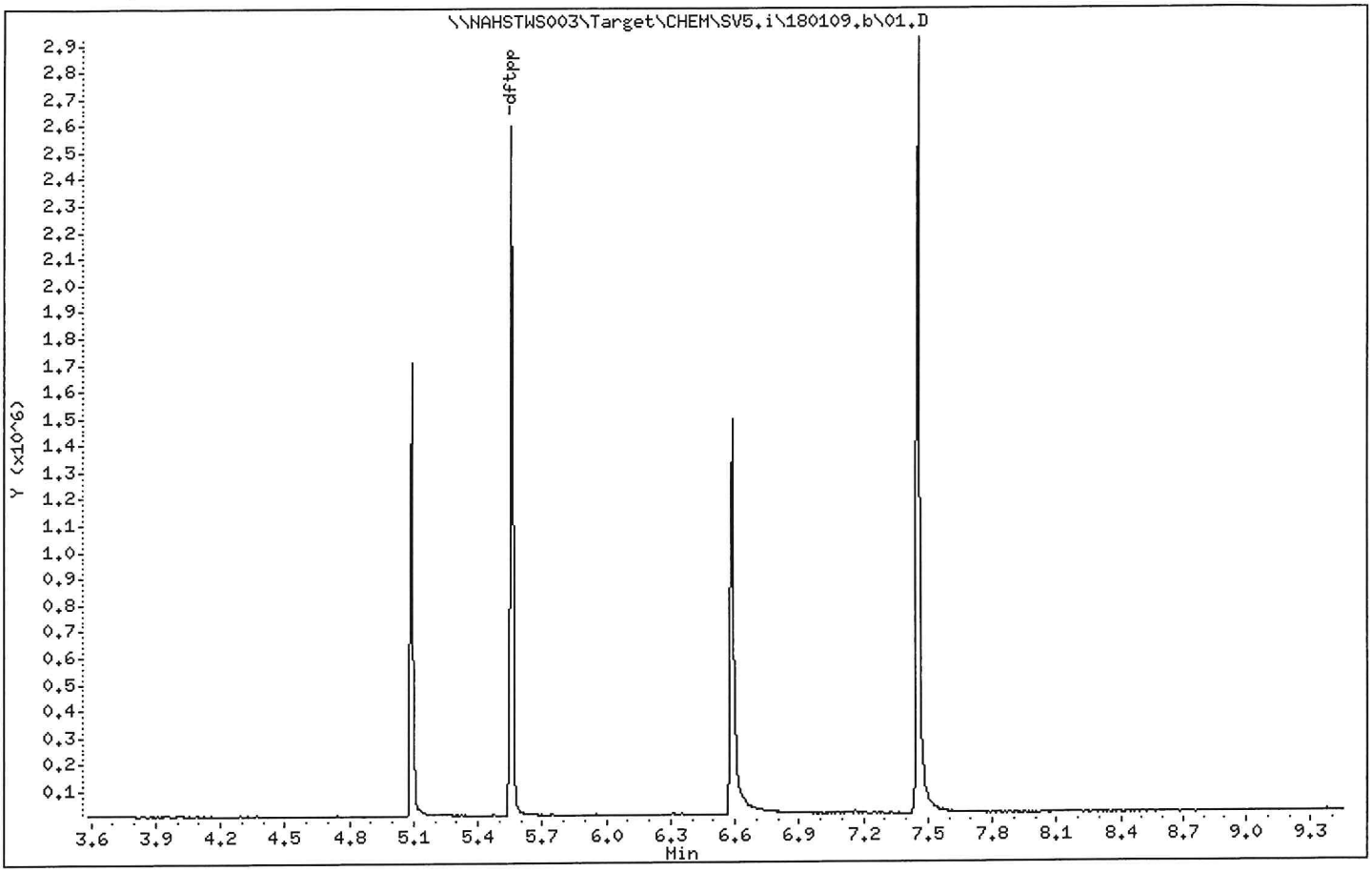
Instrument: SV5.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: GY

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\01.D

Date : 09-JAN-2018 12:45

Client ID: DFTPP

Instrument: SV5.i

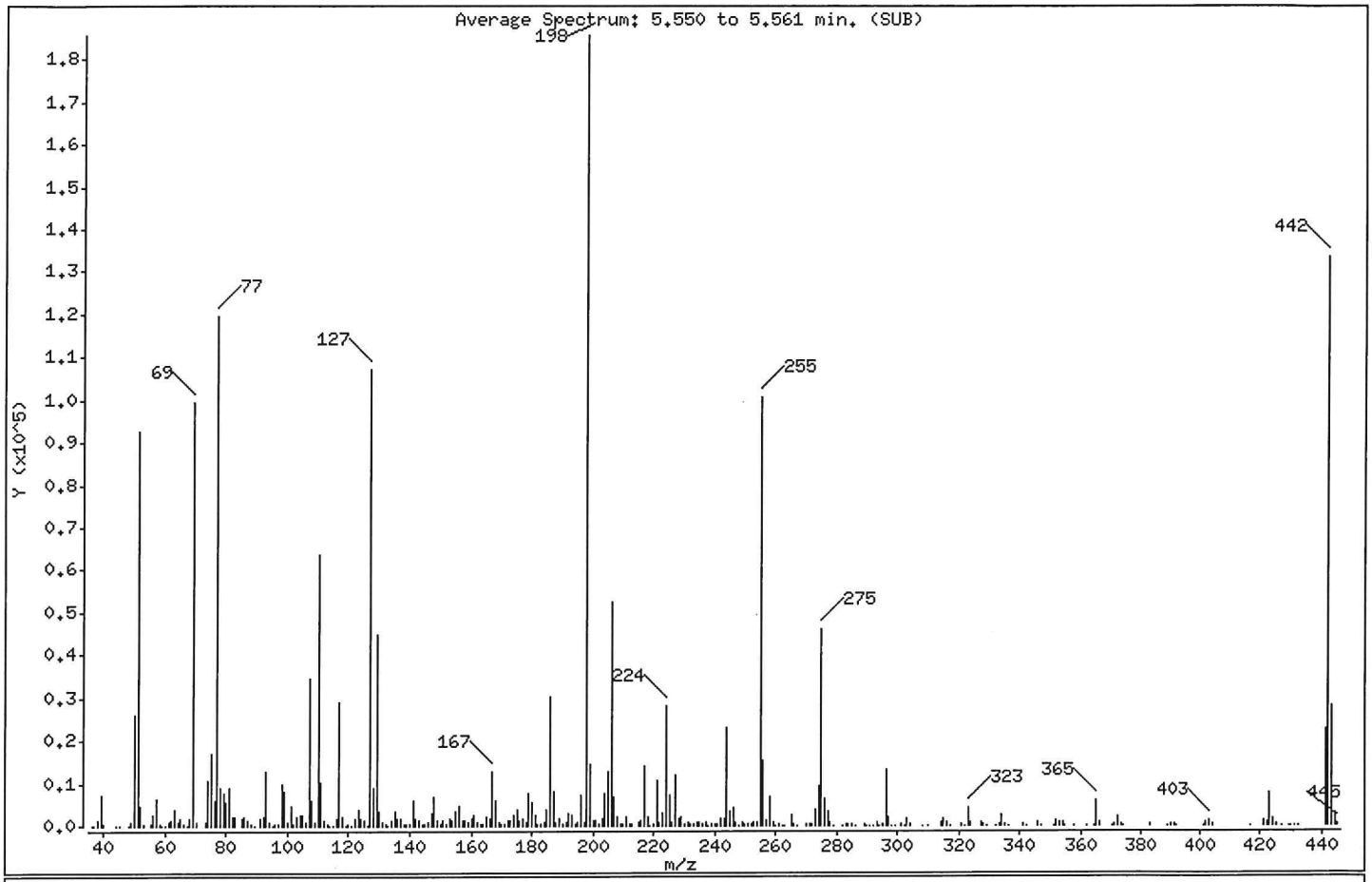
Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: GY

Column phase: DB-5MS

Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	49.95
68	Less than 2.00% of mass 69	0.91 (1.71)
69	Mass 69 relative abundance	53.51
70	Less than 2.00% of mass 69	0.41 (0.77)
127	10.00 - 80.00% of mass 198	57.74
197	Less than 2.00% of mass 198	0.54
199	5.00 - 9.00% of mass 198	7.84
275	10.00 - 60.00% of mass 198	24.77
365	1.00 - 100.00% of mass 198	3.17
441	Present, but less than mass 443	12.26
442	50.00 - 150.00% of mass 198	72.04
443	15.00 - 24.00% of mass 442	15.07 (20.92)

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\01.D

Date : 09-JAN-2018 12:45

Client ID: DFTPP

Instrument: SV5.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: GY

Column phase: DB-5MS

Column diameter: 0.25

Data File: 01.D
Spectrum: Average Spectrum: 5.550 to 5.561 min. (SUB)
Location of Maximum: 198.00
Number of points: 312

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	205	125.00	1440	204.00	7737	291.00	142
37.00	143	126.00	204	205.00	12612	292.00	174
38.00	1309	127.00	107208	206.00	52688	293.00	951
39.00	7360	128.00	9147	207.00	6876	294.00	202
40.00	249	129.00	44960	208.00	1946	295.00	249
44.00	179	130.00	3622	209.00	585	296.00	13099
45.00	96	131.00	743	210.00	331	297.00	1988
48.00	135	132.00	437	211.00	1977	298.00	100
49.00	911	133.00	149	212.00	230	299.00	65
50.00	26192	134.00	1357	213.00	226	301.00	245
51.00	92752	135.00	3554	215.00	653	302.00	134
52.00	4819	136.00	1813	216.00	1286	303.00	1776
53.00	351	137.00	1856	217.00	13881	304.00	539
55.00	340	138.00	440	218.00	2029	308.00	103
56.00	2573	139.00	296	219.00	187	310.00	194
57.00	6231	140.00	592	220.00	279	314.00	731
58.00	346	141.00	5968	221.00	10628	315.00	1517
59.00	82	142.00	1643	222.00	946	316.00	905
60.00	53	143.00	1215	223.00	3147	317.00	129
61.00	1001	144.00	440	224.00	27968	321.00	402
62.00	1377	145.00	339	225.00	7353	322.00	203
63.00	3837	146.00	876	226.00	907	323.00	4452
64.00	691	147.00	3005	227.00	11848	324.00	669
65.00	1916	148.00	7030	228.00	1768	327.00	899
66.00	228	149.00	1339	229.00	2251	328.00	440
67.00	141	150.00	342	230.00	419	329.00	79
68.00	1697	151.00	1127	231.00	969	332.00	184
69.00	99352	152.00	226	232.00	241	333.00	408
70.00	763	153.00	1896	233.00	279	334.00	2466
73.00	782	154.00	1360	234.00	726	335.00	617
74.00	10777	155.00	3295	235.00	984	336.00	50
75.00	16936	156.00	4765	236.00	541	341.00	353
76.00	6164	157.00	1164	237.00	795	342.00	165
77.00	119496	158.00	1197	238.00	110	346.00	747
78.00	8890	159.00	730	239.00	408	347.00	126

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\01.D

Date : 09-JAN-2018 12:45

Client ID: DFTPP Instrument: SV5.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: GY

Column phase: DB-5MS Column diameter: 0.25

Data File: 01.D
Spectrum: Average Spectrum: 5.550 to 5.561 min. (SUB)
Location of Maximum: 198.00
Number of points: 312

m/z	Y	m/z	Y	m/z	Y	m/z	Y
79.00	7857	160.00	1727	240.00	243	351.00	138
80.00	5451	161.00	2628	241.00	588	352.00	1222
81.00	8788	162.00	963	242.00	1797	353.00	863
82.00	2110	163.00	306	243.00	1590	354.00	996
83.00	1976	164.00	338	244.00	23200	355.00	107
85.00	1559	165.00	2339	245.00	3325	358.00	55
86.00	2278	166.00	1574	246.00	4419	362.00	67
87.00	1346	167.00	12620	247.00	839	364.00	64
88.00	488	168.00	6106	248.00	194	365.00	5885
89.00	199	169.00	664	249.00	725	366.00	860
91.00	1675	170.00	568	250.00	217	370.00	132
92.00	2018	171.00	613	251.00	251	371.00	387
93.00	12596	172.00	1085	252.00	405	372.00	2119
94.00	999	173.00	1220	253.00	690	373.00	610
95.00	130	174.00	2395	254.00	849	374.00	63
96.00	636	175.00	3880	255.00	100784	383.00	513
97.00	339	176.00	1425	256.00	15512	389.00	57
98.00	9837	177.00	1792	257.00	1395	390.00	220
99.00	8167	178.00	876	258.00	6652	391.00	242
100.00	666	179.00	7787	259.00	919	392.00	146
101.00	4891	180.00	5713	260.00	119	401.00	174
102.00	434	181.00	2683	261.00	226	402.00	794
103.00	2019	182.00	531	262.00	64	403.00	1211
104.00	2743	183.00	461	263.00	56	404.00	470
105.00	2528	184.00	712	265.00	2350	417.00	52
106.00	1056	185.00	3768	266.00	321	421.00	1098
107.00	34528	186.00	30336	267.00	124	422.00	881
108.00	5984	187.00	8292	270.00	216	423.00	7678
109.00	1032	188.00	942	271.00	350	424.00	1775
110.00	63584	189.00	1721	272.00	503	425.00	238
111.00	10161	190.00	422	273.00	3759	427.00	72
112.00	1205	191.00	908	274.00	9494	429.00	117
113.00	378	192.00	2890	275.00	46000	430.00	178
114.00	72	193.00	2364	276.00	6206	431.00	161
115.00	140	194.00	601	277.00	3370	432.00	107

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\01.D

Date : 09-JAN-2018 12:45

Client ID: DFTPP Instrument: SV5.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: GY

Column phase: DB-5MS Column diameter: 0.25

Data File: 01.D
Spectrum: Average Spectrum: 5.550 to 5.561 min. (SUB)
Location of Maximum: 198.00
Number of points: 312

m/z	Y	m/z	Y	m/z	Y	m/z	Y
116.00	1698	195.00	682	278.00	677	441.00	22768
117.00	28848	196.00	7368	279.00	51	442.00	133760
118.00	2073	197.00	1011	282.00	62	443.00	27976
119.00	185	198.00	185664	283.00	416	444.00	2514
120.00	454	199.00	14565	284.00	247	445.00	240
121.00	59	200.00	1191	285.00	467		
122.00	1837	201.00	1434	286.00	57		
123.00	3673	202.00	310	289.00	282		
124.00	1920	203.00	1686	290.00	198		

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\02.D
Lab Smp Id: DX-0.08 Client Smp ID: DX-0.08
Inj Date : 09-JAN-2018 13:00 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : DX-0.08;DX-0.08
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\DXSIM.m
Meth Date : 08-Feb-2018 10:30 SV5.i Quant Type: ISTD
Cal Date : 27-NOV-2017 19:22 Cal File: 09.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
* 45 Naphthalene-d8	136	4.733	4.733	(1.000)	76294	0.10000	
$ 33 Nitrobenzene-d5	82	4.082	4.082	(0.862)	27393	0.08000	0.07525(M)
* 86 Acenaphthene-d10	164	6.410	6.410	(1.000)	49398	0.10000	
$ 69 2-Fluorobiphenyl	172	5.755	5.755	(0.898)	35480	0.08000	0.08104
* 126 Phenanthrene-d10	188	7.757	7.757	(1.000)	61758	0.10000	
* 182 Chrysene-d12	240	10.114	10.114	(1.000)	12343	0.10000	
$ 158 4-Terphenyl-d14	244	9.032	9.032	(0.893)	8735	0.08000	0.08151(M)
* 198 Perylene-d12	264	12.007	12.007	(1.000)	7368	0.10000	
1 1,4-Dioxane	58	1.908	1.908	(0.403)	5161	0.08000	0.08164(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\SV5.i\180109.b\02.D

Date : 09-JAN-2018 13:00

Client ID: DX-0.08

Instrument: SV5.i

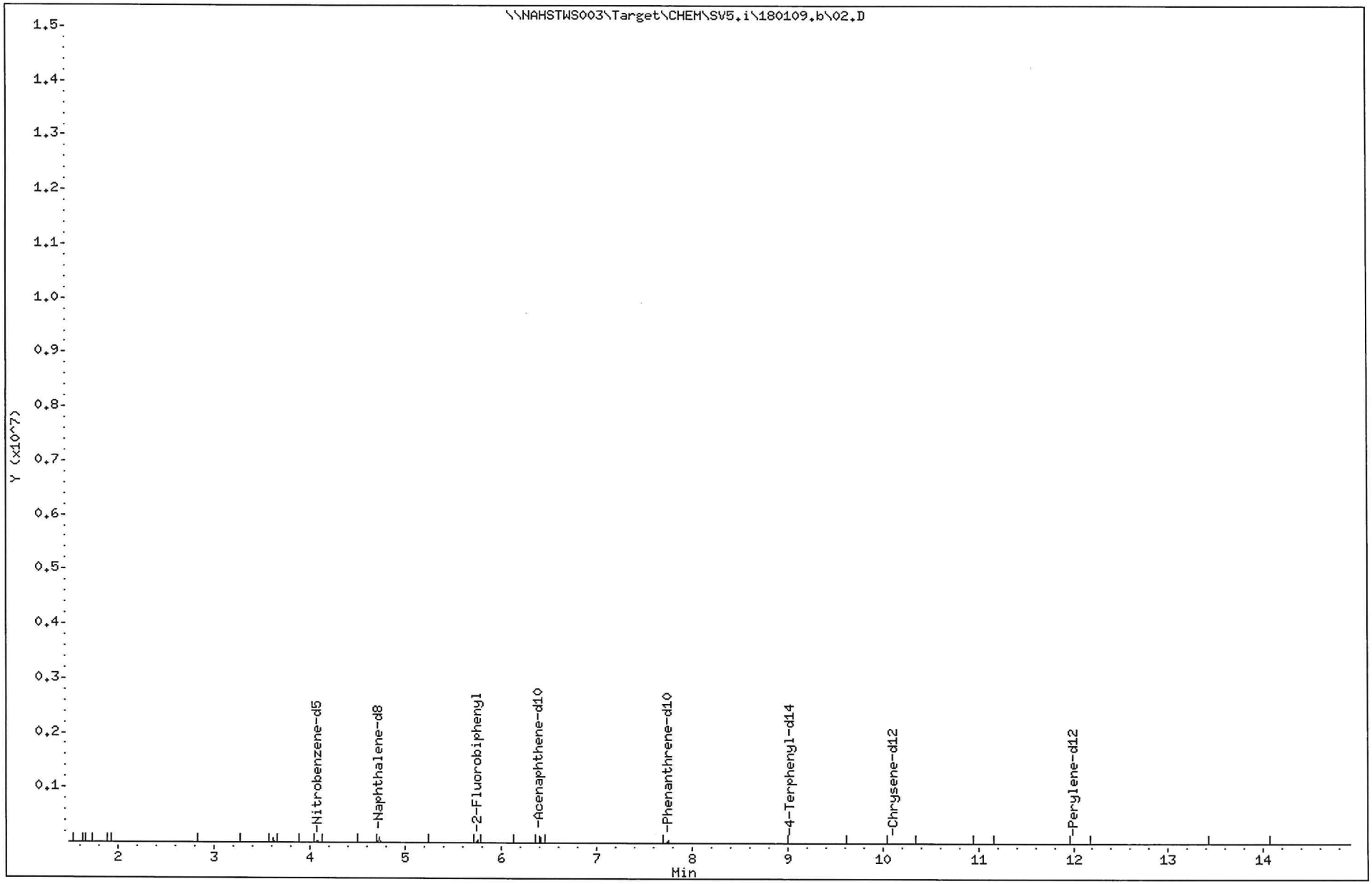
Sample Info: DX-0.08;DX-0.08

Purge Volume: 1000.0

Operator: GY

Column phase: RTX-5SIL MS

Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\04.D
Lab Smp Id: MBLK-123757 Client Smp ID: MBLK-123757
Inj Date : 09-JAN-2018 14:01 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : MBLK-123756;MBLK-12356;3;;BLANK
Misc Info : HS17121168;1;0;1
Comment :
Method : \\nahstws003\Target\chem\SV5.i\180109.b\DXSIM.m
Meth Date : 08-Feb-2018 10:19 aneir Quant Type: ISTD
Cal Date : 27-NOV-2017 19:22 Cal File: 09.D
Als bottle: 4 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14
Processing Host: NAHSTWS003

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/L)
* 45 Naphthalene-d8	136	4.733	4.733	(1.000)	74254	0.10000	
$ 33 Nitrobenzene-d5	82	4.082	4.082	(0.862)	23826	0.06725	0.06725
* 86 Acenaphthene-d10	164	6.410	6.410	(1.000)	34125	0.10000	
$ 69 2-Fluorobiphenyl	172	5.755	5.755	(0.898)	29488	0.09750	0.09750
* 126 Phenanthrene-d10	188	7.757	7.757	(1.000)	45500	0.10000	
* 182 Chrysene-d12	240	10.114	10.114	(1.000)	11178	0.10000	
$ 158 4-Terphenyl-d14	244	9.032	9.032	(0.893)	8433	0.08689	0.08689(M)
* 198 Perylene-d12	264	12.007	12.007	(1.000)	6200	0.10000	

QC Flag Legend

M - Compound response manually integrated.

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\04.D

Date : 09-JAN-2018 14:01

Client ID: MBLK-123757

Instrument: SV5.i

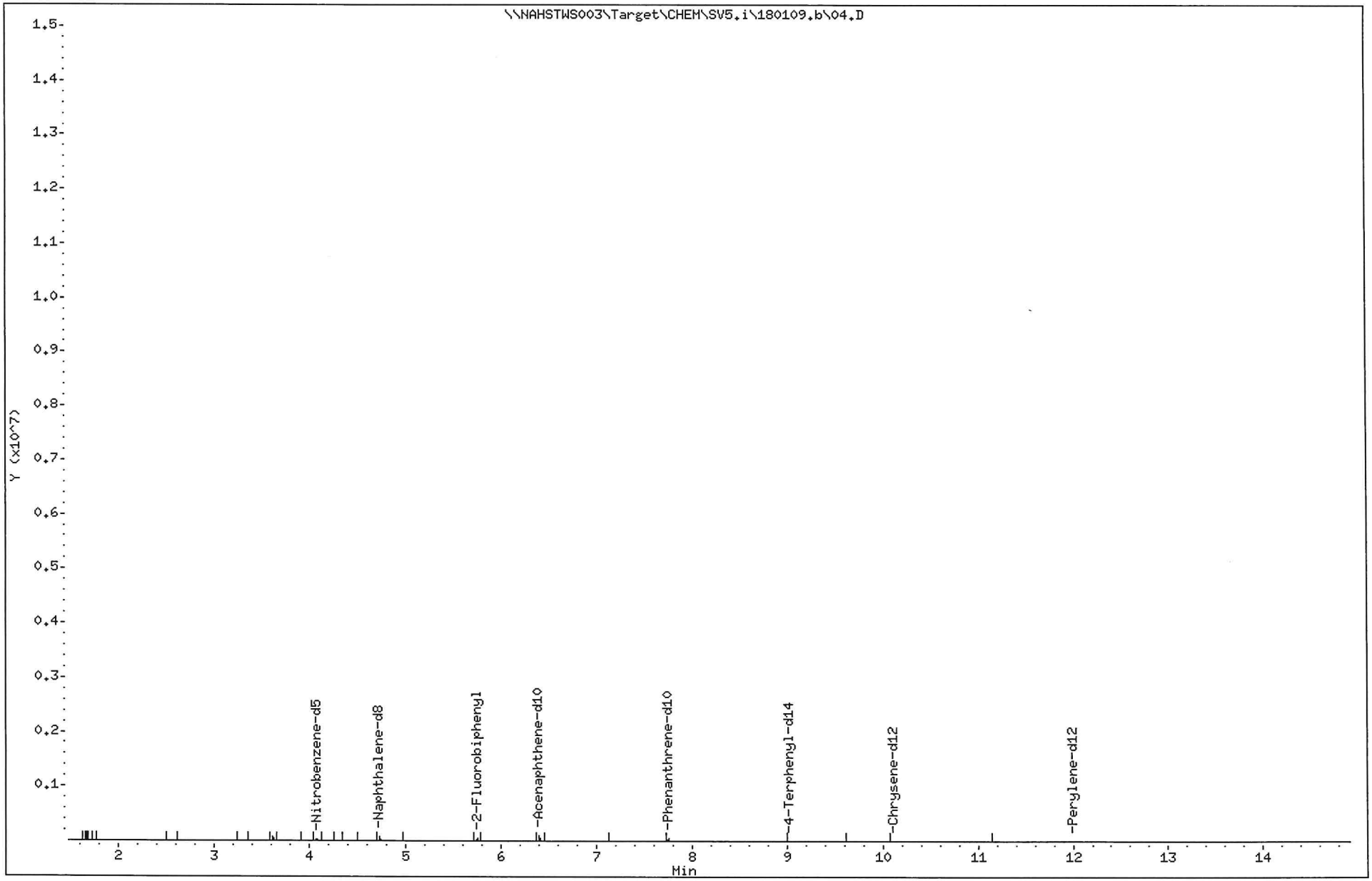
Sample Info: MBLK-123756;MBLK-12356;3;;BLANK

Purge Volume: 1000.0

Operator: GY

Column phase: RTX-5SIL MS

Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\06.D
Lab Smp Id: LCSD-123757 Client Smp ID: LCSD-123757
Inj Date : 09-JAN-2018 14:43 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : LCSD-123756;LCSD-12356;3;;LCSD
Misc Info : HS17121168;1;0;1
Comment :
Method : \\nahstws003\Target\chem\SV5.i\180109.b\DXSIM.m
Meth Date : 08-Feb-2018 10:19 aneir Quant Type: ISTD
Cal Date : 27-NOV-2017 19:22 Cal File: 09.D
Als bottle: 6 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14
Processing Host: NAHSTWS003

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)
* 45 Naphthalene-d8	136	4.734	4.733	(1.000)	63169	0.10000	
$ 33 Nitrobenzene-d5	82	4.082	4.082	(0.862)	24777	0.08220	0.08220
* 86 Acenaphthene-d10	164	6.410	6.410	(1.000)	29769	0.10000	
$ 69 2-Fluorobiphenyl	172	5.759	5.755	(0.898)	23878	0.09050	0.09050(M)
* 126 Phenanthrene-d10	188	7.758	7.757	(1.000)	38129	0.10000	
* 182 Chrysene-d12	240	10.128	10.114	(1.000)	10244	0.10000	
$ 158 4-Terphenyl-d14	244	9.043	9.032	(0.893)	7504	0.08437	0.08437(M)
* 198 Perylene-d12	264	12.023	12.007	(1.000)	5421	0.10000	
1 1,4-Dioxane	58	1.906	1.909	(0.403)	3596	0.06870	0.06870(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\SV5.i\180109.b\06.D

Date : 09-JAN-2018 14:43

Client ID: LCSD-123757

Instrument: SV5.i

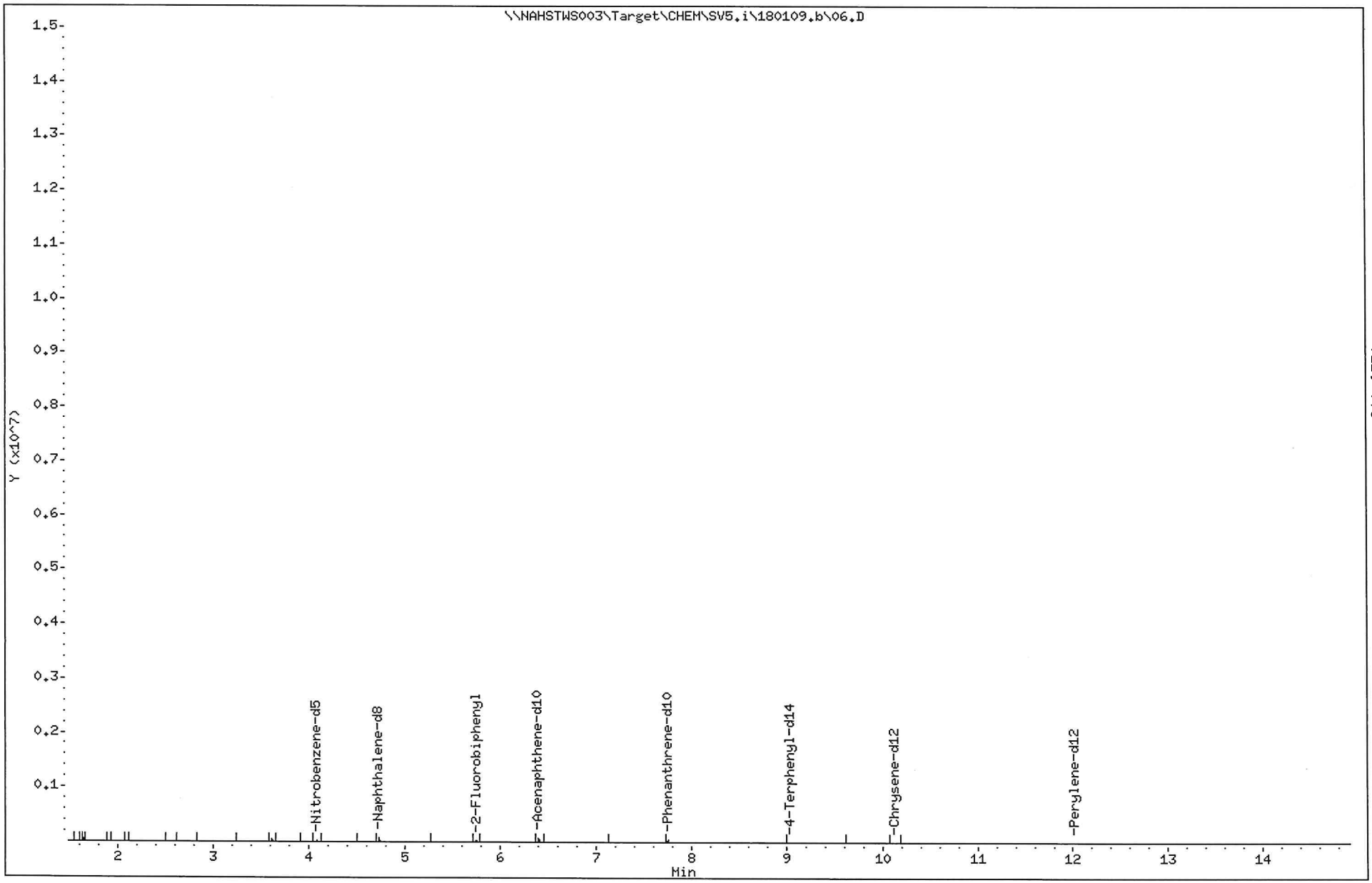
Sample Info: LCSD-123756;LCSD-12356;3;;LCSD

Purge Volume: 1000.0

Operator: GY

Column phase: RTX-5SIL MS

Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\10.D
Lab Smp Id: HS17121169-01 Client Smp ID: HS17121169-01
Inj Date : 09-JAN-2018 17:01 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : HS17121169-01;HS17121169-01
Misc Info : HS17121168;1;0;100
Comment :
Method : \\nahstws003\Target\chem\SV5.i\180109.b\DXSIM.m
Meth Date : 08-Feb-2018 10:19 aneir Quant Type: ISTD
Cal Date : 27-NOV-2017 19:22 Cal File: 09.D
Als bottle: 10
Dil Factor: 100.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14
Processing Host: NAHSTWS003

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	100.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/L)
* 45 Naphthalene-d8	136	4.733	4.733	(1.000)	88807	0.10000	
$ 33 Nitrobenzene-d5	82	4.087	4.082	(0.864)	5000	0.01180	1.180(R)
* 86 Acenaphthene-d10	164	6.410	6.410	(1.000)	43332	0.10000	
$ 69 2-Fluorobiphenyl	172	5.755	5.755	(0.898)	4904	0.01277	1.277(R)
* 126 Phenanthrene-d10	188	7.758	7.757	(1.000)	62666	0.10000	
* 182 Chrysene-d12	240	10.114	10.114	(1.000)	24606	0.10000	
* 198 Perylene-d12	264	12.007	12.007	(1.000)	12456	0.10000	
1 1,4-Dioxane	58	1.946	1.909	(0.411)	4344	0.05903	5.903(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\10.D

Date : 09-JAN-2018 17:01

Client ID: HS17121169-01

Instrument: SV5.i

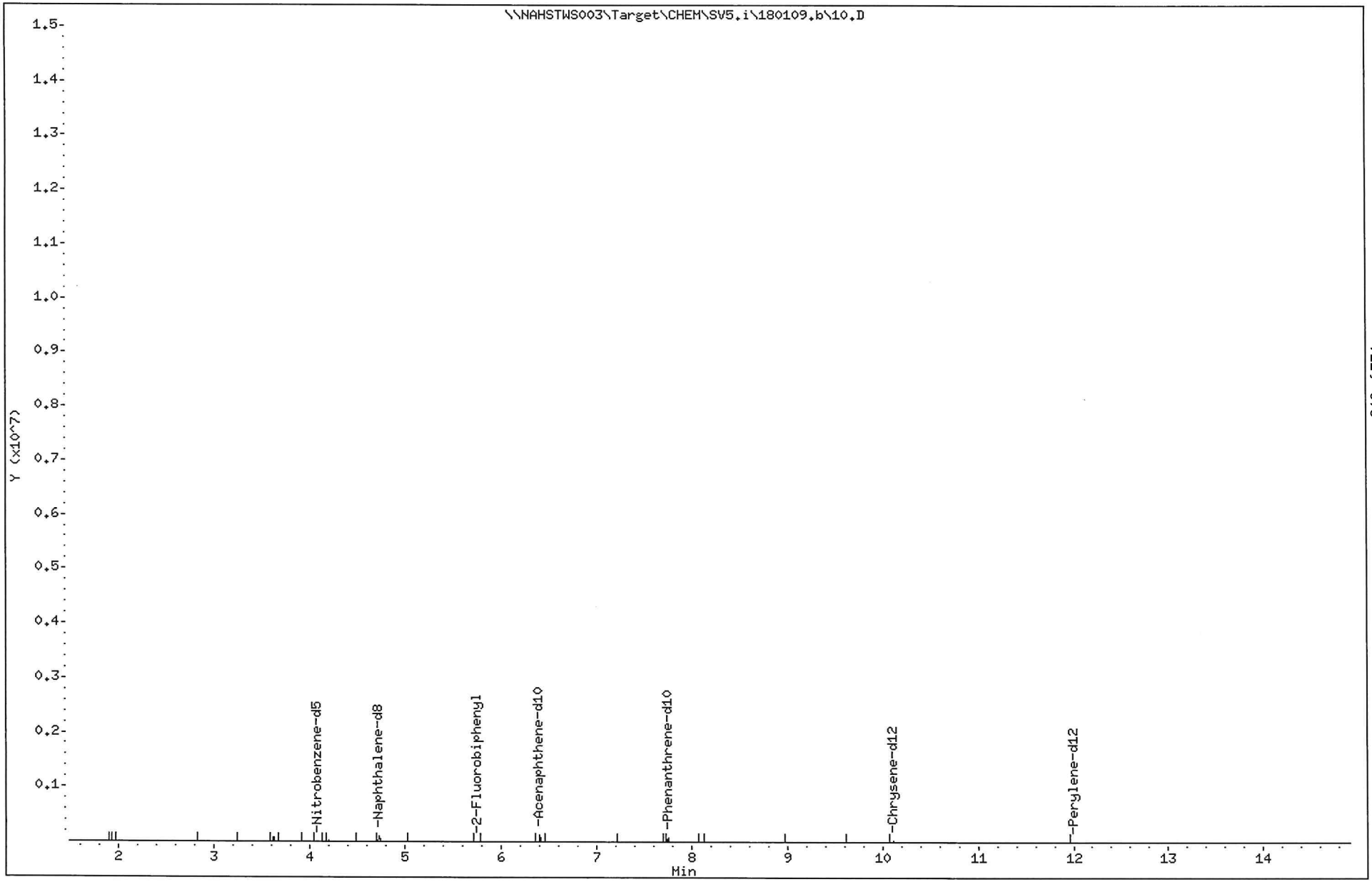
Sample Info: HS17121169-01;HS17121169-01

Purge Volume: 1000.0

Operator: GY

Column phase: RTX-5SIL MS

Column diameter: 0.28



Data File: \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\10.D

Date : 09-JAN-2018 17:01

Client ID: HS17121169-01

Instrument: SV5.i

Sample Info: HS17121169-01;HS17121169-01

Purge Volume: 1000.0

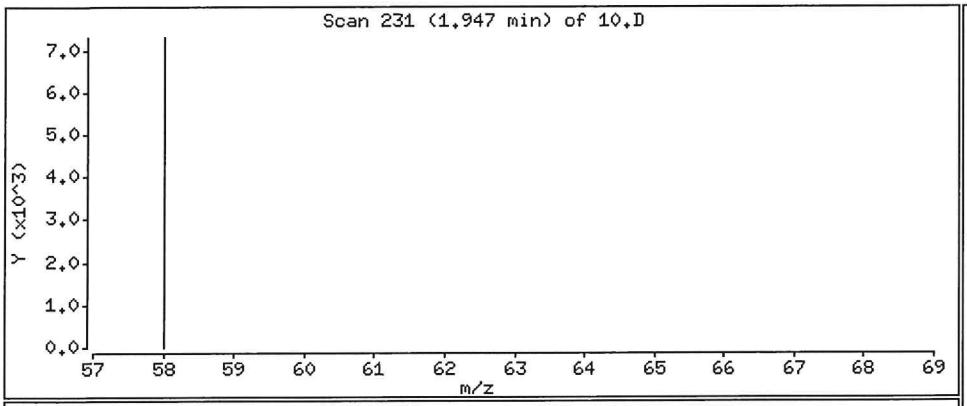
Operator: GY

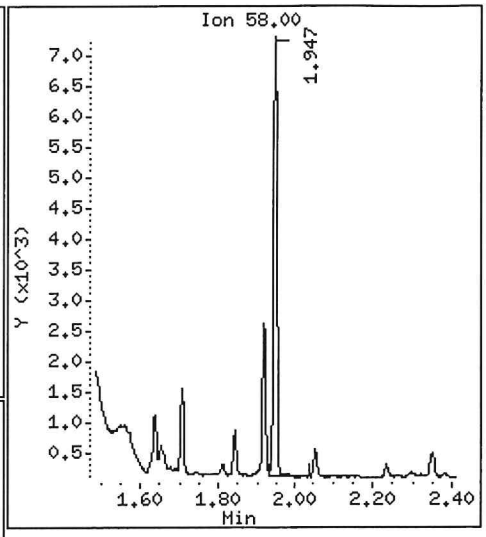
Column phase: RTX-5SIL MS

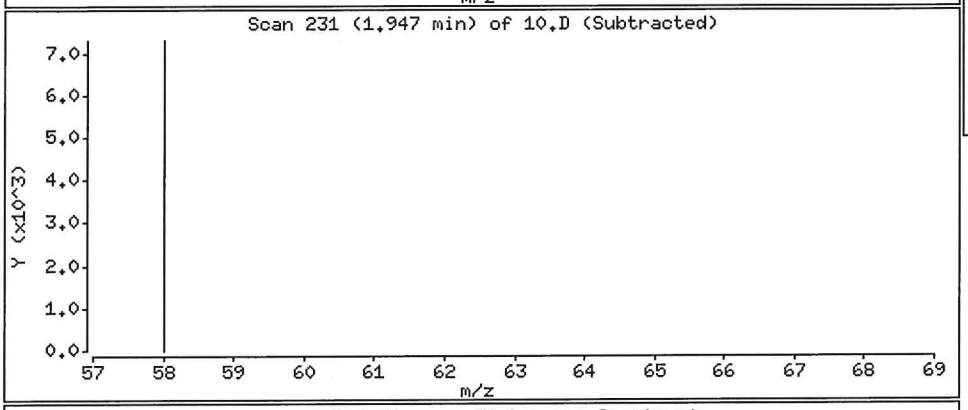
Column diameter: 0.28

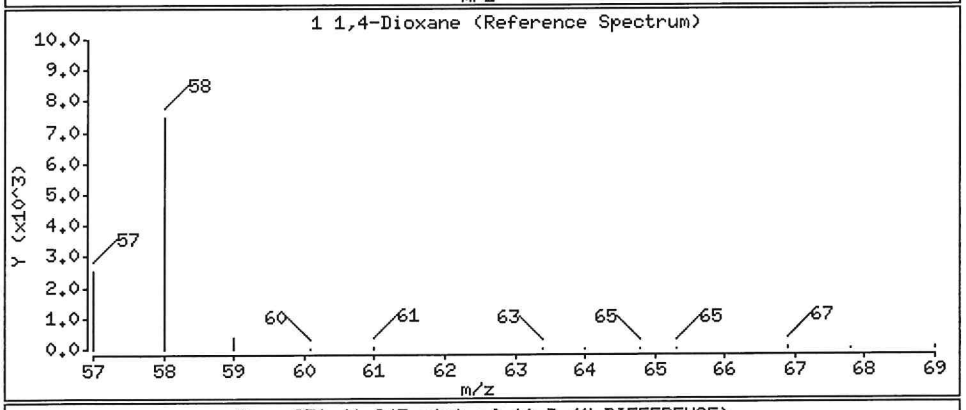
1 1,4-Dioxane

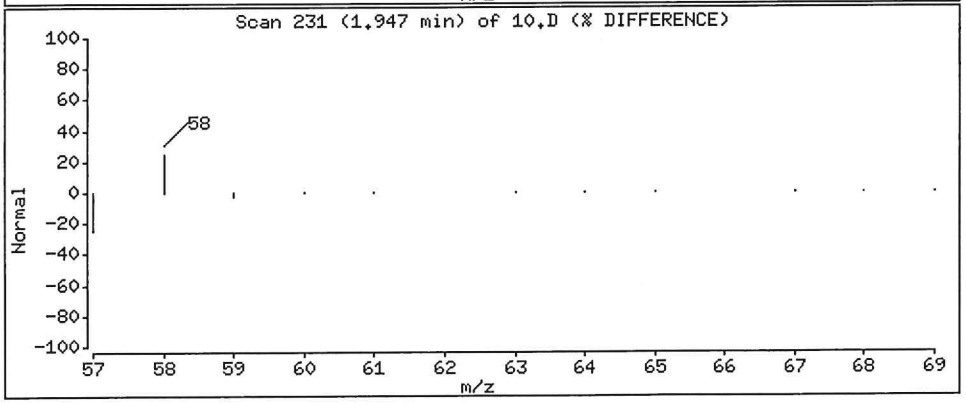
Concentration: 5.903 ug/L











Data File: \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\11.D Page 1
Report Date: 08-Feb-2018 10:25

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\11.D
Lab Smp Id: LCS-123757 Client Smp ID: LCS-123757
Inj Date : 09-JAN-2018 18:13 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : LCS-123756;LCS-12356;3;;LCS
Misc Info : HS17121168;1;0;1
Comment :
Method : \\nahstws003\Target\chem\SV5.i\180109.b\DXSIM.m
Meth Date : 08-Feb-2018 10:19 aneir Quant Type: ISTD
Cal Date : 27-NOV-2017 19:22 Cal File: 09.D
Als bottle: 11 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14
Processing Host: NAHSTWS003

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/L)
* 45 Naphthalene-d8	136	4.733	4.733	(1.000)	39542	0.10000	
$ 33 Nitrobenzene-d5	82	4.082	4.082	(0.862)	12186	0.06459	0.06459 (M)
* 86 Acenaphthene-d10	164	6.415	6.410	(1.000)	20170	0.10000	(M)
$ 69 2-Fluorobiphenyl	172	5.758	5.755	(0.898)	14709	0.08228	0.08228 (M)
* 126 Phenanthrene-d10	188	7.757	7.757	(1.000)	28286	0.10000	(M)
* 182 Chrysene-d12	240	10.114	10.114	(1.000)	7552	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.032	9.032	(0.893)	4790	0.07305	0.07305 (M)
* 198 Perylene-d12	264	12.007	12.007	(1.000)	4864	0.10000	(M)
1 1,4-Dioxane	58	1.878	1.909	(0.397)	2062	0.06293	0.06293 (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\SV5.i\180109.b\11.D

Date : 09-JAN-2018 18:13

Client ID: LCS-123757

Instrument: SV5.i

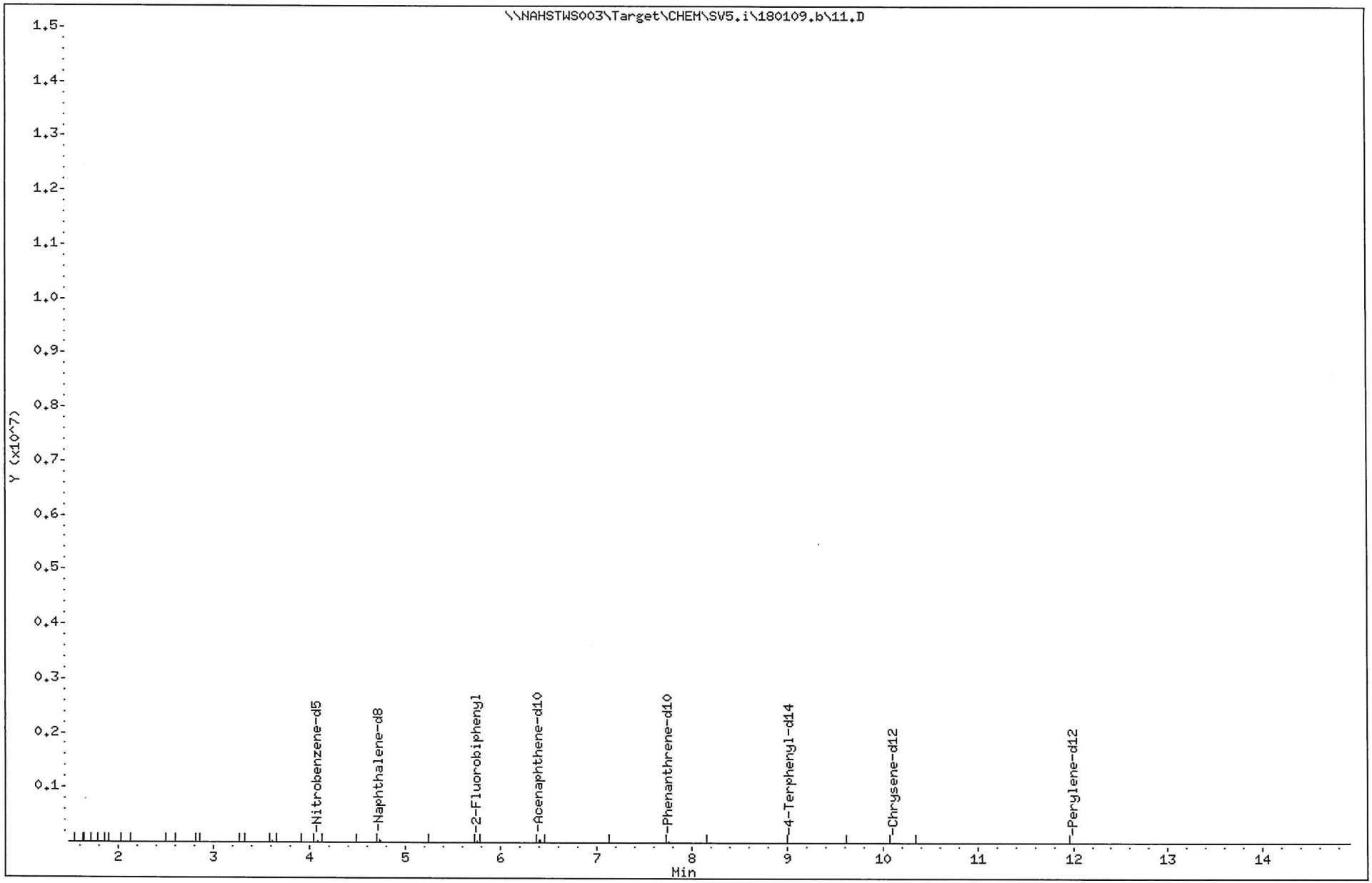
Sample Info: LCS-123756;LCS-12356;3;;LCS

Purge Volume: 1000.0

Operator: GY

Column phase: RTX-5SIL MS

Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\12.D
Lab Smp Id: DX-0.08 Client Smp ID: DX-0.08
Inj Date : 09-JAN-2018 18:54 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : DX-0.08;DX-0.08
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\DXSIM.m
Meth Date : 08-Feb-2018 10:30 SV5.i Quant Type: ISTD
Cal Date : 27-NOV-2017 19:22 Cal File: 09.D
Als bottle: 12 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

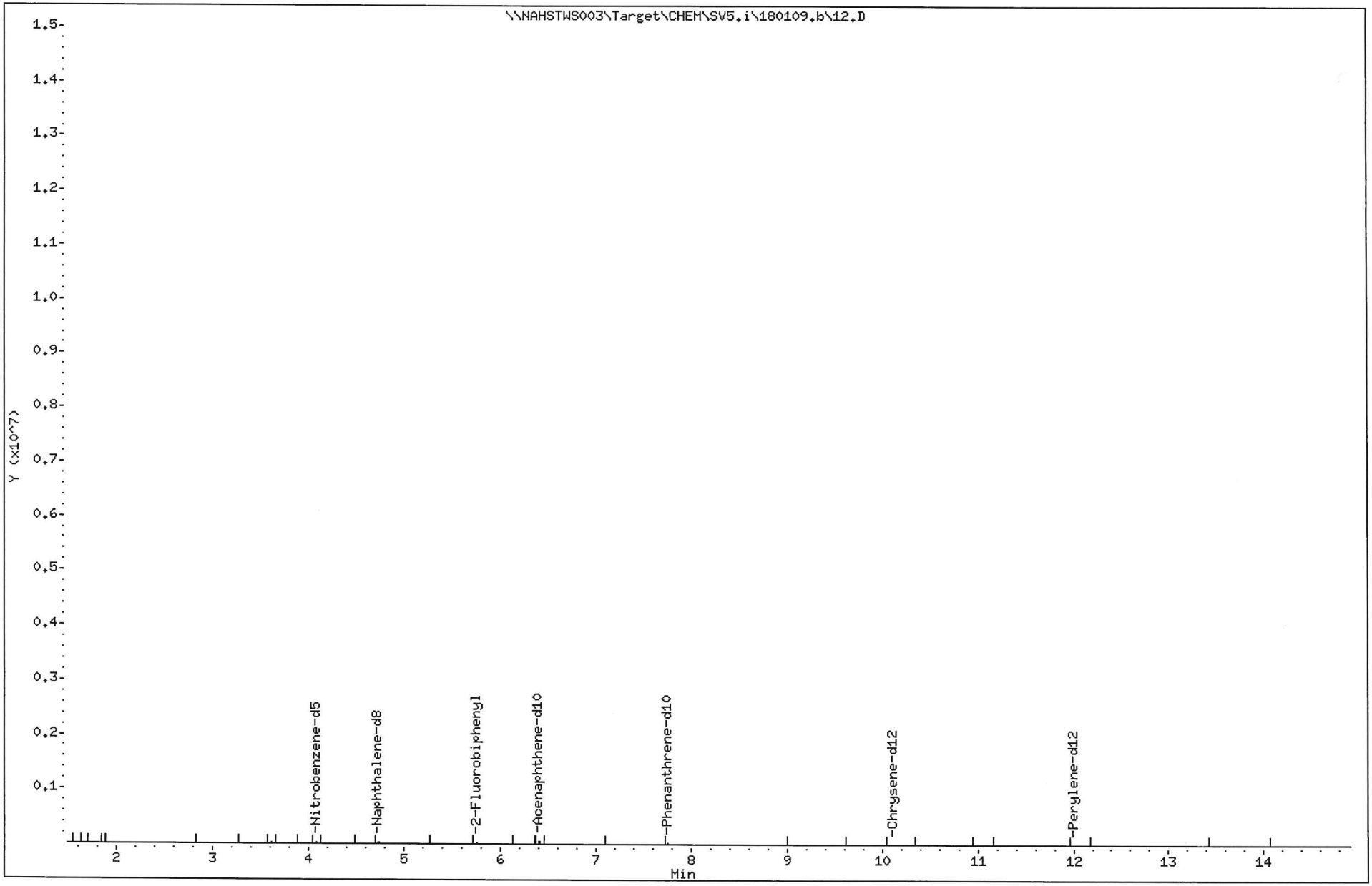
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	CONCENTRATIONS FINAL (ug/L)
* 45 Naphthalene-d8	136	4.733	4.733	(1.000)	33267	0.10000	
$ 33 Nitrobenzene-d5	82	4.082	4.082	(0.862)	22626	0.14254	0.1425(R)
* 86 Acenaphthene-d10	164	6.410	6.410	(1.000)	21988	0.10000	
$ 69 2-Fluorobiphenyl	172	5.758	5.755	(0.898)	17362	0.08909	0.08909
* 126 Phenanthrene-d10	188	7.757	7.757	(1.000)	27048	0.10000	
* 182 Chrysene-d12	240	10.114	10.114	(1.000)	8477	0.10000	
* 198 Perylene-d12	264	12.012	12.007	(1.000)	4295	0.10000	
1 1,4-Dioxane	58	1.864	1.908	(0.394)	2332	0.08460	0.08460(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\180109.b\12.D
Date : 09-JAN-2018 18:54
Client ID: DX-0.08
Sample Info: DX-0.08;DX-0.08
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV5.i
Operator: GY
Column diameter: 0.28



PREP BATCH REPORT

Batch ID: **123757**

Prep Code: **3510_B_SIM**

InitSampWt/Vol 0

FinSampVol: 1

Start Date: **22-Dec-17 01:30 am**

End Date: **22-Dec-17 07:53 pm**

OriginalFac: 0.001

Technician: **Todi Lala**

PrepUnitFac: 1

SampID	Frac	Matrix	pH	Init Wt/Vol	FinalVol (mL)	PrepFac	SpkFac	Failsafe	TestDueDate	Comments
HS17121168-01	G	Water	7	980	1	0.00102	1.02	01-04-18	01-09-18	ph adj 1/13
HS17121169-01	G	Water	7	990	1	0.00101	1.01	01-04-18	01-09-18	ph adj 1/13
MBLK-123757	A		5	1000	1	0.001	1			ph adj 1/13
LCS-123757	A		5	1000	1	0.001	1			ph adj 1/13
LCSD-123757	A		5	1000	1	0.001	1			ph adj 1/13

00880553

Mercury Raw Data

Bhate Environmental Associates, Inc.
Project: LONGHORN GW TREATMENT PLANT
QUARTERLY INFLUENT SAMPLES
ALS WO# HS17121169

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Run ID: HG03_308532
Instrument: HG03
Method: SW7470

ICV	Date: 05-Jan-2018 11:38		Seq: 4382786	ICV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	4.84	97	90-110	

CCV1	Date: 05-Jan-2018 12:07		Seq: 4382799	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	4.99	100	90-110	

CCV2	Date: 05-Jan-2018 12:53		Seq: 4382811	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	4.98	100	90-110	

CCV3	Date: 05-Jan-2018 14:10		Seq: 4382983	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.14	103	90-110	

CCV4	Date: 05-Jan-2018 14:34		Seq: 4382994	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.08	102	90-110	

CCV5	Date: 05-Jan-2018 15:02		Seq: 4383031	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.25	105	90-110	

CCV6	Date: 05-Jan-2018 15:23		Seq: 4383043	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.22	104	90-110	

CCV7	Date: 05-Jan-2018 16:12		Seq: 4383107	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.23	105	90-110	

CCV8	Date: 05-Jan-2018 16:33		Seq: 4383119	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.24	105	90-110	

CCV9	Date: 05-Jan-2018 16:56		Seq: 4383128	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.23	105	90-110	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Run ID: HG03_308532
Instrument: HG03
Method: SW7470

ICB	Date: 05-Jan-2018 11:40		Seq: 4382787	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB1	Date: 05-Jan-2018 12:09		Seq: 4382800	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB2	Date: 05-Jan-2018 12:55		Seq: 4382812	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

MBLK-124068	Date: 05-Jan-2018 14:06		Seq: 4382981	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB3	Date: 05-Jan-2018 14:11		Seq: 4382984	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB4	Date: 05-Jan-2018 14:35		Seq: 4382995	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB5	Date: 05-Jan-2018 15:04		Seq: 4383032	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB6	Date: 05-Jan-2018 15:24		Seq: 4383044	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB7	Date: 05-Jan-2018 16:14		Seq: 4383108	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB8	Date: 05-Jan-2018 16:35		Seq: 4383120	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB9	Date: 05-Jan-2018 16:58		Seq: 4383129	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

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

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Date Analyzed: 05-Jan-2018 14:25
Date Extracted: 05-Jan-2018 11:12
Units: ug/L

Matrix Spike: HS17121224-05MS
Client Sample ID:

Analysis Method: SW7470

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Mercury	0.2000	5.030	5.000	100	4.970	5.000	99.2	75-125	1.20	20

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

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Date Analyzed: 05-Jan-2018 14:08
Date Extracted: 05-Jan-2018 11:12
Units: ug/L

Lab Sample ID: LCS-124068 Analysis Method: SW7470

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Mercury	5	5.18	104	80-120

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

Form 11 - INTERNAL STANDARD ASSOCIATION

Client: Bhate Environmental Associates, Inc. Instrument:ICPMS04
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Mass	Analyte	Assoc Int Standard 1	Assoc Int Standard 2	Mode
9	Beryllium	Lithium		Ar
11	Boron	Lithium		Ar
23	Sodium	Germanium		Ar
24	Magnesium	Germanium		Ar
27	Aluminum	Germanium		Ar
39	Potassium	Germanium		Ar
44	Calcium	Germanium		ArHe
47	Titanium	Germanium		Ar
51	Vanadium	Germanium		ArHe
52	Chromium	Germanium		ArHe
55	Manganese	Germanium		ArHe
56	Iron	Germanium		ArHe
59	Cobalt	Germanium		ArHe
60	Nickel	Germanium		ArHe
63	Copper	Germanium		ArHe
66	Zinc	Germanium		ArHe
75	Arsenic	Germanium		ArHe
78	Selenium	Germanium		ArHe
88	Strontium	Germanium		Ar
95	Molybdenum	Germanium		Ar
105	Palladium	Germanium		Ar
107	Silver	Germanium		Ar
111	Cadmium	Indium		Ar
118	Tin	Germanium		Ar
121	Antimony	Germanium		ArHe
135	Barium	Indium		Ar
203	Thallium	Bismuth		Ar
208	Lead	Bismuth		Ar

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

FORM 12 - PREPARATION LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169
Start Date: 05-Jan-2018 11:12 End Date: 05-Jan-2018 13:30

Batch ID: 124068
Prep Code: Hg_WPr
Method: SW7470
Technician:

SampID	ClientID	Matrix	Init Wt	Init Vol	FinalVol (mL)	PrepFac
HS17121169-01	LH18/24-SP140_122017	Water		10	10	1
HS17121224-05MS				10	10	1
HS17121224-05MSD				10	10	1
LCS-124068				10	10	1
MBLK-124068				10	10	1

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

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169
Start Date: 05-Jan-2018 End Date: 05-Jan-2018

Run ID:HG03_308532
Instrument:HG03
Method:SW7470

Sample No.	D/F	Time	FileID	Analytes
ICV	1	05-Jan-2018 11:38	HG03_308532 Raw Data_4382786	HG
ICB	1	05-Jan-2018 11:40		HG
CRA	1	05-Jan-2018 11:41		HG
CCV 1	1	05-Jan-2018 12:07		HG
CCB 1	1	05-Jan-2018 12:09		HG
CCV 2	1	05-Jan-2018 12:53		HG
CCB 2	1	05-Jan-2018 12:55		HG
MBLK-124068	1	05-Jan-2018 14:06		HG
LCS-124068	1	05-Jan-2018 14:08		HG
CCV 3	1	05-Jan-2018 14:10		HG
CCB 3	1	05-Jan-2018 14:11		HG
LH18/24-SP140_122017	1	05-Jan-2018 14:15		HG
ZZZZZZMS	1	05-Jan-2018 14:23		HG
ZZZZZZMSD	1	05-Jan-2018 14:25		HG
CCV 4	1	05-Jan-2018 14:34		HG
CCB 4	1	05-Jan-2018 14:35		HG
CCV 5	1	05-Jan-2018 15:02		HG
CCB 5	1	05-Jan-2018 15:04		HG
CCV 6	1	05-Jan-2018 15:23		HG
CCB 6	1	05-Jan-2018 15:24		HG
CCV 7	1	05-Jan-2018 16:12		HG
CCB 7	1	05-Jan-2018 16:14		HG
CCV 8	1	05-Jan-2018 16:33		HG
CCB 8	1	05-Jan-2018 16:35		HG
CCV 9	1	05-Jan-2018 16:56		HG
CCB 9	1	05-Jan-2018 16:58		HG

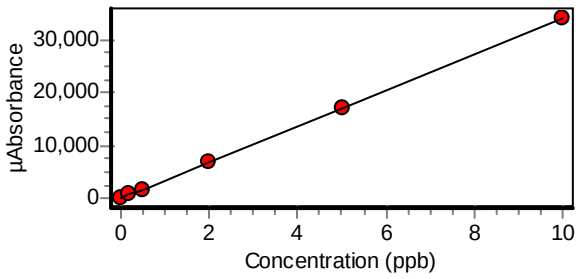
Report Generated By CETAC QuickTrace
Analyst: ALSHS.NoUser
Worksheet file: C:\Program Files (x86)\QuickTrace\Worksheets\010518AW.wsz
Date Started: 1/5/2018 11:05:47 AM
Comment:

Results

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
Calibration Blank					STD	01/05/18 11:24:52 am	0.000	90	2.88	
Replicates	92.7	90.5	89.2	86.5						
Standard #1 (0.2 ppb)					STD	01/05/18 11:26:34 am	0.200	688	1.76	
Replicates	696.5	696.7	670.9	688.2						
Standard #2 (0.5 ppb)					STD	01/05/18 11:28:16 am	0.500	1705	1.15	
Replicates	1701.7	1715.8	1678.3	1722.8						
Standard #3 (2.0 ppb)					STD	01/05/18 11:29:59 am	2.000	6904	0.60	
Replicates	6853.9	6896.8	6910.3	6954.1						
Standard #4 (5.0 ppb)					STD	01/05/18 11:31:42 am	5.000	17104	0.50	
Replicates	17003.5	17070.2	17144.5	17199.2						
Standard #5 (10.0 ppb)					STD	01/05/18 11:33:26 am	10.000	34066	0.42	
Replicates	33936.1	33993.9	34066.7	34266.9						

Calibration

Equation: A = 70.440 + 3400.529C
R2: 0.99999
SEE: 51.8469
Flags:



ICCV					UNK	01/05/18 11:36:45 am	5.070	17296	0.26	
Replicates	17246.0	17272.2	17326.2	17340.7						
ICV					UNK	01/05/18 11:38:26 am	4.840	16543	0.22	
Replicates	16512.5	16509.4	16581.4	16566.9						

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
ICB				UNK	01/05/18 11:40:08 am	-0.013	27	76.43	
Replicates	2.6	50.0	36.2	19.0					
CRA				UNK	01/05/18 11:41:49 am	0.180	682	3.71	
Replicates	703.3	696.6	646.6	681.4					
GBLKF-124054				UNK	01/05/18 11:45:39 am	0.037	197	9.83	s
Replicates	224.3	186.0	198.8	180.8					
MBLK-124054				UNK	01/05/18 11:47:22 am	0.039	203	14.76	s
Replicates	168.9	194.7	205.7	241.0					
LCS-124054				UNK	01/05/18 11:49:04 am	4.770	16292	0.94	
Replicates	16107.1	16245.9	16345.9	16470.2					
HS17121188-01				UNK	01/05/18 11:50:47 am	0.019	136	12.95	s
Replicates	161.4	123.4	125.1	133.4					
HS17121188-02				UNK	01/05/18 11:52:30 am	-0.016	15	67.93	
Replicates	13.4	30.3	6.3	11.3					
HS17121188-03				UNK	01/05/18 11:54:14 am	-0.016	16	47.67	
Replicates	20.6	9.5	24.3	9.5					
HS17121188-04				UNK	01/05/18 11:55:58 am	0.001	73	16.30	s
Replicates	56.4	79.0	71.5	83.3					
HS17121188-04MS				UNK	01/05/18 12:02:25 pm	2.570	8795	0.41	
Replicates	8741.7	8814.6	8803.6	8820.3					
HS17121188-04MSD				UNK	01/05/18 12:04:06 pm	2.740	9380	0.61	
Replicates	9314.2	9379.9	9372.2	9452.9					
HS17121188-05				UNK	01/05/18 12:05:47 pm	-0.043	-74	15.33	
Replicates	-65.5	-81.4	-86.1	-63.4					

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCV					UNK	01/05/18 12:07:31 pm	4.990	17026	0.65	
	Replicates	16884.9	17003.8	17069.5	17144.0					
CCB					UNK	01/05/18 12:09:17 pm	-0.009	40	32.84	
	Replicates	24.3	55.1	43.3	35.3					
HS17121188-06					UNK	01/05/18 12:10:58 pm	0.023	150	15.52	s
	Replicates	157.0	156.4	170.6	116.6					
HS17121188-07					UNK	01/05/18 12:12:39 pm	0.055	259	1.16	
	Replicates	255.6	261.9	261.1	257.4					
HS17121188-08					UNK	01/05/18 12:14:21 pm	0.030	174	5.41	s
	Replicates	179.1	184.4	163.4	169.6					
HS17121188-09					UNK	01/05/18 12:16:03 pm	0.032	180	8.33	s
	Replicates	166.1	201.5	179.0	175.2					
HS17121188-10					UNK	01/05/18 12:17:45 pm	0.043	216	7.70	s
	Replicates	191.0	226.1	221.1	224.6					
HS17121188-11					UNK	01/05/18 12:19:28 pm	0.032	180	11.26	s
	Replicates	190.3	195.4	150.4	182.9					
HS17121188-12					UNK	01/05/18 12:21:11 pm	0.029	171	5.46	s
	Replicates	162.5	179.5	178.0	162.7					
HS17121188-13					UNK	01/05/18 12:22:54 pm	0.026	160	11.95	s
	Replicates	166.6	182.4	137.6	152.9					
HS17121188-14					UNK	01/05/18 12:24:38 pm	0.037	195	6.46	s
	Replicates	195.7	213.0	186.7	185.7					
HS17121188-15					UNK	01/05/18 12:26:21 pm	0.040	205	8.68	s
	Replicates	212.1	226.3	185.1	197.8					

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCV					UNK	01/05/18 12:53:16 pm	4.980	16989	0.70	
	Replicates	16844.4	16943.7	17060.7	17108.2					
CCB					UNK	01/05/18 12:55:01 pm	-0.006	52	45.46	s
	Replicates	72.1	69.8	23.3	41.5					
GBLKT1-124067					UNK	01/05/18 01:49:48 pm	0.015	121	9.27	s
	Replicates	120.2	129.0	129.0	105.3					
MBLK-124067					UNK	01/05/18 01:51:29 pm	0.003	82	37.30	s
	Replicates	104.7	39.1	81.3	103.3					
LCS-124067					UNK	01/05/18 01:53:11 pm	4.990	17052	0.97	
	Replicates	16820.9	17049.1	17137.9	17199.9					
HS18010058-01					UNK	01/05/18 01:54:52 pm	0.003	81	20.14	s
	Replicates	64.5	69.7	97.9	91.4					
HS18010058-01MS					UNK	01/05/18 01:56:34 pm	5.130	17516	0.65	
	Replicates	17354.3	17537.2	17623.2	17550.4					
HS18010058-01MSD					UNK	01/05/18 01:58:16 pm	5.070	17308	0.39	
	Replicates	17305.0	17236.5	17291.5	17399.8					
HS18010101-01					UNK	01/05/18 01:59:58 pm	0.003	82	23.34	s
	Replicates	57.3	82.3	85.0	104.0					
HS18010103-01					UNK	01/05/18 02:01:41 pm	0.007	93	26.66	s
	Replicates	106.6	59.6	115.9	89.1					
MBLK-124068					UNK	01/05/18 02:06:44 pm	0.006	91	15.21	s
	Replicates	86.3	92.9	108.6	75.6					
LCS-124068					UNK	01/05/18 02:08:28 pm	5.180	17684	1.33	
	Replicates	17398.4	17606.8	17790.5	17940.8					

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCV					UNK	01/05/18 02:10:12 pm	5.140	17548	0.83	
	Replicates	17371.2	17498.9	17614.2	17705.9					
CCB					UNK	01/05/18 02:11:57 pm	0.000	71	42.45	s
	Replicates	91.1	63.0	99.0	32.3					
HS17121168-01					UNK	01/05/18 02:13:41 pm	0.014	118	8.02	s
	Replicates	124.2	128.1	107.8	112.8					
HS17121169-01					UNK	01/05/18 02:15:24 pm	0.012	111	22.47	s
	Replicates	135.7	94.1	128.1	85.1					
HS17121224-01					UNK	01/05/18 02:17:06 pm	0.003	82	29.54	s
	Replicates	68.7	109.5	56.0	94.7					
HS17121224-03					UNK	01/05/18 02:18:48 pm	0.028	167	10.32	s
	Replicates	160.3	171.8	187.6	147.1					
HS17121224-04					UNK	01/05/18 02:20:29 pm	0.003	81	9.40	s
	Replicates	83.8	81.9	87.9	70.2					
HS17121224-05					UNK	01/05/18 02:22:10 pm	0.009	101	8.88	s
	Replicates	105.2	110.9	90.4	97.4					
HS17121224-05MS					UNK	01/05/18 02:23:52 pm	5.030	17165	0.81	
	Replicates	16980.5	17135.7	17270.2	17274.7					
HS17121224-05MSD					UNK	01/05/18 02:25:34 pm	4.970	16978	0.78	
	Replicates	16836.7	16912.3	17025.3	17137.6					
HS17121224-06					UNK	01/05/18 02:27:17 pm	-0.007	47	61.41	
	Replicates	23.3	39.7	88.7	35.7					
CCV					UNK	01/05/18 02:34:06 pm	5.080	17336	0.67	
	Replicates	17205.0	17286.3	17381.1	17472.6					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCB				UNK	01/05/18 02:35:51 pm	0.009	100	20.77	s
Replicates	104.8	123.2	101.4	72.7					
GBLKF1-124071				UNK	01/05/18 02:37:34 pm	0.012	111	21.10	s
Replicates	114.6	134.4	78.6	118.1					
GBLKF2-124071				UNK	01/05/18 02:39:17 pm	0.007	96	24.46	s
Replicates	79.9	119.8	72.0	111.8					
MBLK-124071				UNK	01/05/18 02:41:00 pm	0.009	100	19.01	s
Replicates	74.3	119.2	98.0	106.5					
LCS-124071				UNK	01/05/18 02:42:44 pm	4.950	16917	4.17	
Replicates	16142.1	16585.5	17178.0	17764.0					
HS17120668-01				UNK	01/05/18 02:44:27 pm	0.003	81	25.56	s
Replicates	80.6	95.9	94.1	51.4					
HS17121060-01				UNK	01/05/18 02:46:09 pm	0.006	93	21.41	s
Replicates	65.5	112.0	92.0	100.7					
HS17121060-01MS				UNK	01/05/18 02:47:50 pm	4.250	14536	0.66	
Replicates	14409.7	14526.5	14568.5	14638.0					
HS17121060-01MSD				UNK	01/05/18 02:49:32 pm	4.180	14299	0.72	
Replicates	14186.8	14255.8	14321.1	14430.3					
MBLK-124069				UNK	01/05/18 02:58:58 pm	0.003	79	17.71	s
Replicates	77.7	72.2	99.2	67.4					
LCS-124069				UNK	01/05/18 03:00:40 pm	5.150	17598	0.47	
Replicates	17529.4	17543.7	17607.9	17710.4					
CCV				UNK	01/05/18 03:02:25 pm	5.250	17911	0.43	
Replicates	17805.2	17904.3	17951.3	17983.3					

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCB					UNK	01/05/18 03:04:10 pm	0.006	91	20.84	s
Replicates	83.6	81.7	80.4	119.9						
HS17121060-01					UNK	01/05/18 03:05:53 pm	0.009	101	14.36	s
Replicates	82.1	114.6	98.6	110.4						
HS17121172-01					UNK	01/05/18 03:07:35 pm	0.019	136	7.84	s
Replicates	149.4	129.2	139.0	125.7						
HS17121226-01					UNK	01/05/18 03:09:18 pm	0.011	107	8.47	s
Replicates	104.7	96.0	112.7	116.5						
HS17121286-01					UNK	01/05/18 03:11:02 pm	0.045	225	8.56	s
Replicates	204.4	245.0	212.5	236.3						
HS17121287-01					UNK	01/05/18 03:12:45 pm	0.110	443	3.28	
Replicates	455.0	443.6	422.8	452.1						
HS17121326-01					UNK	01/05/18 03:14:29 pm	0.014	117	15.48	s
Replicates	95.3	120.6	138.8	112.3						
HS17121326-01MS					UNK	01/05/18 03:16:13 pm	4.840	16538	0.82	
Replicates	16378.1	16491.1	16586.8	16697.6						
HS17121326-01MSD					UNK	01/05/18 03:17:56 pm	4.940	16871	0.53	
Replicates	16756.6	16893.3	16858.3	16974.3						
HS17121339-01					UNK	01/05/18 03:19:38 pm	0.009	101	14.16	s
Replicates	79.7	106.7	109.7	108.4						
HS18010135-01					UNK	01/05/18 03:21:21 pm	0.010	103	19.67	s
Replicates	111.7	74.9	103.2	122.2						
CCV					UNK	01/05/18 03:23:05 pm	5.220	17811	1.03	
Replicates	17588.6	17764.9	17863.9	18024.9						

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCB				UNK	01/05/18 03:24:51 pm	0.009	101	11.83	s
Replicates	115.0	106.1	97.6	86.9					
HS18010135-02				UNK	01/05/18 03:26:33 pm	0.006	91	12.14	s
Replicates	96.0	99.9	74.9	91.9					
HS18010135-03				UNK	01/05/18 03:28:16 pm	0.001	75	26.75	s
Replicates	72.1	66.2	103.2	57.2					
MBLK-124089				UNK	01/05/18 03:55:42 pm	-0.004	57	25.50	s
Replicates	40.0	49.9	72.4	63.9					
LCS-124089				UNK	01/05/18 03:57:25 pm	5.410	18453	1.12	
Replicates	18194.9	18406.3	18527.8	18683.1					
LCSD-124089				UNK	01/05/18 04:02:27 pm	5.180	17698	1.16	
Replicates	17438.8	17653.5	17780.3	17920.5					
HS17121188-01				UNK	01/05/18 04:04:10 pm	-0.008	43	43.27	
Replicates	20.9	41.8	66.1	42.1					
HS17121188-02				UNK	01/05/18 04:05:53 pm	-0.028	-24	59.83	
Replicates	-7.6	-34.3	-38.3	-16.8					
HS17121188-02MS				UNK	01/05/18 04:07:36 pm	1.610	5551	0.49	
Replicates	5576.3	5563.6	5513.6	5551.1					
HS17121188-02MSD				UNK	01/05/18 04:09:20 pm	1.560	5378	0.54	
Replicates	5350.1	5364.4	5381.1	5417.9					
HS17121188-03				UNK	01/05/18 04:11:02 pm	-0.126	-357	6.97	
Replicates	-364.0	-320.4	-368.2	-375.7					
CCV				UNK	01/05/18 04:12:47 pm	5.230	17861	0.90	
Replicates	17659.3	17827.5	17912.5	18044.7					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCB				UNK	01/05/18 04:14:32 pm	0.008	97	18.07	s
Replicates	103.6	96.6	73.6	115.4					
HS17121188-04				UNK	01/05/18 04:16:14 pm	-0.018	9	209.11	
Replicates	-16.6	26.1	19.4	7.1					
HS17121188-05				UNK	01/05/18 04:17:56 pm	-0.001	67	41.46	s
Replicates	55.1	41.3	67.0	106.3					
HS17121188-06				UNK	01/05/18 04:19:38 pm	-0.010	37	32.64	
Replicates	53.9	27.9	39.6	28.4					
HS17121188-07				UNK	01/05/18 04:21:20 pm	0.975	3385	1.01	
Replicates	3371.5	3343.7	3404.4	3420.7					
HS17121188-08				UNK	01/05/18 04:23:03 pm	-0.010	36	60.49	
Replicates	35.6	12.1	30.9	64.4					
HS17121188-09				UNK	01/05/18 04:24:45 pm	0.009	102	17.83	s
Replicates	98.5	128.7	91.2	89.7					
HS17121188-10				UNK	01/05/18 04:26:28 pm	0.054	253	5.50	s
Replicates	238.4	259.3	245.5	269.5					
HS17121188-11				UNK	01/05/18 04:28:11 pm	-0.010	37	36.93	
Replicates	22.3	37.0	32.3	54.5					
HS17121188-12				UNK	01/05/18 04:29:54 pm	-0.014	22	120.77	
Replicates	61.9	10.7	4.4	11.4					
HS17121188-13				UNK	01/05/18 04:31:38 pm	-0.009	39	65.42	
Replicates	75.3	17.5	34.5	27.7					
CCV				UNK	01/05/18 04:33:22 pm	5.240	17896	0.77	
Replicates	17721.6	17865.3	17950.8	18044.8					

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCB					UNK	01/05/18 04:35:07 pm	0.001	74	25.26	s
Replicates	90.8	82.7	75.7	47.7						
HS17121188-14					UNK	01/05/18 04:36:51 pm	-0.005	54	29.59	s
Replicates	60.5	30.3	63.6	63.1						
HS17121188-15					UNK	01/05/18 04:38:34 pm	-0.007	45	46.52	
Replicates	28.0	31.4	46.6	73.9						
HS18010067-01					UNK	01/05/18 04:40:17 pm	0.221	822	3.45	
Replicates	806.0	816.1	801.8	863.3						
HS18010085-01					UNK	01/05/18 04:41:59 pm	-0.004	56	25.94	s
Replicates	49.3	55.5	76.7	43.2						
HS18010085-02					UNK	01/05/18 04:43:42 pm	-0.012	30	81.44	
Replicates	-0.3	58.9	28.6	31.6						
HS18010095-01					UNK	01/05/18 04:45:25 pm	0.003	79	29.28	s
Replicates	52.5	94.4	67.4	102.1						
HS17121188-03 RR					UNK	01/05/18 04:53:42 pm	-0.022	-5	256.50	
Replicates	13.3	-5.3	-11.0	-18.0						
CCV					UNK	01/05/18 04:56:34 pm	5.230	17863	0.79	
Replicates	17687.8	17818.2	17928.2	18016.0						
CCB					UNK	01/05/18 04:58:19 pm	0.009	102	8.29	s
Replicates	113.4	94.9	96.2	102.4						

Metals Raw Data

Bhate Environmental Associates, Inc.
Project: LONGHORN GW TREATMENT PLANT
QUARTERLY INFLUENT SAMPLES
ALS WO# HS17121169

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

ICV	Date: 05-Jan-2018 11:35		Seq: 4382238	ICV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	100	100	90-110	
Antimony	100	96.88	97	90-110	
Arsenic	100	102.393	102	90-110	
Barium	100	99.986	100	90-110	
Beryllium	100	101.418	101	90-110	
Cadmium	100	101.077	101	90-110	
Calcium	10000	10260.289	103	90-110	
Chromium	100	103.616	104	90-110	
Cobalt	100	101.899	102	90-110	
Iron	10000	10372.519	104	90-110	
Lead	100	101.149	101	90-110	
Magnesium	10000	9959.045	100	90-110	
Manganese	100	102.439	102	90-110	
Nickel	100	99.904	100	90-110	
Potassium	10000	9929.376	99	90-110	
Selenium	100	97.226	97	90-110	
Silver	100	99.71	100	90-110	
Sodium	10000	10506.407	105	90-110	
Thallium	100	100.5	100	90-110	
Vanadium	100	100.987	101	90-110	
Zinc	100	100.09	100	90-110	

CCV1	Date: 05-Jan-2018 12:19		Seq: 4382295	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	101.165	101	90-110	
Antimony	100	97.814	98	90-110	
Arsenic	100	101.973	102	90-110	
Barium	100	97.308	97	90-110	
Beryllium	100	99.326	99	90-110	
Cadmium	100	100.064	100	90-110	
Calcium	10000	10057.882	101	90-110	
Chromium	100	100.918	101	90-110	
Cobalt	100	100.483	100	90-110	
Iron	10000	9971.057	100	90-110	
Lead	100	98.993	99	90-110	
Magnesium	10000	9934.165	99	90-110	
Manganese	100	99.935	100	90-110	
Nickel	100	101.652	102	90-110	
Potassium	10000	10033.483	100	90-110	
Selenium	100	103.313	103	90-110	
Silver	100	100.385	100	90-110	
Sodium	10000	10220.969	102	90-110	
Thallium	100	98.034	98	90-110	
Vanadium	100	97.774	98	90-110	
Zinc	100	101.429	101	90-110	

CCV2	Date: 05-Jan-2018 12:47		Seq: 4382329	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	101.441	101	90-110	
Antimony	100	97.038	97	90-110	
Arsenic	100	98.666	99	90-110	
Barium	100	98.266	98	90-110	
Beryllium	100	99.193	99	90-110	
Cadmium	100	101.395	101	90-110	
Calcium	10000	9930.428	99	90-110	
Chromium	100	102.103	102	90-110	
Cobalt	100	99.774	100	90-110	

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc. Run ID: ICPMS04_308513

Project: Longhorn GW Treatment Plant Quarterly Influent Samples Instrument: ICPMS04

WorkOrder: HS17121169 Method: SW6020

CCV2 Date: 05-Jan-2018 12:47 Seq: 4382329 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Iron	10000	10059.279	101	90-110	
Lead	100	99.4	99	90-110	
Magnesium	10000	10076.912	101	90-110	
Manganese	100	103.137	103	90-110	
Nickel	100	101.986	102	90-110	
Potassium	10000	10099.724	101	90-110	
Selenium	100	101.469	101	90-110	
Silver	100	100.417	100	90-110	
Sodium	10000	10182.492	102	90-110	
Thallium	100	99.412	99	90-110	
Vanadium	100	99.795	100	90-110	
Zinc	100	102.174	102	90-110	

CCV3 Date: 05-Jan-2018 13:14 Seq: 4382589 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	101.2	101	90-110	
Antimony	100	96.873	97	90-110	
Arsenic	100	96.019	96	90-110	
Barium	100	97.718	98	90-110	
Beryllium	100	98.723	99	90-110	
Cadmium	100	98.287	98	90-110	
Calcium	10000	9974.591	100	90-110	
Chromium	100	98.395	98	90-110	
Cobalt	100	97.612	98	90-110	
Iron	10000	10095.91	101	90-110	
Lead	100	97.293	97	90-110	
Magnesium	10000	10130.007	101	90-110	
Manganese	100	103.432	103	90-110	
Nickel	100	99.71	100	90-110	
Potassium	10000	10170.413	102	90-110	
Selenium	100	93.04	93	90-110	
Silver	100	99.485	100	90-110	
Sodium	10000	10516.626	105	90-110	
Thallium	100	99.112	99	90-110	
Vanadium	100	97.126	97	90-110	
Zinc	100	101.146	101	90-110	

CCV4 Date: 05-Jan-2018 13:40 Seq: 4382601 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	100.199	100	90-110	
Antimony	100	95.132	95	90-110	
Arsenic	100	101.375	101	90-110	
Barium	100	98.651	99	90-110	
Beryllium	100	97.745	98	90-110	
Cadmium	100	96.961	97	90-110	
Calcium	10000	10204.423	102	90-110	
Chromium	100	103.889	104	90-110	
Cobalt	100	101.799	102	90-110	
Iron	10000	10301.194	103	90-110	
Lead	100	97.204	97	90-110	
Magnesium	10000	9989.957	100	90-110	
Manganese	100	101.567	102	90-110	
Nickel	100	99.058	99	90-110	
Potassium	10000	9968.579	100	90-110	
Selenium	100	100.432	100	90-110	
Silver	100	97.717	98	90-110	
[illegible]dium	10000	10923079774	110	90-110	

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc. Run ID: ICPMS04_308513
Project: Longhorn GW Treatment Plant Quarterly Influent Samples Instrument: ICPMS04
WorkOrder: HS17121169 Method: SW6020

CCV4 Date: 05-Jan-2018 13:40 Seq: 4382601 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Thallium	100	98.048	98	90-110	
Vanadium	100	101.357	101	90-110	
Zinc	100	98.907	99	90-110	

CCV5 Date: 05-Jan-2018 14:07 Seq: 4382613 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	99.916	100	90-110	
Antimony	100	97.339	97	90-110	
Arsenic	100	95.003	95	90-110	
Barium	100	96.665	97	90-110	
Beryllium	100	97.364	97	90-110	
Cadmium	100	99.745	100	90-110	
Calcium	10000	10172.57	102	90-110	
Chromium	100	100.847	101	90-110	
Cobalt	100	100.6	101	90-110	
Iron	10000	10167.037	102	90-110	
Lead	100	95.906	96	90-110	
Magnesium	10000	9993.583	100	90-110	
Manganese	100	101.3	101	90-110	
Nickel	100	97.906	98	90-110	
Potassium	10000	10242.865	102	90-110	
Selenium	100	96.679	97	90-110	
Silver	100	97.656	98	90-110	
Sodium	10000	10671.126	107	90-110	
Thallium	100	96.982	97	90-110	
Vanadium	100	98.685	99	90-110	
Zinc	100	98.78	99	90-110	

CCV6 Date: 05-Jan-2018 14:34 Seq: 4382625 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	104.129	104	90-110	
Antimony	100	98.49	99	90-110	
Arsenic	100	97.758	98	90-110	
Barium	100	97.887	98	90-110	
Beryllium	100	97.404	97	90-110	
Cadmium	100	98.244	98	90-110	
Calcium	10000	10382.911	104	90-110	
Chromium	100	102.669	103	90-110	
Cobalt	100	101.218	101	90-110	
Iron	10000	10549.114	105	90-110	
Lead	100	97.466	98	90-110	
Magnesium	10000	10391.503	104	90-110	
Manganese	100	99.164	99	90-110	
Nickel	100	103.099	103	90-110	
Potassium	10000	10576.736	106	90-110	
Selenium	100	108.246	108	90-110	
Silver	100	99.123	99	90-110	
Sodium	10000	11022.002	110	90-110	
Thallium	100	99.462	100	90-110	
Vanadium	100	102.347	102	90-110	
Zinc	100	100.529	101	90-110	

CCV7 Date: 05-Jan-2018 15:01 Seq: 4382937 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	102.862	103	90-110	
Antimony	100	97.421	97	90-110	
Arsenic	100	99.134	99	90-110	

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc. Run ID: ICPMS04_308513
Project: Longhorn GW Treatment Plant Quarterly Influent Samples Instrument: ICPMS04
WorkOrder: HS17121169 Method: SW6020

CCV7	Date: 05-Jan-2018 15:01	Seq: 4382937	CCV	Units: ug/L	
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	97.949	98	90-110	
Beryllium	100	96.789	97	90-110	
Cadmium	100	99.646	100	90-110	
Calcium	10000	10347.384	103	90-110	
Chromium	100	101.457	101	90-110	
Cobalt	100	101.713	102	90-110	
Iron	10000	10502.339	105	90-110	
Lead	100	96.952	97	90-110	
Magnesium	10000	10232.973	102	90-110	
Manganese	100	106.824	107	90-110	
Nickel	100	100.094	100	90-110	
Potassium	10000	10399.486	104	90-110	
Selenium	100	96.842	97	90-110	
Silver	100	98.215	98	90-110	
Sodium	10000	11244.913	112	90-110	S
Thallium	100	98.353	98	90-110	
Vanadium	100	99.812	100	90-110	
Zinc	100	100.209	100	90-110	

CCV8	Date: 05-Jan-2018 15:27	Seq: 4382949	CCV	Units: ug/L	
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	105.869	106	90-110	
Antimony	100	100.008	100	90-110	
Arsenic	100	103.047	103	90-110	
Barium	100	101.009	101	90-110	
Beryllium	100	99.153	99	90-110	
Cadmium	100	102.631	103	90-110	
Calcium	10000	10597.284	106	90-110	
Chromium	100	103.266	103	90-110	
Cobalt	100	103.105	103	90-110	
Iron	10000	10624.484	106	90-110	
Lead	100	98.602	99	90-110	
Magnesium	10000	10945.497	109	90-110	
Manganese	100	104.244	104	90-110	
Nickel	100	101.198	101	90-110	
Potassium	10000	10441.341	104	90-110	
Selenium	100	91.464	92	90-110	
Silver	100	99.72	100	90-110	
Sodium	10000	11231.524	112	90-110	S
Thallium	100	100.309	100	90-110	
Vanadium	100	101.839	102	90-110	
Zinc	100	102.614	103	90-110	

CCV9	Date: 05-Jan-2018 15:54	Seq: 4382961	CCV	Units: ug/L	
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	102.806	103	90-110	
Antimony	100	100.346	100	90-110	
Arsenic	100	98.732	99	90-110	
Barium	100	98.744	99	90-110	
Beryllium	100	97.979	98	90-110	
Cadmium	100	100.507	101	90-110	
Calcium	10000	10463.494	105	90-110	
Chromium	100	105.404	105	90-110	
Cobalt	100	101.533	102	90-110	
Iron	10000	10409.532	104	90-110	
Lead	100	97.664	98	90-110	
Magnesium	10000	10346.774	103	90-110	

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc. Run ID: ICPMS04_308513
Project: Longhorn GW Treatment Plant Quarterly Influent Samples Instrument: ICPMS04
WorkOrder: HS17121169 Method: SW6020

CCV9	Date: 05-Jan-2018 15:54	Seq: 4382961	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Manganese	100	104.52	105	90-110	
Nickel	100	100.557	101	90-110	
Potassium	10000	10369.879	104	90-110	
Selenium	100	97.089	97	90-110	
Silver	100	98.718	99	90-110	
Sodium	10000	11014.829	110	90-110	
Thallium	100	98.776	99	90-110	
Vanadium	100	100.845	101	90-110	
Zinc	100	101.855	102	90-110	

CCV10	Date: 05-Jan-2018 16:21	Seq: 4383069	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	103.768	104	90-110	
Antimony	100	93.947	94	90-110	
Arsenic	100	93.986	94	90-110	
Barium	100	98.685	99	90-110	
Beryllium	100	93.945	94	90-110	
Cadmium	100	98.734	99	90-110	
Calcium	10000	9996.897	100	90-110	
Chromium	100	100.173	100	90-110	
Cobalt	100	98.572	99	90-110	
Iron	10000	10125.595	101	90-110	
Lead	100	96.185	96	90-110	
Magnesium	10000	10616.553	106	90-110	
Manganese	100	98.883	99	90-110	
Nickel	100	100.639	101	90-110	
Potassium	10000	10357.985	104	90-110	
Selenium	100	87.124	87	90-110	S
Silver	100	95.755	96	90-110	
Sodium	10000	11199.181	112	90-110	S
Thallium	100	98.649	99	90-110	
Vanadium	100	99.08	99	90-110	
Zinc	100	99.812	100	90-110	

CCV11	Date: 05-Jan-2018 16:49	Seq: 4383097	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	101.651	102	90-110	
Antimony	100	95.66	96	90-110	
Arsenic	100	97.996	98	90-110	
Barium	100	93.347	93	90-110	
Beryllium	100	92.338	92	90-110	
Cadmium	100	97.374	97	90-110	
Calcium	10000	10182.366	102	90-110	
Chromium	100	101.058	101	90-110	
Cobalt	100	97.54	98	90-110	
Iron	10000	10069.125	101	90-110	
Lead	100	95.004	95	90-110	
Magnesium	10000	10245.713	102	90-110	
Manganese	100	98.735	99	90-110	
Nickel	100	98.866	99	90-110	
Potassium	10000	10144.948	101	90-110	
Selenium	100	97.144	97	90-110	
Silver	100	96.837	97	90-110	
Sodium	10000	10797.402	108	90-110	
Thallium	100	95.808	96	90-110	
Vanadium	100	98.66	99	90-110	
Zinc	100	99.774	99	90-110	

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc. Run ID: ICPMS04_308513
Project: Longhorn GW Treatment Plant Quarterly Influent Samples Instrument: ICPMS04
WorkOrder: HS17121169 Method: SW6020

CCV12 Date: 05-Jan-2018 17:16 Seq: 4383201 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	100.996	101	90-110	
Antimony	100	96.223	96	90-110	
Arsenic	100	92.128	92	90-110	
Barium	100	96.951	97	90-110	
Beryllium	100	95.411	95	90-110	
Cadmium	100	98.395	98	90-110	
Calcium	10000	9773.033	98	90-110	
Chromium	100	100.418	100	90-110	
Cobalt	100	99.165	99	90-110	
Iron	10000	10238.878	102	90-110	
Lead	100	95.332	95	90-110	
Magnesium	10000	10358.101	104	90-110	
Manganese	100	98.745	99	90-110	
Nickel	100	99.438	99	90-110	
Potassium	10000	10196.575	102	90-110	
Selenium	100	98.398	98	90-110	
Silver	100	96.067	96	90-110	
Sodium	10000	10548.989	105	90-110	
Thallium	100	96.49	97	90-110	
Vanadium	100	97.871	98	90-110	
Zinc	100	99.646	100	90-110	

CCV13 Date: 05-Jan-2018 17:47 Seq: 4383215 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	103.148	103	90-110	
Antimony	100	100.807	101	90-110	
Arsenic	100	100.715	101	90-110	
Barium	100	100.711	101	90-110	
Beryllium	100	99.303	99	90-110	
Cadmium	100	101.506	102	90-110	
Calcium	10000	10435.548	104	90-110	
Chromium	100	104.066	104	90-110	
Cobalt	100	103.239	103	90-110	
Iron	10000	10669.926	107	90-110	
Lead	100	99.012	99	90-110	
Magnesium	10000	10731.846	107	90-110	
Manganese	100	103.527	104	90-110	
Nickel	100	102.224	102	90-110	
Potassium	10000	10681.35	107	90-110	
Selenium	100	101.265	101	90-110	
Silver	100	100.598	101	90-110	
Sodium	10000	11762.624	118	90-110	S
Thallium	100	101.517	102	90-110	
Vanadium	100	101.077	101	90-110	
Zinc	100	102.726	103	90-110	

CCV14 Date: 05-Jan-2018 18:12 Seq: 4383253 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	104.34	104	90-110	
Antimony	100	100.927	101	90-110	
Arsenic	100	106.895	107	90-110	
Barium	100	103.99	104	90-110	
Beryllium	100	99.072	99	90-110	
Cadmium	100	101.334	101	90-110	
Calcium	10000	10811.421	108	90-110	
Chromium	100	103.095	103	90-110	
Cobalt	100	101.239	101	90-110	

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc. Run ID: ICPMS04_308513

Project: Longhorn GW Treatment Plant Quarterly Influent Samples Instrument: ICPMS04

WorkOrder: HS17121169 Method: SW6020

CCV14 Date: 05-Jan-2018 18:12 Seq: 4383253 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Iron	10000	10397.072	104	90-110	
Lead	100	97.972	98	90-110	
Magnesium	10000	10841.3	108	90-110	
Manganese	100	102.563	103	90-110	
Nickel	100	102.589	103	90-110	
Potassium	10000	10558.851	106	90-110	
Selenium	100	98.123	98	90-110	
Silver	100	99.337	99	90-110	
Sodium	10000	11643.42	116	90-110	S
Thallium	100	101.082	101	90-110	
Vanadium	100	102.199	102	90-110	
Zinc	100	104.748	105	90-110	

CCV15 Date: 05-Jan-2018 18:39 Seq: 4383265 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	103.583	104	90-110	
Antimony	100	99.665	100	90-110	
Arsenic	100	104.531	105	90-110	
Barium	100	101.488	101	90-110	
Beryllium	100	97.749	98	90-110	
Cadmium	100	102.943	103	90-110	
Calcium	10000	10598.491	106	90-110	
Chromium	100	103.156	103	90-110	
Cobalt	100	101.957	102	90-110	
Iron	10000	10471.991	105	90-110	
Lead	100	98.74	99	90-110	
Magnesium	10000	10593.9	106	90-110	
Manganese	100	104.176	104	90-110	
Nickel	100	99.475	100	90-110	
Potassium	10000	10480.893	105	90-110	
Selenium	100	99.727	100	90-110	
Silver	100	97.791	98	90-110	
Sodium	10000	11733.432	117	90-110	S
Thallium	100	99.684	100	90-110	
Vanadium	100	101.833	102	90-110	
Zinc	100	103.217	103	90-110	

CCV16 Date: 05-Jan-2018 19:05 Seq: 4383297 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	104.025	104	90-110	
Antimony	100	101.598	102	90-110	
Arsenic	100	104.62	105	90-110	
Barium	100	105.068	105	90-110	
Beryllium	100	100.64	101	90-110	
Cadmium	100	102.666	103	90-110	
Calcium	10000	10877.775	109	90-110	
Chromium	100	102.814	103	90-110	
Cobalt	100	101.905	102	90-110	
Iron	10000	10237.277	102	90-110	
Lead	100	99.819	100	90-110	
Magnesium	10000	10653.01	107	90-110	
Manganese	100	102.73	103	90-110	
Nickel	100	101.806	102	90-110	
Potassium	10000	10558.573	106	90-110	
Selenium	100	107.812	108	90-110	
Silver	100	99.345	99	90-110	
[illegible]dium	10000	11[illegible]1774	118	90-110	S

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc. Run ID: ICPMS04_308513
Project: Longhorn GW Treatment Plant Quarterly Influent Samples Instrument: ICPMS04
WorkOrder: HS17121169 Method: SW6020

CCV16	Date: 05-Jan-2018 19:05		Seq: 4383297	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Thallium	100	100.806	101	90-110	
Vanadium	100	101.44	101	90-110	
Zinc	100	103.934	104	90-110	

CCV17	Date: 05-Jan-2018 19:27		Seq: 4383304	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	109.481	109	90-110	
Antimony	100	96.502	97	90-110	
Arsenic	100	99.622	100	90-110	
Barium	100	103.651	104	90-110	
Beryllium	100	99.616	100	90-110	
Cadmium	100	102.598	103	90-110	
Calcium	10000	10670.851	107	90-110	
Chromium	100	104.07	104	90-110	
Cobalt	100	100.647	101	90-110	
Iron	10000	10271.54	103	90-110	
Lead	100	98.175	98	90-110	
Magnesium	10000	11125.407	111	90-110	S
Manganese	100	101.24	101	90-110	
Nickel	100	104.44	104	90-110	
Potassium	10000	11341.263	113	90-110	S
Selenium	100	105.514	106	90-110	
Silver	100	95.902	96	90-110	
Sodium	10000	12378.465	124	90-110	S
Thallium	100	100.848	101	90-110	
Vanadium	100	100.592	101	90-110	
Zinc	100	102.288	102	90-110	

ICCV18	Date: 05-Jan-2018 20:06		Seq: 4383314	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	76.834	77	90-110	S
Antimony	100	99.504	100	90-110	
Arsenic	100	93.176	93	90-110	
Barium	100	97.249	97	90-110	
Beryllium	100	104.798	105	90-110	
Cadmium	100	97.912	98	90-110	
Calcium	10000	9434.097	94	90-110	
Chromium	100	97.807	98	90-110	
Cobalt	100	97.501	98	90-110	
Iron	10000	9839.987	98	90-110	
Lead	100	95.195	95	90-110	
Magnesium	10000	9629.71	96	90-110	
Manganese	100	96.782	97	90-110	
Nickel	100	99.49	100	90-110	
Potassium	10000	9673.785	97	90-110	
Selenium	100	100.631	101	90-110	
Silver	100	96.057	96	90-110	
Sodium	10000	9613.333	96	90-110	
Thallium	100	99.226	99	90-110	
Vanadium	100	96.174	96	90-110	
Zinc	100	97.727	98	90-110	

CCV19	Date: 05-Jan-2018 20:26		Seq: 4383323	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	67.161	67	90-110	S
Antimony	100	95.733	96	90-110	
Arsenic	100	98.774	98	90-110	

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCV19 Date: 05-Jan-2018 20:26 Seq: 4383323 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	99.517	100	90-110	
Beryllium	100	102.883	103	90-110	
Cadmium	100	98.44	98	90-110	
Calcium	10000	10142.291	101	90-110	
Chromium	100	96.405	96	90-110	
Cobalt	100	96.611	97	90-110	
Iron	10000	9782.249	98	90-110	
Lead	100	93.677	94	90-110	
Magnesium	10000	9670.954	97	90-110	
Manganese	100	98.224	98	90-110	
Nickel	100	97.096	97	90-110	
Potassium	10000	9682.437	97	90-110	
Selenium	100	97.109	97	90-110	
Silver	100	96.689	97	90-110	
Sodium	10000	10404.366	104	90-110	
Thallium	100	95.182	95	90-110	
Vanadium	100	97.295	97	90-110	
Zinc	100	96.327	96	90-110	

CCV20 Date: 05-Jan-2018 20:30 Seq: 4383325 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	66.919	67	90-110	S
Antimony	100	96.105	96	90-110	
Arsenic	100	100.307	100	90-110	
Barium	100	102.37	102	90-110	
Beryllium	100	103.682	104	90-110	
Cadmium	100	96.552	97	90-110	
Calcium	10000	10151.506	102	90-110	
Chromium	100	100.881	101	90-110	
Cobalt	100	100.261	100	90-110	
Iron	10000	9906.62	99	90-110	
Lead	100	94.76	95	90-110	
Magnesium	10000	9846.158	99	90-110	
Manganese	100	99.553	100	90-110	
Nickel	100	97.895	98	90-110	
Potassium	10000	9624.877	96	90-110	
Selenium	100	93.047	93	90-110	
Silver	100	96.35	96	90-110	
Sodium	10000	10812.339	108	90-110	
Thallium	100	94.616	95	90-110	
Vanadium	100	98.11	98	90-110	
Zinc	100	98.723	99	90-110	

CCV21 Date: 05-Jan-2018 20:57 Seq: 4383337 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	66.646	67	90-110	S
Antimony	100	98.133	98	90-110	
Arsenic	100	95.702	96	90-110	
Barium	100	102.358	102	90-110	
Beryllium	100	104.683	105	90-110	
Cadmium	100	98.064	98	90-110	
Calcium	10000	9831.269	98	90-110	
Chromium	100	95.404	95	90-110	
Cobalt	100	96.214	96	90-110	
Iron	10000	9642.43	96	90-110	
Lead	100	95.421	95	90-110	
[illegible]gnesium	10000	9845.385774	98	90-110	

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc. Run ID: ICPMS04_308513

Project: Longhorn GW Treatment Plant Quarterly Influent Samples Instrument: ICPMS04

WorkOrder: HS17121169 Method: SW6020

CCV21	Date: 05-Jan-2018 20:57		Seq: 4383337	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Manganese	100	99.011	99	90-110	
Nickel	100	98.682	99	90-110	
Potassium	10000	9763.3	98	90-110	
Selenium	100	96.965	97	90-110	
Silver	100	96.257	96	90-110	
Sodium	10000	10284.97	103	90-110	
Thallium	100	95.667	96	90-110	
Vanadium	100	95.696	96	90-110	
Zinc	100	99.659	100	90-110	

CCV22	Date: 05-Jan-2018 21:30		Seq: 4383353	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	65.984	66	90-110	S
Antimony	100	97.955	98	90-110	
Arsenic	100	91.093	91	90-110	
Barium	100	101.095	101	90-110	
Beryllium	100	104.433	104	90-110	
Cadmium	100	97.823	98	90-110	
Calcium	10000	9716.871	97	90-110	
Chromium	100	94.845	95	90-110	
Cobalt	100	95.485	96	90-110	
Iron	10000	9410.771	94	90-110	
Lead	100	94.756	95	90-110	
Magnesium	10000	9631.992	96	90-110	
Manganese	100	93.884	94	90-110	
Nickel	100	98.457	99	90-110	
Potassium	10000	9772.772	98	90-110	
Selenium	100	96.093	96	90-110	
Silver	100	98.145	98	90-110	
Sodium	10000	10052.056	101	90-110	
Thallium	100	95.111	95	90-110	
Vanadium	100	94.075	94	90-110	
Zinc	100	100.777	101	90-110	

CCV23	Date: 05-Jan-2018 21:49		Seq: 4383362	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	65.751	66	90-110	S
Antimony	100	98.238	98	90-110	
Arsenic	100	96.078	96	90-110	
Barium	100	99.781	100	90-110	
Beryllium	100	104.438	104	90-110	
Cadmium	100	97.975	98	90-110	
Calcium	10000	9735.11	97	90-110	
Chromium	100	96.432	96	90-110	
Cobalt	100	95.035	95	90-110	
Iron	10000	9607.232	96	90-110	
Lead	100	95.523	96	90-110	
Magnesium	10000	9761.01	98	90-110	
Manganese	100	95.418	95	90-110	
Nickel	100	95.98	96	90-110	
Potassium	10000	9605.685	96	90-110	
Selenium	100	96.525	97	90-110	
Silver	100	97.473	98	90-110	
Sodium	10000	10223.357	102	90-110	
Thallium	100	96.124	96	90-110	
Vanadium	100	93.987	94	90-110	
Zinc	100	98.154	98	90-110	

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

ICCV24 Date: 05-Jan-2018 22:10 Seq: 4383371 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	75.427	75	90-110	S
Antimony	100	98.582	99	90-110	
Arsenic	100	98.592	99	90-110	
Barium	100	97.484	98	90-110	
Beryllium	100	106.675	107	90-110	
Cadmium	100	97.771	98	90-110	
Calcium	10000	9966.506	100	90-110	
Chromium	100	101.317	101	90-110	
Cobalt	100	101.13	101	90-110	
Iron	10000	9732.221	97	90-110	
Lead	100	98.283	98	90-110	
Magnesium	10000	9741.36	97	90-110	
Manganese	100	97.915	98	90-110	
Nickel	100	97.596	98	90-110	
Potassium	10000	9729.336	97	90-110	
Selenium	100	98.749	99	90-110	
Silver	100	96.829	97	90-110	
Sodium	10000	10416.544	104	90-110	
Thallium	100	100.779	101	90-110	
Vanadium	100	98.346	98	90-110	
Zinc	100	98.841	99	90-110	

CCV25 Date: 05-Jan-2018 22:33 Seq: 4383380 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	66.316	66	90-110	S
Antimony	100	97.095	97	90-110	
Arsenic	100	92.591	93	90-110	
Barium	100	99.986	100	90-110	
Beryllium	100	101.349	101	90-110	
Cadmium	100	96.877	97	90-110	
Calcium	10000	9971.09	100	90-110	
Chromium	100	95.085	95	90-110	
Cobalt	100	93.398	93	90-110	
Iron	10000	9470.205	95	90-110	
Lead	100	96.556	97	90-110	
Magnesium	10000	9544.164	95	90-110	
Manganese	100	93.44	93	90-110	
Nickel	100	95.258	95	90-110	
Potassium	10000	9831.398	98	90-110	
Selenium	100	95.196	95	90-110	
Silver	100	96.992	97	90-110	
Sodium	10000	10362.351	104	90-110	
Thallium	100	95.563	96	90-110	
Vanadium	100	93.3	93	90-110	
Zinc	100	98.034	98	90-110	

CCV26 Date: 05-Jan-2018 23:00 Seq: 4383757 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	70.001	70	90-110	S
Antimony	100	94.898	95	90-110	
Arsenic	100	91.448	91	90-110	
Barium	100	95.963	96	90-110	
Beryllium	100	101.761	102	90-110	
Cadmium	100	96.386	96	90-110	
Calcium	10000	9551.442	96	90-110	
Chromium	100	95.254	95	90-110	
Cobalt	100	95.509	96	90-110	

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc. Run ID: ICPMS04_308513

Project: Longhorn GW Treatment Plant Quarterly Influent Samples Instrument: ICPMS04

WorkOrder: HS17121169 Method: SW6020

CCV26 Date: 05-Jan-2018 23:00 Seq: 4383757 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Iron	10000	9349.784	94	90-110	
Lead	100	96.685	97	90-110	
Magnesium	10000	9530.01	95	90-110	
Manganese	100	95.106	95	90-110	
Nickel	100	95.79	96	90-110	
Potassium	10000	9658.007	97	90-110	
Selenium	100	92.271	92	90-110	
Silver	100	95.101	95	90-110	
Sodium	10000	10025.318	100	90-110	
Thallium	100	96.233	96	90-110	
Vanadium	100	94.589	95	90-110	
Zinc	100	96.742	97	90-110	

CCV27 Date: 05-Jan-2018 23:27 Seq: 4383769 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	68.243	68	90-110	S
Antimony	100	95.913	96	90-110	
Arsenic	100	90.467	91	90-110	
Barium	100	93.125	93	90-110	
Beryllium	100	102.105	102	90-110	
Cadmium	100	93.67	94	90-110	
Calcium	10000	10090.798	101	90-110	
Chromium	100	96.281	96	90-110	
Cobalt	100	97.81	98	90-110	
Iron	10000	9557.749	96	90-110	
Lead	100	93.39	93	90-110	
Magnesium	10000	9287.741	93	90-110	
Manganese	100	94.206	94	90-110	
Nickel	100	93.005	93	90-110	
Potassium	10000	9324.111	93	90-110	
Selenium	100	93.875	94	90-110	
Silver	100	93.751	94	90-110	
Sodium	10000	10396.867	104	90-110	
Thallium	100	94.134	94	90-110	
Vanadium	100	95.376	95	90-110	
Zinc	100	94.411	94	90-110	

CCV28 Date: 05-Jan-2018 23:53 Seq: 4383781 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	69.433	69	90-110	S
Antimony	100	99.352	99	90-110	
Arsenic	100	97.303	97	90-110	
Barium	100	97.917	98	90-110	
Beryllium	100	102.603	103	90-110	
Cadmium	100	97.87	98	90-110	
Calcium	10000	9723.124	97	90-110	
Chromium	100	97.315	97	90-110	
Cobalt	100	96.769	97	90-110	
Iron	10000	9485.782	95	90-110	
Lead	100	96.849	97	90-110	
Magnesium	10000	9508.277	95	90-110	
Manganese	100	94.489	95	90-110	
Nickel	100	95.872	96	90-110	
Potassium	10000	9672.822	97	90-110	
Selenium	100	92.054	92	90-110	
Silver	100	96.935	97	90-110	
[illegible]dium	10000	10037.774	100	90-110	

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCV28	Date: 05-Jan-2018 23:53		Seq: 4383781	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Thallium	100	96.951	97	90-110	
Vanadium	100	95.498	96	90-110	
Zinc	100	97.681	98	90-110	

CCV29	Date: 06-Jan-2018 00:20		Seq: 4383793	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	70.112	70	90-110	S
Antimony	100	98.821	99	90-110	
Arsenic	100	95.78	96	90-110	
Barium	100	100.039	100	90-110	
Beryllium	100	105.267	105	90-110	
Cadmium	100	98.622	99	90-110	
Calcium	10000	9667.76	97	90-110	
Chromium	100	95.949	96	90-110	
Cobalt	100	96.035	96	90-110	
Iron	10000	9341.565	93	90-110	
Lead	100	97.953	98	90-110	
Magnesium	10000	9581.005	96	90-110	
Manganese	100	95.83	96	90-110	
Nickel	100	97.087	97	90-110	
Potassium	10000	9765.855	98	90-110	
Selenium	100	101.785	102	90-110	
Silver	100	96.521	97	90-110	
Sodium	10000	9860.699	99	90-110	
Thallium	100	98.208	98	90-110	
Vanadium	100	95.295	95	90-110	
Zinc	100	96.583	97	90-110	

CCV30	Date: 06-Jan-2018 00:46		Seq: 4383805	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	69.524	70	90-110	S
Antimony	100	102.188	102	90-110	
Arsenic	100	97.876	98	90-110	
Barium	100	101.118	101	90-110	
Beryllium	100	105.865	106	90-110	
Cadmium	100	97.531	98	90-110	
Calcium	10000	9926.974	99	90-110	
Chromium	100	94.45	94	90-110	
Cobalt	100	94.808	95	90-110	
Iron	10000	9425.29	94	90-110	
Lead	100	97.945	98	90-110	
Magnesium	10000	9626.961	96	90-110	
Manganese	100	96.214	96	90-110	
Nickel	100	96.965	97	90-110	
Potassium	10000	9692.843	97	90-110	
Selenium	100	94.651	95	90-110	
Silver	100	96.693	97	90-110	
Sodium	10000	9851.638	99	90-110	
Thallium	100	98.229	98	90-110	
Vanadium	100	93.85	94	90-110	
Zinc	100	98.324	98	90-110	

CCV31	Date: 06-Jan-2018 00:57		Seq: 4383810	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	69.107	69	90-110	S
Antimony	100	101.38	101	90-110	
Arsenic	100	97.774	98	90-110	

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

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCV31 Date: 06-Jan-2018 00:57 Seq: 4383810 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	97.843	98	90-110	
Beryllium	100	105.593	106	90-110	
Cadmium	100	97.692	98	90-110	
Calcium	10000	9624.379	96	90-110	
Chromium	100	96.469	97	90-110	
Cobalt	100	98.169	98	90-110	
Iron	10000	9331.481	93	90-110	
Lead	100	98.373	98	90-110	
Magnesium	10000	9626.915	96	90-110	
Manganese	100	95.427	95	90-110	
Nickel	100	99.063	99	90-110	
Potassium	10000	9631.696	96	90-110	
Selenium	100	86.527	87	90-110	S
Silver	100	97.572	98	90-110	
Sodium	10000	9712.977	97	90-110	
Thallium	100	98.18	98	90-110	
Vanadium	100	94.01	94	90-110	
Zinc	100	97.757	98	90-110	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

ICB	Date: 05-Jan-2018 11:33		Seq: 4382237	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	5	0.4	5	U	
Arsenic	5	0.4	5	U	
Barium	5	1.9	5	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	5	0.4	5	U	
Cobalt	5	0.1	5	U	
Iron	200	12	200	U	
Lead	5	0.6	5	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	5	0.6	5	U	
Potassium	200	18	200	U	
Selenium	-1.196	1.1	5	J	
Silver	5	0.2	5	U	
Sodium	200	14	200	U	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	5	2	5	U	

CCB1	Date: 05-Jan-2018 12:15		Seq: 4382293	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.903	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	
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	26.13	18	200	J	
Selenium	-2.504	1.1	2		
Silver	2	0.2	2	U	
Sodium	35.57	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB2	Date: 05-Jan-2018 12:50		Seq: 4382330	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.7	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	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB2 Date: 05-Jan-2018 12:50 Seq: 4382330 CCB Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Cobalt	5	0.2	5	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	5	0.6	5	U
Zinc	4	2	4	U

MBLK-124039 Date: 05-Jan-2018 12:52 Seq: 4382579 MBLK Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Aluminum	3.836	1.8	10	J
Antimony	0.414	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
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	118.7	18	200	J
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

CCB3 Date: 05-Jan-2018 13:16 Seq: 4382590 CCB Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Aluminum	10	1.8	10	U
Antimony	0.879	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
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	39.35	18	200	J
Selenium	2	1.1	2	U
Silver	2	0.2	2	U

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB3	Date: 05-Jan-2018 13:16		Seq: 4382590	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Sodium	46.49	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB4	Date: 05-Jan-2018 13:42		Seq: 4382602	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.746	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	
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	29.96	18	200	J	
Selenium	-1.361	1.1	2	J	
Silver	2	0.2	2	U	
Sodium	59.68	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB5	Date: 05-Jan-2018 14:09		Seq: 4382614	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	
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	28.43	18	200	J	
Selenium	-1.527	1.1	2	J	
Silver	2	0.2	2	U	
Sodium	31.03	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB6	Date: 05-Jan-2018 14:36		Seq: 4382626	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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB6	Date: 05-Jan-2018 14:36		Seq: 4382626	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Antimony	0.404	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	
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	40.33	18	200	J	
Selenium	1.255	1.1	2	J	
Silver	2	0.2	2	U	
Sodium	81.78	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB7	Date: 05-Jan-2018 15:03		Seq: 4382938	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.413	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	
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	34.7	18	200	J	
Selenium	2.288	1.1	2		
Silver	2	0.2	2	U	
Sodium	98.89	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB8	Date: 05-Jan-2018 15:29		Seq: 4382950	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	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB8	Date: 05-Jan-2018 15:29		Seq: 4382950	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Potassium	200	18	200	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	40.16	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB9	Date: 05-Jan-2018 15:56		Seq: 4382962	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	
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	19.98	18	200	J	
Selenium	-2.172	1.1	2		
Silver	2	0.2	2	U	
Sodium	43.55	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB10	Date: 05-Jan-2018 16:23		Seq: 4383070	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	
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	41.44	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB10	Date: 05-Jan-2018 16:23		Seq: 4383070	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Sodium	163.3	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB11	Date: 05-Jan-2018 16:51		Seq: 4383098	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	
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	56.41	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB12	Date: 05-Jan-2018 17:18		Seq: 4383202	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	
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	-1.991	1.1	2	J	
Silver	2	0.2	2	U	
Sodium	51.99	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB13	Date: 05-Jan-2018 17:45		Seq: 4383214	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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB13	Date: 05-Jan-2018 17:45		Seq: 4383214	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	
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	53.33	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	106	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

MBLK-124039	Date: 05-Jan-2018 17:59		Seq: 4383227	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Zinc	2.768	2	4	J	

CCB14	Date: 05-Jan-2018 18:14		Seq: 4383254	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	
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	52.6	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	67.35	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB15	Date: 05-Jan-2018 18:41		Seq: 4383266	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	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB15 Date: 05-Jan-2018 18:41 Seq: 4383266 CCB Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Cadmium	2	0.2	2	U
Calcium	500	34	500	U
Chromium	4	0.4	4	U
Cobalt	5	0.2	5	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	58.09	18	200	J
Selenium	2	1.1	2	U
Silver	2	0.2	2	U
Sodium	52.89	14	200	J
Thallium	2	0.2	2	U
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

CCB16 Date: 05-Jan-2018 19:07 Seq: 4383298 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
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	46.68	18	200	J
Selenium	-1.404	1.1	2	J
Silver	2	0.2	2	U
Sodium	64.16	14	200	J
Thallium	2	0.2	2	U
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

CCB17 Date: 05-Jan-2018 19:29 Seq: 4383305 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
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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB17	Date: 05-Jan-2018 19:29		Seq: 4383305	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Nickel	0.986	0.6	2	J	
Potassium	122.7	18	200	J	
Selenium	1.129	1.1	2	J	
Silver	2	0.2	2	U	
Sodium	402.4	14	200		
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

ICCB18	Date: 05-Jan-2018 20:12		Seq: 4383317	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	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	-0.697	0.6	2	J	
Potassium	-33.04	18	200	J	
Selenium	1.308	1.1	2	J	
Silver	2	0.2	2	U	
Sodium	-82.04	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB19	Date: 05-Jan-2018 20:28		Seq: 4383324	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	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	-0.643	0.6	2	J	
Potassium	-21.45	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	-81.59	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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB20	Date: 05-Jan-2018 20:32		Seq: 4383326	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	
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	-25.31	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	-88.93	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB21	Date: 05-Jan-2018 20:59		Seq: 4383338	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	
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	-23.24	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	-61.76	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB22	Date: 05-Jan-2018 21:32		Seq: 4383354	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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB22 Date: 05-Jan-2018 21:32 Seq: 4383354 CCB Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Cobalt	5	0.2	5	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	-26.22	18	200	J
Selenium	2	1.1	2	U
Silver	2	0.2	2	U
Sodium	-99.99	14	200	J
Thallium	2	0.2	2	U
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

CCB23 Date: 05-Jan-2018 21:52 Seq: 4383363 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
Iron	200	12	200	U
Lead	2	0.6	2	U
Magnesium	200	10	200	U
Manganese	5	0.7	5	U
Nickel	-0.643	0.6	2	J
Potassium	200	18	200	U
Selenium	2	1.1	2	U
Silver	2	0.2	2	U
Sodium	-94.35	14	200	J
Thallium	2	0.2	2	U
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

ICCB24 Date: 05-Jan-2018 22:17 Seq: 4383374 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
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

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

ICCB24	Date: 05-Jan-2018 22:17		Seq: 4383374	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Silver	2	0.2	2	U	
Sodium	-21.87	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB25	Date: 05-Jan-2018 22:36		Seq: 4383381	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	
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	-18.49	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB26	Date: 05-Jan-2018 23:02		Seq: 4383758	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	
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	22.75	18	200	J	
Selenium	-1.658	1.1	2	J	
Silver	2	0.2	2	U	
Sodium	56.29	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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB27	Date: 05-Jan-2018 23:29		Seq: 4383770	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	
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	-1.374	1.1	2	J	
Silver	2	0.2	2	U	
Sodium	42.36	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB28	Date: 05-Jan-2018 23:55		Seq: 4383782	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	
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	-1.999	1.1	2	J	
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	

CCB29	Date: 06-Jan-2018 00:22		Seq: 4383794	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: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB29	Date: 06-Jan-2018 00:22		Seq: 4383794	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Cobalt	5	0.2	5	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	-1.652	1.1	2	J	
Silver	2	0.2	2	U	
Sodium	32.82	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB30	Date: 06-Jan-2018 00:48		Seq: 4383806	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.745	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	
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	20.49	18	200	J	
Selenium	-1.74	1.1	2	J	
Silver	2	0.2	2	U	
Sodium	21.9	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB31	Date: 06-Jan-2018 00:59		Seq: 4383811	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	1.227	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	
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	20.93	18	200	J	
Selenium	2	1.1	2	U	

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

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Run ID: ICPMS04_308513
Instrument: ICPMS04
Method: SW6020

CCB31 Date: 06-Jan-2018 00:59 Seq: 4383811 CCB Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
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

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

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc. Run ID:ICPMS04_308513

Project: Longhorn GW Treatment Plant Quarterly Influent Samples Instrument:ICPMS04

WorkOrder: HS17121169 Method:SW6020

ICSA	Date: 05-Jan-2018 11:39	Seq: 4382240	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100000	96260	96.3	
Antimony		0.29	0	
Arsenic		-0.024	0	
Barium		-0.097	0	
Beryllium		0.01	0	
Cadmium		0.612	0	
Calcium	100000	97460	97.5	
Chromium		0.006	0	
Cobalt		0.013	0	
Iron	100000	98740	98.7	
Lead		0.104	0	
Magnesium	100000	99630	99.6	
Manganese		0.315	0	
Nickel		0.69	0	
Potassium	100000	103400	103	
Selenium		-0.306	0	
Silver		0.012	0	
Sodium	100000	98830	98.8	
Thallium		0.062	0	
Vanadium		-0.191	0	
Zinc		0.28	0	

ICSAB	Date: 05-Jan-2018 11:41	Seq: 4382241	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100500	97120	96.6	
Antimony	100	103.3	103	
Arsenic	100	93.73	93.7	
Barium	100	102.7	103	
Beryllium	100	100.9	101	
Cadmium	100	100.7	101	
Calcium	110000	105500	95.9	
Chromium	100	95.82	95.8	
Cobalt	100	96.91	96.9	
Iron	110000	104500	95.0	
Lead	100	101.6	102	
Magnesium	110000	108100	98.3	
Manganese	100	97.48	97.5	
Nickel	100	101.9	102	
Potassium	110000	113500	103	
Selenium	100	108.4	108	
Silver	100	98.65	98.7	
Sodium	110000	107600	97.9	
Thallium	100	98.86	98.9	
Vanadium	100	96.92	96.9	
Zinc	100	101.9	102	

ICSA	Date: 05-Jan-2018 22:19	Seq: 4383375	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100000	62610	62.6	
Antimony		0.012	0	
Arsenic		-0.048	0	
Barium		0.044	0	
Beryllium		0.002	0	
Cadmium		0.688	0	
Calcium	100000	96520	96.5	
Chromium		0.122	0	
ɔalt		0.028	0	

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc. Run ID:ICPMS04_308513
Project: Longhorn GW Treatment Plant Quarterly Influent Samples Instrument:ICPMS04
WorkOrder: HS17121169 Method:SW6020

ICSA	Date: 05-Jan-2018 22:19	Seq: 4383375	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Iron	100000	93010	93.0	
Lead		0.08	0	
Magnesium	100000	95380	95.4	
Manganese		0.078	0	
Nickel		0.125	0	
Potassium	100000	97530	97.5	
Selenium		-2.298	0	
Silver		0.04	0	
Sodium	100000	96000	96.0	
Thallium		0.009	0	
Vanadium		-0.227	0	
Zinc		0.882	0	

ICSAB	Date: 05-Jan-2018 22:22	Seq: 4383376	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100500	61790	61.5	
Antimony	100	97.07	97.1	
Arsenic	100	97.22	97.2	
Barium	100	99.66	99.7	
Beryllium	100	104.9	105	
Cadmium	100	98.64	98.6	
Calcium	110000	104700	95.2	
Chromium	100	94.52	94.5	
Cobalt	100	94.81	94.8	
Iron	110000	101200	92.0	
Lead	100	98.32	98.3	
Magnesium	110000	102500	93.2	
Manganese	100	96.05	96.0	
Nickel	100	95.69	95.7	
Potassium	110000	106000	96.4	
Selenium	100	95.08	95.1	
Silver	100	92.8	92.8	
Sodium	110000	103800	94.4	
Thallium	100	96.48	96.5	
Vanadium	100	96.08	96.1	
Zinc	100	98.36	98.4	

ICSA	Date: 06-Jan-2018 01:06	Seq: 4383814	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100000	60960	61.0	
Antimony		0.582	0	
Arsenic		-0.205	0	
Barium		-0.004	0	
Beryllium		0.014	0	
Cadmium		0.716	0	
Calcium	100000	96530	96.5	
Chromium		0.239	0	
Cobalt		0.031	0	
Iron	100000	92210	92.2	
Lead		0.092	0	
Magnesium	100000	93080	93.1	
Manganese		0.234	0	
Nickel		0.506	0	
Potassium	100000	96310	96.3	
Selenium		-0.132	0	
Silver		0.035	0	
ium	100000	94160	94.2	

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

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc. Run ID:ICPMS04_308513

Project: Longhorn GW Treatment Plant Quarterly Influent Samples Instrument:ICPMS04

WorkOrder: HS17121169 Method:SW6020

ICSA	Date: 06-Jan-2018 01:06	Seq: 4383814	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Thallium		0.021	0	
Vanadium		-0.277	0	
Zinc		1.023	0	

ICSAB	Date: 06-Jan-2018 01:08	Seq: 4383815	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100500	61490	61.2	
Antimony	100	101.9	102	
Arsenic	100	101.9	102	
Barium	100	102.4	102	
Beryllium	100	108.1	108	
Cadmium	100	100.6	101	
Calcium	110000	109500	99.6	
Chromium	100	100.6	101	
Cobalt	100	100.7	101	
Iron	110000	104800	95.3	
Lead	100	99.98	100.0	
Magnesium	110000	102400	93.1	
Manganese	100	97.96	98.0	
Nickel	100	96.59	96.6	
Potassium	110000	106400	96.7	
Selenium	100	99.62	99.6	
Silver	100	96.37	96.4	
Sodium	110000	104900	95.4	
Thallium	100	98.17	98.2	
Vanadium	100	100.2	100	
Zinc	100	99.07	99.1	

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

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Date Analyzed: 05-Jan-2018 13:05
Date Extracted: 04-Jan-2018 12:18
Units: ug/L

Matrix Spike: HS17121169-01MS
Client Sample ID: LH18/24-SP140_122017
Analysis Method: SW6020

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Aluminum	49.91	147.7	100.0	97.8	153.5	100.0	104	80-120	3.84	20
Antimony	0.8430	48.78	50.00	95.9	50.06	50.00	98.4	80-120	2.60	20
Arsenic	1.429	51.14	50.00	99.4	49.34	50.00	95.8	80-120	3.59	20
Barium	679.5	704.5	50.00	50.0	722.1	50.00	85.3	80-120	2.47	20
Beryllium	2.000	49.68	50.00	99.2	50.56	50.00	101	80-120	1.74	20
Cadmium	0.3260	47.33	50.00	94.0	47.05	50.00	93.4	80-120	0.593	20
Calcium	40330	45130	5000	96.1	45630	5000	106	80-120	1.11	20
Chromium	1.900	48.92	50.00	94.0	53.02	50.00	102	80-120	8.06	20
Cobalt	8.769	55.23	50.00	92.9	57.64	50.00	97.8	80-120	4.28	20
Iron	890.9	5774	5000	97.7	5944	5000	101	80-120	2.90	20
Lead	2.000	46.83	50.00	93.2	47.70	50.00	94.9	80-120	1.83	20
Magnesium	32370	35500	5000	62.6	37090	5000	94.3	80-120	4.37	20
Manganese	524.4	563.1	50.00	77.4	582.8	50.00	117	80-120	3.44	20
Nickel	13.95	59.84	50.00	91.8	62.42	50.00	97.0	80-120	4.22	20
Potassium	1644	6515	5000	97.4	6661	5000	100	80-120	2.23	20
Selenium	2.000	50.77	50.00	101	42.20	50.00	83.4	80-120	18.4	20
Silver	2.000	45.21	50.00	90.4	47.37	50.00	94.8	80-120	4.66	20
Sodium	240300	243600	5000	67.7	253400	5000	262	80-120	3.91	20
Thallium	2.000	45.48	50.00	91.0	45.80	50.00	91.6	80-120	0.703	20
Vanadium	0.6270	47.68	50.00	94.1	48.92	50.00	96.6	80-120	2.57	20
Zinc	120.7	168.3	50.00	95.2	173.4	50.00	106	80-120	3.02	20

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

Form 5B - Post Digest Sample Recovery

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Date Analyzed: 05-Jan-2018 13:07
Date Extracted: 04-Jan-2018 12:18
Units: ug/L

Lab Sample ID: HS17121169-01PDS
Client Sample ID: LH18/24-SP140_122017

Analysis Method: SW6020

Analyte	Sample Result	PDS Result	Spike Amount	% Rec	% Rec Limits
Aluminum	49.91	151.1	100	101	75-125
Antimony	0.843	95.14	100	94	75-125
Arsenic	1.429	100.2	100	99	75-125
Barium	679.5	760.5	100	81	75-125
Beryllium	0	113.2	100	113	75-125
Cadmium	0.326	97.41	100	97	75-125
Calcium	40330	51810	10000	115	75-125
Chromium	1.9	103.3	100	101	75-125
Cobalt	8.769	107.5	100	99	75-125
Iron	890.9	11070	10000	102	75-125
Lead	0	98.63	100	98	75-125
Magnesium	32370	41240	10000	89	75-125
Manganese	524.4	616.9	100	93	75-125
Nickel	13.95	111	100	97	75-125
Potassium	1644	12100	10000	105	75-125
Selenium	0	113.2	100	113	75-125
Silver	0	97.71	100	98	75-125
Thallium	0	99.34	100	99	75-125
Vanadium	0.627	102.2	100	102	75-125
Zinc	120.7	223	100	102	75-125
Sodium	240300	270200	50000	60	75-125

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

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Date Analyzed: 05-Jan-2018 12:54
Date Extracted: 04-Jan-2018 12:18
Units: ug/L

Lab Sample ID: LCS-124039 Analysis Method: SW6020

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Aluminum	100	105.4	105	80-120
Antimony	50	51.56	103	80-120
Arsenic	50	49.74	100	80-120
Barium	50	48.85	98	80-120
Beryllium	50	50.03	100	80-120
Cadmium	50	49.97	100	80-120
Calcium	5000	4952	99	80-120
Chromium	50	50.99	102	80-120
Cobalt	50	49.69	99	80-120
Iron	5000	5175	104	80-120
Lead	50	48.74	98	80-120
Magnesium	5000	5149	103	80-120
Manganese	50	49.27	99	80-120
Nickel	50	50.52	101	80-120
Potassium	5000	5156	103	80-120
Selenium	50	50.8	102	80-120
Silver	50	49.94	100	80-120
Sodium	5000	5110	102	80-120
Thallium	50	47.89	96	80-120
Vanadium	50	48.28	97	80-120
Zinc	50	51.56	103	80-120

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

Form 8 - ICP Serial Dilutions

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Date Analyzed: 05-Jan-2018 13:00
Date Extracted: 04-Jan-2018 12:18
Units: ug/L

Lab Sample ID: HS17121169-01SD
Client Sample ID:LH18/24-SP140_122017

Analysis Method: SW6020

Analyte	Sample Result	C	SD Result	C	RPD	Q
Aluminum	49.91		53.21		7	
Antimony	0.843	J	0	U	0	
Arsenic	1.429	J	0	U	0	
Barium	679.5		646.8		5	
Beryllium	0	U	0	U	0	
Cadmium	0.326	J	0	U	0	
Calcium	40330		38070		6	
Chromium	1.9	J	0	U	0	
Cobalt	8.769		8.292	J	5	
Iron	890.9		853.1	J	4	
Lead	0	U	0	U	0	
Magnesium	32370		32640		1	
Manganese	524.4		505.8		4	
Nickel	13.95		14.25		2	
Potassium	1644		1780		8	
Selenium	0	U	0	U	0	
Silver	0	U	0	U	0	
Thallium	0	U	0	U	0	
Vanadium	0.627	J	0	U	0	
Zinc	120.7		110.3		9	
Sodium	224000		220500		2	

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

Form 11 - INTERNAL STANDARD ASSOCIATION

Client: Bhate Environmental Associates, Inc. Instrument:ICPMS04
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169

Mass	Analyte	Assoc Int Standard 1	Assoc Int Standard 2	Mode
9	Beryllium	Lithium		Ar
11	Boron	Lithium		Ar
23	Sodium	Germanium		Ar
24	Magnesium	Germanium		Ar
27	Aluminum	Germanium		Ar
39	Potassium	Germanium		Ar
44	Calcium	Germanium		ArHe
47	Titanium	Germanium		Ar
51	Vanadium	Germanium		ArHe
52	Chromium	Germanium		ArHe
55	Manganese	Germanium		ArHe
56	Iron	Germanium		ArHe
59	Cobalt	Germanium		ArHe
60	Nickel	Germanium		ArHe
63	Copper	Germanium		ArHe
66	Zinc	Germanium		ArHe
75	Arsenic	Germanium		ArHe
78	Selenium	Germanium		ArHe
88	Strontium	Germanium		Ar
95	Molybdenum	Germanium		Ar
105	Palladium	Germanium		Ar
107	Silver	Germanium		Ar
111	Cadmium	Indium		Ar
118	Tin	Germanium		Ar
121	Antimony	Germanium		ArHe
135	Barium	Indium		Ar
203	Thallium	Bismuth		Ar
208	Lead	Bismuth		Ar

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

FORM 12 - PREPARATION LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169
Start Date: 04-Jan-2018 09:00 End Date: 04-Jan-2018 13:00

Batch ID: 124039
Prep Code: 3010A
Method: SW3010A
Technician:

SampID	ClientID	Matrix	Init Wt	Init Vol	FinalVol (mL)	PrepFac
HS17121169-01	LH18/24-SP140_122017	Water		10	10	1
HS17121169-01MS				10	10	1
HS17121169-01MSD				10	10	1
HS17121169-01PDS				10	10	1
HS17121169-01SD				10	10	1
LCS-124039				10	10	1
MBLK-124039				10	10	1

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

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169
Start Date: 05-Jan-2018 End Date: 06-Jan-2018

Run ID:ICPMS04_308513
Instrument:ICPMS04
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS04_308513_Tune	1	05-Jan-2018 00:00	ICPMS04_308513_Tune_1	
CAL BLK	1	05-Jan-2018 11:13	020CALB.d_4382228	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
2/10/200	1	05-Jan-2018 11:15	021CALS.d_4382229	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
5/25/500	1	05-Jan-2018 11:17	022CALS.d_4382230	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
10/50/1000	1	05-Jan-2018 11:19	023CALS.d_4382231	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
100/500/10K	1	05-Jan-2018 11:22	024CALS.d_4382232	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
200/1000/20K	1	05-Jan-2018 11:24	025CALS.d_4382233	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LLICV2	1	05-Jan-2018 11:28	027SMPL.d_4382235	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LLICV5	1	05-Jan-2018 11:30	028LICV.d_4382236	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICB	1	05-Jan-2018 11:33	029_ICB.d_4382237	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICV	1	05-Jan-2018 11:35	030_ICV.d_4382238	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICSA	1	05-Jan-2018 11:39	032ICSA.d_4382240	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICSAB	1	05-Jan-2018 11:41	033ICSB.d_4382241	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 1	1	05-Jan-2018 12:15	042_CCB.d_4382293	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 1	1	05-Jan-2018 12:19	044_CCV.d_4382295	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 2	1	05-Jan-2018 12:47	054_CCV.d_4382329	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 2	1	05-Jan-2018 12:50	055_CCB.d_4382330	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
MBLK-124039	1	05-Jan-2018 12:52	056SMPL.d_4382579	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V
LCS-124039	1	05-Jan-2018 12:54	057SMPL.d_4382580	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LH18/24-SP140_122017	1	05-Jan-2018 12:58	059SMPL.d_4382582	AG AL AS BA BE CA CD CO CR FE K MG MN NI PB SB SE TL V ZN
LH18/24-SP140_122017SD	5	05-Jan-2018 13:00	060SMPL.d_4382583	AG AL AS BA BE CA CD CO CR FE K MG MN NI PB SB SE TL V ZN
LH18/24-SP140_122017MS	1	05-Jan-2018 13:03	061SMPL.d_4382584	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LH18/24-SP140_122017MSD	1	05-Jan-2018 13:05	062SMPL.d_4382585	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LH18/24-SP140_122017PDS	1	05-Jan-2018 13:07	063SMPL.d_4382586	AG AL AS BA BE CA CD CO CR FE K MG MN NI PB SB SE TL V ZN
CCV 3	1	05-Jan-2018 13:14	066_CCV.d_4382589	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 3	1	05-Jan-2018 13:16	067_CCB.d_4382590	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 4	1	05-Jan-2018 13:40	078_CCV.d_4382601	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 4	1	05-Jan-2018 13:42	079_CCB.d_4382602	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 5	1	05-Jan-2018 14:07	090_CCV.d_4382613	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 5	1	05-Jan-2018 14:09	091_CCB.d_4382614	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 6	1	05-Jan-2018 14:34	102_CCV.d_4382625	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 6	1	05-Jan-2018 14:36	103_CCB.d_4382626	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 7	1	05-Jan-2018 15:01	114_CCV.d_4382937	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 7	1	05-Jan-2018 15:03	115_CCB.d_4382938	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN

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

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169
Start Date: 05-Jan-2018 End Date: 06-Jan-2018

Run ID:ICPMS04_308513
Instrument:ICPMS04
Method:

Sample No.	D/F	Time	FileID	Analytes
CCV 8	1	05-Jan-2018 15:27	126_CCV.d_4382949	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 8	1	05-Jan-2018 15:29	127_CCB.d_4382950	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 9	1	05-Jan-2018 15:54	138_CCV.d_4382961	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 9	1	05-Jan-2018 15:56	139_CCB.d_4382962	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 10	1	05-Jan-2018 16:21	150_CCV.d_4383069	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 10	1	05-Jan-2018 16:23	151_CCB.d_4383070	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 11	1	05-Jan-2018 16:49	162_CCV.d_4383097	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 11	1	05-Jan-2018 16:51	163_CCB.d_4383098	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 12	1	05-Jan-2018 17:16	174_CCV.d_4383201	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 12	1	05-Jan-2018 17:18	175_CCB.d_4383202	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 13	1	05-Jan-2018 17:45	187_CCB.d_4383214	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 13	1	05-Jan-2018 17:47	188_CCV.d_4383215	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
MBLK-124039	1	05-Jan-2018 17:59	193SMPL.d_4383227	ZN
CCV 14	1	05-Jan-2018 18:12	199_CCV.d_4383253	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 14	1	05-Jan-2018 18:14	200_CCB.d_4383254	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 15	1	05-Jan-2018 18:39	211_CCV.d_4383265	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 15	1	05-Jan-2018 18:41	212_CCB.d_4383266	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 16	1	05-Jan-2018 19:05	223_CCV.d_4383297	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 16	1	05-Jan-2018 19:07	224_CCB.d_4383298	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 17	1	05-Jan-2018 19:27	230_CCV.d_4383304	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 17	1	05-Jan-2018 19:29	231_CCB.d_4383305	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CAL BLK	1	05-Jan-2018 19:52	236CALB.d_4383308	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
2/10/200	1	05-Jan-2018 19:55	237CALS.d_4383309	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
5/25/500	1	05-Jan-2018 19:57	238CALS.d_4383310	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
10/50/1000	1	05-Jan-2018 19:59	239CALS.d_4383311	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
100/500/10K	1	05-Jan-2018 20:01	240CALS.d_4383312	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
200/1000/20K	1	05-Jan-2018 20:03	241CALS.d_4383313	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICCV 18	1	05-Jan-2018 20:06	242_ICV.d_4383314	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LLCCV2	1	05-Jan-2018 20:08	243SMPL.d_4383315	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LLCCV5	1	05-Jan-2018 20:10	244LICV.d_4383316	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICCB 18	1	05-Jan-2018 20:12	245_ICB.d_4383317	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LH18/24-SP140_122017	5	05-Jan-2018 20:15	246SMPL.d_4383318	NA
LH18/24-SP140_122017SD	25	05-Jan-2018 20:17	247SMPL.d_4383319	NA
LH18/24-SP140_122017PDS	5	05-Jan-2018 20:19	248SMPL.d_4383320	NA
CCV 19	1	05-Jan-2018 20:26	251_CCV.d_4383323	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN

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

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169
Start Date: 05-Jan-2018 End Date: 06-Jan-2018

Run ID:ICPMS04_308513
Instrument:ICPMS04
Method:

Sample No.	D/F	Time	FileID	Analytes
CCB 19	1	05-Jan-2018 20:28	252_CCB.d_4383324	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 20	1	05-Jan-2018 20:30	253_CCV.d_4383325	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 20	1	05-Jan-2018 20:32	254_CCB.d_4383326	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 21	1	05-Jan-2018 20:57	265_CCV.d_4383337	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 21	1	05-Jan-2018 20:59	266_CCB.d_4383338	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 22	1	05-Jan-2018 21:30	277_CCV.d_4383353	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 22	1	05-Jan-2018 21:32	278_CCB.d_4383354	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 23	1	05-Jan-2018 21:49	286_CCV.d_4383362	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 23	1	05-Jan-2018 21:52	287_CCB.d_4383363	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CAL BLK	1	05-Jan-2018 21:57	289CALB.d_4383365	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
2/10/200	1	05-Jan-2018 21:59	290CALS.d_4383366	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
5/25/500	1	05-Jan-2018 22:02	291CALS.d_4383367	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
10/50/1000	1	05-Jan-2018 22:04	292CALS.d_4383368	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
100/500/10K	1	05-Jan-2018 22:06	293CALS.d_4383369	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
200/1000/20K	1	05-Jan-2018 22:08	294CALS.d_4383370	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICCV 24	1	05-Jan-2018 22:10	295_ICV.d_4383371	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LLCCV2	1	05-Jan-2018 22:13	296SMPL.d_4383372	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LLCCV5	1	05-Jan-2018 22:15	297LICV.d_4383373	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICCB 24	1	05-Jan-2018 22:17	298_ICB.d_4383374	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICSA	1	05-Jan-2018 22:19	299ICSA.d_4383375	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICSAB	1	05-Jan-2018 22:22	300ICSB.d_4383376	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 25	1	05-Jan-2018 22:33	304_CCV.d_4383380	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 25	1	05-Jan-2018 22:36	305_CCB.d_4383381	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 26	1	05-Jan-2018 23:00	316_CCV.d_4383757	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 26	1	05-Jan-2018 23:02	317_CCB.d_4383758	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 27	1	05-Jan-2018 23:27	328_CCV.d_4383769	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 27	1	05-Jan-2018 23:29	329_CCB.d_4383770	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 28	1	05-Jan-2018 23:53	340_CCV.d_4383781	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 28	1	05-Jan-2018 23:55	341_CCB.d_4383782	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 29	1	06-Jan-2018 00:20	352_CCV.d_4383793	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 29	1	06-Jan-2018 00:22	353_CCB.d_4383794	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCV 30	1	06-Jan-2018 00:46	364_CCV.d_4383805	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 30	1	06-Jan-2018 00:48	365_CCB.d_4383806	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN

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

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Quarterly Influent Samples
WorkOrder: HS17121169
Start Date: 05-Jan-2018 End Date: 06-Jan-2018

Run ID:ICPMS04_308513
Instrument:ICPMS04
Method:

Sample No.	D/F	Time	FileID	Analytes
CCV 31	1	06-Jan-2018 00:57	369_CCV.d_4383810	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
CCB 31	1	06-Jan-2018 00:59	370_CCB.d_4383811	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LLICV2	1	06-Jan-2018 01:02	371SMPL.d_4383812	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
LLICV5	1	06-Jan-2018 01:04	372LICV.d_4383813	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICSA	1	06-Jan-2018 01:06	373ICSA.d_4383814	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN
ICSAB	1	06-Jan-2018 01:08	374ICSB.d_4383815	AG AL AS BA BE CA CD CO CR FE K MG MN NA NI PB SB SE TL V ZN

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	020CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T11:13:19-06:00
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
B	11	1	nogas	10213	0.06
Na	23	1	nogas	64799	0.00
Mg	24	1	nogas	2101	3.34
Al	27	1	nogas	8436	0.04
P	31	1	nogas	6968	0.09
K	39	1	nogas	867943	0.00
Ca	43	1	nogas	93	65.28
Ca	44	1	nogas	11938	0.01
Ti	47	1	nogas	27	324.76
V	51	1	nogas	57975	0.01
Cr	52	1	nogas	3594	0.13
Mn	55	1	nogas	3847	0.03
Fe	56	1	nogas	198495	0.00
Co	59	1	nogas	83	22.00
Ni	60	1	nogas	117	18.49
Cu	63	1	nogas	3234	0.24
Zn	66	1	nogas	347	14.08
As	75	1	nogas	9506	0.04
Se	77	1	nogas	3174	0.10
Se	82	1	nogas	203	22.47
Sr	88	1	nogas	227	5.95
Ag	107	1	nogas	83	92.58
Sn	118	1	nogas	497	2.04
Sb	121	1	nogas	173	6.93
Ba	137	1	nogas	183	11.26
Tl	205	1	nogas	97	32.69
Pb	208	1	nogas	137	30.45
Li	7	1	nogas	17395	0.02
Si	28	1	nogas	566648	0.00
La	139	1	nogas	67	149.81
Na	23	2	He	3467	0.20
Mg	24	2	He	37	227.24
Al	27	2	He	90	42.77
K	39	2	He	5361	0.10
Ca	44	2	He	43	110.86
V	51	2	He	108	13.39
Cr	52	2	He	173	22.66
Mn	55	2	He	17	749.40
Fe	56	2	He	690	2.13
Co	59	2	He	13	649.52
Ni	60	2	He	17	749.40

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Cu	63	2	He	483	3.86
Zn	66	2	He	3	5196.15
As	75	2	He	4	3898.09
Sb	121	2	He	17	207.85
Se	78	2	He	3	3747.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Ge	72	1	nogas	522917	0.49
In	115	1	nogas	627838	0.42
Li	6	1	nogas	211473	1.24
Bi	209	1	nogas	915562	0.63
Ge	72	2	He	29526	0.50

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	021CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T11:15:31-06:00
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	2967	0.27
B	11	1	nogas	15320	0.01
Na	23	1	nogas	985288	0.00
Mg	24	1	nogas	645769	0.00
Al	27	1	nogas	15070	0.03
P	31	1	nogas	8576	0.08
K	39	1	nogas	1569294	0.00
Ca	43	1	nogas	1520	0.55
Ca	44	1	nogas	33262	0.00
Ti	47	1	nogas	657	2.71
V	51	1	nogas	92866	0.00
Cr	52	1	nogas	13465	0.04
Mn	55	1	nogas	15227	0.02
Fe	56	1	nogas	1135214	0.00
Co	59	1	nogas	9176	0.06
Ni	60	1	nogas	2037	0.22
Cu	63	1	nogas	7905	0.04
Zn	66	1	nogas	2224	0.13
As	75	1	nogas	14520	0.01
Se	77	1	nogas	4254	0.15
Se	82	1	nogas	203	6.09
Sr	88	1	nogas	13235	0.03
Mo	95	1	nogas	2757	0.29
Ag	107	1	nogas	7532	0.02
Cd	111	1	nogas	1703	0.68
Sn	118	1	nogas	5124	0.17
Sb	121	1	nogas	7115	0.07
Ba	137	1	nogas	2334	0.43
Tl	205	1	nogas	19606	0.02
Pb	208	1	nogas	15645	0.02
Si	28	1	nogas	742259	0.00
La	139	1	nogas	60	55.56
Na	23	2	He	36885	0.00
Mg	24	2	He	15067	0.02
Al	27	2	He	153	31.35
K	39	2	He	12788	0.02
Ca	43	2	He	23	106.04
Ca	44	2	He	400	1.65
V	51	2	He	727	1.06
Cr	52	2	He	833	1.96

Calibration Standard Report

Mn	55	2	He	463	6.20
Fe	56	2	He	61887	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	1297	0.80
Ni	60	2	He	320	3.52
Cu	63	2	He	1417	0.22
Zn	66	2	He	183	19.81
As	75	2	He	97	14.27
Sb	121	2	He	923	0.41
Se	78	2	He	13	190.41

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	526041	0.75	522917	100.60	70	125	
In	115	1	nogas	633423	1.11	627838	100.89	70	125	
Li	6	1	nogas	213697	1.27	211473	101.05	70	125	
Bi	209	1	nogas	923824	1.44	915562	100.90	70	125	
Ge	72	2	He	28845	3.02	29526	97.69	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\010
Acq Date Time	2018-01-05T11:17:43-06:00
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	7952	0.06
B	11	1	nogas	26550	0.01
Na	23	1	nogas	2361000	0.00
Mg	24	1	nogas	1636029	0.00
Al	27	1	nogas	28216	0.00
P	31	1	nogas	12198	0.03
K	39	1	nogas	2610671	0.00
Ca	43	1	nogas	3517	0.06
Ca	44	1	nogas	65907	0.00
Ti	47	1	nogas	1697	0.41
V	51	1	nogas	100143	0.00
Cr	52	1	nogas	26090	0.01
Mn	55	1	nogas	31890	0.01
Fe	56	1	nogas	2584526	0.00
Co	59	1	nogas	22769	0.01
Ni	60	1	nogas	4984	0.05
Cu	63	1	nogas	15497	0.04
Zn	66	1	nogas	4741	0.06
As	75	1	nogas	16638	0.00
Se	77	1	nogas	4167	0.09
Se	82	1	nogas	387	3.43
Sr	88	1	nogas	31099	0.01
Mo	95	1	nogas	6735	0.05
Ag	107	1	nogas	19268	0.02
Cd	111	1	nogas	3707	0.16
Sn	118	1	nogas	12352	0.04
Sb	121	1	nogas	17510	0.02
Ba	137	1	nogas	5728	0.01
Tl	205	1	nogas	49062	0.00
Pb	208	1	nogas	38756	0.00
Si	28	1	nogas	1022196	0.00
La	139	1	nogas	50	40.00
Na	23	2	He	87424	0.00
Mg	24	2	He	38743	0.01
Al	27	2	He	263	9.82
K	39	2	He	24878	0.01
Ca	43	2	He	70	81.63
Ca	44	2	He	903	1.58
V	51	2	He	1667	0.12
Cr	52	2	He	2074	0.27

Calibration Standard Report

Mn	55	2	He	1170	0.13
Fe	56	2	He	156205	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	2944	0.19
Ni	60	2	He	820	0.54
Cu	63	2	He	2587	0.19
Zn	66	2	He	450	3.08
As	75	2	He	242	3.42
Sb	121	2	He	1913	0.72
Se	78	2	He	32	58.59

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	533572	0.70	522917	102.04	70	125	
In	115	1	nogas	633287	1.62	627838	100.87	70	125	
Li	6	1	nogas	206728	1.20	211473	97.76	70	125	
Bi	209	1	nogas	919580	0.98	915562	100.44	70	125	
Ge	72	2	He	29753	0.69	29526	100.77	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\010
Acq Date Time	2018-01-05T11:19:54-06:00
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	15550	0.03
B	11	1	nogas	44201	0.01
Na	23	1	nogas	4522233	0.00
Mg	24	1	nogas	3179377	0.00
Al	27	1	nogas	51041	0.00
P	31	1	nogas	17519	0.02
K	39	1	nogas	4246746	0.00
Ca	43	1	nogas	6571	0.08
Ca	44	1	nogas	121231	0.00
Ti	47	1	nogas	3417	0.26
V	51	1	nogas	118725	0.00
Cr	52	1	nogas	45667	0.01
Mn	55	1	nogas	59108	0.00
Fe	56	1	nogas	4900069	0.00
Co	59	1	nogas	45701	0.01
Ni	60	1	nogas	9940	0.04
Cu	63	1	nogas	27653	0.01
Zn	66	1	nogas	8806	0.01
As	75	1	nogas	18894	0.03
Se	77	1	nogas	3821	0.17
Se	82	1	nogas	543	8.13
Sr	88	1	nogas	63597	0.00
Mo	95	1	nogas	13569	0.03
Ag	107	1	nogas	37533	0.00
Cd	111	1	nogas	8279	0.01
Sn	118	1	nogas	23958	0.02
Sb	121	1	nogas	34256	0.01
Ba	137	1	nogas	11471	0.04
Tl	205	1	nogas	97345	0.00
Pb	208	1	nogas	77116	0.00
Si	28	1	nogas	1596541	0.00
La	139	1	nogas	103	23.57
Na	23	2	He	174307	0.00
Mg	24	2	He	77941	0.00
Al	27	2	He	420	7.88
K	39	2	He	45887	0.00
Ca	43	2	He	157	32.93
Ca	44	2	He	1890	0.85
V	51	2	He	3266	0.06
Cr	52	2	He	4141	0.17

Calibration Standard Report

Mn	55	2	He	2003	0.43
Fe	56	2	He	314350	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	5698	0.08
Ni	60	2	He	1653	0.40
Cu	63	2	He	5011	0.12
Zn	66	2	He	843	1.00
As	75	2	He	446	0.95
Sb	121	2	He	3764	0.03
Se	78	2	He	25	230.88

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	532193	0.63	522917	101.77	70	125	
In	115	1	nogas	647527	1.19	627838	103.14	70	125	
Li	6	1	nogas	208601	1.24	211473	98.64	70	125	
Bi	209	1	nogas	922495	0.97	915562	100.76	70	125	
Ge	72	2	He	30013	2.19	29526	101.65	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\010
Acq Date Time	2018-01-05T11:22:05-06:00
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	154115	0.00
B	11	1	nogas	360267	0.00
Na	23	1	nogas	42045199	0.00
Mg	24	1	nogas	29561656	0.00
Al	27	1	nogas	397459	0.00
P	31	1	nogas	110879	0.00
K	39	1	nogas	32361532	0.00
Ca	43	1	nogas	61612	0.00
Ca	44	1	nogas	1023330	0.00
Ti	47	1	nogas	31576	0.01
V	51	1	nogas	539563	0.00
Cr	52	1	nogas	412275	0.00
Mn	55	1	nogas	528318	0.00
Fe	56	1	nogas	43965426	0.00
Co	59	1	nogas	431318	0.00
Ni	60	1	nogas	95017	0.00
Cu	63	1	nogas	236590	0.00
Zn	66	1	nogas	80224	0.00
As	75	1	nogas	89035	0.00
Se	77	1	nogas	7392	0.14
Se	82	1	nogas	4294	0.18
Sr	88	1	nogas	598274	0.00
Mo	95	1	nogas	126094	0.00
Ag	107	1	nogas	351284	0.00
Cd	111	1	nogas	76865	0.00
Sn	118	1	nogas	221915	0.00
Sb	121	1	nogas	318275	0.00
Ba	137	1	nogas	110483	0.00
Tl	205	1	nogas	953657	0.00
Pb	208	1	nogas	740906	0.00
Si	28	1	nogas	8746590	0.00
La	139	1	nogas	240	7.57
Na	23	2	He	1610580	0.00
Mg	24	2	He	733773	0.00
Al	27	2	He	2867	0.38
K	39	2	He	379359	0.00
Ca	43	2	He	833	1.08
Ca	44	2	He	16154	0.01
V	51	2	He	29558	0.00
Cr	52	2	He	37498	0.01

Calibration Standard Report

Mn	55	2	He	19438	0.01
Fe	56	2	He	2926201	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	54603	0.01
Ni	60	2	He	15114	0.02
Cu	63	2	He	42446	0.00
Zn	66	2	He	7418	0.07
As	75	2	He	4289	0.05
Sb	121	2	He	34416	0.00
Se	78	2	He	290	2.18

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	527535	0.74	522917	100.88	70	125	
In	115	1	nogas	635889	1.67	627838	101.28	70	125	
Li	6	1	nogas	224973	0.66	211473	106.38	70	125	
Bi	209	1	nogas	905005	0.79	915562	98.85	70	125	
Ge	72	2	He	29476	1.70	29526	99.83	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\010
Acq Date Time	2018-01-05T11:24:17-06:00
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	302652	0.00
B	11	1	nogas	738369	0.00
Na	23	1	nogas	85407744	0.00
Mg	24	1	nogas	59159562	0.00
Al	27	1	nogas	758099	0.00
P	31	1	nogas	215034	0.00
K	39	1	nogas	63469379	0.00
Ca	43	1	nogas	125990	0.00
Ca	44	1	nogas	2092637	0.00
Ti	47	1	nogas	63044	0.00
V	51	1	nogas	987042	0.00
Cr	52	1	nogas	807025	0.00
Mn	55	1	nogas	1059870	0.00
Fe	56	1	nogas	90013012	0.00
Co	59	1	nogas	867238	0.00
Ni	60	1	nogas	190102	0.00
Cu	63	1	nogas	472440	0.00
Zn	66	1	nogas	155592	0.00
As	75	1	nogas	161437	0.00
Se	77	1	nogas	9456	0.01
Se	82	1	nogas	8519	0.03
Sr	88	1	nogas	1212949	0.00
Mo	95	1	nogas	257786	0.00
Ag	107	1	nogas	697919	0.00
Cd	111	1	nogas	153471	0.00
Sn	118	1	nogas	451638	0.00
Sb	121	1	nogas	654400	0.00
Ba	137	1	nogas	220817	0.00
Tl	205	1	nogas	1940365	0.00
Pb	208	1	nogas	1486562	0.00
Si	28	1	nogas	16246759	0.00
La	139	1	nogas	237	13.16
Na	23	2	He	3148099	0.00
Mg	24	2	He	1508187	0.00
Al	27	2	He	5344	0.10
K	39	2	He	767878	0.00
Ca	43	2	He	1833	0.41
Ca	44	2	He	32010	0.01
V	51	2	He	59178	0.00
Cr	52	2	He	74272	0.00

Calibration Standard Report

Mn	55	2	He	38283	0.01
Fe	56	2	He	5662791	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	106969	0.00
Ni	60	2	He	29516	0.01
Cu	63	2	He	83117	0.00
Zn	66	2	He	14049	0.04
As	75	2	He	8933	0.04
Sb	121	2	He	70264	0.00
Se	78	2	He	607	0.59

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	524852	1.19	522917	100.37	70	125	
In	115	1	nogas	629999	1.27	627838	100.34	70	125	
Li	6	1	nogas	237496	1.77	211473	112.31	70	125	
Bi	209	1	nogas	902243	0.57	915562	98.55	70	125	
Ge	72	2	He	29132	1.46	29526	98.67	70	125	

Sample Report

Sample Table

Sample Name	LLICV2
Data File Name	027SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T11:28:41-06:00
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	2.162	2.162	4.57	3177	0.07	2000	
B	11	1	nogas	76.262	76.262	7.40	60961	0.13	2000	
Na	23	1	nogas	221.226	221.226	2.49	1000927	0.02	200000	
Mg	24	1	nogas	220.383	220.383	4.18	650406	0.03	200000	
Al	27	1	nogas	1.837	1.837	6.21	15527	0.01	2000	
K	39	1	nogas	239.686	239.686	6.86	1635308	0.01	200000	
Ca	43	1	nogas	224.777	224.777	6.69	1513	14.85	200000	
Ca	44	1	nogas	195.777	195.777	4.17	32484	0.60	200000	
Ti	47	1	nogas	1.801	1.801	26.43	600	0.30	2000	
V	51	1	nogas	3.453	3.453	22.88	74942	0.00	2000	
Cr	52	1	nogas	2.174	2.174	2.52	12468	0.02	2000	
Mn	55	1	nogas	2.038	2.038	7.13	14720	0.01	2000	
Fe	56	1	nogas	203.307	203.307	4.21	1115757	0.02	200000	
Co	59	1	nogas	2.038	2.038	2.79	8976	0.02	2000	
Ni	60	1	nogas	2.035	2.035	10.60	2070	0.10	2000	
Cu	63	1	nogas	1.943	1.943	4.79	7859	0.02	2000	
Zn	66	1	nogas	1.597	1.597	3.56	2094	0.08	2000	
As	75	1	nogas	0.477	0.477	121.40	12215	0.00	2000	
Se	77	1	nogas	14.324	14.324	28.34	3697	0.39	2000	
Se	82	1	nogas	2.414	2.414	32.27	307	0.79	2000	
Sr	88	1	nogas	2.140	2.140	3.98	13266	0.02	2000	
Mo	95	1	nogas	2.088	2.088	0.76	2700	0.08	2000	
Ag	107	1	nogas	2.177	2.177	5.29	7749	0.03	2000	
Cd	111	1	nogas	2.168	2.168	5.05	1677	0.13	2000	
Sn	118	1	nogas	2.038	2.038	3.55	5118	0.04	2000	
Sb	121	1	nogas	2.829	2.829	2.58	9450	0.03	2000	
Ba	137	1	nogas	1.807	1.807	3.12	2194	0.08	2000	
Tl	205	1	nogas	2.152	2.152	2.02	21462	0.01	2000	
Pb	208	1	nogas	2.100	2.100	5.10	16155	0.01	2000	
U	238	1	nogas	2.033	2.033	1.28	38797	0.01	2000	
Si	28	1	nogas	151.035	151.035	7.31	814161	0.02	2000	
La	139	1	nogas	28.103	28.103	226.36	97	29.07	2000	
Au	197	1	nogas	-522.367	-522.367	-87.52	13	-3917.75	2000	
Na	23	2	He	216.490	216.490	5.91	37467	0.58	200000	
Mg	24	2	He	205.593	205.593	0.95	15397	1.34	200000	
Al	27	2	He	1.207	1.207	148.00	157	0.77	2000	
K	39	2	He	208.144	208.144	5.85	13155	1.58	200000	
Ca	43	2	He	186.257	186.257	125.07	17	1117.54	200000	
Ca	44	2	He	226.126	226.126	3.28	403	56.06	200000	
V	51	2	He	2.362	2.362	7.84	809	0.29	2000	
Cr	52	2	He	1.648	1.648	2.00	780	0.21	2000	
Mn	55	2	He	2.444	2.444	37.29	483	0.51	2000	
Fe	56	2	He	214.826	214.826	0.97	61673	0.35	200000	
Co	59	2	He	2.102	2.102	25.50	1137	0.18	2000	

Sample Report

Ni	60	2	He	2.156	2.156	27.79	390	0.55	2000	
Cu	63	2	He	1.829	1.829	31.13	1333	0.14	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Zn	66	2	He	1.943	1.943	44.16	227	0.86	2000	
As	75	2	He	2.420	2.420	7.99	111	2.18	2000	
Sb	121	2	He	2.498	2.498	11.85	887	0.28	2000	
Se	78	2	He	2.488	2.488	159.19	11	23.32	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	529246	1.06	522917	101.21	70	125	
In	115	1	nogas	635852	0.79	627838	101.28	70	125	
Li	6	1	nogas	213529	1.69	211473	100.97	70	125	
Bi	209	1	nogas	926905	0.28	915562	101.24	70	125	
Ge	72	2	He	29082	0.41	29526	98.50	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	LLICV5
Data File Name	028LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T11:30:52-06:00
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	5.486	1.600	8025	1.35	5	109.7	70	130	
B	11	1	nogas	53.421	4.087	45655	2.80	25	213.7	70	130	LLICV Main CR1 Failed
Na	23	1	nogas	535.304	2.963	2376224	1.86	500	107.1	70	130	
Mg	24	1	nogas	544.963	2.369	1637600	1.33	500	109.0	70	130	
Al	27	1	nogas	5.243	4.132	29054	3.10	5	104.9	70	130	
P	31	1	nogas	22.877	11.536	12078	4.35	25	91.5	70	130	
K	39	1	nogas	533.017	0.978	2612215	0.85	500	106.6	70	130	
Ca	43	1	nogas	528.194	9.805	3497	9.64	500	105.6	70	130	
Ca	44	1	nogas	498.674	3.504	65319	2.83	500	99.7	70	130	
Ti	47	1	nogas	4.393	1.204	1450	1.38	5	87.9	70	130	
V	51	1	nogas	5.826	5.405	87871	1.95	5	116.5	70	130	
Cr	52	1	nogas	5.094	3.305	24808	3.10	5	101.9	70	130	
Mn	55	1	nogas	5.050	1.392	31329	1.54	5	101.0	70	130	
Fe	56	1	nogas	530.134	1.840	2638193	1.51	500	106.0	70	130	
Co	59	1	nogas	5.148	1.508	22992	1.26	5	103.0	70	130	
Ni	60	1	nogas	4.957	6.069	4961	5.74	5	99.1	70	130	
Cu	63	1	nogas	4.997	4.248	15367	3.01	5	99.9	70	130	
Zn	66	1	nogas	5.105	2.849	4937	2.05	5	102.1	70	130	
As	75	1	nogas	3.507	8.822	14803	1.94	5	70.1	70	130	
Se	77	1	nogas	9.671	165.207	3610	15.54	5	193.4	70	130	LLICV Main CR1 Failed
Se	82	1	nogas	4.695	44.393	410	21.95	5	93.9	70	130	
Sr	88	1	nogas	5.070	3.819	31734	4.12	5	101.4	70	130	
Mo	95	1	nogas	5.100	2.639	6725	2.53	5	102.0	70	130	
Ag	107	1	nogas	5.260	1.585	18968	1.27	5	105.2	70	130	
Cd	111	1	nogas	5.450	7.622	4331	7.60	5	109.0	70	130	
Sn	118	1	nogas	5.094	5.125	12368	4.89	5	101.9	70	130	
Sb	121	1	nogas	5.557	2.185	18751	2.19	5	111.1	70	130	
Ba	137	1	nogas	4.799	5.808	5671	5.69	5	96.0	70	130	
Tl	205	1	nogas	4.932	0.758	50242	0.65	5	98.6	70	130	
Pb	208	1	nogas	5.112	3.521	40072	3.62	5	102.2	70	130	
U	238	1	nogas	4.904	0.422	95601	0.26	5	98.1	70	130	
Li	7	1	nogas	5.962	2.927	37686	1.82	5	119.2	70	130	
Si	28	1	nogas	284.944	1.269	1047995	0.70	25	1139.8	70	130	LLICV Main CR1 Failed
La	139	1	nogas	-21.258	-51.209	47	24.74	5	-425.2	70	130	LLICV Main CR1 Failed
Au	197	1	nogas	-238.416	-560.177	10	173.21	5	-4768.3	70	130	LLICV Main CR1 Failed
Na	23	2	He	504.080	2.945	86580	0.86	500	100.8	70	130	
Mg	24	2	He	498.913	0.245	39073	2.20	500	99.8	70	130	
Al	27	2	He	5.186	29.504	273	14.79	5	103.7	70	130	
K	39	2	He	497.005	5.357	25208	2.19	500	99.4	70	130	
Ca	43	2	He	463.775	49.040	43	48.04	500	92.8	70	130	
Ca	44	2	He	459.552	20.304	810	17.29	500	91.9	70	130	
V	51	2	He	4.804	3.195	1598	1.87	5	96.1	70	130	
Cr	52	2	He	5.352	12.134	2247	9.15	5	107.0	70	130	
Mn	55	2	He	4.878	20.353	993	19.56	5	97.6	70	130	
Fe	56	2	He	521.986	2.875	155842	0.83	500	104.4	70	130	
Co	59	2	He	5.306	5.473	2987	6.58	5	106.1	70	130	
Ni	60	2	He	5.012	12.446	850	13.10	5	100.2	70	130	
Cu	63	2	He	4.624	12.346	2600	8.44	5	92.5	70	130	
Zn	66	2	He	3.901	27.099	380	18.42	5	78.0	70	130	
As	75	2	He	5.297	12.958	249	10.91	5	105.9	70	130	
Sb	121	2	He	5.193	10.709	1913	11.69	5	103.9	70	130	
Se	78	2	He	6.793	25.824	25	23.41	5	135.9	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
Ge	72	1	nogas	539708	0.33	522917	103.21	70	125	
In	115	1	nogas	653310	0.08	627838	104.06	70	125	
Li	6	1	nogas	213042	0.41	211473	100.74	70	125	
Bi	209	1	nogas	949450	0.16	915562	103.70	70	125	
Ge	72	2	He	30454	2.16	29526	103.14	70	125	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	029_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T11:33:05-06:00
Sample Type	ICB
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	210.9	20	100.0	1	
B	11	1	nogas	15.765	3.2	21276	1.9	10	ICB Main CR1 Failed
Na	23	1	nogas	1.555	46.0	72798	3.9	100	
Mg	24	1	nogas	-0.256	-14.9	1367	8.4	100	
Al	27	1	nogas	-1.150	-7.1	4174	6.9	5	
P	31	1	nogas	-3.492	-19.3	6341	2.1	10	
K	39	1	nogas	6.379	67.7	901605	1.7	100	
Ca	43	1	nogas	12.954	57.9	177	26.8	100	
Ca	44	1	nogas	-11.499	-26.8	10920	3.1	100	
Ti	47	1	nogas	0.009	589.9	30	57.7	2.5	
V	51	1	nogas	3.290	16.0	74448	3.4	2.5	ICB Main CR1 Failed
Cr	52	1	nogas	0.253	24.6	4681	5.3	2.5	
Mn	55	1	nogas	-0.024	-70.0	3780	2.4	2.5	
Fe	56	1	nogas	-1.315	-124.8	195627	3.6	100	
Co	59	1	nogas	0.019	56.0	167	27.1	2.5	
Ni	60	1	nogas	-0.083	-26.4	43	48.0	2.5	
Cu	63	1	nogas	-0.196	-60.6	2820	10.5	2.5	
Zn	66	1	nogas	-0.977	-8.3	77	82.8	2.5	
As	75	1	nogas	0.780	61.7	12488	2.8	2.5	
Se	77	1	nogas	25.732	28.3	4097	6.1	2.5	ICB Main CR1 Failed
Se	82	1	nogas	-1.196	-80.4	157	25.8	2.5	
Sr	88	1	nogas	-0.013	-34.1	150	17.6	2.5	
Mo	95	1	nogas	0.021	57.0	27	57.3	2.5	
Ag	107	1	nogas	0.002	9.6	90	0.0	2.5	
Cd	111	1	nogas	0.008	173.2	7	173.2	1	
Sn	118	1	nogas	0.017	206.3	553	16.4	5	
Sb	121	1	nogas	0.202	9.0	840	7.4	2.5	
Ba	137	1	nogas	-0.155	-12.9	13	173.2	2.5	
Tl	205	1	nogas	0.048	3.6	597	2.6	1	
Pb	208	1	nogas	0.010	51.1	227	18.4	2.5	
U	238	1	nogas	0.005	98.3	297	34.6	2.5	
Si	28	1	nogas	4.003	129.3	581782	0.9	5	
La	139	1	nogas	-55.869	-29.1	10	173.2	2.5	
Au	197	1	nogas	277.401	159.4	3	173.2	2.5	ICB Main CR1 Failed
Na	23	2	He	-0.865	-261.1	3340	11.1	100	
Mg	24	2	He	0.436	78.7	70	37.8	100	
Al	27	2	He	-2.642	-36.4	57	44.4	5	
K	39	2	He	-6.551	-40.4	5128	2.4	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-22.613	-31.7	7	173.2	100	
V	51	2	He	0.086	64.0	142	12.0	2.5	
Cr	52	2	He	-0.188	-83.0	103	56.7	2.5	
Mn	55	2	He	0.137	79.1	43	48.0	2.5	
Fe	56	2	He	-0.080	-248.6	670	9.3	100	

Initial Calibration Blank (ICB) Report

Co	59	2	He	-0.012	-85.6	7	86.6	2.5	
Ni	60	2	He	-0.404	-9.5	13	43.3	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Cu	63	2	He	-0.158	-90.1	523	11.7	2.5	
Zn	66	2	He	-1.189	-13.7	7	173.2	2.5	
As	75	2	He	0.050	396.1	7	132.3	2.5	
Sb	121	2	He	0.169	20.4	77	15.1	2.5	
Se	78	2	He	0.214	814.8	4	132.3	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	531007	0.57	522917	101.55	70	125	
In	115	1	nogas	647797	1.38	627838	103.18	70	125	
Li	6	1	nogas	218673	1.78	211473	103.40	70	125	
Bi	209	1	nogas	963875	0.56	915562	105.28	70	125	
Ge	72	2	He	29629	1.02	29526	100.35	70	125	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	030_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T11:35:20-06:00
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	101.418	1.798	156810	0.37	100	101.4	90	110	
B	11	1	nogas	532.281	3.827	383696	2.24	500	106.5	90	110	
Na	23	1	nogas	9893.712	0.801	43254474	0.36	10000	98.9	90	110	
Mg	24	1	nogas	9959.045	1.409	30233806	1.87	10000	99.6	90	110	
Al	27	1	nogas	100.000	1.105	399697	1.46	100	100.0	90	110	
P	31	1	nogas	502.413	1.324	115368	1.35	500	100.5	90	110	
K	39	1	nogas	9929.376	1.273	33109339	0.30	10000	99.3	90	110	
Ca	43	1	nogas	9877.731	1.639	64158	1.50	10000	98.8	90	110	
Ca	44	1	nogas	9747.552	1.625	1055897	0.71	10000	97.5	90	110	
Ti	47	1	nogas	96.605	1.602	31539	0.49	100	96.6	90	110	
V	51	1	nogas	97.540	0.962	532976	0.65	100	97.5	90	110	
Cr	52	1	nogas	99.138	1.278	417294	0.31	100	99.1	90	110	
Mn	55	1	nogas	98.211	1.451	539943	1.02	100	98.2	90	110	
Fe	56	1	nogas	9763.376	0.830	45351599	1.14	10000	97.6	90	110	
Co	59	1	nogas	98.453	0.507	441422	1.36	100	98.5	90	110	
Ni	60	1	nogas	99.904	1.608	98302	1.27	100	99.9	90	110	
Cu	63	1	nogas	100.128	1.333	246189	0.87	100	100.1	90	110	
Zn	66	1	nogas	100.090	0.930	81429	0.88	100	100.1	90	110	
As	75	1	nogas	100.104	2.092	90194	0.71	100	100.1	90	110	
Se	77	1	nogas	100.058	5.952	6781	3.14	100	100.1	90	110	
Se	82	1	nogas	97.226	5.803	4377	4.64	100	97.2	90	110	
Sr	88	1	nogas	98.255	1.288	615140	0.66	100	98.3	90	110	
Mo	95	1	nogas	99.069	2.773	131569	1.67	100	99.1	90	110	
Ag	107	1	nogas	99.710	1.025	360628	0.24	100	99.7	90	110	
Cd	111	1	nogas	101.077	1.942	79453	1.51	100	101.1	90	110	
Sn	118	1	nogas	98.444	0.047	227078	0.39	100	98.4	90	110	
Sb	121	1	nogas	96.880	1.883	326356	1.69	100	96.9	90	110	
Ba	137	1	nogas	101.769	0.952	115149	1.29	100	101.8	90	110	
Tl	205	1	nogas	100.698	1.581	1001844	0.32	100	100.7	90	110	
Pb	208	1	nogas	101.149	2.051	773232	0.97	100	101.1	90	110	
U	238	1	nogas	100.153	2.765	1907008	2.68	100	100.2	90	110	
Li	7	1	nogas	102.201	1.613	384242	0.27	100	102.2	90	110	
Si	28	1	nogas	5224.128	1.126	9142606	0.45	5000	104.5	90	110	
Ba	135	1	nogas	99.986	1.579	67540	1.21	100	100.0	90	110	
La	139	1	nogas	74.616	58.351	147	30.75	100	74.6	90	110	ICV Main CR1 Failed
Au	197	1	nogas	-260.030	-303.541	10	100.00	100	-260.0	90	110	ICV Main CR1 Failed
Tl	203	1	nogas	100.500	0.354	412814	1.62	100	100.5	90	110	
Na	23	2	He	10506.407	1.694	1648640	1.20	10000	105.1	90	110	
Mg	24	2	He	9943.286	1.435	739601	1.44	10000	99.4	90	110	
Al	27	2	He	103.439	2.853	2827	3.61	100	103.4	90	110	
K	39	2	He	10132.716	2.571	386859	0.85	10000	101.3	90	110	
Ca	43	2	He	11399.898	15.562	1020	16.32	10000	114.0	90	110	ICV Main CR1 Failed
Ca	44	2	He	10260.289	3.309	16345	5.51	10000	102.6	90	110	
V	51	2	He	100.987	0.426	29679	3.02	100	101.0	90	110	
Cr	52	2	He	103.616	2.101	38296	2.28	100	103.6	90	110	
Mn	55	2	He	102.439	2.764	19521	4.02	100	102.4	90	110	
Fe	56	2	He	10372.519	3.634	2931236	1.48	10000	103.7	90	110	
Co	59	2	He	101.899	4.773	54239	2.08	100	101.9	90	110	
Ni	60	2	He	99.005	4.336	14583	2.88	100	99.0	90	110	
Cu	63	2	He	103.760	1.260	43161	1.82	100	103.8	90	110	
Zn	66	2	He	105.200	2.157	7445	4.80	100	105.2	90	110	
As	75	2	He	102.393	4.014	4498	1.26	100	102.4	90	110	
Sn	118	2	He	98.480	4.106	24455	2.07	100	98.5	90	110	
Sb	121	2	He	97.921	1.484	33985	1.75	100	97.9	90	110	
Se	78	2	He	101.667	4.062	305	6.83	100	101.7	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	543699	1.20	522917	103.97	70	125	
In	115	1	nogas	646270	0.43	627838	102.94	70	125	
Li	6	1	nogas	225478	1.54	211473	106.62	70	125	

Initial Calibration Verification (ICV) Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Bi	209	1	nogas	929117	1.27	915562	101.48	70	125	
Ge	72	2	He	28958	2.84	29526	98.08	70	125	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	032ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T11:39:42-06:00
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	85.9	23	49.5	0	ICSA Main CR1 Failed
B	11	1	nogas	20.844	18.7	23262	10.4	0	
Na	23	1	nogas	100266.206	0.7	428473693	0.9	0	
Mg	24	1	nogas	99629.762	0.6	296013015	0.9	0	
Al	27	1	nogas	96258.681	3.5	354283195	1.8	0	
P	31	1	nogas	99461.566	1.4	20164979	1.2	0	
K	39	1	nogas	103422.090	1.5	316770357	0.3	0	
Ca	43	1	nogas	101631.562	0.7	620855	1.0	0	
Ca	44	1	nogas	100118.333	1.1	10105891	0.7	0	
Ti	47	1	nogas	2088.512	1.3	641646	1.1	0	
V	51	1	nogas	-7.528	-2.8	22420	5.4	0	ICSA Main CR1 Failed
Cr	52	1	nogas	0.249	8.1	4497	3.4	0	ICSA Main CR1 Failed
Mn	55	1	nogas	0.245	27.3	5024	5.1	0	ICSA Main CR1 Failed
Fe	56	1	nogas	99067.467	1.3	431582160	0.9	0	
Co	59	1	nogas	0.091	9.3	467	8.1	0	ICSA Main CR1 Failed
Ni	60	1	nogas	0.690	38.8	760	34.3	0	ICSA Main CR1 Failed
Cu	63	1	nogas	0.567	14.4	4461	3.2	0	ICSA Main CR1 Failed
Zn	66	1	nogas	0.280	33.0	1027	6.9	0	ICSA Main CR1 Failed
As	75	1	nogas	-6.019	-5.7	7052	3.9	0	ICSA Main CR1 Failed
Se	77	1	nogas	-20.775	-44.4	2427	12.6	0	ICSA Main CR1 Failed
Se	82	1	nogas	-0.306	-531.9	187	34.9	0	ICSA Main CR1 Failed
Sr	88	1	nogas	0.940	3.8	5764	2.9	0	ICSA Main CR1 Failed
Mo	95	1	nogas	2041.641	3.3	2553235	1.6	0	
Ag	107	1	nogas	0.012	116.0	123	38.3	0	ICSA Main CR1 Failed
Cd	111	1	nogas	0.612	22.9	450	21.9	0	ICSA Main CR1 Failed
Sn	118	1	nogas	0.104	8.9	703	3.3	0	ICSA Main CR1 Failed
Sb	121	1	nogas	0.290	7.2	1090	5.6	0	ICSA Main CR1 Failed
Ba	137	1	nogas	-0.013	-95.6	163	7.1	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.065	26.5	707	22.9	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.104	18.5	883	16.1	0	ICSA Main CR1 Failed
Si	28	1	nogas	64.573	11.9	654337	0.1	0	
La	139	1	nogas	120.860	23.8	183	16.7	0	
Na	23	2	He	98832.006	2.7	15560294	0.9	0	
Mg	24	2	He	98124.309	3.9	7334140	0.9	0	
Al	27	2	He	99611.142	2.9	2615299	1.1	0	
K	39	2	He	100526.284	2.7	3811905	2.2	0	
Ca	43	2	He	101302.229	4.2	9103	3.9	0	
Ca	44	2	He	97462.378	4.7	155521	1.0	0	
V	51	2	He	-0.191	-26.4	58	26.9	0	ICSA Main CR1 Failed
Cr	52	2	He	0.006	1101.8	173	14.5	0	ICSA Main CR1 Failed
Mn	55	2	He	0.315	73.3	77	58.8	0	ICSA Main CR1 Failed
Fe	56	2	He	98739.621	4.5	28040173	1.2	0	
Co	59	2	He	0.013	144.3	20	50.0	0	ICSA Main CR1 Failed
Ni	60	2	He	-0.244	-43.0	37	41.7	0	ICSA Main CR1 Failed
Cu	63	2	He	0.141	76.1	637	3.3	0	ICSA Main CR1 Failed
Zn	66	2	He	-0.269	-299.2	70	75.6	0	ICSA Main CR1 Failed
As	75	2	He	-0.024	-309.6	3	100.1	0	ICSA Main CR1 Failed
Sb	121	2	He	0.437	33.2	170	32.8	0	ICSA Main CR1 Failed
Se	78	2	He	1.145	122.9	7	62.4	0	ICSA Main CR1 Failed

Interference Check Solution A (ICS-A) Report

Interference Check Solution A (ICS-A) Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	512070	1.74	522917	97.93	70	125	
In	115	1	nogas	605770	1.43	627838	96.49	70	125	
Li	6	1	nogas	205765	1.07	211473	97.30	70	125	
Bi	209	1	nogas	880987	0.92	915562	96.22	70	125	
Ge	72	2	He	29118	3.56	29526	98.62	70	125	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	033ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T11:41:59-06:00
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	100.941	1.937	154802	0.78	100	100.9	80	120	
B	11	1	nogas	574.526	1.769	410038	1.62	100	574.5	80	120	
Na	23	1	nogas	109405.247	0.680	459968894	0.46	100	109405.2	80	120	
Mg	24	1	nogas	108092.567	1.391	315961824	1.07	100	108092.6	80	120	
Al	27	1	nogas	97117.298	1.380	350407795	1.21	100	97117.3	80	120	ICSB Main CR1 Failed
K	39	1	nogas	113548.150	1.635	340762524	0.72	100	113548.1	80	120	
Ca	43	1	nogas	111999.458	1.190	670490	0.67	100	111999.5	80	120	
Ca	44	1	nogas	110021.176	1.337	10882334	0.36	100	110021.2	80	120	
Ti	47	1	nogas	2215.556	1.291	667063	0.28	100	2215.6	80	120	ICSB Main CR1 Failed
V	51	1	nogas	96.393	6.007	486680	4.60	100	96.4	80	120	
Cr	52	1	nogas	103.044	1.421	400194	0.77	100	103.0	80	120	
Mn	55	1	nogas	102.510	1.423	520008	0.97	100	102.5	80	120	
Fe	56	1	nogas	108953.468	0.938	465161327	0.49	100	108953.5	80	120	
Co	59	1	nogas	102.235	1.154	423029	0.23	100	102.2	80	120	
Ni	60	1	nogas	101.944	1.285	92587	1.73	100	101.9	80	120	
Cu	63	1	nogas	101.161	1.147	229545	1.08	100	101.2	80	120	
Zn	66	1	nogas	101.902	1.482	76500	0.95	100	101.9	80	120	
As	75	1	nogas	98.608	2.254	82174	1.45	100	98.6	80	120	
Se	77	1	nogas	84.390	9.296	5754	3.48	100	84.4	80	120	
Se	82	1	nogas	108.398	1.891	4484	2.84	100	108.4	80	120	
Sr	88	1	nogas	105.193	1.471	607816	0.48	100	105.2	80	120	
Mo	95	1	nogas	2200.564	0.832	2697801	0.70	100	2200.6	80	120	ICSB Main CR1 Failed
Ag	107	1	nogas	98.654	0.569	329352	1.31	100	98.7	80	120	
Cd	111	1	nogas	100.689	1.193	74537	1.44	100	100.7	80	120	
Sn	118	1	nogas	101.397	0.576	220230	0.39	100	101.4	80	120	
Sb	121	1	nogas	103.264	0.339	321069	0.74	100	103.3	80	120	
Ba	137	1	nogas	103.904	2.106	110699	2.03	100	103.9	80	120	
Tl	205	1	nogas	98.358	1.252	913518	1.02	100	98.4	80	120	
Pb	208	1	nogas	101.593	0.480	725064	1.11	100	101.6	80	120	
U	238	1	nogas	104.361	1.574	1855057	2.01	100	104.4	80	120	
Si	28	1	nogas	5820.351	0.552	9339943	1.00	100	5820.4	80	120	ICSB Main CR1 Failed
La	139	1	nogas	211.297	11.845	273	9.21	100	211.3	80	120	
Na	23	2	He	107642.494	1.368	16983331	1.32	100	107642.5	80	120	
Mg	24	2	He	105186.269	0.685	7880791	0.91	100	105186.3	80	120	ICSB Main CR1 Failed
Al	27	2	He	96961.551	2.290	2551395	2.62	100	96961.6	80	120	ICSB Main CR1 Failed
K	39	2	He	106674.295	2.246	4052749	2.17	100	106674.3	80	120	ICSB Main CR1 Failed
Ca	43	2	He	109945.977	2.031	9900	2.41	100	109946.0	80	120	
Ca	44	2	He	105538.168	1.631	168846	1.86	100	105538.2	80	120	
V	51	2	He	96.916	2.215	28688	2.37	100	96.9	80	120	
Cr	52	2	He	95.824	2.572	35684	2.16	100	95.8	80	120	
Mn	55	2	He	97.479	2.704	18707	2.77	100	97.5	80	120	
Fe	56	2	He	104479.171	0.642	29746374	1.05	100	104479.2	80	120	ICSB Main CR1 Failed
Co	59	2	He	96.906	1.679	51989	1.41	100	96.9	80	120	
Ni	60	2	He	92.467	1.623	13729	1.61	100	92.5	80	120	
Cu	63	2	He	95.578	2.754	40090	2.61	100	95.6	80	120	
Zn	66	2	He	97.035	7.506	6922	7.81	100	97.0	80	120	
As	75	2	He	93.729	3.886	4151	4.18	100	93.7	80	120	
Sb	121	2	He	96.636	1.705	33782	1.39	100	96.6	80	120	
Se	78	2	He	101.723	14.780	307	14.37	100	101.7	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	501816	1.03	522917	95.96	70	125	
In	115	1	nogas	608574	0.25	627838	96.93	70	125	
Li	6	1	nogas	223639	1.37	211473	105.75	70	125	
Bi	209	1	nogas	867281	0.86	915562	94.73	70	125	
Ge	72	2	He	29162	0.41	29526	98.77	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	042_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T12:15:10-06:00
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	0.000	20736.3	10	100.0	1	
B	11	1	nogas	47.600	11.9	41305	9.9	10	CCB Main CR1 Failed
Na	23	1	nogas	38.573	4.6	227855	1.3	100	
Mg	24	1	nogas	2.350	2.8	9005	2.2	100	
Al	27	1	nogas	-1.047	-13.4	4481	11.2	5	
P	31	1	nogas	-4.529	-21.3	6008	2.8	10	
K	39	1	nogas	26.128	9.6	946016	0.2	100	
Ca	43	1	nogas	6.531	146.2	133	43.9	100	
Ca	44	1	nogas	-8.406	-22.1	11034	2.7	100	
Ti	47	1	nogas	0.011	286.8	30	33.3	2.5	
V	51	1	nogas	-4.329	-12.8	37648	6.0	2.5	
Cr	52	1	nogas	-0.170	-52.9	2900	12.1	2.5	
Mn	55	1	nogas	-0.006	-484.0	3804	4.6	2.5	
Fe	56	1	nogas	7.734	12.1	232044	1.3	100	
Co	59	1	nogas	0.020	37.9	167	18.3	2.5	
Ni	60	1	nogas	0.010	597.3	130	42.8	2.5	
Cu	63	1	nogas	-0.288	-17.8	2554	4.0	2.5	
Zn	66	1	nogas	-0.897	-4.6	137	22.4	2.5	
As	75	1	nogas	-5.629	-8.5	7465	4.4	2.5	
Se	77	1	nogas	-18.636	-15.7	2540	3.1	2.5	
Se	82	1	nogas	-2.504	-35.0	100	36.1	2.5	
Sr	88	1	nogas	0.044	24.7	490	12.4	2.5	
Mo	95	1	nogas	0.087	24.9	110	24.1	2.5	
Ag	107	1	nogas	0.020	55.2	153	26.4	2.5	
Cd	111	1	nogas	0.022	124.9	17	124.9	1	
Sn	118	1	nogas	0.047	85.8	603	14.9	5	
Sb	121	1	nogas	0.903	5.9	3087	6.3	2.5	
Ba	137	1	nogas	-0.070	-53.8	107	39.0	2.5	
Tl	205	1	nogas	0.082	23.5	910	21.2	1	
Pb	208	1	nogas	0.034	7.7	393	3.9	2.5	
U	238	1	nogas	0.022	23.7	590	15.1	2.5	
Si	28	1	nogas	30.946	1.4	613168	0.9	5	CCB Main CR1 Failed
La	139	1	nogas	-45.715	-21.3	20	50.0	2.5	
Au	197	1	nogas	532.665	0.0	0	#DIV/0!	2.5	CCB Main CR1 Failed
Na	23	2	He	35.569	14.2	9219	8.6	100	
Mg	24	2	He	2.050	33.1	193	26.0	100	
Al	27	2	He	-2.166	-44.6	70	37.8	5	
K	39	2	He	5.074	271.1	5601	9.7	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-2.227	-727.7	40	66.1	100	
V	51	2	He	-0.155	-11.7	70	7.6	2.5	
Cr	52	2	He	-0.180	-99.7	107	63.8	2.5	
Mn	55	2	He	0.152	83.5	47	53.9	2.5	
Fe	56	2	He	2.039	43.8	1287	19.2	100	
Co	59	2	He	-0.006	-287.4	10	100.0	2.5	
Ni	60	2	He	-0.360	-18.8	20	50.0	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.448	-32.0	403	15.1	2.5	
Zn	66	2	He	-1.099	-19.3	13	114.6	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	-0.001	-15415.0	4	114.6	2.5	
Sb	121	2	He	0.812	22.1	307	21.7	2.5	
Se	78	2	He	0.427	178.9	5	49.5	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	521040	1.00	522917	99.64	70	125	
In	115	1	nogas	630624	0.08	627838	100.44	70	125	
Li	6	1	nogas	210374	1.26	211473	99.48	70	125	
Bi	209	1	nogas	920905	1.17	915562	100.58	70	125	
Ge	72	2	He	29763	0.93	29526	100.80	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\010
Acq Date Time	2018-01-05T12:19:43-06:00
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	99.326	1.730	155593	0.68	100	99.3	90	110	
B	11	1	nogas	508.997	3.489	372323	3.45	500	101.8	90	110	
Na	23	1	nogas	10039.257	1.807	43454802	0.37	10000	100.4	90	110	
Mg	24	1	nogas	9934.165	1.765	29857356	0.13	10000	99.3	90	110	
Al	27	1	nogas	101.165	1.144	392879	0.26	100	101.2	90	110	
P	31	1	nogas	518.414	1.320	115472	0.78	500	103.7	90	110	
K	39	1	nogas	10033.483	1.820	32506513	0.42	10000	100.3	90	110	
Ca	43	1	nogas	9958.949	0.602	62873	1.47	10000	99.6	90	110	
Ca	44	1	nogas	9886.898	0.231	1040903	1.48	10000	98.9	90	110	
Ti	47	1	nogas	99.716	3.148	31642	3.12	100	99.7	90	110	
V	51	1	nogas	91.071	2.856	487535	2.34	100	91.1	90	110	
Cr	52	1	nogas	100.811	0.619	412396	1.14	100	100.8	90	110	
Mn	55	1	nogas	100.818	0.591	538644	0.99	100	100.8	90	110	
Fe	56	1	nogas	9785.521	1.787	44173623	0.85	10000	97.9	90	110	
Co	59	1	nogas	100.398	0.358	437495	1.05	100	100.4	90	110	
Ni	60	1	nogas	101.652	1.373	97208	0.27	100	101.7	90	110	
Cu	63	1	nogas	100.191	1.085	239443	1.42	100	100.2	90	110	
Zn	66	1	nogas	101.429	0.418	80193	0.98	100	101.4	90	110	
As	75	1	nogas	96.311	1.877	84810	2.67	100	96.3	90	110	
Se	77	1	nogas	76.776	9.442	5804	4.73	100	76.8	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	103.313	5.565	4507	3.97	100	103.3	90	110	
Sr	88	1	nogas	99.281	1.404	604106	0.74	100	99.3	90	110	
Mo	95	1	nogas	99.325	1.394	128219	0.25	100	99.3	90	110	
Ag	107	1	nogas	100.385	0.781	352889	0.77	100	100.4	90	110	
Cd	111	1	nogas	100.064	1.737	78776	1.21	100	100.1	90	110	
Sn	118	1	nogas	96.448	0.086	222823	0.52	100	96.4	90	110	
Sb	121	1	nogas	97.814	0.594	320261	0.80	100	97.8	90	110	
Ba	137	1	nogas	97.959	0.866	111007	0.31	100	98.0	90	110	
Tl	205	1	nogas	98.432	1.795	969177	1.55	100	98.4	90	110	
Pb	208	1	nogas	98.993	0.527	748986	0.77	100	99.0	90	110	
U	238	1	nogas	100.084	3.686	1885899	3.63	100	100.1	90	110	
Li	7	1	nogas	100.627	1.811	383570	0.62	100	100.6	90	110	
Si	28	1	nogas	5373.457	2.464	9122523	0.94	5000	107.5	90	110	
Ba	135	1	nogas	97.308	2.755	65833	2.49	100	97.3	90	110	
La	139	1	nogas	213.847	16.931	293	12.91	100	213.8	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	532.665	0.000	0	#DIV/0!	100	532.7	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	98.034	1.037	398474	1.13	100	98.0	90	110	
Na	23	2	He	10220.969	2.096	1655011	1.77	10000	102.2	90	110	
Mg	24	2	He	9783.109	2.414	750781	1.73	10000	97.8	90	110	
Al	27	2	He	100.008	4.790	2824	4.27	100	100.0	90	110	
K	39	2	He	9917.944	1.571	390890	1.17	10000	99.2	90	110	
Ca	43	2	He	10768.423	4.419	993	5.07	10000	107.7	90	110	
Ca	44	2	He	10057.882	4.722	16518	3.82	10000	100.6	90	110	
V	51	2	He	97.774	0.409	29645	0.83	100	97.8	90	110	
Cr	52	2	He	100.918	1.726	38486	0.74	100	100.9	90	110	
Mn	55	2	He	99.935	4.340	19641	3.69	100	99.9	90	110	
Fe	56	2	He	9971.057	1.469	2908446	0.80	10000	99.7	90	110	
Co	59	2	He	100.483	3.163	55229	3.66	100	100.5	90	110	
Ni	60	2	He	98.731	2.193	15013	3.04	100	98.7	90	110	
Cu	63	2	He	102.111	1.089	43833	0.27	100	102.1	90	110	
Zn	66	2	He	104.673	5.590	7639	5.19	100	104.7	90	110	
As	75	2	He	101.973	2.046	4625	2.38	100	102.0	90	110	
Sb	121	2	He	94.862	1.451	33975	2.41	100	94.9	90	110	
Se	78	2	He	97.056	3.972	300	4.37	100	97.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	528446	1.39	522917	101.06	70	125	
In	115	1	nogas	647255	0.60	627838	103.09	70	125	
Li	6	1	nogas	228427	1.11	211473	108.02	70	125	
Bi	209	1	nogas	919420	0.30	915562	100.42	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	29873	0.97	29526	101.18	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	054_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T12:47:48-06:00
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	99.193	2.008	155490	2.14	100	99.2	90	110	
B	11	1	nogas	536.333	3.006	391931	2.73	500	107.3	90	110	
Na	23	1	nogas	10254.638	1.301	44237549	1.60	10000	102.5	90	110	
Mg	24	1	nogas	10076.912	1.098	30184735	1.24	10000	100.8	90	110	
Al	27	1	nogas	101.441	2.244	395420	1.06	100	101.4	90	110	
P	31	1	nogas	519.765	2.599	116197	1.84	500	104.0	90	110	
K	39	1	nogas	10099.724	2.185	32843019	1.55	10000	101.0	90	110	
Ca	43	1	nogas	9919.416	1.471	62873	2.63	10000	99.2	90	110	
Ca	44	1	nogas	9880.955	0.564	1044303	1.47	10000	98.8	90	110	
Ti	47	1	nogas	100.159	0.962	31910	2.11	100	100.2	90	110	
V	51	1	nogas	95.130	3.354	508556	2.18	100	95.1	90	110	
Cr	52	1	nogas	101.408	0.751	416407	0.49	100	101.4	90	110	
Mn	55	1	nogas	100.756	1.486	540406	1.84	100	100.8	90	110	
Fe	56	1	nogas	9838.917	1.115	44588420	0.84	10000	98.4	90	110	
Co	59	1	nogas	101.660	1.337	444671	0.47	100	101.7	90	110	
Ni	60	1	nogas	101.986	2.210	97903	1.58	100	102.0	90	110	
Cu	63	1	nogas	101.444	1.655	243308	0.44	100	101.4	90	110	
Zn	66	1	nogas	102.174	3.582	81068	2.36	100	102.2	90	110	
As	75	1	nogas	98.067	0.619	86462	0.87	100	98.1	90	110	
Se	77	1	nogas	92.816	12.176	6371	6.27	100	92.8	90	110	
Se	82	1	nogas	101.469	2.552	4451	3.62	100	101.5	90	110	
Sr	88	1	nogas	99.126	1.029	605507	0.23	100	99.1	90	110	
Mo	95	1	nogas	99.627	1.442	129119	1.68	100	99.6	90	110	
Ag	107	1	nogas	100.417	0.817	354368	0.81	100	100.4	90	110	
Cd	111	1	nogas	101.395	2.161	79014	1.39	100	101.4	90	110	
Sn	118	1	nogas	98.360	0.875	224928	0.41	100	98.4	90	110	
Sb	121	1	nogas	97.038	1.144	318935	0.05	100	97.0	90	110	
Ba	137	1	nogas	100.395	1.808	112608	1.02	100	100.4	90	110	
Tl	205	1	nogas	98.982	1.347	967981	0.72	100	99.0	90	110	
Pb	208	1	nogas	99.400	2.182	746910	1.65	100	99.4	90	110	
U	238	1	nogas	100.958	2.387	1889829	3.27	100	101.0	90	110	
Li	7	1	nogas	99.818	0.753	380892	0.88	100	99.8	90	110	
Si	28	1	nogas	5400.485	2.511	9201179	1.23	5000	108.0	90	110	
Ba	135	1	nogas	98.266	2.309	65806	1.67	100	98.3	90	110	
La	139	1	nogas	251.586	33.769	330	27.27	100	251.6	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-1073.757	-3.103	20	0.00	100	-1073.8	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	99.412	1.123	401392	2.38	100	99.4	90	110	
Na	23	2	He	10182.492	2.223	1656673	3.14	10000	101.8	90	110	
Mg	24	2	He	9900.128	1.191	763292	0.98	10000	99.0	90	110	
Al	27	2	He	102.636	5.903	2907	4.70	100	102.6	90	110	
K	39	2	He	10072.972	1.461	398733	1.20	10000	100.7	90	110	
Ca	43	2	He	10430.596	5.545	967	6.32	10000	104.3	90	110	
Ca	44	2	He	9930.428	5.968	16381	4.83	10000	99.3	90	110	
V	51	2	He	99.795	1.279	30392	0.60	100	99.8	90	110	
Cr	52	2	He	102.103	2.679	39114	2.14	100	102.1	90	110	
Mn	55	2	He	103.137	4.065	20369	4.45	100	103.1	90	110	
Fe	56	2	He	10059.279	1.133	2948132	2.33	10000	100.6	90	110	
Co	59	2	He	99.730	1.354	55061	1.76	100	99.7	90	110	
Ni	60	2	He	101.570	6.565	15504	5.36	100	101.6	90	110	
Cu	63	2	He	99.814	1.452	43058	1.54	100	99.8	90	110	
Zn	66	2	He	100.010	3.423	7335	2.29	100	100.0	90	110	
As	75	2	He	98.666	2.136	4496	3.03	100	98.7	90	110	
Sb	121	2	He	96.714	2.904	34794	3.15	100	96.7	90	110	
Se	78	2	He	102.206	13.092	317	13.55	100	102.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	530484	1.19	522917	101.45	70	125	
In	115	1	nogas	640720	0.81	627838	102.05	70	125	
Li	6	1	nogas	228549	0.21	211473	108.07	70	125	
Bi	209	1	nogas	913324	2.05	915562	99.76	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	30010	1.22	29526	101.64	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	055_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T12:50:00-06:00
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	0.024	40.1	47	32.7	1	
B	11	1	nogas	59.111	10.6	50649	10.0	10	CCB Main CR1 Failed
Na	23	1	nogas	7.550	9.4	98588	2.7	100	
Mg	24	1	nogas	1.186	37.3	5702	24.6	100	
Al	27	1	nogas	-1.252	-5.6	3790	7.6	5	
P	31	1	nogas	-3.422	-71.9	6361	8.3	10	
K	39	1	nogas	16.732	24.0	935044	0.9	100	
Ca	43	1	nogas	-0.745	-560.7	90	29.4	100	
Ca	44	1	nogas	-18.779	-3.3	10166	1.1	100	
Ti	47	1	nogas	0.124	95.1	67	56.8	2.5	
V	51	1	nogas	-4.871	-10.3	35847	6.6	2.5	
Cr	52	1	nogas	-0.207	-24.2	2810	7.5	2.5	
Mn	55	1	nogas	-0.035	-163.5	3721	8.0	2.5	
Fe	56	1	nogas	4.387	26.0	221543	2.2	100	
Co	59	1	nogas	0.011	30.5	133	11.5	2.5	
Ni	60	1	nogas	0.060	145.0	180	45.5	2.5	
Cu	63	1	nogas	-0.586	-3.2	1897	2.1	2.5	
Zn	66	1	nogas	-0.926	-4.9	117	30.1	2.5	
As	75	1	nogas	-4.561	-2.2	8429	1.3	2.5	
Se	77	1	nogas	-12.991	-61.3	2784	10.0	2.5	
Se	82	1	nogas	-0.243	-461.2	197	24.0	2.5	
Sr	88	1	nogas	-0.003	-319.3	213	25.8	2.5	
Mo	95	1	nogas	0.067	28.9	87	29.0	2.5	
Ag	107	1	nogas	0.021	36.0	160	16.5	2.5	
Cd	111	1	nogas	0.017	173.2	13	173.2	1	
Sn	118	1	nogas	0.055	10.3	637	1.8	5	
Sb	121	1	nogas	0.700	6.9	2480	5.9	2.5	
Ba	137	1	nogas	-0.111	-62.1	63	122.6	2.5	
Tl	205	1	nogas	0.063	23.4	743	21.5	1	
Pb	208	1	nogas	0.024	34.6	330	21.0	2.5	
U	238	1	nogas	0.022	14.9	617	10.3	2.5	
Si	28	1	nogas	21.093	6.2	609587	0.2	5	CCB Main CR1 Failed
La	139	1	nogas	-49.273	-29.8	17	91.7	2.5	
Au	197	1	nogas	-250.491	-541.5	10	173.2	2.5	
Na	23	2	He	4.820	30.4	4367	3.6	100	
Mg	24	2	He	1.528	55.5	157	40.5	100	
Al	27	2	He	-2.951	-37.3	50	60.0	5	
K	39	2	He	3.479	246.9	5664	3.9	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-14.854	-38.6	20	50.0	100	
V	51	2	He	-0.184	-12.9	63	9.8	2.5	
Cr	52	2	He	-0.205	-9.9	100	10.0	2.5	
Mn	55	2	He	0.083	186.5	33	91.7	2.5	
Fe	56	2	He	1.426	63.9	1133	22.4	100	
Co	59	2	He	-0.019	-56.5	3	173.2	2.5	
Ni	60	2	He	-0.406	-24.9	13	114.6	2.5	
Cu	63	2	He	-0.817	-8.6	253	9.9	2.5	
Zn	66	2	He	-1.151	-19.9	10	173.2	2.5	

Continuing Calibration Blank (CCB) Report

As	75	2	He	0.089	297.9	9	142.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.758	13.4	293	10.4	2.5	
Se	78	2	He	0.157	795.1	4	100.0	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	531399	0.55	522917	101.62	70	125	
In	115	1	nogas	645885	0.82	627838	102.87	70	125	
Li	6	1	nogas	218124	2.07	211473	103.15	70	125	
Bi	209	1	nogas	949288	1.34	915562	103.68	70	125	
Ge	72	2	He	30464	2.34	29526	103.18	70	125	

Sample Report

Sample Table

Sample Name	MBLK-124039
Data File Name	056SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T12:52:12-06:00
Sample Type	Sample
Dilution	1
Comment	TW B124039
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	-0.001	-0.001	-1107.57	10	-0.01	2000	
B	11	1	nogas	28.789	28.789	6.72	31428	0.09	2000	
Na	23	1	nogas	8.756	8.756	23.35	110092	0.01	200000	
Mg	24	1	nogas	9.852	9.852	7.87	33607	0.03	200000	
Al	27	1	nogas	3.836	3.836	7.83	23900	0.02	2000	
K	39	1	nogas	118.678	118.678	4.52	1294546	0.01	200000	
Ca	43	1	nogas	8.546	8.546	126.02	153	5.57	200000	
Ca	44	1	nogas	-23.178	-23.178	-20.23	9983	-0.23	200000	
Ti	47	1	nogas	0.037	0.037	82.76	40	0.09	2000	
V	51	1	nogas	-4.384	-4.384	-14.71	39254	-0.01	2000	
Cr	52	1	nogas	-0.248	-0.248	-18.29	2717	-0.01	2000	
Mn	55	1	nogas	-0.113	-0.113	-19.67	3400	0.00	2000	
Fe	56	1	nogas	3.551	3.551	15.83	224040	0.00	200000	
Co	59	1	nogas	0.004	0.004	195.95	103	0.00	2000	
Ni	60	1	nogas	-0.078	-0.078	-0.40	50	-0.16	2000	
Cu	63	1	nogas	-0.613	-0.613	-3.98	1887	-0.03	2000	
Zn	66	1	nogas	5.572	5.572	9.95	5378	0.10	2000	
As	75	1	nogas	-4.466	-4.466	-9.57	8746	-0.05	2000	
Se	77	1	nogas	-7.651	-7.651	-24.07	3050	-0.25	2000	
Se	82	1	nogas	-0.521	-0.521	-359.30	190	-0.27	2000	
Sr	88	1	nogas	-0.004	-0.004	-195.39	210	0.00	2000	
Mo	95	1	nogas	0.055	0.055	31.38	73	0.07	2000	
Ag	107	1	nogas	0.000	0.000	-5846.89	87	0.00	2000	
Cd	111	1	nogas	0.020	0.020	91.69	17	0.12	2000	
Sn	118	1	nogas	-0.010	-0.010	-456.65	520	0.00	2000	
Sb	121	1	nogas	0.414	0.414	10.30	1583	0.03	2000	
Ba	137	1	nogas	-0.112	-0.112	-11.33	67	-0.17	2000	
Tl	205	1	nogas	0.009	0.009	78.84	203	0.00	2000	
Pb	208	1	nogas	0.006	0.006	49.58	203	0.00	2000	
U	238	1	nogas	0.001	0.001	174.47	223	0.00	2000	
Si	28	1	nogas	64.283	64.283	6.73	698210	0.01	2000	
La	139	1	nogas	-50.302	-50.302	-27.21	17	-301.81	2000	
Au	197	1	nogas	52.286	52.286	795.97	7	784.28	2000	
Na	23	2	He	7.575	7.575	40.95	4834	0.16	200000	
Mg	24	2	He	10.234	10.234	20.11	840	1.22	200000	
Al	27	2	He	1.804	1.804	171.82	180	1.00	2000	
K	39	2	He	87.162	87.162	25.44	9006	0.97	200000	
Ca	43	2	He	0.000	0.000	#DIV/0!	0	#DIV/0!	200000	
Ca	44	2	He	-10.865	-10.865	-31.66	27	-40.74	200000	
V	51	2	He	-0.110	-0.110	-13.94	86	-0.13	2000	

Sample Report

Cr	52	2	He	-0.273	-0.273	-21.32	73	-0.37	2000	
Mn	55	2	He	0.208	0.208	90.24	60	0.35	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Fe	56	2	He	1.193	1.193	34.48	1070	0.11	200000	
Co	59	2	He	-0.025	-0.025	0.00	0	#DIV/0!	2000	
Ni	60	2	He	-0.383	-0.383	-26.52	17	-2.30	2000	
Cu	63	2	He	-0.874	-0.874	-9.53	230	-0.38	2000	
Zn	66	2	He	4.612	4.612	14.65	437	1.06	2000	
As	75	2	He	0.143	0.143	83.01	11	1.29	2000	
Sb	121	2	He	0.363	0.363	52.87	150	0.24	2000	
Se	78	2	He	1.897	1.897	104.48	9	20.33	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	546680	0.61	522917	104.54	70	125	
In	115	1	nogas	688158	0.36	627838	109.61	70	125	
Li	6	1	nogas	228139	0.42	211473	107.88	70	125	
Bi	209	1	nogas	1012889	1.82	915562	110.63	70	125	
Ge	72	2	He	30601	3.71	29526	103.64	70	125	

Sample Report

Sample Table

Sample Name	LCS-124039
Data File Name	057SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T12:54:24-06:00
Sample Type	Sample
Dilution	1
Comment	TW B124039
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	50.032	50.032	0.82	79087	0.06	2000	
B	11	1	nogas	549.121	549.121	2.52	404262	0.14	2000	
Na	23	1	nogas	5025.394	5025.394	1.08	22497365	0.02	200000	
Mg	24	1	nogas	5149.120	5149.120	1.00	15982032	0.03	200000	
Al	27	1	nogas	105.446	105.446	0.76	421682	0.03	2000	
K	39	1	nogas	5156.212	5156.212	1.20	17657821	0.03	200000	
Ca	43	1	nogas	4965.071	4965.071	2.17	32354	15.35	200000	
Ca	44	1	nogas	4999.709	4999.709	0.18	548599	0.91	200000	
Ti	47	1	nogas	149.490	149.490	2.02	48875	0.31	2000	
V	51	1	nogas	45.415	45.415	2.90	280855	0.02	2000	
Cr	52	1	nogas	50.563	50.563	1.32	215043	0.02	2000	
Mn	55	1	nogas	50.011	50.011	0.91	277394	0.02	2000	
Fe	56	1	nogas	5048.985	5048.985	1.25	23591946	0.02	200000	
Co	59	1	nogas	50.770	50.770	0.98	228051	0.02	2000	
Ni	60	1	nogas	50.517	50.517	2.07	49856	0.10	2000	
Cu	63	1	nogas	50.712	50.712	0.98	126564	0.04	2000	
Zn	66	1	nogas	51.557	51.557	0.71	42436	0.12	2000	
As	75	1	nogas	45.157	45.157	1.06	47456	0.10	2000	
Se	77	1	nogas	40.993	40.993	8.85	4734	0.87	2000	
Se	82	1	nogas	50.797	50.797	16.25	2394	2.12	2000	
Sr	88	1	nogas	99.118	99.118	0.67	621607	0.02	2000	
Mo	95	1	nogas	50.217	50.217	1.70	66816	0.08	2000	
Ag	107	1	nogas	49.937	49.937	1.91	180974	0.03	2000	
Cd	111	1	nogas	49.969	49.969	1.45	40386	0.12	2000	
Sn	118	1	nogas	97.846	97.846	0.43	232040	0.04	2000	
Sb	121	1	nogas	51.564	51.564	0.21	174084	0.03	2000	
Ba	137	1	nogas	48.774	48.774	1.67	56826	0.09	2000	
Tl	205	1	nogas	48.029	48.029	2.00	491255	0.01	2000	
Pb	208	1	nogas	48.735	48.735	1.12	383038	0.01	2000	
U	238	1	nogas	95.355	95.355	0.48	1866421	0.01	2000	
Si	28	1	nogas	5458.889	5458.889	1.82	9543687	0.06	2000	>LDR
La	139	1	nogas	-9.730	-9.730	-338.15	60	-16.22	2000	
Au	197	1	nogas	278.056	278.056	158.60	3	8341.69	2000	
Na	23	2	He	5109.535	5109.535	6.82	834569	0.61	200000	
Mg	24	2	He	5034.698	5034.698	7.36	388874	1.29	200000	
Al	27	2	He	107.538	107.538	18.61	3034	3.54	2000	
K	39	2	He	5071.247	5071.247	7.27	203842	2.49	200000	
Ca	43	2	He	5082.428	5082.428	19.80	477	1066.21	200000	
Ca	44	2	He	4951.904	4951.904	7.70	8209	60.32	200000	
V	51	2	He	48.279	48.279	6.95	14794	0.33	2000	
Cr	52	2	He	50.987	50.987	7.67	19655	0.26	2000	
Mn	55	2	He	49.273	49.273	4.88	9776	0.50	2000	
Fe	56	2	He	5175.027	5175.027	5.21	1521303	0.34	200000	
Co	59	2	He	49.686	49.686	3.59	27526	0.18	2000	

Sample Report

Ni	60	2	He	49.011	49.011	4.74	7552	0.65	2000	
Cu	63	2	He	48.692	48.692	3.94	21380	0.23	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Zn	66	2	He	48.305	48.305	3.26	3604	1.34	2000	
As	75	2	He	49.736	49.736	8.75	2271	2.19	2000	
Sb	121	2	He	50.081	50.081	7.07	18064	0.28	2000	
Se	78	2	He	52.063	52.063	2.73	164	31.75	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	544593	0.35	522917	104.15	70	125	
In	115	1	nogas	664415	1.52	627838	105.83	70	125	
Li	6	1	nogas	230459	2.07	211473	108.98	70	125	
Bi	209	1	nogas	955016	1.34	915562	104.31	70	125	
Ge	72	2	He	30147	5.81	29526	102.10	70	125	

Sample Report

Sample Table

Sample Name	HS17121169-01
Data File Name	059SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T12:58:47-06:00
Sample Type	Sample
Dilution	1
Comment	TW B124039
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	0.089	0.089	7.91	140	0.06	2000	
B	11	1	nogas	63.444	63.444	4.40	52336	0.12	2000	
Na	23	1	nogas	234996.959	234996.959	0.30	1081785691	0.02	200000	>LDR
Mg	24	1	nogas	32373.073	32373.073	2.25	103595127	0.03	200000	
Al	27	1	nogas	49.909	49.909	2.94	205108	0.02	2000	
K	39	1	nogas	1644.324	1644.324	1.79	6272162	0.03	200000	
Ca	43	1	nogas	40648.097	40648.097	2.83	265263	15.32	200000	
Ca	44	1	nogas	39685.003	39685.003	1.46	4285961	0.93	200000	
Ti	47	1	nogas	1.711	1.711	17.75	590	0.29	2000	
V	51	1	nogas	8.049	8.049	18.99	99904	0.01	2000	
Cr	52	1	nogas	2.220	2.220	1.64	13075	0.02	2000	
Mn	55	1	nogas	524.452	524.452	2.01	2882837	0.02	2000	
Fe	56	1	nogas	895.535	895.535	1.48	4372209	0.02	200000	
Co	59	1	nogas	8.674	8.674	2.84	39188	0.02	2000	
Ni	60	1	nogas	13.946	13.946	4.37	13909	0.10	2000	
Cu	63	1	nogas	1.976	1.976	3.38	8202	0.02	2000	
Zn	66	1	nogas	120.651	120.651	2.41	98558	0.12	2000	
As	75	1	nogas	5.132	5.132	5.37	16275	0.03	2000	
Se	77	1	nogas	45.695	45.695	24.18	4921	0.93	2000	
Se	82	1	nogas	0.490	0.490	397.50	233	0.21	2000	
Sr	88	1	nogas	739.865	739.865	0.64	4657584	0.02	2000	
Mo	95	1	nogas	0.968	0.968	9.11	1293	0.07	2000	
Ag	107	1	nogas	-0.011	-0.011	-39.03	47	-0.02	2000	
Cd	111	1	nogas	0.326	0.326	18.84	253	0.13	2000	
Sn	118	1	nogas	-0.006	-0.006	-1103.45	490	0.00	2000	
Sb	121	1	nogas	0.843	0.843	7.94	3037	0.03	2000	
Ba	137	1	nogas	683.909	683.909	0.29	762270	0.09	2000	
Tl	205	1	nogas	0.019	0.019	16.31	277	0.01	2000	
Pb	208	1	nogas	0.257	0.257	1.48	2010	0.01	2000	
U	238	1	nogas	0.532	0.532	5.70	9867	0.01	2000	
Si	28	1	nogas	21471.989	21471.989	2.36	35953265	0.06	2000	>LDR
La	139	1	nogas	1347.846	1347.846	18.28	1463	92.10	2000	
Au	197	1	nogas	-292.100	-292.100	-1.50	10	-2921.00	2000	
Na	23	2	He	240261.619	240261.619	1.09	40530139	0.59	200000	>LDR
Mg	24	2	He	33411.524	33411.524	1.62	2676547	1.25	200000	
Al	27	2	He	50.691	50.691	13.63	1560	3.25	2000	
K	39	2	He	1612.780	1612.780	0.51	71094	2.27	200000	
Ca	43	2	He	44425.296	44425.296	1.31	4277	1038.64	200000	
Ca	44	2	He	40326.607	40326.607	2.66	69006	58.44	200000	
V	51	2	He	0.627	0.627	14.96	320	0.20	2000	
Cr	52	2	He	1.900	1.900	19.11	937	0.20	2000	
Mn	55	2	He	524.398	524.398	1.44	107526	0.49	2000	
Fe	56	2	He	890.898	890.898	0.63	271935	0.33	200000	
Co	59	2	He	8.769	8.769	3.30	5044	0.17	2000	
Ni	60	2	He	13.819	13.819	4.03	2260	0.61	2000	
Cu	63	2	He	1.379	1.379	4.48	1230	0.11	2000	

Sample Report

Zn	66	2	He	121.458	121.458	5.81	9236	1.32	2000	
As	75	2	He	1.429	1.429	19.30	72	1.98	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Sb	121	2	He	0.730	0.730	55.74	290	0.25	2000	
Se	78	2	He	1.195	1.195	81.20	7	16.29	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	546862	1.23	522917	104.58	70	125	
In	115	1	nogas	637539	1.12	627838	101.55	70	125	
Li	6	1	nogas	213221	0.19	211473	100.83	70	125	
Bi	209	1	nogas	889206	0.53	915562	97.12	70	125	
Ge	72	2	He	31182	0.59	29526	105.61	70	125	

Sample Report

Sample Table

Sample Name	HS17121169-01SD
Data File Name	060SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T13:00:59-06:00
Sample Type	Sample
Dilution	5
Comment	TW B124039
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	0.022	0.108	87.82	40	0.05	2000	
B	11	1	nogas	28.975	144.877	0.77	28343	0.10	2000	
Na	23	1	nogas	47004.324	235021.619	0.75	197535538	0.02	200000	
Mg	24	1	nogas	6527.989	32639.946	2.74	19073615	0.03	200000	
Al	27	1	nogas	10.641	53.207	2.62	47650	0.02	2000	
K	39	1	nogas	355.998	1779.991	4.11	1946105	0.02	200000	
Ca	43	1	nogas	7678.784	38393.921	1.53	47201	16.27	200000	
Ca	44	1	nogas	7680.971	38404.857	0.89	789565	0.97	200000	
Ti	47	1	nogas	0.358	1.790	13.77	137	0.26	2000	
V	51	1	nogas	16.269	81.344	6.90	131596	0.01	2000	
Cr	52	1	nogas	0.482	2.411	10.95	5438	0.01	2000	
Mn	55	1	nogas	101.891	509.454	0.75	529725	0.02	2000	
Fe	56	1	nogas	188.953	944.764	2.39	1021697	0.02	200000	
Co	59	1	nogas	1.734	8.671	3.35	7435	0.02	2000	
Ni	60	1	nogas	2.849	14.247	6.04	2767	0.10	2000	
Cu	63	1	nogas	-0.064	-0.322	-97.64	3034	0.00	2000	
Zn	66	1	nogas	22.063	110.317	1.53	17616	0.13	2000	
As	75	1	nogas	6.642	33.209	6.93	16415	0.04	2000	
Se	77	1	nogas	57.459	287.293	22.12	5014	1.15	2000	
Se	82	1	nogas	-0.818	-4.091	-215.82	167	-0.49	2000	
Sr	88	1	nogas	145.382	726.912	0.78	860844	0.02	2000	
Mo	95	1	nogas	0.175	0.875	13.16	220	0.08	2000	
Ag	107	1	nogas	0.000	0.002	453.12	83	0.00	2000	
Cd	111	1	nogas	0.040	0.198	0.40	30	0.13	2000	
Sn	118	1	nogas	0.043	0.215	34.56	587	0.01	2000	
Sb	121	1	nogas	0.308	1.539	11.55	1150	0.03	2000	
Ba	137	1	nogas	130.937	654.686	0.94	142384	0.09	2000	
Tl	205	1	nogas	0.007	0.037	57.43	163	0.00	2000	
Pb	208	1	nogas	0.058	0.289	9.48	550	0.01	2000	
U	238	1	nogas	0.106	0.531	8.04	2090	0.01	2000	
Si	28	1	nogas	4117.978	20589.890	0.49	6934932	0.06	2000	>LDR
La	139	1	nogas	264.863	1324.315	47.65	333	79.46	2000	
Au	197	1	nogas	-22.270	-111.349	-2158.19	7	-334.05	2000	
Na	23	2	He	45521.026	227605.131	1.38	7218407	0.63	200000	
Mg	24	2	He	6276.450	31382.252	0.85	472507	1.33	200000	
Al	27	2	He	8.607	43.034	23.13	353	2.44	2000	
K	39	2	He	290.257	1451.286	1.73	16385	1.77	200000	
Ca	43	2	He	7519.829	37599.146	9.64	680	1105.81	200000	
Ca	44	2	He	7614.256	38071.279	2.54	12278	62.02	200000	
V	51	2	He	0.400	2.001	26.75	233	0.17	2000	
Cr	52	2	He	0.256	1.278	116.84	267	0.10	2000	
Mn	55	2	He	101.161	505.806	0.64	19505	0.52	2000	
Fe	56	2	He	170.620	853.101	2.97	49478	0.34	200000	
Co	59	2	He	1.658	8.292	16.48	907	0.18	2000	

Sample Report

Ni	60	2	He	2.499	12.493	27.83	443	0.56	2000	
Cu	63	2	He	-0.538	-2.690	-23.83	360	-0.15	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Zn	66	2	He	22.187	110.936	2.96	1660	1.34	2000	
As	75	2	He	0.175	0.876	148.90	12	1.43	2000	
Sb	121	2	He	0.276	1.378	10.80	113	0.24	2000	
Se	78	2	He	-0.439	-2.193	-152.01	2	-21.93	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	514261	0.74	522917	98.34	70	125	
In	115	1	nogas	621341	0.40	627838	98.97	70	125	
Li	6	1	nogas	204864	1.16	211473	96.87	70	125	
Bi	209	1	nogas	879787	0.78	915562	96.09	70	125	
Ge	72	2	He	29299	1.17	29526	99.23	70	125	

Sample Report

Sample Table

Sample Name	HS17121169-01MS
Data File Name	061SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T13:03:11-06:00
Sample Type	Sample
Dilution	1
Comment	TW B124039
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	49.685	49.685	2.90	72402	0.07	2000	
B	11	1	nogas	585.699	585.699	3.13	396934	0.15	2000	
Na	23	1	nogas	230233.547	230233.547	0.50	1026614856	0.02	200000	>LDR
Mg	24	1	nogas	35501.166	35501.166	1.46	110057290	0.03	200000	
Al	27	1	nogas	147.725	147.725	1.31	563332	0.03	2000	
K	39	1	nogas	6514.675	6514.675	1.06	21174781	0.03	200000	
Ca	43	1	nogas	44783.849	44783.849	0.78	279201	16.04	200000	
Ca	44	1	nogas	43490.181	43490.181	0.66	4486223	0.97	200000	
Ti	47	1	nogas	150.657	150.657	0.61	47254	0.32	2000	
V	51	1	nogas	53.838	53.838	4.84	308639	0.02	2000	
Cr	52	1	nogas	50.983	50.983	0.44	207977	0.02	2000	
Mn	55	1	nogas	555.722	555.722	0.83	2918036	0.02	2000	
Fe	56	1	nogas	5530.777	5530.777	1.39	24772326	0.02	200000	
Co	59	1	nogas	55.204	55.204	1.24	237873	0.02	2000	
Ni	60	1	nogas	59.843	59.843	1.81	56637	0.11	2000	
Cu	63	1	nogas	49.322	49.322	2.11	118170	0.04	2000	
Zn	66	1	nogas	168.256	168.256	1.12	130979	0.13	2000	
As	75	1	nogas	54.560	54.560	1.71	52568	0.10	2000	
Se	77	1	nogas	88.443	88.443	7.05	6128	1.44	2000	
Se	82	1	nogas	50.766	50.766	8.49	2294	2.21	2000	
Sr	88	1	nogas	820.229	820.229	0.59	4933182	0.02	2000	
Mo	95	1	nogas	49.145	49.145	2.13	62724	0.08	2000	
Ag	107	1	nogas	45.213	45.213	0.50	157189	0.03	2000	
Cd	111	1	nogas	47.330	47.330	2.71	35839	0.13	2000	
Sn	118	1	nogas	93.721	93.721	1.53	208290	0.04	2000	
Sb	121	1	nogas	48.776	48.776	0.27	157984	0.03	2000	
Ba	137	1	nogas	711.457	711.457	0.39	774359	0.09	2000	
Tl	205	1	nogas	45.136	45.136	1.25	414540	0.01	2000	
Pb	208	1	nogas	46.833	46.833	1.36	330531	0.01	2000	
U	238	1	nogas	96.955	96.955	1.65	1703894	0.01	2000	
Si	28	1	nogas	25144.081	25144.081	0.90	40129549	0.06	2000	>LDR
La	139	1	nogas	1201.103	1201.103	5.09	1280	93.83	2000	
Au	197	1	nogas	532.665	532.665	0.00	0	#DIV/0!	2000	
Na	23	2	He	243644.666	243644.666	4.01	38137865	0.64	200000	>LDR
Mg	24	2	He	37028.099	37028.099	3.32	2752807	1.35	200000	
Al	27	2	He	161.195	161.195	6.48	4337	3.72	2000	
K	39	2	He	6474.330	6474.330	3.88	249006	2.60	200000	
Ca	43	2	He	47258.892	47258.892	5.34	4224	1118.84	200000	
Ca	44	2	He	45130.360	45130.360	3.92	71673	62.97	200000	
V	51	2	He	47.679	47.679	3.20	14065	0.34	2000	
Cr	52	2	He	48.917	48.917	4.98	18153	0.27	2000	
Mn	55	2	He	563.113	563.113	4.11	107169	0.53	2000	
Fe	56	2	He	5774.374	5774.374	3.79	1632052	0.35	200000	
Co	59	2	He	55.228	55.228	7.20	29395	0.19	2000	

Sample Report

Ni	60	2	He	56.896	56.896	6.27	8406	0.68	2000	
Cu	63	2	He	48.567	48.567	5.34	20489	0.24	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Zn	66	2	He	164.456	164.456	5.49	11571	1.42	2000	
As	75	2	He	51.145	51.145	7.56	2248	2.28	2000	
Sb	121	2	He	48.564	48.564	5.12	16849	0.29	2000	
Se	78	2	He	52.779	52.779	15.87	160	32.99	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	522444	0.56	522917	99.91	70	125	
In	115	1	nogas	622575	0.83	627838	99.16	70	125	
Li	6	1	nogas	212533	1.97	211473	100.50	70	125	
Bi	209	1	nogas	857482	0.07	915562	93.66	70	125	
Ge	72	2	He	28955	3.12	29526	98.07	70	125	

Sample Report

Sample Table

Sample Name	HS17121169-01MSD
Data File Name	062SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T13:05:23-06:00
Sample Type	Sample
Dilution	1
Comment	TW B124039
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	50.555	50.555	1.52	73212	0.07	2000	
B	11	1	nogas	602.543	602.543	1.22	405465	0.15	2000	
Na	23	1	nogas	240379.037	240379.037	1.38	1020064989	0.02	200000	>LDR
Mg	24	1	nogas	37087.192	37087.192	1.54	109429523	0.03	200000	
Al	27	1	nogas	153.504	153.504	3.85	553193	0.03	2000	
K	39	1	nogas	6661.492	6661.492	1.20	20462879	0.03	200000	
Ca	43	1	nogas	46034.009	46034.009	0.92	271533	16.95	200000	
Ca	44	1	nogas	45224.472	45224.472	0.99	4412819	1.02	200000	
Ti	47	1	nogas	154.119	154.119	0.70	45734	0.34	2000	
V	51	1	nogas	52.431	52.431	0.96	285825	0.02	2000	
Cr	52	1	nogas	52.028	52.028	1.48	200679	0.03	2000	
Mn	55	1	nogas	581.645	581.645	0.24	2889232	0.02	2000	
Fe	56	1	nogas	5699.825	5699.825	1.07	24150299	0.02	200000	
Co	59	1	nogas	56.797	56.797	0.47	231539	0.02	2000	
Ni	60	1	nogas	62.422	62.422	2.30	55877	0.11	2000	
Cu	63	1	nogas	49.777	49.777	2.28	112835	0.04	2000	
Zn	66	1	nogas	173.414	173.414	2.12	127644	0.14	2000	
As	75	1	nogas	55.237	55.237	3.44	50191	0.11	2000	
Se	77	1	nogas	86.859	86.859	1.09	5748	1.51	2000	
Se	82	1	nogas	42.205	42.205	1.80	1837	2.30	2000	
Sr	88	1	nogas	853.650	853.650	0.68	4857046	0.02	2000	
Mo	95	1	nogas	50.526	50.526	0.85	61014	0.08	2000	
Ag	107	1	nogas	47.369	47.369	0.38	155796	0.03	2000	
Cd	111	1	nogas	47.050	47.050	4.23	34172	0.14	2000	
Sn	118	1	nogas	94.705	94.705	1.12	201912	0.05	2000	
Sb	121	1	nogas	50.060	50.060	0.92	153372	0.03	2000	
Ba	137	1	nogas	734.140	734.140	2.25	766500	0.10	2000	
Tl	205	1	nogas	45.665	45.665	1.01	400387	0.01	2000	
Pb	208	1	nogas	47.698	47.698	0.73	321311	0.01	2000	
U	238	1	nogas	98.777	98.777	1.75	1657387	0.01	2000	
Si	28	1	nogas	26646.068	26646.068	1.05	40204758	0.07	2000	>LDR
La	139	1	nogas	1287.397	1287.397	18.24	1310	98.27	2000	
Au	197	1	nogas	532.665	532.665	0.00	0	#DIV/0!	2000	
Na	23	2	He	253365.285	253365.285	2.57	39018270	0.65	200000	>LDR
Mg	24	2	He	38711.212	38711.212	1.68	2831327	1.37	200000	
Al	27	2	He	161.239	161.239	7.09	4264	3.78	2000	
K	39	2	He	6510.033	6510.033	2.14	246305	2.64	200000	
Ca	43	2	He	46128.606	46128.606	8.51	4054	1137.89	200000	
Ca	44	2	He	45633.183	45633.183	3.71	71292	64.01	200000	
V	51	2	He	48.919	48.919	2.74	14190	0.34	2000	
Cr	52	2	He	53.024	53.024	6.18	19348	0.27	2000	
Mn	55	2	He	582.802	582.802	1.14	109112	0.53	2000	
Fe	56	2	He	5944.260	5944.260	2.12	1652821	0.36	200000	
Co	59	2	He	57.645	57.645	1.63	30200	0.19	2000	

Sample Report

Ni	60	2	He	61.810	61.810	13.26	8979	0.69	2000	
Cu	63	2	He	50.536	50.536	5.52	20957	0.24	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Zn	66	2	He	172.051	172.051	1.10	11911	1.44	2000	
As	75	2	He	49.340	49.340	3.31	2135	2.31	2000	
Sb	121	2	He	48.528	48.528	2.46	16569	0.29	2000	
Se	78	2	He	47.175	47.175	7.30	141	33.54	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	494250	2.27	522917	94.52	70	125	
In	115	1	nogas	597340	1.75	627838	95.14	70	125	
Li	6	1	nogas	211122	1.75	211473	99.83	70	125	
Bi	209	1	nogas	818498	2.04	915562	89.40	70	125	
Ge	72	2	He	28471	0.85	29526	96.43	70	125	

Sample Report

Sample Table

Sample Name	HS17121169-01PDS
Data File Name	063SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T13:07:34-06:00
Sample Type	Sample
Dilution	1
Comment	TW B124039
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	113.153	113.153	1.02	154305	0.07	2000	
B	11	1	nogas	93.292	93.292	4.09	67233	0.14	2000	
Na	23	1	nogas	239408.723	239408.723	0.87	1040296690	0.02	200000	>LDR
Mg	24	1	nogas	41239.015	41239.015	1.70	124586686	0.03	200000	
Al	27	1	nogas	151.079	151.079	5.05	556574	0.03	2000	
K	39	1	nogas	12096.637	12096.637	1.32	37294782	0.03	200000	
Ca	43	1	nogas	50713.797	50713.797	1.01	305672	16.59	200000	
Ca	44	1	nogas	50060.766	50060.766	1.17	4991409	1.00	200000	
Ti	47	1	nogas	216.876	216.876	1.30	65761	0.33	2000	
V	51	1	nogas	100.165	100.165	2.16	507139	0.02	2000	
Cr	52	1	nogas	105.531	105.531	1.18	412523	0.03	2000	
Mn	55	1	nogas	622.020	622.020	2.63	3157385	0.02	2000	
Fe	56	1	nogas	10840.306	10840.306	1.35	46763158	0.02	200000	
Co	59	1	nogas	108.331	108.331	1.18	451298	0.02	2000	
Ni	60	1	nogas	110.996	110.996	2.40	101497	0.11	2000	
Cu	63	1	nogas	101.890	101.890	0.79	232749	0.04	2000	
Zn	66	1	nogas	223.000	223.000	1.02	167616	0.13	2000	
As	75	1	nogas	104.772	104.772	3.65	87175	0.12	2000	
Se	77	1	nogas	110.738	110.738	3.70	6648	1.67	2000	
Se	82	1	nogas	113.187	113.187	8.14	4704	2.41	2000	
Sr	88	1	nogas	853.496	853.496	0.56	4963437	0.02	2000	
Mo	95	1	nogas	103.923	103.923	3.24	128270	0.08	2000	
Ag	107	1	nogas	97.714	97.714	0.53	328398	0.03	2000	
Cd	111	1	nogas	97.406	97.406	0.26	72600	0.13	2000	
Sn	118	1	nogas	97.483	97.483	2.50	213201	0.05	2000	
Sb	121	1	nogas	95.143	95.143	2.49	297742	0.03	2000	
Ba	137	1	nogas	768.639	768.639	1.07	823403	0.09	2000	
Tl	205	1	nogas	98.817	98.817	1.22	884000	0.01	2000	
Pb	208	1	nogas	98.631	98.631	0.69	677969	0.01	2000	
U	238	1	nogas	0.544	0.544	4.81	9483	0.01	2000	
Si	28	1	nogas	21163.783	21163.783	0.82	32744036	0.06	2000	>LDR
La	139	1	nogas	1385.283	1385.283	3.70	1443	95.97	2000	
Au	197	1	nogas	-637.951	-637.951	-317.82	13	-4784.63	2000	
Na	23	2	He	254721.190	254721.190	3.13	41617349	0.61	200000	>LDR
Mg	24	2	He	43072.057	43072.057	3.98	3341032	1.29	200000	
Al	27	2	He	160.638	160.638	5.89	4504	3.57	2000	
K	39	2	He	11998.097	11998.097	2.23	476988	2.52	200000	
Ca	43	2	He	52500.632	52500.632	3.23	4897	1072.00	200000	
Ca	44	2	He	51812.248	51812.248	3.13	85850	60.35	200000	
V	51	2	He	102.213	102.213	2.31	31327	0.33	2000	
Cr	52	2	He	103.293	103.293	3.41	39816	0.26	2000	
Mn	55	2	He	616.892	616.892	3.13	122490	0.50	2000	
Fe	56	2	He	11074.751	11074.751	1.53	3266469	0.34	200000	
Co	59	2	He	107.542	107.542	2.06	59754	0.18	2000	
Ni	60	2	He	110.081	110.081	5.52	16909	0.65	2000	
Cu	63	2	He	99.900	99.900	0.98	43382	0.23	2000	

Sample Report

Zn	66	2	He	223.630	223.630	2.12	16395	1.36	2000	
As	75	2	He	100.212	100.212	2.45	4598	2.18	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Sb	121	2	He	92.868	92.868	5.94	33625	0.28	2000	
Se	78	2	He	98.718	98.718	6.87	309	31.98	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	505191	1.97	522917	96.61	70	125	
In	115	1	nogas	612746	0.28	627838	97.60	70	125	
Li	6	1	nogas	198844	1.25	211473	94.03	70	125	
Bi	209	1	nogas	835289	1.09	915562	91.23	70	125	
Ge	72	2	He	30214	2.98	29526	102.33	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	066_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T13:14:09-06:00
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	98.723	3.221	136502	3.17	100	98.7	90	110	
B	11	1	nogas	496.813	3.009	320959	2.68	500	99.4	90	110	
Na	23	1	nogas	10155.228	1.039	38634700	1.41	10000	101.6	90	110	
Mg	24	1	nogas	10130.007	1.788	26757735	1.19	10000	101.3	90	110	
Al	27	1	nogas	101.200	2.423	346877	1.35	100	101.2	90	110	
P	31	1	nogas	519.816	2.432	102181	1.71	500	104.0	90	110	
K	39	1	nogas	10170.413	0.683	29077927	1.03	10000	101.7	90	110	
Ca	43	1	nogas	9954.159	2.186	55475	2.92	10000	99.5	90	110	
Ca	44	1	nogas	9778.319	2.093	908658	0.86	10000	97.8	90	110	
Ti	47	1	nogas	97.363	4.639	27262	3.15	100	97.4	90	110	
V	51	1	nogas	93.471	0.648	440375	1.73	100	93.5	90	110	
Cr	52	1	nogas	100.505	0.994	362906	0.53	100	100.5	90	110	
Mn	55	1	nogas	100.583	2.351	474278	0.98	100	100.6	90	110	
Fe	56	1	nogas	9691.919	0.440	38625459	1.22	10000	96.9	90	110	
Co	59	1	nogas	99.082	0.725	381125	1.48	100	99.1	90	110	
Ni	60	1	nogas	99.710	1.997	84165	0.85	100	99.7	90	110	
Cu	63	1	nogas	99.314	1.608	209514	1.08	100	99.3	90	110	
Zn	66	1	nogas	101.146	1.844	70582	0.38	100	101.1	90	110	
As	75	1	nogas	96.113	1.097	74727	2.08	100	96.1	90	110	
Se	77	1	nogas	80.702	28.781	5234	12.02	100	80.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	93.040	2.811	3604	4.12	100	93.0	90	110	
Sr	88	1	nogas	98.107	2.065	526906	1.01	100	98.1	90	110	
Mo	95	1	nogas	99.534	1.067	113428	1.46	100	99.5	90	110	
Ag	107	1	nogas	99.485	1.338	308685	0.38	100	99.5	90	110	
Cd	111	1	nogas	98.287	3.354	67611	2.41	100	98.3	90	110	
Sn	118	1	nogas	96.429	0.693	194685	0.88	100	96.4	90	110	
Sb	121	1	nogas	96.873	2.611	279923	1.13	100	96.9	90	110	
Ba	137	1	nogas	98.518	0.927	97565	1.17	100	98.5	90	110	
Tl	205	1	nogas	98.743	1.279	851427	1.03	100	98.7	90	110	
Pb	208	1	nogas	97.293	0.277	644655	0.89	100	97.3	90	110	
U	238	1	nogas	98.863	0.493	1631463	1.05	100	98.9	90	110	
Li	7	1	nogas	99.835	1.636	336009	0.44	100	99.8	90	110	
Si	28	1	nogas	5526.916	0.865	8269351	1.10	5000	110.5	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	97.718	0.686	57776	0.79	100	97.7	90	110	
La	139	1	nogas	199.393	26.368	243	20.68	100	199.4	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-1593.902	-144.422	23	107.85	100	-1593.9	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	99.112	1.196	352788	1.17	100	99.1	90	110	
Na	23	2	He	10516.626	0.695	1538428	1.82	10000	105.2	90	110	
Mg	24	2	He	9889.463	0.400	685725	1.72	10000	98.9	90	110	
Al	27	2	He	95.745	4.997	2447	4.33	100	95.7	90	110	
K	39	2	He	9870.440	0.371	351513	2.23	10000	98.7	90	110	
Ca	43	2	He	9548.254	17.100	797	18.38	10000	95.5	90	110	
Ca	44	2	He	9974.591	1.786	14807	3.46	10000	99.7	90	110	
V	51	2	He	97.126	1.846	26602	1.59	100	97.1	90	110	
Cr	52	2	He	98.395	2.117	33900	0.77	100	98.4	90	110	
Mn	55	2	He	103.432	3.826	18370	4.41	100	103.4	90	110	
Fe	56	2	He	10095.910	1.943	2660252	1.49	10000	101.0	90	110	
Co	59	2	He	97.612	2.705	48468	3.48	100	97.6	90	110	
Ni	60	2	He	100.017	3.091	13736	2.90	100	100.0	90	110	
Cu	63	2	He	100.519	1.953	38991	2.34	100	100.5	90	110	
Zn	66	2	He	98.996	3.614	6535	5.31	100	99.0	90	110	
As	75	2	He	96.019	2.687	3934	2.04	100	96.0	90	110	
Sb	121	2	He	92.358	2.759	29891	4.54	100	92.4	90	110	
Se	78	2	He	106.097	17.718	295	15.89	100	106.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	466462	1.48	522917	89.20	70	125	
In	115	1	nogas	565663	1.41	627838	90.10	70	125	
Li	6	1	nogas	201610	1.13	211473	95.34	70	125	
Bi	209	1	nogas	805173	0.62	915562	87.94	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	26988	1.86	29526	91.41	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	067_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T13:16:21-06:00
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	0.018	98.0	33	69.3	1	
B	11	1	nogas	51.648	14.3	40804	12.2	10	CCB Main CR1 Failed
Na	23	1	nogas	48.786	2.6	248620	1.7	100	
Mg	24	1	nogas	2.849	12.9	9605	10.6	100	
Al	27	1	nogas	-1.280	-1.0	3264	2.6	5	
P	31	1	nogas	-0.389	-268.3	6205	3.8	10	
K	39	1	nogas	39.353	13.9	892391	1.7	100	
Ca	43	1	nogas	-1.306	-313.2	77	30.1	100	
Ca	44	1	nogas	-17.898	-10.1	9093	1.7	100	
Ti	47	1	nogas	-0.026	-206.2	17	91.7	2.5	
V	51	1	nogas	-3.341	-21.9	38183	7.3	2.5	
Cr	52	1	nogas	-0.093	-78.4	2900	8.5	2.5	
Mn	55	1	nogas	0.204	31.4	4434	8.2	2.5	
Fe	56	1	nogas	6.224	9.8	203760	2.4	100	
Co	59	1	nogas	0.018	104.5	147	52.1	2.5	
Ni	60	1	nogas	0.076	61.4	173	21.8	2.5	
Cu	63	1	nogas	-0.646	-5.3	1557	5.2	2.5	
Zn	66	1	nogas	-0.879	-8.3	137	37.6	2.5	
As	75	1	nogas	-4.183	-5.3	7725	0.8	2.5	
Se	77	1	nogas	-10.105	-137.9	2554	16.3	2.5	
Se	82	1	nogas	0.808	22.8	213	2.7	2.5	
Sr	88	1	nogas	0.051	26.5	483	15.8	2.5	
Mo	95	1	nogas	0.044	60.8	50	60.0	2.5	
Ag	107	1	nogas	0.002	706.0	80	43.3	2.5	
Cd	111	1	nogas	0.014	100.4	10	100.0	1	
Sn	118	1	nogas	0.114	10.0	693	4.2	5	
Sb	121	1	nogas	0.879	4.6	2720	5.0	2.5	
Ba	137	1	nogas	-0.016	-241.7	153	26.4	2.5	
Tl	205	1	nogas	0.072	9.6	750	9.3	1	
Pb	208	1	nogas	0.032	37.0	353	24.4	2.5	
U	238	1	nogas	0.027	50.6	647	38.2	2.5	
Si	28	1	nogas	83.921	4.2	629486	1.7	5	CCB Main CR1 Failed
La	139	1	nogas	-47.612	-46.0	17	124.9	2.5	
Au	197	1	nogas	-45.557	-2198.4	7	173.2	2.5	
Na	23	2	He	46.491	3.1	9883	0.8	100	
Mg	24	2	He	3.295	16.1	260	13.9	100	
Al	27	2	He	-3.386	-19.3	33	45.8	5	
K	39	2	He	13.894	2.9	5351	2.7	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-20.062	-32.9	10	100.0	100	
V	51	2	He	-0.102	-49.1	77	15.6	2.5	
Cr	52	2	He	-0.265	-53.4	67	70.9	2.5	
Mn	55	2	He	0.085	70.1	30	33.3	2.5	
Fe	56	2	He	2.426	18.5	1263	12.1	100	
Co	59	2	He	0.023	45.6	23	24.7	2.5	
Ni	60	2	He	-0.321	-13.9	23	24.7	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.887	-16.4	197	28.0	2.5	
Zn	66	2	He	-1.234	-7.0	3	173.2	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	0.092	227.0	8	107.8	2.5	
Sb	121	2	He	0.770	28.6	263	29.0	2.5	
Se	78	2	He	0.128	889.3	3	91.7	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	471037	1.33	522917	90.08	70	125	
In	115	1	nogas	580024	0.84	627838	92.38	70	125	
Li	6	1	nogas	195238	1.46	211473	92.32	70	125	
Bi	209	1	nogas	850702	0.88	915562	92.92	70	125	
Ge	72	2	He	26801	2.71	29526	90.77	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	078_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T13:40:41-06:00
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	97.745	1.199	145178	1.62	100	97.7	90	110	
B	11	1	nogas	506.861	3.437	351413	1.11	500	101.4	90	110	
Na	23	1	nogas	10195.627	0.458	41764936	1.45	10000	102.0	90	110	
Mg	24	1	nogas	9989.957	0.225	28414762	1.08	10000	99.9	90	110	
Al	27	1	nogas	100.199	0.839	369032	0.73	100	100.2	90	110	
P	31	1	nogas	502.739	1.464	106373	0.79	500	100.5	90	110	
K	39	1	nogas	9968.579	0.639	30631737	1.63	10000	99.7	90	110	
Ca	43	1	nogas	9672.872	2.226	57896	1.87	10000	96.7	90	110	
Ca	44	1	nogas	9727.953	0.790	971152	0.62	10000	97.3	90	110	
Ti	47	1	nogas	97.478	0.787	29332	2.03	100	97.5	90	110	
V	51	1	nogas	93.431	1.961	472840	2.41	100	93.4	90	110	
Cr	52	1	nogas	98.651	1.140	382748	2.41	100	98.7	90	110	
Mn	55	1	nogas	98.199	0.948	497551	1.65	100	98.2	90	110	
Fe	56	1	nogas	9582.090	1.619	41021800	2.16	10000	95.8	90	110	
Co	59	1	nogas	97.605	1.546	403235	1.09	100	97.6	90	110	
Ni	60	1	nogas	99.058	0.714	89823	0.68	100	99.1	90	110	
Cu	63	1	nogas	98.228	1.121	222625	0.79	100	98.2	90	110	
Zn	66	1	nogas	98.907	1.983	74157	1.44	100	98.9	90	110	
As	75	1	nogas	92.504	1.557	77660	0.23	100	92.5	90	110	
Se	77	1	nogas	76.301	16.271	5488	7.41	100	76.3	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	100.432	3.698	4161	2.32	100	100.4	90	110	
Sr	88	1	nogas	96.754	0.864	558294	2.12	100	96.8	90	110	
Mo	95	1	nogas	97.918	0.794	119869	2.04	100	97.9	90	110	
Ag	107	1	nogas	97.717	1.583	325668	0.37	100	97.7	90	110	
Cd	111	1	nogas	96.961	2.532	71457	1.94	100	97.0	90	110	
Sn	118	1	nogas	94.914	1.457	205279	1.07	100	94.9	90	110	
Sb	121	1	nogas	95.132	1.636	295300	0.40	100	95.1	90	110	
Ba	137	1	nogas	99.070	2.702	105095	2.42	100	99.1	90	110	
Tl	205	1	nogas	98.214	1.102	909207	0.43	100	98.2	90	110	
Pb	208	1	nogas	97.204	2.316	691404	1.59	100	97.2	90	110	
U	238	1	nogas	96.266	2.121	1705484	1.87	100	96.3	90	110	
Li	7	1	nogas	99.857	1.832	361015	1.59	100	99.9	90	110	
Si	28	1	nogas	5495.342	0.617	8835041	1.44	5000	109.9	90	110	
Ba	135	1	nogas	98.651	1.361	62487	2.01	100	98.7	90	110	
La	139	1	nogas	185.545	57.955	247	42.58	100	185.5	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	251.921	193.021	3	173.21	100	251.9	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	98.048	1.677	374681	1.13	100	98.0	90	110	
Na	23	2	He	10992.079	2.069	1575086	1.21	10000	109.9	90	110	
Mg	24	2	He	10208.736	2.577	693360	0.46	10000	102.1	90	110	
Al	27	2	He	99.416	13.547	2487	13.71	100	99.4	90	110	
K	39	2	He	10321.900	1.328	359880	0.79	10000	103.2	90	110	
Ca	43	2	He	11460.736	18.247	933	16.05	10000	114.6	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	10204.423	3.199	14833	1.74	10000	102.0	90	110	
V	51	2	He	101.357	1.777	27194	0.84	100	101.4	90	110	
Cr	52	2	He	103.889	3.855	35059	2.94	100	103.9	90	110	
Mn	55	2	He	101.567	2.228	17669	0.77	100	101.6	90	110	
Fe	56	2	He	10301.194	1.037	2659676	1.06	10000	103.0	90	110	
Co	59	2	He	101.799	3.149	49504	1.16	100	101.8	90	110	
Ni	60	2	He	100.638	1.503	13542	1.65	100	100.6	90	110	
Cu	63	2	He	101.950	2.052	38734	0.98	100	101.9	90	110	
Zn	66	2	He	104.706	4.353	6765	4.78	100	104.7	90	110	
As	75	2	He	101.375	3.110	4069	2.91	100	101.4	90	110	
Sb	121	2	He	95.337	3.462	30211	2.12	100	95.3	90	110	
Se	78	2	He	109.382	5.891	299	4.04	100	109.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	501031	1.28	522917	95.81	70	125	
In	115	1	nogas	605934	0.66	627838	96.51	70	125	
Li	6	1	nogas	216583	2.26	211473	102.42	70	125	
Bi	209	1	nogas	864465	0.75	915562	94.42	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	26444	2.09	29526	89.56	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	079_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T13:42:52-06:00
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	0.030	44.1	50	34.6	1	
B	11	1	nogas	54.593	10.8	42752	10.1	10	CCB Main CR1 Failed
Na	23	1	nogas	59.507	3.9	289574	3.8	100	
Mg	24	1	nogas	3.653	10.9	11740	8.6	100	
Al	27	1	nogas	-1.331	-5.1	3100	7.1	5	
P	31	1	nogas	-3.497	-63.1	5641	6.6	10	
K	39	1	nogas	29.963	11.4	868861	0.8	100	
Ca	43	1	nogas	-1.953	-374.6	73	56.8	100	
Ca	44	1	nogas	-19.233	-6.7	8999	1.8	100	
Ti	47	1	nogas	0.033	328.1	33	91.7	2.5	
V	51	1	nogas	-5.680	-5.9	28464	4.3	2.5	
Cr	52	1	nogas	-0.219	-10.8	2454	4.2	2.5	
Mn	55	1	nogas	0.083	63.8	3874	7.0	2.5	
Fe	56	1	nogas	14.011	12.2	235727	3.3	100	
Co	59	1	nogas	0.013	91.7	127	37.3	2.5	
Ni	60	1	nogas	0.168	40.0	253	23.1	2.5	
Cu	63	1	nogas	-0.840	-7.8	1153	12.6	2.5	
Zn	66	1	nogas	-0.913	-4.9	113	28.4	2.5	
As	75	1	nogas	-5.937	-7.6	6565	5.4	2.5	
Se	77	1	nogas	-20.139	-44.6	2260	12.7	2.5	
Se	82	1	nogas	-1.361	-62.2	133	24.1	2.5	
Sr	88	1	nogas	0.051	13.1	480	7.5	2.5	
Mo	95	1	nogas	0.055	56.1	63	55.5	2.5	
Ag	107	1	nogas	0.027	11.5	160	6.3	2.5	
Cd	111	1	nogas	0.005	173.2	3	173.2	1	
Sn	118	1	nogas	0.108	52.0	683	17.1	5	
Sb	121	1	nogas	0.746	6.3	2340	5.9	2.5	
Ba	137	1	nogas	-0.114	-30.3	53	65.8	2.5	
Tl	205	1	nogas	0.075	12.2	773	12.0	1	
Pb	208	1	nogas	0.029	30.3	333	20.0	2.5	
U	238	1	nogas	0.024	25.5	593	17.2	2.5	
Si	28	1	nogas	73.470	9.2	616677	1.8	5	CCB Main CR1 Failed
La	139	1	nogas	-51.091	-24.0	13	86.6	2.5	
Au	197	1	nogas	243.981	204.9	3	173.2	2.5	CCB Main CR1 Failed
Na	23	2	He	59.679	1.3	11367	4.2	100	
Mg	24	2	He	2.175	19.7	177	18.2	100	
Al	27	2	He	-1.751	-91.2	70	51.5	5	
K	39	2	He	10.191	45.7	5031	5.0	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-3.354	-227.6	33	34.6	100	
V	51	2	He	-0.124	-57.6	69	24.8	2.5	
Cr	52	2	He	-0.210	-62.2	83	54.1	2.5	
Mn	55	2	He	0.133	105.3	37	63.0	2.5	
Fe	56	2	He	1.586	37.4	1000	11.8	100	
Co	59	2	He	-0.025	0.0	0	#DIV/0!	2.5	
Ni	60	2	He	-0.416	-19.0	10	100.0	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.976	-34.8	157	79.3	2.5	
Zn	66	2	He	-1.232	-7.3	3	173.2	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	0.127	99.5	9	57.3	2.5	
Sb	121	2	He	0.575	34.1	193	33.3	2.5	
Se	78	2	He	0.710	355.0	5	137.8	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	472582	0.68	522917	90.37	70	125	
In	115	1	nogas	580820	0.20	627838	92.51	70	125	
Li	6	1	nogas	195971	1.77	211473	92.67	70	125	
Bi	209	1	nogas	854683	1.21	915562	93.35	70	125	
Ge	72	2	He	25817	3.32	29526	87.44	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	090_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T14:07:05-06:00
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	97.364	1.800	135383	1.58	100	97.4	90	110	
B	11	1	nogas	483.502	3.862	314360	3.19	500	96.7	90	110	
Na	23	1	nogas	10189.506	1.343	38854657	0.65	10000	101.9	90	110	
Mg	24	1	nogas	9993.583	1.616	26459992	0.48	10000	99.9	90	110	
Al	27	1	nogas	99.916	0.809	337450	0.68	100	99.9	90	110	
P	31	1	nogas	505.348	1.500	98018	1.47	500	101.1	90	110	
K	39	1	nogas	10242.865	1.000	28837178	0.79	10000	102.4	90	110	
Ca	43	1	nogas	9702.580	2.082	53252	1.86	10000	97.0	90	110	
Ca	44	1	nogas	9947.944	1.316	910401	1.23	10000	99.5	90	110	
Ti	47	1	nogas	99.010	0.294	27315	0.66	100	99.0	90	110	
V	51	1	nogas	100.878	3.672	464065	3.61	100	100.9	90	110	
Cr	52	1	nogas	99.883	0.847	355245	0.63	100	99.9	90	110	
Mn	55	1	nogas	98.917	0.905	459512	0.87	100	98.9	90	110	
Fe	56	1	nogas	9749.813	0.770	38267062	0.40	10000	97.5	90	110	
Co	59	1	nogas	98.355	0.797	372597	0.47	100	98.4	90	110	
Ni	60	1	nogas	97.906	1.101	81404	0.76	100	97.9	90	110	
Cu	63	1	nogas	98.729	1.079	205170	1.30	100	98.7	90	110	
Zn	66	1	nogas	98.780	1.709	67918	1.95	100	98.8	90	110	
As	75	1	nogas	98.365	0.486	75075	0.57	100	98.4	90	110	
Se	77	1	nogas	120.135	9.961	6321	5.94	100	120.1	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.679	5.249	3681	5.35	100	96.7	90	110	
Sr	88	1	nogas	99.329	1.766	525494	1.95	100	99.3	90	110	
Mo	95	1	nogas	96.662	0.522	108492	0.86	100	96.7	90	110	
Ag	107	1	nogas	97.656	0.544	298459	0.50	100	97.7	90	110	
Cd	111	1	nogas	99.745	1.459	68110	1.78	100	99.7	90	110	
Sn	118	1	nogas	97.530	0.149	195415	0.46	100	97.5	90	110	
Sb	121	1	nogas	97.339	1.107	277071	0.74	100	97.3	90	110	
Ba	137	1	nogas	97.612	2.795	95932	2.52	100	97.6	90	110	
Tl	205	1	nogas	96.743	0.345	849202	1.12	100	96.7	90	110	
Pb	208	1	nogas	95.906	1.112	646825	0.41	100	95.9	90	110	
U	238	1	nogas	95.647	0.508	1606839	1.85	100	95.6	90	110	
Li	7	1	nogas	100.652	0.207	340567	0.76	100	100.7	90	110	
Si	28	1	nogas	5605.436	1.686	8252873	1.23	5000	112.1	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	96.665	0.812	56722	0.49	100	96.7	90	110	
La	139	1	nogas	135.809	24.312	183	16.67	100	135.8	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	532.665	0.000	0	#DIV/0!	100	532.7	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	96.982	2.623	351345	1.43	100	97.0	90	110	
Na	23	2	He	10671.126	6.849	1476208	2.16	10000	106.7	90	110	
Mg	24	2	He	10121.038	6.097	663827	1.51	10000	101.2	90	110	
Al	27	2	He	105.506	19.050	2530	13.51	100	105.5	90	110	
K	39	2	He	9991.415	6.009	336514	1.29	10000	99.9	90	110	
Ca	43	2	He	10039.690	16.521	797	21.09	10000	100.4	90	110	
Ca	44	2	He	10172.570	3.284	14293	1.56	10000	101.7	90	110	
V	51	2	He	98.685	6.516	25565	1.82	100	98.7	90	110	
Cr	52	2	He	100.847	8.562	32845	3.85	100	100.8	90	110	
Mn	55	2	He	101.300	3.445	17032	1.76	100	101.3	90	110	
Fe	56	2	He	10167.037	4.241	2536095	1.59	10000	101.7	90	110	
Co	59	2	He	100.600	5.393	47265	2.39	100	100.6	90	110	
Ni	60	2	He	98.724	4.784	12835	2.42	100	98.7	90	110	
Cu	63	2	He	98.086	4.771	36018	0.20	100	98.1	90	110	
Zn	66	2	He	100.905	8.860	6291	4.33	100	100.9	90	110	
As	75	2	He	95.003	5.741	3686	5.29	100	95.0	90	110	
Sb	121	2	He	94.777	8.950	28979	4.47	100	94.8	90	110	
Se	78	2	He	97.421	5.209	258	8.74	100	97.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	459397	0.37	522917	87.85	70	125	
In	115	1	nogas	561354	0.33	627838	89.41	70	125	
Li	6	1	nogas	202741	0.57	211473	95.87	70	125	
Bi	209	1	nogas	819667	1.46	915562	89.53	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	25576	4.67	29526	86.62	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	091_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T14:09:16-06:00
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	0.006	207.2	17	91.7	1	
B	11	1	nogas	43.717	16.9	35736	12.1	10	CCB Main CR1 Failed
Na	23	1	nogas	29.858	6.5	170066	3.5	100	
Mg	24	1	nogas	1.807	22.7	6603	17.2	100	
Al	27	1	nogas	-1.256	-8.8	3240	9.5	5	
P	31	1	nogas	-2.765	-45.2	5584	2.8	10	
K	39	1	nogas	28.433	16.1	835588	1.4	100	
Ca	43	1	nogas	7.806	134.6	123	44.7	100	
Ca	44	1	nogas	-23.332	-16.4	8325	2.5	100	
Ti	47	1	nogas	0.085	177.1	47	89.2	2.5	
V	51	1	nogas	1.752	45.7	57742	4.0	2.5	
Cr	52	1	nogas	-0.102	-51.6	2784	7.7	2.5	
Mn	55	1	nogas	0.003	1335.3	3374	5.9	2.5	
Fe	56	1	nogas	11.229	9.1	217049	3.2	100	
Co	59	1	nogas	0.027	70.1	177	42.5	2.5	
Ni	60	1	nogas	0.045	118.3	143	31.5	2.5	
Cu	63	1	nogas	-0.788	-3.0	1220	3.6	2.5	
Zn	66	1	nogas	-0.888	-10.0	127	48.2	2.5	
As	75	1	nogas	-1.262	-35.7	9403	1.6	2.5	
Se	77	1	nogas	10.608	74.3	3080	6.3	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-1.527	-89.5	123	41.6	2.5	
Sr	88	1	nogas	0.014	31.5	273	7.6	2.5	
Mo	95	1	nogas	0.090	29.2	100	30.0	2.5	
Ag	107	1	nogas	0.005	305.9	90	57.7	2.5	
Cd	111	1	nogas	0.049	125.4	33	124.9	1	
Sn	118	1	nogas	0.079	92.5	607	23.3	5	
Sb	121	1	nogas	0.429	18.4	1367	17.5	2.5	
Ba	137	1	nogas	-0.117	-8.4	50	20.0	2.5	
Tl	205	1	nogas	0.097	31.5	967	29.7	1	
Pb	208	1	nogas	0.036	11.3	373	8.6	2.5	
U	238	1	nogas	0.023	36.8	570	26.0	2.5	
Si	28	1	nogas	88.157	12.2	616143	1.8	5	CCB Main CR1 Failed
La	139	1	nogas	-43.577	-24.6	20	50.0	2.5	
Au	197	1	nogas	-1505.659	-145.4	23	107.9	2.5	
Na	23	2	He	31.033	4.4	7155	2.4	100	
Mg	24	2	He	2.621	29.5	200	25.0	100	
Al	27	2	He	-2.411	-64.4	53	65.8	5	
K	39	2	He	15.408	45.9	5057	4.8	100	
Ca	43	2	He	86.308	173.2	7	173.2	100	
Ca	44	2	He	-19.469	-64.8	10	173.2	100	
V	51	2	He	0.122	15.6	129	3.9	2.5	
Cr	52	2	He	-0.264	-13.9	63	18.2	2.5	
Mn	55	2	He	0.197	46.8	47	32.7	2.5	
Fe	56	2	He	2.002	40.2	1077	18.3	100	
Co	59	2	He	-0.003	-734.7	10	100.0	2.5	
Ni	60	2	He	-0.441	-10.3	7	86.6	2.5	
Cu	63	2	He	-0.851	-7.0	197	10.6	2.5	
Zn	66	2	He	-0.953	-17.4	20	50.0	2.5	

Continuing Calibration Blank (CCB) Report

As	75	2	He	0.222	113.8	12	78.7	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.396	19.1	133	17.3	2.5	
Se	78	2	He	2.009	102.5	8	66.1	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	456782	1.67	522917	87.35	70	125	
In	115	1	nogas	567205	0.78	627838	90.34	70	125	
Li	6	1	nogas	194110	0.70	211473	91.79	70	125	
Bi	209	1	nogas	842015	1.20	915562	91.97	70	125	
Ge	72	2	He	25082	0.24	29526	84.95	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	102_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T14:34:35-06:00
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	97.404	0.632	135526	1.97	100	97.4	90	110	
B	11	1	nogas	494.040	2.078	321246	2.79	500	98.8	90	110	
Na	23	1	nogas	10462.560	0.763	39398060	0.67	10000	104.6	90	110	
Mg	24	1	nogas	10391.503	1.526	27172351	1.55	10000	103.9	90	110	
Al	27	1	nogas	104.129	1.350	345562	0.14	100	104.1	90	110	
P	31	1	nogas	513.760	1.948	97907	1.71	500	102.8	90	110	
K	39	1	nogas	10576.736	1.689	29263725	1.89	10000	105.8	90	110	
Ca	43	1	nogas	10098.895	2.272	54505	1.02	10000	101.0	90	110	
Ca	44	1	nogas	10189.631	1.128	916937	1.28	10000	101.9	90	110	
Ti	47	1	nogas	102.644	0.775	27853	1.72	100	102.6	90	110	
V	51	1	nogas	104.707	2.289	471764	1.09	100	104.7	90	110	
Cr	52	1	nogas	102.356	2.064	357938	0.95	100	102.4	90	110	
Mn	55	1	nogas	101.293	1.629	462692	0.62	100	101.3	90	110	
Fe	56	1	nogas	9990.803	1.792	38560908	0.96	10000	99.9	90	110	
Co	59	1	nogas	101.640	1.241	378706	1.19	100	101.6	90	110	
Ni	60	1	nogas	103.099	0.173	84312	1.23	100	103.1	90	110	
Cu	63	1	nogas	101.531	0.836	207435	0.73	100	101.5	90	110	
Zn	66	1	nogas	100.529	1.860	67961	0.72	100	100.5	90	110	
As	75	1	nogas	101.367	1.194	75781	0.57	100	101.4	90	110	
Se	77	1	nogas	104.239	14.814	5754	6.92	100	104.2	90	110	
Se	82	1	nogas	108.246	7.293	4031	6.45	100	108.2	90	110	
Sr	88	1	nogas	100.440	1.229	522589	0.43	100	100.4	90	110	
Mo	95	1	nogas	98.286	2.381	108485	1.48	100	98.3	90	110	
Ag	107	1	nogas	99.123	1.582	297935	0.63	100	99.1	90	110	
Cd	111	1	nogas	98.244	0.913	66296	1.38	100	98.2	90	110	
Sn	118	1	nogas	96.327	0.820	190738	0.69	100	96.3	90	110	
Sb	121	1	nogas	98.490	0.728	275744	1.05	100	98.5	90	110	
Ba	137	1	nogas	97.250	0.615	94460	1.06	100	97.2	90	110	
Tl	205	1	nogas	99.168	1.602	833380	0.55	100	99.2	90	110	
Pb	208	1	nogas	97.466	1.163	629390	0.29	100	97.5	90	110	
U	238	1	nogas	98.234	2.036	1579926	1.90	100	98.2	90	110	
Li	7	1	nogas	100.829	0.179	341338	1.72	100	100.8	90	110	
Si	28	1	nogas	5670.019	2.208	8204506	1.34	5000	113.4	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	97.887	1.680	56766	2.10	100	97.9	90	110	
La	139	1	nogas	79.136	134.036	130	73.38	100	79.1	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	216.937	252.081	3	173.21	100	216.9	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	99.462	1.761	345033	0.63	100	99.5	90	110	
Na	23	2	He	11022.002	3.854	1475131	2.11	10000	110.2	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	10300.885	3.529	653543	1.68	10000	103.0	90	110	
Al	27	2	He	104.358	7.789	2430	5.76	100	104.4	90	110	
K	39	2	He	10332.395	2.355	336506	0.44	10000	103.3	90	110	
Ca	43	2	He	10746.074	6.063	820	7.42	10000	107.5	90	110	
Ca	44	2	He	10382.911	3.034	14099	1.15	10000	103.8	90	110	
V	51	2	He	102.347	3.792	25647	1.96	100	102.3	90	110	
Cr	52	2	He	102.669	3.645	32367	1.87	100	102.7	90	110	
Mn	55	2	He	99.164	1.622	16121	2.36	100	99.2	90	110	
Fe	56	2	He	10549.114	1.768	2544301	0.29	10000	105.5	90	110	
Co	59	2	He	101.218	1.114	45998	1.22	100	101.2	90	110	
Ni	60	2	He	99.702	3.796	12532	2.72	100	99.7	90	110	
Cu	63	2	He	101.402	0.455	36001	1.56	100	101.4	90	110	
Zn	66	2	He	107.687	3.946	6495	2.33	100	107.7	90	110	
As	75	2	He	97.758	2.385	3667	3.31	100	97.8	90	110	
Sb	121	2	He	95.921	3.776	28395	1.96	100	95.9	90	110	
Se	78	2	He	98.380	9.883	251	9.43	100	98.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	451860	1.32	522917	86.41	70	125	
In	115	1	nogas	554753	0.46	627838	88.36	70	125	
Li	6	1	nogas	202866	1.82	211473	95.93	70	125	
Bi	209	1	nogas	784793	1.16	915562	85.72	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	24705	1.90	29526	83.67	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	103_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T14:36:46-06:00
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	0.023	116.5	40	90.1	1	
B	11	1	nogas	58.985	12.0	44496	9.8	10	CCB Main CR1 Failed
Na	23	1	nogas	83.026	2.3	361345	2.6	100	
Mg	24	1	nogas	1.989	16.7	6903	12.9	100	
Al	27	1	nogas	-1.242	-9.8	3240	12.0	5	
P	31	1	nogas	-0.708	-293.8	5864	5.0	10	
K	39	1	nogas	40.331	24.1	854653	1.9	100	
Ca	43	1	nogas	3.691	87.4	100	17.3	100	
Ca	44	1	nogas	-7.555	-60.9	9596	2.9	100	
Ti	47	1	nogas	-0.023	-239.6	17	91.7	2.5	
V	51	1	nogas	0.994	87.0	53828	5.1	2.5	
Cr	52	1	nogas	-0.058	-145.4	2894	11.4	2.5	
Mn	55	1	nogas	0.049	67.1	3530	5.5	2.5	
Fe	56	1	nogas	7.511	18.7	199465	2.3	100	
Co	59	1	nogas	0.023	47.5	157	25.8	2.5	
Ni	60	1	nogas	0.245	12.2	303	8.3	2.5	
Cu	63	1	nogas	-0.526	-7.1	1727	4.4	2.5	
Zn	66	1	nogas	-0.944	-4.2	87	29.0	2.5	
As	75	1	nogas	-1.246	-51.1	9276	5.7	2.5	
Se	77	1	nogas	17.146	33.3	3224	5.3	2.5	CCB Main CR1 Failed
Se	82	1	nogas	1.255	113.3	220	24.1	2.5	
Sr	88	1	nogas	0.006	150.0	227	19.9	2.5	
Mo	95	1	nogas	0.061	35.5	67	34.6	2.5	
Ag	107	1	nogas	0.012	56.1	107	19.5	2.5	
Cd	111	1	nogas	0.020	86.6	13	86.6	1	
Sn	118	1	nogas	0.071	50.9	570	12.3	5	
Sb	121	1	nogas	0.404	10.7	1273	8.7	2.5	
Ba	137	1	nogas	-0.122	-18.0	43	48.0	2.5	
Tl	205	1	nogas	0.091	23.2	863	20.9	1	
Pb	208	1	nogas	0.043	24.8	403	17.4	2.5	
U	238	1	nogas	0.029	12.7	633	9.0	2.5	
Si	28	1	nogas	97.266	11.6	619072	1.3	5	CCB Main CR1 Failed
La	139	1	nogas	-35.068	-49.7	27	57.3	2.5	
Au	197	1	nogas	532.665	0.0	0	#DIV/0!	2.5	CCB Main CR1 Failed
Na	23	2	He	81.780	7.6	13392	7.6	100	
Mg	24	2	He	1.253	26.5	107	19.5	100	
Al	27	2	He	-3.067	-43.7	37	78.7	5	
K	39	2	He	19.715	9.9	4957	4.5	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-16.581	-26.7	13	43.3	100	
V	51	2	He	0.007	847.0	95	12.8	2.5	
Cr	52	2	He	-0.207	-55.4	77	41.9	2.5	
Mn	55	2	He	0.045	390.1	20	132.3	2.5	
Fe	56	2	He	1.929	25.7	1013	15.8	100	
Co	59	2	He	-0.002	-2137.0	10	173.2	2.5	
Ni	60	2	He	-0.154	-247.3	40	109.0	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.943	-1.9	157	7.4	2.5	
Zn	66	2	He	-1.113	-14.9	10	100.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	0.079	291.0	7	132.3	2.5	
Sb	121	2	He	0.498	12.6	157	14.7	2.5	
Se	78	2	He	1.099	226.9	5	114.6	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	449822	1.37	522917	86.02	70	125	
In	115	1	nogas	545567	0.67	627838	86.90	70	125	
Li	6	1	nogas	192087	0.58	211473	90.83	70	125	
Bi	209	1	nogas	802543	0.55	915562	87.66	70	125	
Ge	72	2	He	23924	4.46	29526	81.03	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	114_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T15:01:05-06:00
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	96.789	2.674	131766	3.03	100	96.8	90	110	
B	11	1	nogas	477.603	2.656	304096	0.69	500	95.5	90	110	
Na	23	1	nogas	10624.456	2.156	38812697	0.44	10000	106.2	90	110	
Mg	24	1	nogas	10232.973	1.684	25965013	2.33	10000	102.3	90	110	
Al	27	1	nogas	102.862	0.692	333441	0.55	100	102.9	90	110	
P	31	1	nogas	510.514	4.606	95038	4.21	500	102.1	90	110	
K	39	1	nogas	10399.486	2.059	28106794	1.46	10000	104.0	90	110	
Ca	43	1	nogas	10274.462	2.778	54147	1.78	10000	102.7	90	110	
Ca	44	1	nogas	10142.912	0.839	891309	0.63	10000	101.4	90	110	
Ti	47	1	nogas	103.530	0.659	27432	1.39	100	103.5	90	110	
V	51	1	nogas	97.204	5.536	431066	3.73	100	97.2	90	110	
Cr	52	1	nogas	101.818	2.789	347740	2.69	100	101.8	90	110	
Mn	55	1	nogas	100.376	2.382	447807	2.58	100	100.4	90	110	
Fe	56	1	nogas	9929.010	2.008	37422948	1.36	10000	99.3	90	110	
Co	59	1	nogas	99.698	0.974	362741	0.88	100	99.7	90	110	
Ni	60	1	nogas	100.094	1.156	79931	1.39	100	100.1	90	110	
Cu	63	1	nogas	99.624	0.740	198808	0.80	100	99.6	90	110	
Zn	66	1	nogas	100.209	2.580	66164	2.77	100	100.2	90	110	
As	75	1	nogas	93.120	1.618	68796	2.52	100	93.1	90	110	
Se	77	1	nogas	71.667	11.621	4701	4.43	100	71.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.842	1.498	3540	2.31	100	96.8	90	110	
Sr	88	1	nogas	100.429	2.693	510209	1.83	100	100.4	90	110	
Mo	95	1	nogas	95.174	2.965	102575	1.84	100	95.2	90	110	
Ag	107	1	nogas	98.215	1.763	288271	1.19	100	98.2	90	110	
Cd	111	1	nogas	99.646	1.223	64690	1.01	100	99.6	90	110	
Sn	118	1	nogas	97.639	2.525	185994	2.26	100	97.6	90	110	
Sb	121	1	nogas	97.421	1.736	266326	1.33	100	97.4	90	110	
Ba	137	1	nogas	99.357	1.310	92841	1.18	100	99.4	90	110	
Tl	205	1	nogas	99.155	1.763	807391	0.23	100	99.2	90	110	
Pb	208	1	nogas	96.952	0.921	606688	1.21	100	97.0	90	110	
U	238	1	nogas	97.527	1.077	1520033	1.88	100	97.5	90	110	
Li	7	1	nogas	101.063	1.817	334683	1.17	100	101.1	90	110	
Si	28	1	nogas	5651.092	1.695	7987546	1.94	5000	113.0	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	97.949	1.669	54645	1.66	100	97.9	90	110	
La	139	1	nogas	134.688	12.408	173	8.81	100	134.7	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-124.810	-912.411	7	173.21	100	-124.8	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	98.353	1.144	330632	1.31	100	98.4	90	110	
Na	23	2	He	11244.913	3.730	1463717	1.56	10000	112.4	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	10309.240	2.149	636419	2.40	10000	103.1	90	110	
Al	27	2	He	101.292	7.608	2297	4.85	100	101.3	90	110	
K	39	2	He	10427.140	2.953	330282	2.14	10000	104.3	90	110	
Ca	43	2	He	10051.101	16.232	743	13.27	10000	100.5	90	110	
Ca	44	2	He	10347.384	5.754	13659	2.64	10000	103.5	90	110	
V	51	2	He	99.812	2.555	24338	2.35	100	99.8	90	110	
Cr	52	2	He	101.457	5.849	31102	3.81	100	101.5	90	110	
Mn	55	2	He	106.824	6.476	16869	2.17	100	106.8	90	110	
Fe	56	2	He	10502.339	2.518	2464171	2.86	10000	105.0	90	110	
Co	59	2	He	101.713	3.934	44942	2.00	100	101.7	90	110	
Ni	60	2	He	97.807	1.154	11964	3.06	100	97.8	90	110	
Cu	63	2	He	100.801	3.198	34806	2.47	100	100.8	90	110	
Zn	66	2	He	104.414	8.203	6131	8.80	100	104.4	90	110	
As	75	2	He	99.347	2.456	3626	4.63	100	99.3	90	110	
Sb	121	2	He	95.478	2.638	27497	1.61	100	95.5	90	110	
Se	78	2	He	101.621	5.831	253	7.48	100	101.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	441237	1.22	522917	84.38	70	125	
In	115	1	nogas	533720	0.45	627838	85.01	70	125	
Li	6	1	nogas	198504	1.87	211473	93.87	70	125	
Bi	209	1	nogas	760504	1.95	915562	83.06	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	24041	4.17	29526	81.42	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	126_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T15:27:34-06:00
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	99.153	2.086	153902	1.53	100	99.2	90	110	
B	11	1	nogas	480.622	2.351	349037	3.54	500	96.1	90	110	
Na	23	1	nogas	11068.340	1.174	44059451	0.97	10000	110.7	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	10945.497	1.062	30257206	0.57	10000	109.5	90	110	
Al	27	1	nogas	105.869	0.579	384198	0.67	100	105.9	90	110	
P	31	1	nogas	541.207	1.467	112467	1.49	500	108.2	90	110	
K	39	1	nogas	10441.341	0.334	31609733	0.36	10000	104.4	90	110	
Ca	43	1	nogas	10343.386	3.254	61070	3.29	10000	103.4	90	110	
Ca	44	1	nogas	10239.992	0.502	1007865	0.15	10000	102.4	90	110	
Ti	47	1	nogas	103.868	0.444	30828	0.93	100	103.9	90	110	
V	51	1	nogas	111.425	3.475	545635	2.66	100	111.4	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	103.291	1.684	395105	1.43	100	103.3	90	110	
Mn	55	1	nogas	101.588	2.541	507594	2.30	100	101.6	90	110	
Fe	56	1	nogas	9987.088	1.657	42165507	1.27	10000	99.9	90	110	
Co	59	1	nogas	101.808	0.840	414932	0.80	100	101.8	90	110	
Ni	60	1	nogas	101.198	1.659	90517	1.20	100	101.2	90	110	
Cu	63	1	nogas	101.255	2.383	226276	1.79	100	101.3	90	110	
Zn	66	1	nogas	102.614	2.650	75864	2.01	100	102.6	90	110	
As	75	1	nogas	102.709	1.935	83845	1.66	100	102.7	90	110	
Se	77	1	nogas	150.704	9.068	7765	5.01	100	150.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	91.464	8.386	3757	8.52	100	91.5	90	110	
Sr	88	1	nogas	101.094	0.996	575363	0.70	100	101.1	90	110	
Mo	95	1	nogas	99.424	1.378	120049	0.96	100	99.4	90	110	
Ag	107	1	nogas	99.720	1.739	327868	1.42	100	99.7	90	110	
Cd	111	1	nogas	102.631	2.514	73569	2.02	100	102.6	90	110	
Sn	118	1	nogas	100.950	0.484	212348	0.97	100	101.0	90	110	
Sb	121	1	nogas	100.008	1.238	306248	0.62	100	100.0	90	110	
Ba	137	1	nogas	103.326	1.010	106608	0.69	100	103.3	90	110	
Tl	205	1	nogas	99.899	0.320	929757	1.04	100	99.9	90	110	
Pb	208	1	nogas	98.602	0.814	705173	1.70	100	98.6	90	110	
U	238	1	nogas	100.899	2.302	1796918	1.77	100	100.9	90	110	
Li	7	1	nogas	104.175	0.616	392864	1.56	100	104.2	90	110	
Si	28	1	nogas	5774.229	1.153	9130171	0.89	5000	115.5	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	101.009	1.330	62222	1.09	100	101.0	90	110	
La	139	1	nogas	206.473	39.683	260	30.04	100	206.5	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	532.665	0.000	0	#DIV/0!	100	532.7	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	100.309	1.850	385333	1.00	100	100.3	90	110	
Na	23	2	He	11231.524	0.844	1663315	1.53	10000	112.3	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	10555.196	1.550	740935	0.57	10000	105.6	90	110	
Al	27	2	He	109.410	8.391	2817	9.33	100	109.4	90	110	
K	39	2	He	10593.048	0.947	381544	0.58	10000	105.9	90	110	
Ca	43	2	He	10992.063	7.571	927	6.14	10000	109.9	90	110	
Ca	44	2	He	10597.284	2.050	15924	3.20	10000	106.0	90	110	
V	51	2	He	101.839	1.021	28237	0.53	100	101.8	90	110	
Cr	52	2	He	103.266	2.940	36014	1.73	100	103.3	90	110	
Mn	55	2	He	104.244	4.389	18744	4.58	100	104.2	90	110	
Fe	56	2	He	10624.484	1.491	2834667	1.28	10000	106.2	90	110	
Co	59	2	He	103.105	2.718	51818	1.25	100	103.1	90	110	
Ni	60	2	He	98.913	1.763	13756	1.98	100	98.9	90	110	
Cu	63	2	He	105.406	0.917	41370	0.80	100	105.4	90	110	
Zn	66	2	He	104.532	3.238	6978	3.18	100	104.5	90	110	
As	75	2	He	103.047	2.733	4274	1.23	100	103.0	90	110	
Sb	121	2	He	98.729	0.664	32339	0.84	100	98.7	90	110	
Se	78	2	He	96.192	4.677	272	5.15	100	96.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	494241	0.63	522917	94.52	70	125	
In	115	1	nogas	589369	0.54	627838	93.87	70	125	
Li	6	1	nogas	226338	1.27	211473	107.03	70	125	
Bi	209	1	nogas	869041	0.91	915562	94.92	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	27325	1.50	29526	92.55	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	127_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T15:29:45-06:00
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	0.014	49.6	30	33.3	1	
B	11	1	nogas	39.255	15.9	35486	11.4	10	CCB Main CR1 Failed
Na	23	1	nogas	39.714	3.9	217084	3.5	100	
Mg	24	1	nogas	3.555	7.5	11707	6.8	100	
Al	27	1	nogas	-1.217	-1.6	3580	1.6	5	
P	31	1	nogas	-0.685	-220.7	6328	4.1	10	
K	39	1	nogas	16.920	13.4	853702	0.2	100	
Ca	43	1	nogas	9.805	88.9	143	35.8	100	
Ca	44	1	nogas	-19.585	-26.1	9199	5.4	100	
Ti	47	1	nogas	-0.051	-67.4	10	100.0	2.5	
V	51	1	nogas	10.614	12.8	99641	6.1	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.089	110.0	3664	10.3	2.5	
Mn	55	1	nogas	0.083	82.9	3971	8.9	2.5	
Fe	56	1	nogas	14.448	6.7	243642	2.0	100	
Co	59	1	nogas	0.021	13.1	160	6.3	2.5	
Ni	60	1	nogas	0.100	63.2	200	27.8	2.5	
Cu	63	1	nogas	-0.701	-8.8	1483	9.1	2.5	
Zn	66	1	nogas	-0.838	-7.4	170	25.6	2.5	
As	75	1	nogas	4.009	15.7	13649	3.7	2.5	CCB Main CR1 Failed
Se	77	1	nogas	50.955	7.5	4524	2.9	2.5	CCB Main CR1 Failed
Se	82	1	nogas	0.123	1311.7	193	31.6	2.5	
Sr	88	1	nogas	0.027	65.4	360	26.8	2.5	
Mo	95	1	nogas	0.090	42.5	107	42.3	2.5	
Ag	107	1	nogas	0.011	116.5	113	36.7	2.5	
Cd	111	1	nogas	0.032	108.5	23	107.9	1	
Sn	118	1	nogas	0.086	71.0	643	18.7	5	
Sb	121	1	nogas	0.392	20.5	1337	17.6	2.5	
Ba	137	1	nogas	-0.079	-34.5	90	29.4	2.5	
Tl	205	1	nogas	0.081	22.8	843	21.4	1	
Pb	208	1	nogas	0.035	29.4	377	18.1	2.5	
U	238	1	nogas	0.029	23.2	687	17.6	2.5	
Si	28	1	nogas	47.547	12.7	594805	1.1	5	CCB Main CR1 Failed
La	139	1	nogas	-44.215	-23.9	20	50.0	2.5	
Au	197	1	nogas	532.665	0.0	0	#DIV/0!	2.5	CCB Main CR1 Failed
Na	23	2	He	40.157	2.2	8836	1.4	100	
Mg	24	2	He	4.248	42.5	320	36.8	100	
Al	27	2	He	-2.109	-11.7	63	9.1	5	
K	39	2	He	6.576	81.8	5021	3.9	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	10.297	209.8	53	57.3	100	
V	51	2	He	0.371	15.8	203	8.5	2.5	
Cr	52	2	He	-0.223	-49.7	80	45.1	2.5	
Mn	55	2	He	0.088	176.5	30	88.2	2.5	
Fe	56	2	He	2.421	23.3	1240	10.1	100	
Co	59	2	He	0.003	896.3	13	86.6	2.5	
Ni	60	2	He	-0.143	-133.0	47	53.9	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.952	-26.7	170	56.7	2.5	
Zn	66	2	He	-1.284	0.0	0	#DIV/0!	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	0.067	121.4	7	50.0	2.5	
Sb	121	2	He	0.468	19.9	163	19.7	2.5	
Se	78	2	He	0.870	132.0	5	57.3	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	484855	0.56	522917	92.72	70	125	
In	115	1	nogas	587416	1.80	627838	93.56	70	125	
Li	6	1	nogas	208358	0.23	211473	98.53	70	125	
Bi	209	1	nogas	867390	1.65	915562	94.74	70	125	
Ge	72	2	He	26408	1.61	29526	89.44	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	138_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T15:54:09-06:00
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	97.979	2.465	169459	2.35	100	98.0	90	110	
B	11	1	nogas	579.304	1.367	466139	1.35	500	115.9	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	10487.841	1.326	48558700	0.52	10000	104.9	90	110	
Mg	24	1	nogas	10335.317	2.084	33228653	1.65	10000	103.4	90	110	
Al	27	1	nogas	102.806	1.312	422649	1.62	100	102.8	90	110	
P	31	1	nogas	520.875	2.809	122811	2.11	500	104.2	90	110	
K	39	1	nogas	10369.879	0.758	35546845	0.35	10000	103.7	90	110	
Ca	43	1	nogas	10220.228	3.492	68307	2.81	10000	102.2	90	110	
Ca	44	1	nogas	10114.979	1.063	1127235	0.74	10000	101.1	90	110	
Ti	47	1	nogas	102.909	0.414	34578	0.55	100	102.9	90	110	
V	51	1	nogas	94.595	1.277	533869	1.78	100	94.6	90	110	
Cr	52	1	nogas	101.759	1.577	440726	1.19	100	101.8	90	110	
Mn	55	1	nogas	100.073	0.749	566160	0.15	100	100.1	90	110	
Fe	56	1	nogas	9889.306	2.034	47268857	1.26	10000	98.9	90	110	
Co	59	1	nogas	99.938	0.545	461123	0.44	100	99.9	90	110	
Ni	60	1	nogas	100.557	0.976	101829	0.35	100	100.6	90	110	
Cu	63	1	nogas	99.588	0.939	252025	0.41	100	99.6	90	110	
Zn	66	1	nogas	101.855	1.156	85265	0.80	100	101.9	90	110	
As	75	1	nogas	95.479	0.858	89122	0.05	100	95.5	90	110	
Se	77	1	nogas	77.038	6.358	6155	2.73	100	77.0	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	97.089	7.266	4501	7.13	100	97.1	90	110	
Sr	88	1	nogas	100.172	2.160	645401	1.43	100	100.2	90	110	
Mo	95	1	nogas	98.052	2.514	134027	1.90	100	98.1	90	110	
Ag	107	1	nogas	98.718	1.295	367462	1.03	100	98.7	90	110	
Cd	111	1	nogas	100.507	0.648	83651	0.39	100	100.5	90	110	
Sn	118	1	nogas	97.952	0.456	239219	0.13	100	98.0	90	110	
Sb	121	1	nogas	100.346	0.806	347890	0.58	100	100.3	90	110	
Ba	137	1	nogas	100.456	2.912	120343	2.97	100	100.5	90	110	
Tl	205	1	nogas	98.899	0.860	1052987	0.89	100	98.9	90	110	
Pb	208	1	nogas	97.664	1.191	799007	1.23	100	97.7	90	110	
U	238	1	nogas	98.692	0.875	2010938	0.99	100	98.7	90	110	
Li	7	1	nogas	101.878	1.815	428509	1.63	100	101.9	90	110	
Si	28	1	nogas	5543.941	0.859	9948735	1.16	5000	110.9	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	98.744	1.192	70623	0.94	100	98.7	90	110	
La	139	1	nogas	186.801	21.286	280	15.57	100	186.8	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	40.073	2129.084	7	173.21	100	40.1	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	98.776	0.498	434153	1.25	100	98.8	90	110	
Na	23	2	He	11014.829	4.916	1828255	1.55	10000	110.1	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	10422.356	5.458	819937	2.04	10000	104.2	90	110	
Al	27	2	He	108.197	2.060	3124	2.40	100	108.2	90	110	
K	39	2	He	10301.704	3.426	416178	0.39	10000	103.0	90	110	
Ca	43	2	He	10248.954	30.559	963	27.16	10000	102.5	90	110	
Ca	44	2	He	10463.494	3.919	17636	4.63	10000	104.6	90	110	
V	51	2	He	100.845	3.617	31351	0.28	100	100.8	90	110	
Cr	52	2	He	105.404	3.350	41219	0.52	100	105.4	90	110	
Mn	55	2	He	104.520	4.777	21063	1.38	100	104.5	90	110	
Fe	56	2	He	10409.532	4.120	3113473	0.89	10000	104.1	90	110	
Co	59	2	He	101.533	4.498	57209	1.14	100	101.5	90	110	
Ni	60	2	He	101.309	3.381	15794	0.10	100	101.3	90	110	
Cu	63	2	He	102.317	5.090	45026	1.66	100	102.3	90	110	
Zn	66	2	He	101.105	6.570	7565	3.05	100	101.1	90	110	
As	75	2	He	98.732	6.327	4590	3.16	100	98.7	90	110	
Sb	121	2	He	98.175	2.294	36063	1.16	100	98.2	90	110	
Se	78	2	He	94.214	12.628	299	11.80	100	94.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	559543	0.76	522917	107.00	70	125	
In	115	1	nogas	684244	0.35	627838	108.98	70	125	
Li	6	1	nogas	252177	0.13	211473	119.25	70	125	
Bi	209	1	nogas	994200	0.76	915562	108.59	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	30658	3.42	29526	103.83	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	139_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T15:56:20-06:00
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	0.025	13.4	53	10.8	1	
B	11	1	nogas	97.987	10.0	85644	8.4	10	CCB Main CR1 Failed
Na	23	1	nogas	46.179	2.1	287789	3.5	100	
Mg	24	1	nogas	2.454	29.5	10306	23.1	100	
Al	27	1	nogas	-1.114	-6.8	4591	7.0	5	
P	31	1	nogas	-0.290	-875.5	7462	6.9	10	
K	39	1	nogas	19.975	27.6	1005169	1.1	100	
Ca	43	1	nogas	5.310	87.6	137	23.5	100	
Ca	44	1	nogas	-23.590	-11.0	10277	3.6	100	
Ti	47	1	nogas	0.004	831.6	30	33.3	2.5	
V	51	1	nogas	-3.619	-9.8	44432	4.7	2.5	
Cr	52	1	nogas	-0.178	-12.8	3110	3.1	2.5	
Mn	55	1	nogas	0.043	82.0	4401	3.8	2.5	
Fe	56	1	nogas	7.019	21.6	248206	2.4	100	
Co	59	1	nogas	0.023	45.3	197	24.0	2.5	
Ni	60	1	nogas	0.130	56.9	263	28.5	2.5	
Cu	63	1	nogas	-0.662	-18.1	1823	15.9	2.5	
Zn	66	1	nogas	-0.904	-13.2	143	70.2	2.5	
As	75	1	nogas	-4.376	-3.0	9113	1.0	2.5	
Se	77	1	nogas	-11.702	-60.2	3007	8.9	2.5	
Se	82	1	nogas	-2.172	-32.2	123	26.1	2.5	
Sr	88	1	nogas	0.032	48.1	453	22.2	2.5	
Mo	95	1	nogas	0.068	33.4	93	32.7	2.5	
Ag	107	1	nogas	0.007	105.5	117	24.7	2.5	
Cd	111	1	nogas	0.008	86.6	7	86.6	1	
Sn	118	1	nogas	0.053	132.2	670	24.9	5	
Sb	121	1	nogas	0.301	3.7	1240	2.9	2.5	
Ba	137	1	nogas	-0.058	-87.2	130	46.8	2.5	
Tl	205	1	nogas	0.095	33.4	1150	30.2	1	
Pb	208	1	nogas	0.025	28.4	360	16.7	2.5	
U	238	1	nogas	0.030	19.8	830	14.8	2.5	
Si	28	1	nogas	-5.674	-118.6	602633	1.6	5	
La	139	1	nogas	-44.233	-31.3	23	65.5	2.5	
Au	197	1	nogas	-187.309	-384.1	10	100.0	2.5	
Na	23	2	He	43.551	7.0	11184	1.7	100	
Mg	24	2	He	2.024	26.2	203	18.6	100	
Al	27	2	He	-2.671	-22.7	60	28.9	5	
K	39	2	He	-3.376	-209.1	5621	6.9	100	
Ca	43	2	He	68.269	173.2	7	173.2	100	
Ca	44	2	He	-15.240	-65.6	20	86.6	100	
V	51	2	He	-0.097	-77.1	93	27.1	2.5	
Cr	52	2	He	-0.140	-31.9	130	13.3	2.5	
Mn	55	2	He	0.205	65.4	60	44.1	2.5	
Fe	56	2	He	2.008	15.3	1363	7.8	100	
Co	59	2	He	0.026	125.1	30	66.7	2.5	
Ni	60	2	He	-0.179	-98.0	50	52.9	2.5	
Cu	63	2	He	-0.885	-19.1	233	32.5	2.5	
Zn	66	2	He	-0.854	-36.8	33	75.5	2.5	

Continuing Calibration Blank (CCB) Report

As	75	2	He	0.226	39.6	16	24.8	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.516	42.9	213	37.6	2.5	
Se	78	2	He	0.131	491.5	4	50.0	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	565066	0.75	522917	108.06	70	125	
In	115	1	nogas	684843	0.55	627838	109.08	70	125	
Li	6	1	nogas	242778	0.41	211473	114.80	70	125	
Bi	209	1	nogas	1020484	0.41	915562	111.46	70	125	
Ge	72	2	He	31713	2.99	29526	107.41	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	150_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T16:21:36-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	93.945	1.551	172475	1.87	100	93.9	90	110	
B	11	1	nogas	2061.296	1.450	1727330	0.20	500	412.3	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	10941.970	0.931	52259595	0.06	10000	109.4	90	110	
Mg	24	1	nogas	10616.553	1.033	35211758	0.19	10000	106.2	90	110	
Al	27	1	nogas	103.768	1.764	443731	1.00	100	103.8	90	110	
P	31	1	nogas	514.528	0.909	126328	0.79	500	102.9	90	110	
K	39	1	nogas	10357.985	2.500	36939926	1.54	10000	103.6	90	110	
Ca	43	1	nogas	10225.043	1.137	71111	0.28	10000	102.3	90	110	
Ca	44	1	nogas	10133.061	1.952	1174828	0.92	10000	101.3	90	110	
Ti	47	1	nogas	100.672	1.835	35193	0.98	100	100.7	90	110	
V	51	1	nogas	102.840	0.717	598286	1.90	100	102.8	90	110	
Cr	52	1	nogas	101.091	1.404	455562	0.22	100	101.1	90	110	
Mn	55	1	nogas	99.139	0.809	583618	0.78	100	99.1	90	110	
Fe	56	1	nogas	9895.416	0.759	49215688	0.71	10000	99.0	90	110	
Co	59	1	nogas	99.111	1.145	475794	0.31	100	99.1	90	110	
Ni	60	1	nogas	100.639	0.604	106051	1.94	100	100.6	90	110	
Cu	63	1	nogas	100.186	0.995	263775	0.43	100	100.2	90	110	
Zn	66	1	nogas	99.812	1.155	86952	0.45	100	99.8	90	110	
As	75	1	nogas	98.532	3.445	95261	1.86	100	98.5	90	110	
Se	77	1	nogas	115.626	5.069	7842	3.05	100	115.6	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	87.124	4.189	4224	2.77	100	87.1	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	98.142	1.316	657930	0.10	100	98.1	90	110	
Mo	95	1	nogas	94.472	1.271	134363	0.39	100	94.5	90	110	
Ag	107	1	nogas	95.755	3.291	370777	1.96	100	95.8	90	110	
Cd	111	1	nogas	98.734	2.708	81171	1.81	100	98.7	90	110	
Sn	118	1	nogas	97.424	1.444	235056	1.40	100	97.4	90	110	
Sb	121	1	nogas	93.947	1.265	338882	0.17	100	93.9	90	110	
Ba	137	1	nogas	98.894	1.982	117032	1.44	100	98.9	90	110	
Tl	205	1	nogas	98.662	1.112	1006723	0.82	100	98.7	90	110	
Pb	208	1	nogas	96.185	1.094	754166	1.28	100	96.2	90	110	
U	238	1	nogas	97.496	1.085	1903930	1.56	100	97.5	90	110	
Li	7	1	nogas	101.658	0.730	453901	0.58	100	101.7	90	110	
Si	28	1	nogas	5639.651	1.342	10518299	0.13	5000	112.8	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	98.685	1.999	69722	1.21	100	98.7	90	110	
La	139	1	nogas	135.108	30.403	220	20.83	100	135.1	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	532.665	0.000	0	#DIV/0!	100	532.7	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	98.649	1.028	415527	1.15	100	98.6	90	110	
Na	23	2	He	11199.181	4.728	1933133	2.07	10000	112.0	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	10153.350	3.505	831037	1.22	10000	101.5	90	110	
Al	27	2	He	107.243	6.499	3220	5.95	100	107.2	90	110	
K	39	2	He	10113.720	3.046	425028	1.04	10000	101.1	90	110	
Ca	43	2	He	11036.745	13.992	1083	11.47	10000	110.4	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9996.897	3.419	17526	4.69	10000	100.0	90	110	
V	51	2	He	99.080	3.510	32036	1.59	100	99.1	90	110	
Cr	52	2	He	100.173	2.637	40752	0.97	100	100.2	90	110	
Mn	55	2	He	98.883	1.558	20746	3.91	100	98.9	90	110	
Fe	56	2	He	10125.595	3.438	3149879	0.99	10000	101.3	90	110	
Co	59	2	He	98.572	3.967	57764	1.15	100	98.6	90	110	
Ni	60	2	He	98.918	3.962	16041	3.08	100	98.9	90	110	
Cu	63	2	He	98.037	3.976	44909	2.43	100	98.0	90	110	
Zn	66	2	He	98.869	4.824	7699	1.99	100	98.9	90	110	
As	75	2	He	93.986	6.378	4547	6.02	100	94.0	90	110	
Sb	121	2	He	92.425	2.867	35302	0.81	100	92.4	90	110	
Se	78	2	He	94.598	6.495	312	6.41	100	94.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	582209	1.38	522917	111.34	70	125	
In	115	1	nogas	675992	1.10	627838	107.67	70	125	
Li	6	1	nogas	267684	1.24	211473	126.58	70	125	ISTD Failed
Bi	209	1	nogas	952802	0.48	915562	104.07	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	31877	2.87	29526	107.96	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	151_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T16:23:47-06:00
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	0.027	46.5	57	36.7	1	
B	11	1	nogas	1449.427	5.8	1094056	5.5	10	CCB Main CR1 Failed
Na	23	1	nogas	182.826	1.7	903898	2.0	100	CCB Main CR1 Failed
Mg	24	1	nogas	2.483	23.9	10139	19.0	100	
Al	27	1	nogas	-1.127	-4.6	4441	3.9	5	
P	31	1	nogas	1.155	94.4	7625	2.4	10	
K	39	1	nogas	41.441	11.9	1055363	2.0	100	
Ca	43	1	nogas	81.487	4.4	637	4.5	100	
Ca	44	1	nogas	6.136	3.5	13302	1.2	100	
Ti	47	1	nogas	0.025	299.7	37	68.6	2.5	
V	51	1	nogas	6.146	21.8	91628	6.2	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.024	18.7	3904	1.3	2.5	
Mn	55	1	nogas	0.090	3.9	4574	1.4	2.5	
Fe	56	1	nogas	4.705	55.8	232152	4.7	100	
Co	59	1	nogas	0.019	46.4	173	23.3	2.5	
Ni	60	1	nogas	0.434	23.6	563	19.1	2.5	
Cu	63	1	nogas	-0.464	-13.7	2277	5.8	2.5	
Zn	66	1	nogas	-0.794	-7.7	230	22.6	2.5	
As	75	1	nogas	0.964	40.8	13159	1.4	2.5	
Se	77	1	nogas	30.565	42.1	4444	11.2	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.649	-222.0	187	32.7	2.5	
Sr	88	1	nogas	0.117	2.9	987	1.5	2.5	
Mo	95	1	nogas	0.049	57.8	67	56.8	2.5	
Ag	107	1	nogas	0.018	48.8	153	21.0	2.5	
Cd	111	1	nogas	0.037	87.5	30	88.2	1	
Sn	118	1	nogas	0.088	113.4	727	31.9	5	
Sb	121	1	nogas	0.275	10.8	1127	9.1	2.5	
Ba	137	1	nogas	-0.106	-28.0	70	49.5	2.5	
Tl	205	1	nogas	0.090	6.9	1020	7.8	1	
Pb	208	1	nogas	0.021	23.1	310	14.1	2.5	
U	238	1	nogas	0.028	13.6	750	10.6	2.5	
Si	28	1	nogas	48.453	4.4	680433	1.5	5	CCB Main CR1 Failed
La	139	1	nogas	-55.928	-16.7	10	100.0	2.5	
Au	197	1	nogas	532.665	0.0	0	#DIV/0!	2.5	CCB Main CR1 Failed
Na	23	2	He	163.337	4.9	30223	4.3	100	CCB Main CR1 Failed
Mg	24	2	He	2.349	40.8	220	34.3	100	
Al	27	2	He	-2.701	-46.7	57	62.0	5	
K	39	2	He	19.612	16.5	6255	3.4	100	
Ca	43	2	He	35.682	173.2	3	173.2	100	
Ca	44	2	He	-20.780	-28.7	10	100.0	100	
V	51	2	He	0.124	90.6	156	20.4	2.5	
Cr	52	2	He	-0.098	-64.7	140	18.9	2.5	
Mn	55	2	He	0.114	156.2	40	90.1	2.5	
Fe	56	2	He	1.839	25.5	1247	9.7	100	
Co	59	2	He	0.030	219.1	30	120.2	2.5	
Ni	60	2	He	-0.275	-27.6	33	34.6	2.5	
Cu	63	2	He	-0.609	-23.3	340	16.4	2.5	
Zn	66	2	He	-1.147	-20.7	10	173.2	2.5	

Continuing Calibration Blank (CCB) Report

As	75	2	He	-0.074	-57.4	1	173.2	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.230	33.8	100	26.5	2.5	
Se	78	2	He	0.179	722.3	4	100.0	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	553380	1.04	522917	105.83	70	125	
In	115	1	nogas	658811	0.81	627838	104.93	70	125	
Li	6	1	nogas	240350	0.35	211473	113.66	70	125	
Bi	209	1	nogas	956608	1.58	915562	104.48	70	125	
Ge	72	2	He	30197	1.54	29526	102.27	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	162_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T16:49:40-06:00
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	92.338	1.395	161810	0.22	100	92.3	90	110	
B	11	1	nogas	778.849	1.929	630687	0.96	500	155.8	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	10355.535	0.995	47055714	0.29	10000	103.6	90	110	
Mg	24	1	nogas	10245.713	0.711	32329471	0.74	10000	102.5	90	110	
Al	27	1	nogas	101.651	1.378	411445	0.94	100	101.7	90	110	
P	31	1	nogas	513.781	0.349	119356	0.42	500	102.8	90	110	
K	39	1	nogas	10144.948	0.595	34252916	0.58	10000	101.4	90	110	
Ca	43	1	nogas	10069.388	1.239	66255	0.62	10000	100.7	90	110	
Ca	44	1	nogas	9873.133	0.490	1083410	0.20	10000	98.7	90	110	
Ti	47	1	nogas	101.400	0.255	33539	0.49	100	101.4	90	110	
V	51	1	nogas	100.744	1.894	555735	2.29	100	100.7	90	110	
Cr	52	1	nogas	99.030	1.281	422310	0.84	100	99.0	90	110	
Mn	55	1	nogas	98.542	1.034	548849	0.68	100	98.5	90	110	
Fe	56	1	nogas	9626.250	0.795	45301833	0.66	10000	96.3	90	110	
Co	59	1	nogas	97.257	1.170	441734	0.79	100	97.3	90	110	
Ni	60	1	nogas	98.866	1.706	98563	2.14	100	98.9	90	110	
Cu	63	1	nogas	98.149	1.848	244556	1.75	100	98.1	90	110	
Zn	66	1	nogas	98.617	2.227	81295	2.27	100	98.6	90	110	
As	75	1	nogas	98.648	1.133	90231	0.37	100	98.6	90	110	
Se	77	1	nogas	118.413	9.341	7518	5.69	100	118.4	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	97.144	9.613	4434	9.70	100	97.1	90	110	
Sr	88	1	nogas	97.586	0.536	618973	0.22	100	97.6	90	110	
Mo	95	1	nogas	96.121	2.740	129334	2.15	100	96.1	90	110	
Ag	107	1	nogas	96.837	1.561	354825	1.17	100	96.8	90	110	
Cd	111	1	nogas	97.374	1.430	79715	1.67	100	97.4	90	110	
Sn	118	1	nogas	94.963	0.949	228130	1.04	100	95.0	90	110	
Sb	121	1	nogas	95.660	1.307	326467	1.03	100	95.7	90	110	
Ba	137	1	nogas	96.306	1.932	113480	1.81	100	96.3	90	110	
Tl	205	1	nogas	96.024	1.097	985943	1.28	100	96.0	90	110	
Pb	208	1	nogas	95.004	0.832	749519	0.12	100	95.0	90	110	
U	238	1	nogas	96.826	2.419	1902373	1.67	100	96.8	90	110	
Li	7	1	nogas	97.817	2.627	417654	1.46	100	97.8	90	110	
Si	28	1	nogas	5497.454	1.248	9715675	0.63	5000	109.9	90	110	
Ba	135	1	nogas	93.347	0.887	65675	0.71	100	93.3	90	110	
La	139	1	nogas	136.042	6.568	220	4.55	100	136.0	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-225.653	-582.063	10	173.21	100	-225.7	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	95.808	0.879	406090	1.24	100	95.8	90	110	
Na	23	2	He	10797.402	2.477	1753360	2.04	10000	108.0	90	110	
Mg	24	2	He	10117.329	2.754	778654	0.87	10000	101.2	90	110	
Al	27	2	He	108.621	5.265	3064	3.30	100	108.6	90	110	
K	39	2	He	9986.458	2.174	394694	0.77	10000	99.9	90	110	
Ca	43	2	He	11316.959	2.648	1047	1.46	10000	113.2	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	10182.366	2.425	16778	3.00	10000	101.8	90	110	
V	51	2	He	98.660	3.061	29993	0.77	100	98.7	90	110	
Cr	52	2	He	101.058	2.333	38660	2.58	100	101.1	90	110	
Mn	55	2	He	98.735	5.774	19451	2.97	100	98.7	90	110	
Fe	56	2	He	10069.125	3.159	2945034	0.49	10000	100.7	90	110	
Co	59	2	He	97.540	4.851	53730	2.06	100	97.5	90	110	
Ni	60	2	He	95.168	3.505	14510	0.69	100	95.2	90	110	
Cu	63	2	He	98.334	3.508	42349	1.73	100	98.3	90	110	
Zn	66	2	He	100.730	4.029	7378	4.54	100	100.7	90	110	
As	75	2	He	97.996	3.660	4456	1.18	100	98.0	90	110	
Sb	121	2	He	94.692	4.024	33999	2.13	100	94.7	90	110	
Se	78	2	He	90.002	1.981	279	3.67	100	90.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	550799	0.62	522917	105.33	70	125	
In	115	1	nogas	673000	0.24	627838	107.19	70	125	
Li	6	1	nogas	255526	1.22	211473	120.83	70	125	
Bi	209	1	nogas	958753	0.76	915562	104.72	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	29970	2.89	29526	101.50	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	163_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T16:51:49-06:00
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	0.030	41.4	60	33.3	1	
B	11	1	nogas	349.538	3.8	271319	3.7	10	CCB Main CR1 Failed
Na	23	1	nogas	51.919	1.3	317390	1.7	100	
Mg	24	1	nogas	2.340	27.3	10005	20.1	100	
Al	27	1	nogas	-1.167	-4.6	4437	4.6	5	
P	31	1	nogas	-1.280	-44.1	7348	2.0	10	
K	39	1	nogas	10.176	38.2	986363	1.7	100	
Ca	43	1	nogas	38.186	25.4	363	18.3	100	
Ca	44	1	nogas	-23.803	-4.1	10400	0.7	100	
Ti	47	1	nogas	0.002	2234.8	30	57.7	2.5	
V	51	1	nogas	4.799	15.9	88077	4.3	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.013	644.2	3997	9.2	2.5	
Mn	55	1	nogas	0.010	606.2	4274	8.1	2.5	
Fe	56	1	nogas	3.211	56.8	233255	3.5	100	
Co	59	1	nogas	0.026	69.7	213	39.9	2.5	
Ni	60	1	nogas	0.174	26.5	313	15.1	2.5	
Cu	63	1	nogas	-0.686	-2.3	1790	1.9	2.5	
Zn	66	1	nogas	-0.906	-8.9	143	47.5	2.5	
As	75	1	nogas	0.683	47.1	13402	1.8	2.5	
Se	77	1	nogas	22.045	38.4	4287	6.9	2.5	CCB Main CR1 Failed
Se	82	1	nogas	0.370	487.0	240	34.1	2.5	
Sr	88	1	nogas	0.042	35.8	523	19.1	2.5	
Mo	95	1	nogas	0.059	49.9	83	50.0	2.5	
Ag	107	1	nogas	0.012	51.7	137	16.9	2.5	
Cd	111	1	nogas	0.020	69.2	17	69.3	1	
Sn	118	1	nogas	0.067	122.9	720	27.7	5	
Sb	121	1	nogas	0.364	10.7	1483	9.4	2.5	
Ba	137	1	nogas	-0.110	-26.2	70	51.5	2.5	
Tl	205	1	nogas	0.098	10.2	1153	9.6	1	
Pb	208	1	nogas	0.028	42.7	377	26.2	2.5	
U	238	1	nogas	0.033	15.5	873	12.2	2.5	
Si	28	1	nogas	10.636	14.7	639571	0.7	5	CCB Main CR1 Failed
La	139	1	nogas	-39.053	-59.0	30	88.2	2.5	
Au	197	1	nogas	532.665	0.0	0	#DIV/0!	2.5	CCB Main CR1 Failed
Na	23	2	He	56.410	2.5	12855	3.9	100	
Mg	24	2	He	3.232	29.9	290	26.0	100	
Al	27	2	He	-2.074	-60.6	73	43.8	5	
K	39	2	He	7.419	127.8	5818	7.3	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-8.732	-180.8	30	88.2	100	
V	51	2	He	0.112	15.3	154	6.0	2.5	
Cr	52	2	He	-0.298	-25.8	63	45.6	2.5	
Mn	55	2	He	0.146	67.5	47	44.6	2.5	
Fe	56	2	He	3.388	32.3	1720	20.7	100	
Co	59	2	He	0.006	498.4	17	91.7	2.5	
Ni	60	2	He	-0.344	-46.5	23	107.9	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.864	-8.7	233	16.2	2.5	
Zn	66	2	He	-1.192	-6.6	7	86.6	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	0.144	81.9	11	45.8	2.5	
Sb	121	2	He	0.246	62.8	107	53.3	2.5	
Se	78	2	He	-0.263	-277.8	3	86.6	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	573266	0.37	522917	109.63	70	125	
In	115	1	nogas	700453	1.24	627838	111.57	70	125	
Li	6	1	nogas	239156	0.26	211473	113.09	70	125	
Bi	209	1	nogas	1002779	0.55	915562	109.53	70	125	
Ge	72	2	He	30417	2.57	29526	103.02	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	174_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T17:16:20-06:00
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	95.411	1.364	162871	0.97	100	95.4	90	110	
B	11	1	nogas	613.816	2.288	486737	1.67	500	122.8	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	10459.104	1.456	46811479	0.71	10000	104.6	90	110	
Mg	24	1	nogas	10358.101	1.032	32193858	1.13	10000	103.6	90	110	
Al	27	1	nogas	100.996	0.657	408275	0.20	100	101.0	90	110	
P	31	1	nogas	505.637	2.354	117410	2.10	500	101.1	90	110	
K	39	1	nogas	10196.575	0.756	34374271	1.17	10000	102.0	90	110	
Ca	43	1	nogas	9908.986	1.082	65111	1.15	10000	99.1	90	110	
Ca	44	1	nogas	9941.595	0.114	1089286	0.37	10000	99.4	90	110	
Ti	47	1	nogas	99.029	2.175	32711	2.63	100	99.0	90	110	
V	51	1	nogas	98.535	1.761	544068	1.68	100	98.5	90	110	
Cr	52	1	nogas	100.566	0.980	428191	0.70	100	100.6	90	110	
Mn	55	1	nogas	99.362	1.148	552616	1.42	100	99.4	90	110	
Fe	56	1	nogas	9735.953	0.966	45750203	0.87	10000	97.4	90	110	
Co	59	1	nogas	97.748	1.528	443364	1.93	100	97.7	90	110	
Ni	60	1	nogas	99.438	1.326	98982	0.91	100	99.4	90	110	
Cu	63	1	nogas	98.906	0.386	246070	0.84	100	98.9	90	110	
Zn	66	1	nogas	99.646	2.320	82012	1.94	100	99.6	90	110	
As	75	1	nogas	97.091	2.963	88871	2.11	100	97.1	90	110	
Se	77	1	nogas	101.154	8.885	6898	4.26	100	101.2	90	110	
Se	82	1	nogas	98.398	1.756	4481	2.13	100	98.4	90	110	
Sr	88	1	nogas	97.459	0.499	617281	0.38	100	97.5	90	110	
Mo	95	1	nogas	95.760	1.238	128673	0.79	100	95.8	90	110	
Ag	107	1	nogas	96.067	0.605	351511	0.55	100	96.1	90	110	
Cd	111	1	nogas	98.395	1.575	79353	2.24	100	98.4	90	110	
Sn	118	1	nogas	96.956	1.647	229415	0.93	100	97.0	90	110	
Sb	121	1	nogas	96.223	1.589	327911	1.12	100	96.2	90	110	
Ba	137	1	nogas	97.791	1.608	113510	1.72	100	97.8	90	110	
Tl	205	1	nogas	96.303	1.003	986122	1.21	100	96.3	90	110	
Pb	208	1	nogas	95.332	1.684	750037	0.97	100	95.3	90	110	
U	238	1	nogas	98.166	2.883	1923522	2.52	100	98.2	90	110	
Li	7	1	nogas	99.521	0.354	413644	0.96	100	99.5	90	110	
Si	28	1	nogas	5442.535	1.155	9611108	1.07	5000	108.9	90	110	
Ba	135	1	nogas	96.951	1.561	67192	2.07	100	97.0	90	110	
La	139	1	nogas	105.164	23.509	183	13.73	100	105.2	90	110	
Au	197	1	nogas	532.665	0.000	0	#DIV/0!	100	532.7	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	96.490	2.474	407815	1.76	100	96.5	90	110	
Na	23	2	He	10548.989	3.861	1725039	2.80	10000	105.5	90	110	
Mg	24	2	He	9973.330	3.027	773011	0.94	10000	99.7	90	110	
Al	27	2	He	99.650	11.392	2844	11.23	100	99.6	90	110	
K	39	2	He	10045.278	3.734	399702	0.89	10000	100.5	90	110	
Ca	43	2	He	10689.476	24.831	993	23.62	10000	106.9	90	110	
Ca	44	2	He	9773.033	2.120	16218	1.66	10000	97.7	90	110	
V	51	2	He	97.871	4.488	29959	1.89	100	97.9	90	110	
Cr	52	2	He	100.418	3.090	38690	3.28	100	100.4	90	110	
Mn	55	2	He	98.745	4.196	19608	4.12	100	98.7	90	110	
Fe	56	2	He	10238.878	3.609	3016182	2.12	10000	102.4	90	110	
Co	59	2	He	99.165	2.382	55052	2.46	100	99.2	90	110	
Ni	60	2	He	99.683	3.229	15304	0.36	100	99.7	90	110	
Cu	63	2	He	99.950	4.381	43332	1.51	100	100.0	90	110	
Zn	66	2	He	104.277	1.708	7689	2.04	100	104.3	90	110	
As	75	2	He	92.128	7.116	4216	3.78	100	92.1	90	110	
Sb	121	2	He	94.606	2.111	34226	2.56	100	94.6	90	110	
Se	78	2	He	95.221	5.923	297	5.72	100	95.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	550008	0.46	522917	105.18	70	125	
In	115	1	nogas	662968	0.77	627838	105.60	70	125	
Li	6	1	nogas	248906	0.88	211473	117.70	70	125	
Bi	209	1	nogas	956148	0.72	915562	104.43	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	30187	3.39	29526	102.24	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	175_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T17:18:32-06:00
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	0.046	30.1	87	26.6	1	
B	11	1	nogas	178.674	4.4	145177	4.5	10	CCB Main CR1 Failed
Na	23	1	nogas	48.908	2.2	310043	0.6	100	
Mg	24	1	nogas	2.356	23.3	10306	18.5	100	
Al	27	1	nogas	-1.154	-3.3	4511	4.0	5	
P	31	1	nogas	-0.491	-182.0	7555	2.6	10	
K	39	1	nogas	13.352	21.6	1000928	1.2	100	
Ca	43	1	nogas	35.529	27.3	347	19.6	100	
Ca	44	1	nogas	-22.244	-21.1	10617	5.3	100	
Ti	47	1	nogas	0.040	39.1	43	13.3	2.5	
V	51	1	nogas	1.580	15.4	71897	1.3	2.5	
Cr	52	1	nogas	-0.052	-87.5	3724	5.3	2.5	
Mn	55	1	nogas	0.030	44.0	4407	1.7	2.5	
Fe	56	1	nogas	2.625	36.9	231301	2.8	100	
Co	59	1	nogas	0.016	96.6	167	43.4	2.5	
Ni	60	1	nogas	0.029	249.6	163	46.0	2.5	
Cu	63	1	nogas	-0.709	-4.4	1740	4.9	2.5	
Zn	66	1	nogas	-0.926	-3.7	127	24.1	2.5	
As	75	1	nogas	-1.012	-20.8	12054	1.8	2.5	
Se	77	1	nogas	8.679	90.7	3811	6.9	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-1.991	-76.6	133	51.1	2.5	
Sr	88	1	nogas	0.042	23.4	530	13.1	2.5	
Mo	95	1	nogas	0.062	36.6	87	37.1	2.5	
Ag	107	1	nogas	0.018	68.3	160	28.6	2.5	
Cd	111	1	nogas	0.008	173.2	7	173.2	1	
Sn	118	1	nogas	0.066	61.3	723	12.8	5	
Sb	121	1	nogas	0.253	4.8	1093	3.2	2.5	
Ba	137	1	nogas	-0.089	-45.2	97	52.1	2.5	
Tl	205	1	nogas	0.095	31.1	1147	28.8	1	
Pb	208	1	nogas	0.038	11.0	473	8.0	2.5	
U	238	1	nogas	0.029	28.8	800	22.1	2.5	
Si	28	1	nogas	14.809	32.7	649171	1.1	5	CCB Main CR1 Failed
La	139	1	nogas	-44.761	-41.0	23	89.2	2.5	
Au	197	1	nogas	291.416	143.4	3	173.2	2.5	CCB Main CR1 Failed
Na	23	2	He	51.987	2.8	12278	3.6	100	
Mg	24	2	He	1.752	40.2	177	31.2	100	
Al	27	2	He	-2.959	-32.8	50	52.9	5	
K	39	2	He	3.693	171.2	5741	5.4	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-10.936	-63.7	27	43.3	100	
V	51	2	He	0.051	52.4	137	6.8	2.5	
Cr	52	2	He	-0.164	-79.7	117	43.1	2.5	
Mn	55	2	He	0.129	81.4	43	48.0	2.5	
Fe	56	2	He	2.436	21.2	1453	11.7	100	
Co	59	2	He	-0.013	-78.9	7	86.6	2.5	
Ni	60	2	He	-0.256	-77.5	37	83.3	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.909	-23.3	217	43.6	2.5	
Zn	66	2	He	-1.103	-18.8	13	114.6	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	0.044	165.3	7	50.0	2.5	
Sb	121	2	He	0.315	14.4	133	11.5	2.5	
Se	78	2	He	1.646	24.0	9	13.3	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	575411	0.75	522917	110.04	70	125	
In	115	1	nogas	705977	1.22	627838	112.45	70	125	
Li	6	1	nogas	240521	1.02	211473	113.74	70	125	
Bi	209	1	nogas	1018960	0.67	915562	111.29	70	125	
Ge	72	2	He	30795	1.56	29526	104.30	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	187_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T17:45:00-06:00
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	0.054	45.6	90	40.1	1	
B	11	1	nogas	122.108	5.4	92973	5.3	10	CCB Main CR1 Failed
Na	23	1	nogas	115.004	2.1	547778	2.9	100	CCB Main CR1 Failed
Mg	24	1	nogas	3.783	28.7	13141	24.6	100	
Al	27	1	nogas	-1.104	-9.3	4197	9.1	5	
P	31	1	nogas	4.185	4.1	7675	1.2	10	
K	39	1	nogas	53.330	8.8	1013308	0.8	100	
Ca	43	1	nogas	27.602	25.9	260	16.8	100	
Ca	44	1	nogas	-7.134	-70.4	10974	3.9	100	
Ti	47	1	nogas	-0.009	-837.5	23	99.0	2.5	
V	51	1	nogas	1.764	18.7	64864	3.0	2.5	
Cr	52	1	nogas	-0.046	-87.6	3340	5.4	2.5	
Mn	55	1	nogas	0.341	6.9	5521	2.0	2.5	
Fe	56	1	nogas	10.945	10.1	242151	1.6	100	
Co	59	1	nogas	0.028	34.4	200	20.0	2.5	
Ni	60	1	nogas	0.178	34.4	283	20.7	2.5	
Cu	63	1	nogas	-0.649	-12.3	1687	11.6	2.5	
Zn	66	1	nogas	-0.881	-6.2	147	27.6	2.5	
As	75	1	nogas	-0.720	-46.7	10947	2.4	2.5	
Se	77	1	nogas	15.651	76.7	3624	11.3	2.5	CCB Main CR1 Failed
Se	82	1	nogas	0.342	461.4	213	30.1	2.5	
Sr	88	1	nogas	0.051	22.1	520	12.0	2.5	
Mo	95	1	nogas	0.096	83.7	120	83.3	2.5	
Ag	107	1	nogas	0.024	47.3	163	23.2	2.5	
Cd	111	1	nogas	0.027	86.6	20	86.6	1	
Sn	118	1	nogas	0.116	119.8	747	41.2	5	
Sb	121	1	nogas	0.196	43.2	793	34.0	2.5	
Ba	137	1	nogas	-0.065	-51.3	110	32.8	2.5	
Tl	205	1	nogas	0.099	21.4	1047	21.0	1	
Pb	208	1	nogas	0.040	8.3	427	7.2	2.5	
U	238	1	nogas	0.029	9.3	703	6.7	2.5	
Si	28	1	nogas	88.360	11.5	691415	1.5	5	CCB Main CR1 Failed
La	139	1	nogas	-35.391	-48.9	30	57.7	2.5	
Au	197	1	nogas	-5.250	-17746.7	7	173.2	2.5	
Na	23	2	He	106.019	4.3	19945	2.3	100	CCB Main CR1 Failed
Mg	24	2	He	3.911	27.6	327	25.7	100	
Al	27	2	He	-2.857	-25.8	50	40.0	5	
K	39	2	He	7.805	25.8	5538	3.0	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-3.661	-260.2	37	41.7	100	
V	51	2	He	0.037	112.8	124	8.5	2.5	
Cr	52	2	He	-0.063	-40.2	147	7.9	2.5	
Mn	55	2	He	0.177	49.0	50	34.6	2.5	
Fe	56	2	He	2.324	7.4	1330	2.7	100	
Co	59	2	He	0.019	148.6	23	65.5	2.5	
Ni	60	2	He	-0.265	-39.3	33	45.8	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.925	-12.6	197	25.6	2.5	
Zn	66	2	He	-0.945	-38.8	23	107.9	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	0.028	419.4	6	91.6	2.5	
Sb	121	2	He	0.262	45.3	107	37.9	2.5	
Se	78	2	He	1.821	93.5	9	58.1	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	512315	0.73	522917	97.97	70	125	
In	115	1	nogas	620369	0.79	627838	98.81	70	125	
Li	6	1	nogas	217321	0.55	211473	102.77	70	125	
Bi	209	1	nogas	894954	1.44	915562	97.75	70	125	
Ge	72	2	He	28878	1.62	29526	97.81	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\010
Acq Date Time	2018-01-05T17:47:12-06:00
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	99.303	1.787	150964	1.71	100	99.3	90	110	
B	11	1	nogas	585.322	3.174	413779	1.77	500	117.1	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	11579.916	2.136	46967901	1.75	10000	115.8	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	10731.846	0.785	30231795	0.91	10000	107.3	90	110	
Al	27	1	nogas	103.148	1.055	377163	0.93	100	103.1	90	110	
P	31	1	nogas	533.916	1.676	111822	1.61	500	106.8	90	110	
K	39	1	nogas	10681.350	1.303	32545412	1.41	10000	106.8	90	110	
Ca	43	1	nogas	10699.052	3.006	63613	3.10	10000	107.0	90	110	
Ca	44	1	nogas	10597.302	0.405	1049984	0.19	10000	106.0	90	110	
Ti	47	1	nogas	103.929	2.688	31061	2.47	100	103.9	90	110	
V	51	1	nogas	100.004	2.099	498850	1.75	100	100.0	90	110	
Cr	52	1	nogas	103.051	1.211	396976	1.07	100	103.1	90	110	
Mn	55	1	nogas	101.468	0.894	510581	0.69	100	101.5	90	110	
Fe	56	1	nogas	10073.859	0.896	42830801	0.68	10000	100.7	90	110	
Co	59	1	nogas	100.683	0.611	413237	0.66	100	100.7	90	110	
Ni	60	1	nogas	102.224	1.783	92081	1.72	100	102.2	90	110	
Cu	63	1	nogas	101.316	1.047	228023	1.04	100	101.3	90	110	
Zn	66	1	nogas	102.726	2.642	76487	2.54	100	102.7	90	110	
As	75	1	nogas	101.268	2.260	83406	1.83	100	101.3	90	110	
Se	77	1	nogas	100.878	9.425	6235	5.06	100	100.9	90	110	
Se	82	1	nogas	101.265	5.111	4167	5.09	100	101.3	90	110	
Sr	88	1	nogas	107.813	0.112	617922	0.25	100	107.8	90	110	
Mo	95	1	nogas	98.254	1.083	119476	1.10	100	98.3	90	110	
Ag	107	1	nogas	100.598	0.467	333096	0.57	100	100.6	90	110	
Cd	111	1	nogas	101.506	1.714	74310	1.20	100	101.5	90	110	
Sn	118	1	nogas	100.113	1.516	215045	0.75	100	100.1	90	110	
Sb	121	1	nogas	100.807	1.599	310884	1.78	100	100.8	90	110	
Ba	137	1	nogas	104.644	0.992	110258	0.50	100	104.6	90	110	
Tl	205	1	nogas	100.855	0.347	922863	0.45	100	100.9	90	110	
Pb	208	1	nogas	99.012	0.100	696168	0.59	100	99.0	90	110	
U	238	1	nogas	101.048	0.997	1769434	0.48	100	101.0	90	110	
Li	7	1	nogas	102.940	1.758	380350	0.24	100	102.9	90	110	
Si	28	1	nogas	5792.933	0.541	9222680	0.69	5000	115.9	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	100.711	2.133	63350	0.87	100	100.7	90	110	
La	139	1	nogas	63.720	101.808	127	51.37	100	63.7	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-38.938	-1271.367	7	86.60	100	-38.9	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	101.517	0.761	383449	0.32	100	101.5	90	110	
Na	23	2	He	11762.624	3.539	1733754	0.93	10000	117.6	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	10625.408	2.885	742675	1.91	10000	106.3	90	110	
Al	27	2	He	110.600	12.282	2830	10.76	100	110.6	90	110	CCV Main CR1-2 Failed
K	39	2	He	10561.434	3.466	378708	1.35	10000	105.6	90	110	
Ca	43	2	He	10524.549	10.021	883	8.50	10000	105.2	90	110	
Ca	44	2	He	10435.548	4.875	15604	2.60	10000	104.4	90	110	
V	51	2	He	101.077	3.636	27900	1.35	100	101.1	90	110	
Cr	52	2	He	104.066	2.293	36145	1.82	100	104.1	90	110	
Mn	55	2	He	103.527	6.615	18520	4.34	100	103.5	90	110	
Fe	56	2	He	10669.926	4.520	2833461	2.29	10000	106.7	90	110	
Co	59	2	He	103.239	3.934	51654	1.32	100	103.2	90	110	
Ni	60	2	He	106.262	4.647	14706	3.55	100	106.3	90	110	
Cu	63	2	He	102.911	4.885	40211	2.24	100	102.9	90	110	
Zn	66	2	He	103.509	4.535	6885	5.68	100	103.5	90	110	
As	75	2	He	100.715	6.411	4157	3.98	100	100.7	90	110	
Sb	121	2	He	98.022	3.392	31965	2.09	100	98.0	90	110	
Se	78	2	He	87.725	20.151	247	20.09	100	87.7	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
Ge	72	1	nogas	497715	0.22	522917	95.18	70	125	
In	115	1	nogas	601920	1.45	627838	95.87	70	125	
Li	6	1	nogas	221671	1.43	211473	104.82	70	125	
Bi	209	1	nogas	854435	0.64	915562	93.32	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	27215	2.64	29526	92.17	70	125	

Sample Report

Sample Table

Sample Name	MBLK-124039
Data File Name	193SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T17:59:11-06:00
Sample Type	Sample
Dilution	1
Comment	TW B124039
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	0.008	0.008	49.77	23	0.04	2000	
B	11	1	nogas	68.335	68.335	1.77	58649	0.12	2000	
Na	23	1	nogas	69.558	69.558	2.13	361331	0.02	200000	
Mg	24	1	nogas	7.963	7.963	4.82	25690	0.03	200000	
Al	27	1	nogas	1.577	1.577	5.19	14189	0.01	2000	
K	39	1	nogas	92.371	92.371	4.24	1141923	0.01	200000	
Ca	43	1	nogas	44.594	44.594	14.64	367	12.16	200000	
Ca	44	1	nogas	-17.734	-17.734	-18.63	9986	-0.18	200000	
Ti	47	1	nogas	-0.032	-0.032	-153.84	17	-0.19	2000	
V	51	1	nogas	4.876	4.876	35.67	79633	0.01	2000	
Cr	52	1	nogas	0.019	0.019	142.60	3624	0.00	2000	
Mn	55	1	nogas	0.123	0.123	44.17	4441	0.00	2000	
Fe	56	1	nogas	20.382	20.382	7.45	285547	0.01	200000	
Co	59	1	nogas	0.001	0.001	282.97	87	0.00	2000	
Ni	60	1	nogas	0.015	0.015	140.75	133	0.01	2000	
Cu	63	1	nogas	-0.704	-0.704	-8.19	1573	-0.04	2000	
Zn	66	1	nogas	2.768	2.768	7.40	2937	0.09	2000	
As	75	1	nogas	-0.115	-0.115	-148.64	11484	0.00	2000	
Se	77	1	nogas	20.893	20.893	47.64	3824	0.55	2000	
Se	82	1	nogas	0.286	0.286	467.05	213	0.13	2000	
Sr	88	1	nogas	0.049	0.049	42.05	513	0.01	2000	
Mo	95	1	nogas	0.021	0.021	76.31	27	0.08	2000	
Ag	107	1	nogas	-0.004	-0.004	-10.15	70	-0.01	2000	
Cd	111	1	nogas	0.009	0.009	173.21	7	0.13	2000	
Sn	118	1	nogas	0.036	0.036	91.42	577	0.01	2000	
Sb	121	1	nogas	0.165	0.165	10.70	700	0.02	2000	
Ba	137	1	nogas	-0.043	-0.043	-103.81	137	-0.03	2000	
Tl	205	1	nogas	-0.001	-0.001	-321.52	90	0.00	2000	
Pb	208	1	nogas	0.006	0.006	69.38	183	0.00	2000	
U	238	1	nogas	0.005	0.005	127.38	273	0.00	2000	
Si	28	1	nogas	80.757	80.757	6.93	685277	0.01	2000	
La	139	1	nogas	-22.955	-22.955	-95.52	43	-52.97	2000	
Au	197	1	nogas	265.846	265.846	173.84	3	7975.39	2000	
Na	23	2	He	68.552	68.552	2.76	13949	0.49	200000	
Mg	24	2	He	8.611	8.611	15.52	667	1.29	200000	
Al	27	2	He	1.669	1.669	215.73	167	1.00	2000	
K	39	2	He	70.119	70.119	11.76	7795	0.90	200000	
Ca	43	2	He	112.720	112.720	173.21	10	1127.20	200000	
Ca	44	2	He	13.650	13.650	149.02	63	21.55	200000	
V	51	2	He	0.123	0.123	47.16	147	0.08	2000	

Sample Report

Cr	52	2	He	-0.224	-0.224	-37.65	87	-0.26	2000	
Mn	55	2	He	0.183	0.183	79.91	50	0.37	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Fe	56	2	He	1.589	1.589	26.88	1113	0.14	200000	
Co	59	2	He	-0.012	-0.012	-176.15	7	-0.18	2000	
Ni	60	2	He	-0.447	-0.447	-17.74	7	-6.71	2000	
Cu	63	2	He	-0.810	-0.810	-15.29	240	-0.34	2000	
Zn	66	2	He	2.833	2.833	26.13	283	1.00	2000	
As	75	2	He	0.104	0.104	220.11	9	1.17	2000	
Sb	121	2	He	0.117	0.117	77.77	57	0.21	2000	
Se	78	2	He	0.691	0.691	225.46	5	12.96	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	516547	1.80	522917	98.78	70	125	
In	115	1	nogas	628180	1.30	627838	100.05	70	125	
Li	6	1	nogas	225005	2.05	211473	106.40	70	125	
Bi	209	1	nogas	908310	1.30	915562	99.21	70	125	
Ge	72	2	He	28581	2.53	29526	96.80	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	199_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T18:12:36-06:00
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	99.072	1.270	170002	1.04	100	99.1	90	110	
B	11	1	nogas	552.681	1.597	441749	0.89	500	110.5	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	11493.191	1.562	51553956	1.38	10000	114.9	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	10841.300	2.051	33772372	1.81	10000	108.4	90	110	
Al	27	1	nogas	104.340	1.455	418303	0.34	100	104.3	90	110	
P	31	1	nogas	546.005	1.689	125241	0.36	500	109.2	90	110	
K	39	1	nogas	10558.851	1.098	35293160	0.32	10000	105.6	90	110	
Ca	43	1	nogas	10682.879	3.098	69659	3.05	10000	106.8	90	110	
Ca	44	1	nogas	10675.558	2.322	1159866	1.59	10000	106.8	90	110	
Ti	47	1	nogas	105.256	5.800	34488	4.62	100	105.3	90	110	
V	51	1	nogas	112.623	3.577	608413	2.31	100	112.6	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	104.817	2.021	442737	1.02	100	104.8	90	110	
Mn	55	1	nogas	103.270	1.601	569810	0.43	100	103.3	90	110	
Fe	56	1	nogas	10106.137	2.210	47118631	1.02	10000	101.1	90	110	
Co	59	1	nogas	101.076	2.298	454925	1.24	100	101.1	90	110	
Ni	60	1	nogas	102.589	1.405	101343	0.31	100	102.6	90	110	
Cu	63	1	nogas	101.825	1.581	251302	0.33	100	101.8	90	110	
Zn	66	1	nogas	104.748	0.563	85529	1.78	100	104.7	90	110	
As	75	1	nogas	109.595	2.317	97987	1.49	100	109.6	90	110	
Se	77	1	nogas	163.347	4.775	9019	2.74	100	163.3	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	98.123	3.230	4434	1.95	100	98.1	90	110	
Sr	88	1	nogas	107.789	1.281	677521	0.52	100	107.8	90	110	
Mo	95	1	nogas	99.171	1.682	132278	2.72	100	99.2	90	110	
Ag	107	1	nogas	99.337	1.612	360709	0.45	100	99.3	90	110	
Cd	111	1	nogas	101.334	0.597	80307	1.46	100	101.3	90	110	
Sn	118	1	nogas	101.170	1.505	235228	1.07	100	101.2	90	110	
Sb	121	1	nogas	100.927	1.115	341345	0.19	100	100.9	90	110	
Ba	137	1	nogas	105.098	2.551	119845	1.06	100	105.1	90	110	
Tl	205	1	nogas	100.395	0.980	1010824	1.38	100	100.4	90	110	
Pb	208	1	nogas	97.972	1.081	757911	0.45	100	98.0	90	110	
U	238	1	nogas	99.946	1.412	1925625	0.75	100	99.9	90	110	
Li	7	1	nogas	101.872	1.157	425112	0.96	100	101.9	90	110	
Si	28	1	nogas	5744.757	1.285	10035115	0.14	5000	114.9	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	103.990	0.648	70817	2.07	100	104.0	90	110	
La	139	1	nogas	73.378	26.878	147	14.20	100	73.4	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-1036.189	-200.869	20	132.29	100	-1036.2	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	101.082	1.453	420086	0.84	100	101.1	90	110	
Na	23	2	He	11643.420	2.807	1906287	2.25	10000	116.4	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	10453.511	0.979	811446	0.43	10000	104.5	90	110	
Al	27	2	He	97.444	6.626	2787	6.85	100	97.4	90	110	
K	39	2	He	10459.173	3.134	416602	2.53	10000	104.6	90	110	
Ca	43	2	He	10971.243	2.354	1023	2.03	10000	109.7	90	110	
Ca	44	2	He	10811.421	0.943	17959	0.58	10000	108.1	90	110	
V	51	2	He	102.199	2.591	31333	2.14	100	102.2	90	110	
Cr	52	2	He	103.095	2.498	39762	2.05	100	103.1	90	110	
Mn	55	2	He	102.563	2.465	20392	2.73	100	102.6	90	110	
Fe	56	2	He	10397.072	1.633	3067473	1.64	10000	104.0	90	110	
Co	59	2	He	101.239	1.004	56275	1.53	100	101.2	90	110	
Ni	60	2	He	102.254	2.488	15721	2.14	100	102.3	90	110	
Cu	63	2	He	102.149	0.802	44350	0.33	100	102.1	90	110	
Zn	66	2	He	103.687	1.570	7655	2.04	100	103.7	90	110	
As	75	2	He	106.895	2.398	4903	1.97	100	106.9	90	110	
Sb	121	2	He	99.263	3.111	35950	2.75	100	99.3	90	110	
Se	78	2	He	103.929	3.314	325	3.76	100	103.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	545890	1.23	522917	104.39	70	125	
In	115	1	nogas	651540	1.51	627838	103.78	70	125	
Li	6	1	nogas	250198	0.81	211473	118.31	70	125	
Bi	209	1	nogas	940130	0.66	915562	102.68	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	30214	0.55	29526	102.33	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	200_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T18:14:47-06:00
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	0.028	82.2	57	66.8	1	
B	11	1	nogas	80.864	9.1	70636	8.3	10	CCB Main CR1 Failed
Na	23	1	nogas	74.564	2.8	408908	1.9	100	
Mg	24	1	nogas	5.161	14.5	18581	12.8	100	
Al	27	1	nogas	-1.079	-0.5	4644	1.0	5	
P	31	1	nogas	5.270	56.5	8546	7.1	10	
K	39	1	nogas	52.596	21.0	1094602	2.9	100	
Ca	43	1	nogas	31.920	22.0	310	14.8	100	
Ca	44	1	nogas	-15.375	-37.2	10984	5.8	100	
Ti	47	1	nogas	-0.005	-1921.1	27	108.3	2.5	
V	51	1	nogas	12.500	4.7	123292	2.0	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.197	12.5	4651	2.6	2.5	
Mn	55	1	nogas	0.146	32.3	4891	5.0	2.5	
Fe	56	1	nogas	17.544	7.7	293293	1.7	100	
Co	59	1	nogas	0.038	12.3	263	7.9	2.5	
Ni	60	1	nogas	0.138	33.3	267	17.7	2.5	
Cu	63	1	nogas	-0.683	-13.2	1740	12.8	2.5	
Zn	66	1	nogas	-0.961	-6.6	93	55.0	2.5	
As	75	1	nogas	7.112	16.8	18077	4.8	2.5	CCB Main CR1 Failed
Se	77	1	nogas	81.203	12.5	6248	5.3	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.591	-271.6	190	36.8	2.5	
Sr	88	1	nogas	0.052	45.1	573	26.6	2.5	
Mo	95	1	nogas	0.076	14.6	103	14.8	2.5	
Ag	107	1	nogas	0.029	56.2	197	31.1	2.5	
Cd	111	1	nogas	0.046	31.6	37	31.5	1	
Sn	118	1	nogas	0.099	47.1	757	14.1	5	
Sb	121	1	nogas	0.177	25.4	793	19.6	2.5	
Ba	137	1	nogas	-0.043	-59.4	143	21.3	2.5	
Tl	205	1	nogas	0.120	32.7	1353	31.0	1	
Pb	208	1	nogas	0.032	33.1	403	21.1	2.5	
U	238	1	nogas	0.039	19.3	967	16.4	2.5	
Si	28	1	nogas	49.701	17.2	684076	2.2	5	CCB Main CR1 Failed
La	139	1	nogas	-43.382	-54.5	23	107.9	2.5	
Au	197	1	nogas	532.665	0.0	0	#DIV/0!	2.5	CCB Main CR1 Failed
Na	23	2	He	67.350	4.2	15010	3.6	100	
Mg	24	2	He	3.987	24.8	357	19.9	100	
Al	27	2	He	-2.989	-1.8	50	0.0	5	
K	39	2	He	12.199	99.0	6145	5.2	100	
Ca	43	2	He	70.048	86.7	7	86.6	100	
Ca	44	2	He	-22.921	-14.5	7	86.6	100	
V	51	2	He	0.326	16.7	225	4.9	2.5	
Cr	52	2	He	-0.268	-25.5	77	32.8	2.5	
Mn	55	2	He	0.253	86.1	70	65.5	2.5	
Fe	56	2	He	2.965	16.7	1630	9.0	100	
Co	59	2	He	0.028	166.5	30	88.2	2.5	
Ni	60	2	He	-0.261	-11.6	37	15.7	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.735	-25.9	297	30.6	2.5	
Zn	66	2	He	-0.931	-28.8	27	78.1	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	0.114	67.3	10	33.3	2.5	
Sb	121	2	He	0.130	128.8	67	96.4	2.5	
Se	78	2	He	1.188	58.5	7	31.5	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	554661	0.50	522917	106.07	70	125	
In	115	1	nogas	662464	1.12	627838	105.52	70	125	
Li	6	1	nogas	235695	0.92	211473	111.45	70	125	
Bi	209	1	nogas	973879	0.97	915562	106.37	70	125	
Ge	72	2	He	31165	2.94	29526	105.55	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	211_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T18:39:02-06:00
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	97.749	0.691	163910	1.28	100	97.7	90	110	
B	11	1	nogas	539.126	0.393	421387	0.45	500	107.8	90	110	
Na	23	1	nogas	11195.068	1.575	49688608	1.66	10000	112.0	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	10593.900	0.924	32653927	1.04	10000	105.9	90	110	
Al	27	1	nogas	103.583	0.386	411425	1.37	100	103.6	90	110	
P	31	1	nogas	530.400	1.915	120716	1.73	500	106.1	90	110	
K	39	1	nogas	10480.893	0.279	34708278	1.21	10000	104.8	90	110	
Ca	43	1	nogas	10443.731	1.959	67446	0.73	10000	104.4	90	110	
Ca	44	1	nogas	10476.541	1.135	1127690	0.27	10000	104.8	90	110	
Ti	47	1	nogas	103.295	3.579	33533	3.02	100	103.3	90	110	
V	51	1	nogas	111.329	0.846	596556	2.07	100	111.3	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	101.995	1.660	426823	0.53	100	102.0	90	110	
Mn	55	1	nogas	101.405	1.452	554265	0.17	100	101.4	90	110	
Fe	56	1	nogas	9952.086	1.421	45964331	0.29	10000	99.5	90	110	
Co	59	1	nogas	99.896	2.442	445320	1.17	100	99.9	90	110	
Ni	60	1	nogas	99.475	2.048	97343	2.21	100	99.5	90	110	
Cu	63	1	nogas	100.657	2.164	246121	2.48	100	100.7	90	110	
Zn	66	1	nogas	103.217	1.976	83472	0.61	100	103.2	90	110	
As	75	1	nogas	106.847	1.943	94923	0.85	100	106.8	90	110	
Se	77	1	nogas	160.557	17.250	8836	10.70	100	160.6	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	99.727	3.912	4461	3.48	100	99.7	90	110	
Sr	88	1	nogas	107.357	1.660	668345	0.35	100	107.4	90	110	
Mo	95	1	nogas	98.300	1.659	129835	0.52	100	98.3	90	110	
Ag	107	1	nogas	97.791	2.802	351681	1.58	100	97.8	90	110	
Cd	111	1	nogas	102.943	1.466	81593	1.65	100	102.9	90	110	
Sn	118	1	nogas	99.065	1.029	230386	0.38	100	99.1	90	110	
Sb	121	1	nogas	99.665	2.484	333843	1.66	100	99.7	90	110	
Ba	137	1	nogas	105.492	0.453	120335	0.27	100	105.5	90	110	
Tl	205	1	nogas	99.499	0.174	996300	0.96	100	99.5	90	110	
Pb	208	1	nogas	98.740	0.317	759714	1.02	100	98.7	90	110	
U	238	1	nogas	97.451	1.768	1867192	0.66	100	97.5	90	110	
Li	7	1	nogas	102.727	1.038	418715	0.34	100	102.7	90	110	
Si	28	1	nogas	5621.729	1.260	9740178	1.73	5000	112.4	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	101.488	2.940	69117	2.66	100	101.5	90	110	
La	139	1	nogas	73.405	37.691	147	19.68	100	73.4	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	532.665	0.000	0	#DIV/0!	100	532.7	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	99.684	1.093	412030	1.27	100	99.7	90	110	
Na	23	2	He	11733.432	1.644	1861002	0.50	10000	117.3	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	10515.827	2.296	790723	1.48	10000	105.2	90	110	
Al	27	2	He	99.991	12.764	2767	12.27	100	100.0	90	110	
K	39	2	He	10379.100	0.919	400580	0.95	10000	103.8	90	110	
Ca	43	2	He	12207.379	8.823	1103	9.08	10000	122.1	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	10598.491	2.044	17062	3.65	10000	106.0	90	110	
V	51	2	He	101.833	0.344	30250	1.66	100	101.8	90	110	
Cr	52	2	He	103.156	1.780	38557	3.44	100	103.2	90	110	
Mn	55	2	He	104.176	7.016	20055	5.90	100	104.2	90	110	
Fe	56	2	He	10471.991	1.411	2992917	0.79	10000	104.7	90	110	
Co	59	2	He	101.957	1.485	54897	0.40	100	102.0	90	110	
Ni	60	2	He	102.876	10.143	15307	8.54	100	102.9	90	110	
Cu	63	2	He	101.666	2.635	42760	1.75	100	101.7	90	110	
Zn	66	2	He	102.333	5.811	7318	5.08	100	102.3	90	110	
As	75	2	He	104.531	4.720	4645	4.66	100	104.5	90	110	
Sb	121	2	He	100.736	4.467	35338	3.69	100	100.7	90	110	
Se	78	2	He	92.930	8.692	281	7.12	100	92.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	540694	1.33	522917	103.40	70	125	
In	115	1	nogas	651609	0.68	627838	103.79	70	125	
Li	6	1	nogas	244483	0.69	211473	115.61	70	125	
Bi	209	1	nogas	934997	1.11	915562	102.12	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	29272	1.73	29526	99.14	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	212_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T18:41:14-06:00
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	0.014	66.6	33	45.8	1	
B	11	1	nogas	67.575	8.3	60004	8.4	10	CCB Main CR1 Failed
Na	23	1	nogas	53.391	4.1	302731	2.1	100	
Mg	24	1	nogas	3.905	9.7	14142	7.2	100	
Al	27	1	nogas	-1.083	-5.8	4427	6.5	5	
P	31	1	nogas	8.625	39.7	8872	7.6	10	
K	39	1	nogas	58.092	5.3	1063801	0.7	100	
Ca	43	1	nogas	15.102	11.7	190	5.3	100	
Ca	44	1	nogas	-12.502	-28.1	10797	2.5	100	
Ti	47	1	nogas	-0.012	-392.9	23	65.5	2.5	
V	51	1	nogas	11.921	9.1	115171	5.6	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.127	61.1	4161	7.3	2.5	
Mn	55	1	nogas	0.105	20.5	4461	3.0	2.5	
Fe	56	1	nogas	14.994	5.7	268916	2.4	100	
Co	59	1	nogas	0.027	24.9	203	15.0	2.5	
Ni	60	1	nogas	0.088	52.4	207	20.1	2.5	
Cu	63	1	nogas	-0.768	-6.1	1463	8.2	2.5	
Zn	66	1	nogas	-0.875	-1.8	157	7.4	2.5	
As	75	1	nogas	6.315	1.8	16678	1.8	2.5	CCB Main CR1 Failed
Se	77	1	nogas	75.288	12.5	5774	6.3	2.5	CCB Main CR1 Failed
Se	82	1	nogas	0.004	61236.2	207	46.5	2.5	
Sr	88	1	nogas	0.062	12.5	610	9.1	2.5	
Mo	95	1	nogas	0.090	12.4	117	13.1	2.5	
Ag	107	1	nogas	0.025	71.6	173	37.1	2.5	
Cd	111	1	nogas	0.025	132.5	20	132.3	1	
Sn	118	1	nogas	0.060	63.0	657	14.2	5	
Sb	121	1	nogas	0.146	11.9	657	9.3	2.5	
Ba	137	1	nogas	-0.030	-54.7	157	13.3	2.5	
Tl	205	1	nogas	0.097	20.4	1100	19.1	1	
Pb	208	1	nogas	0.030	18.2	383	10.5	2.5	
U	238	1	nogas	0.043	36.6	1043	30.7	2.5	
Si	28	1	nogas	52.411	22.0	658164	2.2	5	CCB Main CR1 Failed
La	139	1	nogas	-55.738	-17.0	10	100.0	2.5	
Au	197	1	nogas	532.665	0.0	0	#DIV/0!	2.5	CCB Main CR1 Failed
Na	23	2	He	52.887	10.2	11861	2.9	100	
Mg	24	2	He	4.298	18.0	360	12.1	100	
Al	27	2	He	-3.650	-17.3	30	57.7	5	
K	39	2	He	16.284	35.2	5971	4.6	100	
Ca	43	2	He	113.225	100.5	10	100.0	100	CCB Main CR1 Failed
Ca	44	2	He	10.488	124.9	60	33.3	100	
V	51	2	He	0.186	27.2	171	6.5	2.5	
Cr	52	2	He	-0.213	-1.9	93	6.2	2.5	
Mn	55	2	He	0.194	97.1	53	65.8	2.5	
Fe	56	2	He	3.339	31.3	1640	14.1	100	
Co	59	2	He	0.019	230.7	23	99.0	2.5	
Ni	60	2	He	-0.203	-12.1	43	13.3	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.875	-19.4	220	29.8	2.5	
Zn	66	2	He	-1.143	-12.6	10	100.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	0.130	175.3	10	100.0	2.5	
Sb	121	2	He	0.135	77.4	63	55.5	2.5	
Se	78	2	He	0.914	197.6	6	88.2	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	530231	1.34	522917	101.40	70	125	
In	115	1	nogas	652245	1.38	627838	103.89	70	125	
Li	6	1	nogas	232141	1.79	211473	109.77	70	125	
Bi	209	1	nogas	961777	1.01	915562	105.05	70	125	
Ge	72	2	He	29463	4.68	29526	99.79	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	223_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T19:05:47-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	100.640	2.068	204393	1.22	100	100.6	90	110	
B	11	1	nogas	585.874	1.069	553514	2.09	500	117.2	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	11680.304	0.479	62973953	0.11	10000	116.8	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	10653.010	1.286	39888010	0.82	10000	106.5	90	110	
Al	27	1	nogas	104.025	1.688	502306	0.85	100	104.0	90	110	
P	31	1	nogas	554.103	2.382	152941	1.38	500	110.8	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	10558.573	1.123	42505782	0.73	10000	105.6	90	110	
Ca	43	1	nogas	10634.905	0.211	83522	0.75	10000	106.3	90	110	
Ca	44	1	nogas	10612.989	2.475	1388830	1.85	10000	106.1	90	110	
Ti	47	1	nogas	103.119	1.515	40708	0.75	100	103.1	90	110	
V	51	1	nogas	117.457	2.721	761334	3.30	100	117.5	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	103.884	1.589	528538	0.81	100	103.9	90	110	
Mn	55	1	nogas	102.575	1.351	681699	0.51	100	102.6	90	110	
Fe	56	1	nogas	10083.003	0.916	56625928	0.73	10000	100.8	90	110	
Co	59	1	nogas	100.158	2.047	542955	1.46	100	100.2	90	110	
Ni	60	1	nogas	101.806	0.598	121135	0.90	100	101.8	90	110	
Cu	63	1	nogas	101.413	2.599	301444	1.84	100	101.4	90	110	
Zn	66	1	nogas	103.934	0.200	102209	0.72	100	103.9	90	110	
As	75	1	nogas	115.241	1.606	123336	0.59	100	115.2	90	110	CCV Main CR1-2 Failed
Se	77	1	nogas	194.047	4.358	12155	2.77	100	194.0	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	107.812	3.038	5844	3.72	100	107.8	90	110	
Sr	88	1	nogas	111.402	0.833	843363	0.66	100	111.4	90	110	CCV Main CR1-2 Failed
Mo	95	1	nogas	98.084	2.525	157522	1.67	100	98.1	90	110	
Ag	107	1	nogas	99.345	2.203	434466	1.55	100	99.3	90	110	
Cd	111	1	nogas	102.666	0.452	98625	1.08	100	102.7	90	110	
Sn	118	1	nogas	101.139	0.913	285077	1.40	100	101.1	90	110	
Sb	121	1	nogas	101.598	2.107	413818	1.27	100	101.6	90	110	
Ba	137	1	nogas	108.131	0.513	149497	1.44	100	108.1	90	110	
Tl	205	1	nogas	100.552	0.683	1212303	1.12	100	100.6	90	110	
Pb	208	1	nogas	99.819	0.524	924730	0.98	100	99.8	90	110	
U	238	1	nogas	97.436	1.378	2248200	1.88	100	97.4	90	110	
Li	7	1	nogas	103.471	0.976	510697	0.29	100	103.5	90	110	
Si	28	1	nogas	5663.102	1.108	11924808	0.79	5000	113.3	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	105.068	0.750	86727	1.61	100	105.1	90	110	
La	139	1	nogas	62.041	27.682	163	14.14	100	62.0	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	532.665	0.000	0	#DIV/0!	100	532.7	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	100.806	0.539	501687	0.75	100	100.8	90	110	
Na	23	2	He	11783.821	1.831	2360992	1.81	10000	117.8	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	10381.249	1.290	986090	0.85	10000	103.8	90	110	
Al	27	2	He	104.468	2.363	3644	2.22	100	104.5	90	110	
K	39	2	He	10401.690	3.307	506992	2.37	10000	104.0	90	110	
Ca	43	2	He	12772.928	17.799	1457	17.17	10000	127.7	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	10877.775	4.957	22104	3.81	10000	108.8	90	110	
V	51	2	He	101.440	2.731	38054	1.54	100	101.4	90	110	
Cr	52	2	He	102.814	2.276	48525	1.73	100	102.8	90	110	
Mn	55	2	He	102.730	1.545	24992	0.56	100	102.7	90	110	
Fe	56	2	He	10237.277	1.965	3695758	1.49	10000	102.4	90	110	
Co	59	2	He	101.905	3.301	69303	2.51	100	101.9	90	110	
Ni	60	2	He	102.441	2.895	19271	2.14	100	102.4	90	110	
Cu	63	2	He	102.381	2.143	54389	1.49	100	102.4	90	110	
Zn	66	2	He	104.059	5.873	9399	5.57	100	104.1	90	110	
As	75	2	He	104.620	2.586	5872	2.26	100	104.6	90	110	
Sb	121	2	He	102.074	3.537	45246	4.07	100	102.1	90	110	
Se	78	2	He	99.380	11.709	380	11.42	100	99.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	657442	0.86	522917	125.73	70	125	ISTD Failed
In	115	1	nogas	789755	1.00	627838	125.79	70	125	ISTD Failed
Li	6	1	nogas	296157	1.23	211473	140.05	70	125	ISTD Failed
Bi	209	1	nogas	1125758	0.52	915562	122.96	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	36974	1.21	29526	125.22	70	125	ISTD Failed

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	224_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T19:07:56-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.012	47.8	37	31.5	1	
B	11	1	nogas	73.803	8.3	79423	8.4	10	CCB Main CR1 Failed
Na	23	1	nogas	71.839	1.4	476668	1.5	100	
Mg	24	1	nogas	3.076	6.2	14409	5.7	100	
Al	27	1	nogas	-0.968	-4.3	6128	5.6	5	
P	31	1	nogas	2.913	93.7	9673	8.7	10	
K	39	1	nogas	46.675	11.1	1294103	1.6	100	
Ca	43	1	nogas	22.302	18.1	297	10.8	100	
Ca	44	1	nogas	-23.079	-12.3	12208	3.2	100	
Ti	47	1	nogas	-0.003	-2317.7	33	75.5	2.5	
V	51	1	nogas	18.768	8.6	185654	3.9	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.317	25.9	6218	9.0	2.5	
Mn	55	1	nogas	0.098	76.1	5564	6.8	2.5	
Fe	56	1	nogas	10.822	11.0	314871	1.6	100	
Co	59	1	nogas	0.022	4.8	230	0.0	2.5	
Ni	60	1	nogas	0.053	90.1	220	28.4	2.5	
Cu	63	1	nogas	-0.809	-1.6	1720	2.1	2.5	
Zn	66	1	nogas	-0.852	-5.2	220	18.2	2.5	
As	75	1	nogas	10.841	8.3	25323	0.8	2.5	CCB Main CR1 Failed
Se	77	1	nogas	103.099	13.3	8452	5.3	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-1.404	-57.1	187	25.3	2.5	
Sr	88	1	nogas	0.075	16.8	870	13.3	2.5	
Mo	95	1	nogas	0.053	32.6	87	35.3	2.5	
Ag	107	1	nogas	0.021	50.8	200	21.8	2.5	
Cd	111	1	nogas	0.010	98.8	10	100.0	1	
Sn	118	1	nogas	0.044	71.1	753	11.4	5	
Sb	121	1	nogas	0.106	18.2	660	12.0	2.5	
Ba	137	1	nogas	-0.098	-63.1	97	92.7	2.5	
Tl	205	1	nogas	0.088	20.7	1247	20.1	1	
Pb	208	1	nogas	0.028	43.7	450	27.3	2.5	
U	238	1	nogas	0.031	23.3	983	18.8	2.5	
Si	28	1	nogas	2.164	191.6	727877	1.9	5	
La	139	1	nogas	-44.805	-42.5	27	94.4	2.5	
Au	197	1	nogas	115.030	628.8	7	173.2	2.5	CCB Main CR1 Failed
Na	23	2	He	64.155	9.4	17549	4.3	100	
Mg	24	2	He	3.282	19.3	367	18.6	100	
Al	27	2	He	-2.222	-35.1	87	29.0	5	
K	39	2	He	3.124	191.5	7018	1.8	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-2.769	-279.2	50	34.6	100	
V	51	2	He	0.462	9.2	325	7.4	2.5	
Cr	52	2	He	-0.163	-37.1	143	17.6	2.5	
Mn	55	2	He	0.117	73.5	50	40.0	2.5	
Fe	56	2	He	1.695	13.2	1510	5.4	100	
Co	59	2	He	0.009	84.8	23	24.7	2.5	
Ni	60	2	He	-0.424	-7.1	13	43.3	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-1.076	-5.3	177	19.9	2.5	
Zn	66	2	He	-1.173	-9.3	10	100.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	0.098	186.2	11	91.7	2.5	
Sb	121	2	He	0.152	31.6	90	22.2	2.5	
Se	78	2	He	0.830	303.3	7	128.9	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	667791	2.61	522917	127.71	70	125	ISTD Failed
In	115	1	nogas	795715	2.24	627838	126.74	70	125	ISTD Failed
Li	6	1	nogas	285854	1.54	211473	135.17	70	125	ISTD Failed
Bi	209	1	nogas	1184819	1.72	915562	129.41	70	125	ISTD Failed
Ge	72	2	He	37832	2.64	29526	128.13	70	125	ISTD Failed

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	230_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T19:27:27-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	99.616	0.927	191174	0.58	100	99.6	90	110	
B	11	1	nogas	950.138	1.685	839793	2.69	500	190.0	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	12628.933	1.555	63939993	0.71	10000	126.3	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	11125.407	0.872	39125168	0.39	10000	111.3	90	110	CCV Main CR1-2 Failed
Al	27	1	nogas	109.481	2.417	490570	1.45	100	109.5	90	110	
P	31	1	nogas	580.891	1.724	148563	0.90	500	116.2	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	11341.263	3.718	42331854	2.65	10000	113.4	90	110	CCV Main CR1-2 Failed
Ca	43	1	nogas	11899.339	1.484	86805	1.73	10000	119.0	90	110	CCV Main CR1-2 Failed
Ca	44	1	nogas	11250.736	1.783	1366917	0.86	10000	112.5	90	110	CCV Main CR1-2 Failed
Ti	47	1	nogas	108.067	2.083	39629	1.08	100	108.1	90	110	
V	51	1	nogas	110.929	2.615	671580	1.92	100	110.9	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	105.643	1.768	499243	0.86	100	105.6	90	110	
Mn	55	1	nogas	104.291	1.586	643798	0.60	100	104.3	90	110	
Fe	56	1	nogas	10246.620	0.717	53455012	0.44	10000	102.5	90	110	
Co	59	1	nogas	102.360	2.364	515479	1.70	100	102.4	90	110	
Ni	60	1	nogas	104.440	2.114	115427	1.08	100	104.4	90	110	
Cu	63	1	nogas	103.652	2.120	286147	1.41	100	103.7	90	110	
Zn	66	1	nogas	102.288	1.592	93473	2.44	100	102.3	90	110	
As	75	1	nogas	109.367	0.726	109449	1.53	100	109.4	90	110	
Se	77	1	nogas	165.677	7.614	10187	5.85	100	165.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	105.514	3.327	5318	2.98	100	105.5	90	110	
Sr	88	1	nogas	109.679	1.096	771354	0.76	100	109.7	90	110	
Mo	95	1	nogas	96.357	1.795	143767	0.95	100	96.4	90	110	
Ag	107	1	nogas	95.902	1.859	389634	1.06	100	95.9	90	110	
Cd	111	1	nogas	102.598	2.575	86613	1.50	100	102.6	90	110	
Sn	118	1	nogas	102.275	0.828	253364	0.93	100	102.3	90	110	
Sb	121	1	nogas	96.502	1.247	365181	0.58	100	96.5	90	110	
Ba	137	1	nogas	107.423	1.789	130520	0.60	100	107.4	90	110	
Tl	205	1	nogas	100.942	4.313	1035131	2.62	100	100.9	90	110	
Pb	208	1	nogas	98.175	2.993	773705	1.21	100	98.2	90	110	
U	238	1	nogas	95.705	2.320	1878876	2.00	100	95.7	90	110	
Li	7	1	nogas	105.067	0.979	489632	0.65	100	105.1	90	110	
Si	28	1	nogas	6021.836	1.754	11737324	0.88	5000	120.4	90	110	CCV Main CR1-2 Failed
Ba	135	1	nogas	103.651	3.360	75180	2.15	100	103.7	90	110	
La	139	1	nogas	46.984	45.475	127	19.87	100	47.0	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	532.665	0.000	0	#DIV/0!	100	532.7	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	100.848	3.978	426879	1.42	100	100.8	90	110	
Na	23	2	He	12378.465	1.148	2375960	4.20	10000	123.8	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	10668.984	2.531	970304	1.46	10000	106.7	90	110	
Al	27	2	He	111.631	5.036	3715	1.69	100	111.6	90	110	CCV Main CR1-2 Failed
K	39	2	He	10712.000	1.240	499953	2.73	10000	107.1	90	110	
Ca	43	2	He	11785.736	17.957	1290	19.38	10000	117.9	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	10670.851	1.587	20773	2.01	10000	106.7	90	110	
V	51	2	He	100.592	0.767	36151	2.82	100	100.6	90	110	
Cr	52	2	He	104.070	4.173	47007	0.73	100	104.1	90	110	
Mn	55	2	He	101.240	2.060	23586	2.25	100	101.2	90	110	
Fe	56	2	He	10271.540	1.620	3552220	3.63	10000	102.7	90	110	
Co	59	2	He	100.647	0.553	65571	2.97	100	100.6	90	110	
Ni	60	2	He	100.842	3.792	18163	2.33	100	100.8	90	110	
Cu	63	2	He	97.003	2.113	49385	1.80	100	97.0	90	110	
Zn	66	2	He	106.708	4.054	9229	4.66	100	106.7	90	110	
As	75	2	He	99.622	1.162	5358	4.05	100	99.6	90	110	
Sb	121	2	He	95.091	1.758	40367	3.16	100	95.1	90	110	
Se	78	2	He	108.965	6.352	399	6.55	100	109.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	610768	1.06	522917	116.80	70	125	
In	115	1	nogas	694159	1.23	627838	110.56	70	125	
Li	6	1	nogas	279826	1.11	211473	132.32	70	125	ISTD Failed
Bi	209	1	nogas	958140	2.59	915562	104.65	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	35417	3.51	29526	119.95	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	231_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T19:29:38-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.025	20.0	60	16.7	1	
B	11	1	nogas	314.866	4.6	277323	5.2	10	CCB Main CR1 Failed
Na	23	1	nogas	467.502	4.8	2520574	4.7	100	CCB Main CR1 Failed
Mg	24	1	nogas	6.228	2.6	25190	2.3	100	
Al	27	1	nogas	-0.823	-6.4	6338	3.6	5	
P	31	1	nogas	8.907	20.7	10457	4.0	10	
K	39	1	nogas	122.672	9.5	1484252	2.6	100	CCB Main CR1 Failed
Ca	43	1	nogas	320.919	6.5	2487	6.6	100	CCB Main CR1 Failed
Ca	44	1	nogas	81.074	6.0	24077	2.7	100	
Ti	47	1	nogas	0.004	1502.1	33	75.5	2.5	
V	51	1	nogas	5.228	19.1	97728	5.6	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.192	17.0	5181	3.2	2.5	
Mn	55	1	nogas	0.174	50.4	5648	9.7	2.5	
Fe	56	1	nogas	35.601	6.9	423539	3.5	100	
Co	59	1	nogas	0.027	28.8	237	17.1	2.5	
Ni	60	1	nogas	0.986	9.5	1250	8.5	2.5	
Cu	63	1	nogas	-0.401	-16.1	2727	6.6	2.5	
Zn	66	1	nogas	-0.813	-11.9	240	37.0	2.5	
As	75	1	nogas	4.257	10.8	17689	2.2	2.5	CCB Main CR1 Failed
Se	77	1	nogas	50.304	6.6	5764	2.0	2.5	CCB Main CR1 Failed
Se	82	1	nogas	1.129	164.1	297	30.4	2.5	
Sr	88	1	nogas	0.226	9.9	1880	8.3	2.5	
Mo	95	1	nogas	0.077	17.8	117	17.8	2.5	
Ag	107	1	nogas	0.029	39.0	217	20.8	2.5	
Cd	111	1	nogas	0.015	113.7	13	114.6	1	
Sn	118	1	nogas	0.099	31.9	823	9.1	5	
Sb	121	1	nogas	0.152	24.2	790	17.7	2.5	
Ba	137	1	nogas	-0.090	-27.6	97	31.6	2.5	
Tl	205	1	nogas	0.110	16.6	1283	16.5	1	
Pb	208	1	nogas	0.051	22.2	563	16.5	2.5	
U	238	1	nogas	0.031	14.2	827	12.1	2.5	
Si	28	1	nogas	112.950	8.3	883582	1.6	5	CCB Main CR1 Failed
La	139	1	nogas	-42.405	-12.2	27	21.7	2.5	
Au	197	1	nogas	-437.141	-253.4	13	114.6	2.5	
Na	23	2	He	402.407	4.1	83190	2.6	100	CCB Main CR1 Failed
Mg	24	2	He	4.896	29.0	503	28.3	100	
Al	27	2	He	-3.017	-42.6	57	71.3	5	
K	39	2	He	46.164	16.0	8762	2.7	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-5.010	-148.2	43	35.3	100	
V	51	2	He	0.091	33.5	176	8.0	2.5	
Cr	52	2	He	-0.158	-45.8	140	21.4	2.5	
Mn	55	2	He	0.055	123.3	33	45.8	2.5	
Fe	56	2	He	2.392	15.1	1693	5.2	100	
Co	59	2	He	-0.005	-710.9	13	173.2	2.5	
Ni	60	2	He	-0.366	-9.5	23	24.7	2.5	
Cu	63	2	He	-0.964	-0.2	227	2.5	2.5	
Zn	66	2	He	-1.208	-10.8	7	173.2	2.5	

Continuing Calibration Blank (CCB) Report

As	75	2	He	0.204	3.5	17	0.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.129	28.0	77	19.9	2.5	
Se	78	2	He	0.884	158.3	7	68.6	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	620615	0.43	522917	118.68	70	125	
In	115	1	nogas	720218	1.17	627838	114.71	70	125	
Li	6	1	nogas	270043	1.09	211473	127.70	70	125	ISTD Failed
Bi	209	1	nogas	997748	1.49	915562	108.98	70	125	
Ge	72	2	He	36279	2.35	29526	122.87	70	125	

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	236CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T19:52:52-06:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	17	549.91
B	11	1	nogas	92627	0.00
Na	23	1	nogas	1059452	0.00
Mg	24	1	nogas	4301	0.58
Al	27	1	nogas	11150	0.04
P	31	1	nogas	10247	0.01
K	39	1	nogas	1313118	0.00
Ca	43	1	nogas	997	1.19
Ca	44	1	nogas	15340	0.03
Ti	47	1	nogas	17	749.40
V	51	1	nogas	118456	0.00
Cr	52	1	nogas	5391	0.14
Mn	55	1	nogas	6255	0.10
Fe	56	1	nogas	399311	0.00
Co	59	1	nogas	80	31.25
Ni	60	1	nogas	910	1.51
Cu	63	1	nogas	3074	0.28
Zn	66	1	nogas	463	3.50
As	75	1	nogas	18083	0.02
Se	77	1	nogas	6115	0.06
Se	82	1	nogas	233	23.26
Sr	88	1	nogas	507	7.14
Mo	95	1	nogas	13	859.23
Ag	107	1	nogas	57	35.96
Cd	111	1	nogas	3	5196.15
Sn	118	1	nogas	590	2.28
Sb	121	1	nogas	433	4.07
Ba	137	1	nogas	233	4.24
Tl	205	1	nogas	63	28.79
Pb	208	1	nogas	230	3.27
Li	7	1	nogas	23576	0.02
Si	28	1	nogas	727910	0.00
La	139	1	nogas	60	0.00
Na	23	2	He	36952	0.00
Mg	24	2	He	80	27.06
Al	27	2	He	100	43.59
K	39	2	He	7182	0.04
Ca	43	2	He	7	2598.08
Ca	44	2	He	40	165.36
V	51	2	He	224	1.38
Cr	52	2	He	113	66.22
Mn	55	2	He	77	42.82

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	2	He	1137	1.13
Co	59	2	He	10	1000.00
Ni	60	2	He	67	25.98
Cu	63	2	He	400	2.25
Zn	66	2	He	53	113.01
As	75	2	He	12	643.78
Sb	121	2	He	70	53.99
Se	78	2	He	6	1469.86

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Ge	72	1	nogas	606326	0.56
In	115	1	nogas	717978	1.78
Li	6	1	nogas	264394	1.68
Bi	209	1	nogas	1029814	0.97
Ge	72	2	He	35160	3.05

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	237CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T19:55:04-06:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	3814	0.10
B	11	1	nogas	90313	0.00
Na	23	1	nogas	2017825	0.00
Mg	24	1	nogas	770534	0.00
Al	27	1	nogas	29896	0.00
P	31	1	nogas	13068	0.02
K	39	1	nogas	2031134	0.00
Ca	43	1	nogas	2574	0.10
Ca	44	1	nogas	40875	0.01
Ti	47	1	nogas	800	0.63
V	51	1	nogas	126651	0.00
Cr	52	1	nogas	14626	0.01
Mn	55	1	nogas	19291	0.01
Fe	56	1	nogas	1535235	0.00
Co	59	1	nogas	10644	0.04
Ni	60	1	nogas	2824	0.33
Cu	63	1	nogas	10237	0.02
Zn	66	1	nogas	2620	0.32
As	75	1	nogas	20706	0.01
Se	77	1	nogas	5891	0.18
Se	82	1	nogas	293	6.61
Sr	88	1	nogas	15607	0.00
Mo	95	1	nogas	2880	0.26
Ag	107	1	nogas	8599	0.01
Cd	111	1	nogas	1837	0.54
Sn	118	1	nogas	6088	0.11
Sb	121	1	nogas	8136	0.07
Ba	137	1	nogas	3080	0.11
Tl	205	1	nogas	22423	0.02
Pb	208	1	nogas	17934	0.01
Si	28	1	nogas	923220	0.00
La	139	1	nogas	100	10.00
Na	23	2	He	77649	0.01
Mg	24	2	He	19358	0.01
Al	27	2	He	270	5.98
K	39	2	He	17182	0.01
Ca	43	2	He	23	280.57
Ca	44	2	He	350	2.94
V	51	2	He	904	0.21
Cr	52	2	He	957	2.53

Calibration Standard Report

Mn	55	2	He	590	3.20
Fe	56	2	He	74205	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	1190	0.51
Ni	60	2	He	413	9.07
Cu	63	2	He	1763	0.58
Zn	66	2	He	243	7.03
As	75	2	He	120	13.89
Sb	121	2	He	853	1.47
Se	78	2	He	10	346.41

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	595421	0.69	606326	98.20	70	125	
In	115	1	nogas	705387	0.83	717978	98.25	70	125	
Li	6	1	nogas	255391	0.11	264394	96.59	70	125	
Bi	209	1	nogas	1012391	1.47	1029814	98.31	70	125	
Ge	72	2	He	33757	2.72	35160	96.01	70	125	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	238CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T19:57:17-06:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	9633	0.03
B	11	1	nogas	97741	0.00
Na	23	1	nogas	3518150	0.00
Mg	24	1	nogas	1932694	0.00
Al	27	1	nogas	49369	0.01
P	31	1	nogas	17295	0.02
K	39	1	nogas	3147266	0.00
Ca	43	1	nogas	4811	0.15
Ca	44	1	nogas	78097	0.00
Ti	47	1	nogas	1827	0.30
V	51	1	nogas	146170	0.00
Cr	52	1	nogas	29826	0.01
Mn	55	1	nogas	37017	0.01
Fe	56	1	nogas	3097710	0.00
Co	59	1	nogas	25940	0.01
Ni	60	1	nogas	6245	0.06
Cu	63	1	nogas	16495	0.00
Zn	66	1	nogas	5581	0.13
As	75	1	nogas	23477	0.01
Se	77	1	nogas	6118	0.07
Se	82	1	nogas	543	1.37
Sr	88	1	nogas	35712	0.00
Mo	95	1	nogas	7362	0.04
Ag	107	1	nogas	20730	0.03
Cd	111	1	nogas	4711	0.05
Sn	118	1	nogas	13683	0.02
Sb	121	1	nogas	19939	0.01
Ba	137	1	nogas	6832	0.06
Tl	205	1	nogas	56162	0.00
Pb	208	1	nogas	43181	0.00
Si	28	1	nogas	1386130	0.00
La	139	1	nogas	70	40.82
Na	23	2	He	130837	0.00
Mg	24	2	He	45763	0.01
Al	27	2	He	373	9.36
K	39	2	He	30146	0.01
Ca	43	2	He	43	122.99
Ca	44	2	He	1073	1.00
V	51	2	He	1942	0.14
Cr	52	2	He	2240	0.05

Calibration Standard Report

Mn	55	2	He	1100	0.93
Fe	56	2	He	177689	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	3304	0.08
Ni	60	2	He	1017	0.28
Cu	63	2	He	2734	0.11
Zn	66	2	He	617	4.53
As	75	2	He	291	8.27
Sb	121	2	He	2127	0.23
Se	78	2	He	30	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	587120	0.64	606326	96.83	70	125	
In	115	1	nogas	704286	1.12	717978	98.09	70	125	
Li	6	1	nogas	253821	1.20	264394	96.00	70	125	
Bi	209	1	nogas	1012410	0.68	1029814	98.31	70	125	
Ge	72	2	He	33203	4.33	35160	94.43	70	125	

Calibration Standard Report

Sample Table

Sample Name	10/50/1000
Data File Name	239CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T19:59:29-06:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	19398	0.01
B	11	1	nogas	112591	0.00
Na	23	1	nogas	6679776	0.00
Mg	24	1	nogas	3892181	0.00
Al	27	1	nogas	85523	0.00
P	31	1	nogas	25245	0.01
K	39	1	nogas	5049236	0.00
Ca	43	1	nogas	9052	0.04
Ca	44	1	nogas	140378	0.00
Ti	47	1	nogas	3567	0.04
V	51	1	nogas	173873	0.00
Cr	52	1	nogas	54138	0.00
Mn	55	1	nogas	69566	0.00
Fe	56	1	nogas	5813247	0.00
Co	59	1	nogas	51791	0.00
Ni	60	1	nogas	12682	0.05
Cu	63	1	nogas	32000	0.01
Zn	66	1	nogas	10327	0.06
As	75	1	nogas	28117	0.01
Se	77	1	nogas	6728	0.08
Se	82	1	nogas	743	2.57
Sr	88	1	nogas	72506	0.00
Mo	95	1	nogas	15264	0.03
Ag	107	1	nogas	41866	0.00
Cd	111	1	nogas	9173	0.02
Sn	118	1	nogas	27457	0.01
Sb	121	1	nogas	39087	0.00
Ba	137	1	nogas	13546	0.02
Tl	205	1	nogas	114578	0.00
Pb	208	1	nogas	86974	0.00
Si	28	1	nogas	1903847	0.00
La	139	1	nogas	33	207.85
Na	23	2	He	230772	0.00
Mg	24	2	He	93779	0.00
Al	27	2	He	567	1.47
K	39	2	He	53970	0.00
Ca	43	2	He	120	36.75
Ca	44	2	He	2157	0.20
V	51	2	He	3788	0.09
Cr	52	2	He	4824	0.08

Calibration Standard Report

Mn	55	2	He	2574	0.21
Fe	56	2	He	358177	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	6995	0.04
Ni	60	2	He	1737	0.38
Cu	63	2	He	5864	0.08
Zn	66	2	He	917	2.72
As	75	2	He	461	1.01
Sb	121	2	He	4627	0.03
Se	78	2	He	43	67.13

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	582546	1.58	606326	96.08	70	125	
In	115	1	nogas	695681	1.03	717978	96.89	70	125	
Li	6	1	nogas	245390	1.58	264394	92.81	70	125	
Bi	209	1	nogas	1009275	0.64	1029814	98.01	70	125	
Ge	72	2	He	33052	2.99	35160	94.01	70	125	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	240CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:01:41-06:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	178987	0.00
B	11	1	nogas	480446	0.00
Na	23	1	nogas	50189164	0.00
Mg	24	1	nogas	34863466	0.00
Al	27	1	nogas	647489	0.00
P	31	1	nogas	146569	0.00
K	39	1	nogas	37548695	0.00
Ca	43	1	nogas	73528	0.00
Ca	44	1	nogas	1195280	0.00
Ti	47	1	nogas	36732	0.01
V	51	1	nogas	609640	0.00
Cr	52	1	nogas	461587	0.00
Mn	55	1	nogas	594346	0.00
Fe	56	1	nogas	49613314	0.00
Co	59	1	nogas	475198	0.00
Ni	60	1	nogas	104803	0.00
Cu	63	1	nogas	262500	0.00
Zn	66	1	nogas	87134	0.00
As	75	1	nogas	101346	0.00
Se	77	1	nogas	9396	0.05
Se	82	1	nogas	4774	0.06
Sr	88	1	nogas	663481	0.00
Mo	95	1	nogas	137468	0.00
Ag	107	1	nogas	380505	0.00
Cd	111	1	nogas	84347	0.00
Sn	118	1	nogas	247318	0.00
Sb	121	1	nogas	364577	0.00
Ba	137	1	nogas	123583	0.00
Tl	205	1	nogas	1056259	0.00
Pb	208	1	nogas	810565	0.00
Si	28	1	nogas	10379635	0.00
La	139	1	nogas	113	50.05
Na	23	2	He	1833376	0.00
Mg	24	2	He	840700	0.00
Al	27	2	He	4737	0.13
K	39	2	He	436370	0.00
Ca	43	2	He	1063	1.57
Ca	44	2	He	17739	0.01
V	51	2	He	32347	0.00
Cr	52	2	He	41874	0.01

Calibration Standard Report

Mn	55	2	He	21137	0.01
Fe	56	2	He	3211258	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	59392	0.00
Ni	60	2	He	15637	0.01
Cu	63	2	He	46430	0.00
Zn	66	2	He	8319	0.03
As	75	2	He	5006	0.01
Sb	121	2	He	39448	0.01
Se	78	2	He	314	3.07

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	555224	0.31	606326	91.57	70	125	
In	115	1	nogas	665089	1.04	717978	92.63	70	125	
Li	6	1	nogas	259926	2.30	264394	98.31	70	125	
Bi	209	1	nogas	965320	1.59	1029814	93.74	70	125	
Ge	72	2	He	31042	3.69	35160	88.29	70	125	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	241CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:03:52-06:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	236CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	348739	0.00
B	11	1	nogas	898463	0.00
Na	23	1	nogas	97251981	0.00
Mg	24	1	nogas	67695233	0.00
Al	27	1	nogas	1226715	0.00
P	31	1	nogas	273397	0.00
K	39	1	nogas	70909958	0.00
Ca	43	1	nogas	137717	0.00
Ca	44	1	nogas	2257036	0.00
Ti	47	1	nogas	70707	0.00
V	51	1	nogas	1096875	0.00
Cr	52	1	nogas	888462	0.00
Mn	55	1	nogas	1146661	0.00
Fe	56	1	nogas	95461575	0.00
Co	59	1	nogas	922886	0.00
Ni	60	1	nogas	202446	0.00
Cu	63	1	nogas	507882	0.00
Zn	66	1	nogas	169117	0.00
As	75	1	nogas	180755	0.00
Se	77	1	nogas	12541	0.02
Se	82	1	nogas	9379	0.05
Sr	88	1	nogas	1313235	0.00
Mo	95	1	nogas	275400	0.00
Ag	107	1	nogas	743590	0.00
Cd	111	1	nogas	166289	0.00
Sn	118	1	nogas	481795	0.00
Sb	121	1	nogas	710133	0.00
Ba	137	1	nogas	242331	0.00
Tl	205	1	nogas	2124261	0.00
Pb	208	1	nogas	1623815	0.00
Si	28	1	nogas	18606204	0.00
La	139	1	nogas	220	9.01
Na	23	2	He	3537212	0.00
Mg	24	2	He	1666636	0.00
Al	27	2	He	8579	0.08
K	39	2	He	843437	0.00
Ca	43	2	He	2210	0.09
Ca	44	2	He	34955	0.00
V	51	2	He	62899	0.00
Cr	52	2	He	80670	0.00

Calibration Standard Report

Mn	55	2	He	41152	0.00
Fe	56	2	He	6151303	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	114612	0.00
Ni	60	2	He	32003	0.01
Cu	63	2	He	88614	0.00
Zn	66	2	He	15407	0.03
As	75	2	He	9814	0.02
Sb	121	2	He	76330	0.00
Se	78	2	He	654	1.44

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	535380	1.25	606326	88.30	70	125	
In	115	1	nogas	641953	1.35	717978	89.41	70	125	
Li	6	1	nogas	266400	1.51	264394	100.76	70	125	
Bi	209	1	nogas	915563	0.78	1029814	88.91	70	125	
Ge	72	2	He	29472	1.30	35160	83.82	70	125	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICCV
Data File Name	242_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:06:01-06:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	104.798	2.171	170473	0.83	100	104.8	90	110	
B	11	1	nogas	579.280	2.106	515554	0.78	500	115.9	90	110	ICV Main CR1 Failed
Na	23	1	nogas	9626.050	1.959	48288681	1.27	10000	96.3	90	110	
Mg	24	1	nogas	9629.710	2.250	33333579	0.31	10000	96.3	90	110	
Al	27	1	nogas	76.834	1.114	483087	0.96	100	76.8	90	110	ICV Main CR1 Failed
P	31	1	nogas	447.707	1.341	128662	1.13	500	89.5	90	110	ICV Main CR1 Failed
K	39	1	nogas	9673.785	0.576	35267425	0.57	10000	96.7	90	110	
Ca	43	1	nogas	9805.536	1.284	68952	1.07	10000	98.1	90	110	
Ca	44	1	nogas	9812.494	0.842	1128591	1.01	10000	98.1	90	110	
Ti	47	1	nogas	93.788	2.234	33489	2.00	100	93.8	90	110	
V	51	1	nogas	91.919	1.010	563762	0.79	100	91.9	90	110	
Cr	52	1	nogas	97.427	0.952	439192	0.95	100	97.4	90	110	
Mn	55	1	nogas	98.367	0.358	571683	0.14	100	98.4	90	110	
Fe	56	1	nogas	9647.497	1.091	46673077	1.16	10000	96.5	90	110	
Co	59	1	nogas	98.881	0.660	460145	0.66	100	98.9	90	110	
Ni	60	1	nogas	99.490	0.500	101997	0.75	100	99.5	90	110	
Cu	63	1	nogas	98.537	1.368	253638	1.48	100	98.5	90	110	
Zn	66	1	nogas	97.727	1.610	83613	1.34	100	97.7	90	110	
As	75	1	nogas	92.479	0.865	93355	0.45	100	92.5	90	110	
Se	77	1	nogas	58.051	8.311	7558	2.33	100	58.1	90	110	ICV Main CR1 Failed
Se	82	1	nogas	100.631	8.919	4831	8.61	100	100.6	90	110	
Sr	88	1	nogas	96.790	0.224	638573	0.27	100	96.8	90	110	
Mo	95	1	nogas	96.801	1.256	133584	1.08	100	96.8	90	110	
Ag	107	1	nogas	96.057	0.736	359697	0.94	100	96.1	90	110	
Cd	111	1	nogas	97.912	1.698	83656	1.20	100	97.9	90	110	
Sn	118	1	nogas	92.844	1.407	230645	1.71	100	92.8	90	110	
Sb	121	1	nogas	99.504	1.025	356186	1.17	100	99.5	90	110	
Ba	137	1	nogas	98.620	1.219	123012	1.11	100	98.6	90	110	
Tl	205	1	nogas	98.948	0.585	1083864	0.54	100	98.9	90	110	
Pb	208	1	nogas	95.195	0.465	797769	0.48	100	95.2	90	110	
U	238	1	nogas	96.026	2.111	1966364	2.03	100	96.0	90	110	
Li	7	1	nogas	110.746	2.216	456408	0.71	100	110.7	90	110	ICV Main CR1 Failed
Si	28	1	nogas	5125.112	1.482	10029731	1.61	5000	102.5	90	110	
Ba	135	1	nogas	97.249	1.039	70486	1.44	100	97.2	90	110	
La	139	1	nogas	202.307	16.219	217	11.61	100	202.3	90	110	ICV Main CR1 Failed
Au	197	1	nogas	0.000	#DIV/0!	0	#DIV/0!	100	0.0	90	110	ICV Main CR1 Failed
Tl	203	1	nogas	99.226	0.427	447970	0.35	100	99.2	90	110	
Na	23	2	He	9613.333	2.050	1769296	2.77	10000	96.1	90	110	
Mg	24	2	He	9537.736	0.830	816455	1.58	10000	95.4	90	110	
Al	27	2	He	73.139	8.089	3354	7.20	100	73.1	90	110	ICV Main CR1 Failed
K	39	2	He	9499.966	1.062	416231	1.13	10000	95.0	90	110	
Ca	43	2	He	7942.303	11.970	897	11.92	10000	79.4	90	110	ICV Main CR1 Failed
Ca	44	2	He	9434.097	2.731	16979	3.19	10000	94.3	90	110	
V	51	2	He	96.174	1.904	31237	1.88	100	96.2	90	110	
Cr	52	2	He	97.807	1.116	40785	1.86	100	97.8	90	110	
Mn	55	2	He	96.782	5.451	20563	6.17	100	96.8	90	110	
Fe	56	2	He	9839.987	1.691	3129519	1.49	10000	98.4	90	110	
Co	59	2	He	97.501	3.026	57700	2.67	100	97.5	90	110	
Ni	60	2	He	96.704	1.006	15767	1.74	100	96.7	90	110	
Cu	63	2	He	99.197	1.016	45684	0.92	100	99.2	90	110	
Zn	66	2	He	98.945	2.520	7975	3.23	100	98.9	90	110	
As	75	2	He	93.176	3.534	4708	2.81	100	93.2	90	110	
Sn	118	2	He	93.688	3.493	26021	3.15	100	93.7	90	110	
Sb	121	2	He	94.450	1.566	37226	1.99	100	94.5	90	110	
Se	78	2	He	94.657	5.248	317	4.73	100	94.7	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	540519	0.26	606326	89.15	70	125	
In	115	1	nogas	662371	0.50	717978	92.26	70	125	
Li	6	1	nogas	245884	2.05	264394	93.00	70	125	

Initial Calibration Verification (ICV) Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Bi	209	1	nogas	955080	0.10	1029814	92.74	70	125	
Ge	72	2	He	30521	0.76	35160	86.81	70	125	

Sample Report

Sample Table

Sample Name	LLCCV2
Data File Name	243SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:08:12-06:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	236CALB.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	2.372	2.372	6.20	3627	0.07	2000	
B	11	1	nogas	36.761	36.761	33.18	106180	0.03	2000	
Na	23	1	nogas	128.280	128.280	5.95	1547769	0.01	200000	
Mg	24	1	nogas	212.252	212.252	2.17	725027	0.03	200000	
Al	27	1	nogas	2.790	2.790	0.21	27184	0.01	2000	
K	39	1	nogas	195.622	195.622	6.35	1864169	0.01	200000	
Ca	43	1	nogas	179.615	179.615	8.47	2140	8.39	200000	
Ca	44	1	nogas	211.242	211.242	2.48	37761	0.56	200000	
Ti	47	1	nogas	1.887	1.887	16.86	690	0.27	2000	
V	51	1	nogas	-4.479	-4.479	-9.39	83451	-0.01	2000	
Cr	52	1	nogas	1.836	1.836	3.96	13022	0.01	2000	
Mn	55	1	nogas	2.082	2.082	9.18	17599	0.01	2000	
Fe	56	1	nogas	196.062	196.062	1.55	1300058	0.02	200000	
Co	59	1	nogas	2.023	2.023	4.38	9503	0.02	2000	
Ni	60	1	nogas	1.495	1.495	1.19	2357	0.06	2000	
Cu	63	1	nogas	2.536	2.536	12.89	9216	0.03	2000	
Zn	66	1	nogas	2.282	2.282	9.34	2617	0.09	2000	
As	75	1	nogas	-3.392	-3.392	-19.21	14253	-0.02	2000	
Se	77	1	nogas	-24.329	-24.329	-48.37	4577	-0.53	2000	
Se	82	1	nogas	3.217	3.217	45.67	357	0.90	2000	
Sr	88	1	nogas	2.144	2.144	1.69	14620	0.01	2000	
Mo	95	1	nogas	2.159	2.159	3.15	2997	0.07	2000	
Ag	107	1	nogas	2.026	2.026	2.46	7652	0.03	2000	
Cd	111	1	nogas	2.255	2.255	6.39	1903	0.12	2000	
Sn	118	1	nogas	2.170	2.170	5.85	5841	0.04	2000	
Sb	121	1	nogas	2.081	2.081	4.76	7842	0.03	2000	
Ba	137	1	nogas	2.109	2.109	13.31	2800	0.08	2000	
Tl	205	1	nogas	2.075	2.075	4.18	22904	0.01	2000	
Pb	208	1	nogas	2.112	2.112	3.26	17998	0.01	2000	
U	238	1	nogas	1.964	1.964	1.02	40592	0.00	2000	
Si	28	1	nogas	178.159	178.159	5.03	977181	0.02	2000	
La	139	1	nogas	32.404	32.404	71.00	80	40.50	2000	
Au	197	1	nogas	205.270	205.270	100.25	10	2052.70	2000	
Na	23	2	He	146.650	146.650	2.38	57674	0.25	200000	
Mg	24	2	He	197.398	197.398	0.52	16698	1.18	200000	
Al	27	2	He	2.836	2.836	20.75	250	1.13	2000	
K	39	2	He	212.697	212.697	3.81	15170	1.40	200000	
Ca	43	2	He	220.182	220.182	72.42	30	733.94	200000	
Ca	44	2	He	239.893	239.893	41.65	457	52.53	200000	
V	51	2	He	2.172	2.172	5.55	808	0.27	2000	

Sample Report

Cr	52	2	He	1.968	1.968	8.25	903	0.22	2000	
Mn	55	2	He	2.025	2.025	26.11	487	0.42	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Fe	56	2	He	213.204	213.204	1.85	67686	0.31	200000	
Co	59	2	He	2.062	2.062	3.54	1210	0.17	2000	
Ni	60	2	He	2.752	2.752	13.30	373	0.74	2000	
Cu	63	2	He	2.544	2.544	15.20	1620	0.16	2000	
Zn	66	2	He	1.406	1.406	54.33	207	0.68	2000	
As	75	2	He	1.988	1.988	38.41	109	1.83	2000	
Sb	121	2	He	2.240	2.240	15.23	927	0.24	2000	
Se	78	2	He	3.958	3.958	45.02	18	21.99	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	541711	0.28	606326	89.34	70	125	
In	115	1	nogas	653604	1.38	717978	91.03	70	125	
Li	6	1	nogas	230197	0.49	264394	87.07	70	125	
Bi	209	1	nogas	959742	0.42	1029814	93.20	70	125	
Ge	72	2	He	30040	1.24	35160	85.44	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	LLCCV5
Data File Name	244LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:10:26-06:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	5.585	1.400	8682	0.64	5	111.7	70	130	
B	11	1	nogas	9.632	33.965	88999	2.89	25	38.5	70	130	LLICV Main CR1 Failed
Na	23	1	nogas	443.831	0.556	3058014	1.35	500	88.8	70	130	
Mg	24	1	nogas	526.193	2.332	1784012	2.17	500	105.2	70	130	
Al	27	1	nogas	5.871	2.121	46107	1.26	5	117.4	70	130	
P	31	1	nogas	27.243	5.310	16411	1.42	25	109.0	70	130	
K	39	1	nogas	487.694	1.031	2890682	1.55	500	97.5	70	130	
Ca	43	1	nogas	457.862	6.306	4067	4.33	500	91.6	70	130	
Ca	44	1	nogas	512.626	1.175	71951	1.88	500	102.5	70	130	
Ti	47	1	nogas	4.675	10.807	1683	10.40	5	93.5	70	130	
V	51	1	nogas	-1.096	-97.738	100142	4.68	5	-21.9	70	130	LLICV Main CR1 Failed
Cr	52	1	nogas	4.870	2.716	26534	3.15	5	97.4	70	130	
Mn	55	1	nogas	5.037	3.920	34571	2.96	5	100.7	70	130	
Fe	56	1	nogas	504.318	1.891	2777930	1.45	500	100.9	70	130	
Co	59	1	nogas	5.122	0.430	23910	1.37	5	102.4	70	130	
Ni	60	1	nogas	4.643	5.262	5554	4.63	5	92.9	70	130	
Cu	63	1	nogas	4.774	7.313	14900	6.10	5	95.5	70	130	
Zn	66	1	nogas	5.077	6.485	4984	5.20	5	101.5	70	130	
As	75	1	nogas	0.856	177.537	17730	6.54	5	17.1	70	130	LLICV Main CR1 Failed
Se	77	1	nogas	-13.382	-93.807	4964	8.67	5	-267.6	70	130	LLICV Main CR1 Failed
Se	82	1	nogas	5.255	47.214	450	25.63	5	105.1	70	130	
Sr	88	1	nogas	5.207	4.887	34787	4.08	5	104.1	70	130	
Mo	95	1	nogas	4.727	3.868	6535	2.91	5	94.5	70	130	
Ag	107	1	nogas	5.050	2.089	18964	1.66	5	101.0	70	130	
Cd	111	1	nogas	5.233	8.753	4367	8.45	5	104.7	70	130	
Sn	118	1	nogas	5.214	1.818	13149	1.98	5	104.3	70	130	
Sb	121	1	nogas	5.271	1.466	19242	1.99	5	105.4	70	130	
Ba	137	1	nogas	5.080	4.252	6385	3.55	5	101.6	70	130	
Tl	205	1	nogas	4.871	1.040	53389	0.40	5	97.4	70	130	
Pb	208	1	nogas	4.831	0.715	40667	0.51	5	96.6	70	130	
U	238	1	nogas	4.828	2.247	98982	1.62	5	96.6	70	130	
Li	7	1	nogas	5.613	3.488	41939	2.25	5	112.3	70	130	
Si	28	1	nogas	397.717	4.774	1377549	3.48	25	1590.9	70	130	LLICV Main CR1 Failed
La	139	1	nogas	20.262	287.714	70	65.47	5	405.2	70	130	LLICV Main CR1 Failed
Au	197	1	nogas	0.000	#DIV/0!	0	#DIV/0!	5	0.0	70	130	LLICV Main CR1 Failed
Na	23	2	He	439.362	0.510	110569	1.66	500	87.9	70	130	
Mg	24	2	He	501.503	2.977	42628	1.86	500	100.3	70	130	
Al	27	2	He	4.707	18.179	333	9.64	5	94.1	70	130	
K	39	2	He	487.197	3.782	27038	3.41	500	97.4	70	130	
Ca	43	2	He	639.525	79.011	77	71.84	500	127.9	70	130	
Ca	44	2	He	571.880	5.212	1053	6.46	500	114.4	70	130	
V	51	2	He	5.007	3.842	1724	4.54	5	100.1	70	130	
Cr	52	2	He	4.843	2.490	2097	4.30	5	96.9	70	130	
Mn	55	2	He	5.194	2.968	1157	4.09	5	103.9	70	130	
Fe	56	2	He	523.991	2.042	166180	0.92	500	104.8	70	130	
Co	59	2	He	5.360	6.351	3157	8.27	5	107.2	70	130	
Ni	60	2	He	6.031	7.494	910	9.77	5	120.6	70	130	
Cu	63	2	He	4.655	12.937	2587	11.60	5	93.1	70	130	
Zn	66	2	He	4.195	28.850	430	24.17	5	83.9	70	130	
As	75	2	He	5.303	17.953	276	17.21	5	106.1	70	130	
Sb	121	2	He	4.846	5.222	1950	3.20	5	96.9	70	130	
Se	78	2	He	5.975	32.243	25	24.77	5	119.5	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	540701	0.96	606326	89.18	70	125	
In	115	1	nogas	646717	0.56	717978	90.07	70	125	
Li	6	1	nogas	234569	0.79	264394	88.72	70	125	
Bi	209	1	nogas	954677	0.69	1029814	92.70	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Ge	72	2	He	30271	1.93	35160	86.09	70	125	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICCB
Data File Name	245_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:12:37-06:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	0.008	213.3	27	94.4	1	
B	11	1	nogas	-29.453	-5.6	61181	2.5	10	
Na	23	1	nogas	-96.985	-1.8	462742	1.3	100	
Mg	24	1	nogas	-0.236	-76.3	3001	20.3	100	
Al	27	1	nogas	-0.916	-4.1	4327	5.0	5	
P	31	1	nogas	1.489	184.8	9596	8.7	10	
K	39	1	nogas	-33.041	-17.0	1060541	1.0	100	
Ca	43	1	nogas	-45.527	-34.5	577	19.9	100	
Ca	44	1	nogas	-16.898	-25.3	11828	3.5	100	
Ti	47	1	nogas	0.089	179.8	47	121.8	2.5	
V	51	1	nogas	-6.070	-10.2	75811	4.6	2.5	
Cr	52	1	nogas	-0.184	-38.6	4011	7.0	2.5	
Mn	55	1	nogas	-0.217	-28.4	4354	7.7	2.5	
Fe	56	1	nogas	-20.994	-10.4	256750	4.6	100	
Co	59	1	nogas	0.005	93.1	93	22.3	2.5	
Ni	60	1	nogas	-0.697	-3.5	123	20.4	2.5	
Cu	63	1	nogas	-0.512	-10.9	1447	10.8	2.5	
Zn	66	1	nogas	-0.657	-12.8	117	60.2	2.5	
As	75	1	nogas	-5.449	-11.1	12598	2.9	2.5	
Se	77	1	nogas	-28.966	-66.8	4421	14.9	2.5	
Se	82	1	nogas	1.308	58.5	270	13.4	2.5	
Sr	88	1	nogas	-0.039	-26.5	197	34.6	2.5	
Mo	95	1	nogas	-0.004	-216.6	7	173.2	2.5	
Ag	107	1	nogas	0.007	184.7	77	61.6	2.5	
Cd	111	1	nogas	0.000	2016.6	3	173.2	1	
Sn	118	1	nogas	0.074	76.0	723	18.3	5	
Sb	121	1	nogas	-0.025	-84.9	297	25.5	2.5	
Ba	137	1	nogas	-0.100	-21.7	90	29.4	2.5	
Tl	205	1	nogas	0.024	38.4	327	31.3	1	
Pb	208	1	nogas	-0.002	-467.6	203	31.6	2.5	
U	238	1	nogas	0.003	199.2	247	54.0	2.5	
Si	28	1	nogas	9.699	58.5	670697	0.6	5	ICB Main CR1 Failed
La	139	1	nogas	-48.314	-30.7	17	69.3	2.5	
Au	197	1	nogas	403.233	0.9	20	0.0	2.5	ICB Main CR1 Failed
Na	23	2	He	-82.045	-5.2	17402	3.8	100	
Mg	24	2	He	0.581	102.3	120	43.3	100	
Al	27	2	He	-2.247	-10.0	30	33.3	5	
K	39	2	He	-12.996	-122.9	5714	11.4	100	
Ca	43	2	He	-52.331	0.0	0	#DIV/0!	100	
Ca	44	2	He	-8.238	-1.3	20	0.0	100	
V	51	2	He	0.019	351.9	125	16.1	2.5	
Cr	52	2	He	0.032	157.7	113	18.4	2.5	
Mn	55	2	He	-0.095	-75.2	47	32.7	2.5	
Fe	56	2	He	-0.635	-69.4	793	18.0	100	

Initial Calibration Blank (ICB) Report

Co	59	2	He	0.002	1424.1	10	173.2	2.5	
Ni	60	2	He	0.514	13.6	13	86.6	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Cu	63	2	He	-0.587	-6.7	220	9.1	2.5	
Zn	66	2	He	-1.155	-12.4	7	173.2	2.5	
As	75	2	He	-0.054	-68.4	8	24.7	2.5	
Sb	121	2	He	-0.062	-123.7	37	83.3	2.5	
Se	78	2	He	0.231	517.6	6	66.7	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	543844	1.09	606326	89.70	70	125	
In	115	1	nogas	659228	1.37	717978	91.82	70	125	
Li	6	1	nogas	233907	0.87	264394	88.47	70	125	
Bi	209	1	nogas	974805	0.86	1029814	94.66	70	125	
Ge	72	2	He	30751	0.97	35160	87.46	70	125	

Sample Report

Sample Table

Sample Name	HS17121169-01
Data File Name	246SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:15:14-06:00
Sample Type	Sample
Dilution	5
Comment	TW B124039 Na
ISTD Ref FileName	236CALB.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	0.016	0.080	72.66	40	0.04	2000	
B	11	1	nogas	-25.663	-128.316	-5.24	64780	-0.04	2000	
Na	23	1	nogas	46444.161	232220.803	1.69	231316322	0.02	200000	
Mg	24	1	nogas	6266.742	31333.709	1.87	21881130	0.03	200000	
Al	27	1	nogas	5.671	28.353	2.78	46128	0.01	2000	
K	39	1	nogas	271.043	1355.217	3.09	2185756	0.01	200000	
Ca	43	1	nogas	7610.837	38054.187	0.86	55231	13.78	200000	
Ca	44	1	nogas	7531.314	37656.569	0.36	893882	0.84	200000	
Ti	47	1	nogas	0.431	2.157	53.60	173	0.25	2000	
V	51	1	nogas	-5.768	-28.842	-12.22	79028	-0.01	2000	
Cr	52	1	nogas	0.192	0.962	8.35	5824	0.00	2000	
Mn	55	1	nogas	99.894	499.472	0.63	596831	0.02	2000	
Fe	56	1	nogas	144.944	724.720	1.18	1081501	0.01	200000	
Co	59	1	nogas	1.602	8.010	3.24	7739	0.02	2000	
Ni	60	1	nogas	2.015	10.076	19.66	2960	0.07	2000	
Cu	63	1	nogas	-0.070	-0.348	-147.88	2634	0.00	2000	
Zn	66	1	nogas	23.448	117.241	1.78	21153	0.11	2000	
As	75	1	nogas	-3.990	-19.950	-21.66	14113	-0.03	2000	
Se	77	1	nogas	-31.764	-158.818	-9.81	4417	-0.72	2000	
Se	82	1	nogas	-0.858	-4.290	-230.38	173	-0.49	2000	
Sr	88	1	nogas	142.188	710.941	0.40	964306	0.01	2000	
Mo	95	1	nogas	0.121	0.603	21.86	183	0.07	2000	
Ag	107	1	nogas	0.003	0.015	280.96	63	0.00	2000	
Cd	111	1	nogas	0.075	0.375	37.04	67	0.11	2000	
Sn	118	1	nogas	0.018	0.088	450.34	587	0.00	2000	
Sb	121	1	nogas	0.117	0.585	70.38	827	0.01	2000	
Ba	137	1	nogas	129.967	649.837	2.46	161518	0.08	2000	
Tl	205	1	nogas	0.014	0.072	53.04	220	0.01	2000	
Pb	208	1	nogas	0.045	0.226	17.01	603	0.01	2000	
U	238	1	nogas	0.101	0.503	5.24	2277	0.00	2000	
Si	28	1	nogas	3857.164	19285.820	0.95	7925710	0.05	2000	>LDR
La	139	1	nogas	354.190	1770.949	38.13	337	105.20	2000	
Au	197	1	nogas	0.000	0.000	#DIV/0!	0	#DIV/0!	2000	
Na	23	2	He	44809.784	224048.918	1.86	8294307	0.54	200000	
Mg	24	2	He	6222.965	31114.825	0.15	543601	1.14	200000	
Al	27	2	He	3.664	18.322	37.32	297	1.24	2000	
K	39	2	He	286.801	1434.005	4.26	18994	1.51	200000	
Ca	43	2	He	6992.316	34961.582	9.93	807	866.78	200000	
Ca	44	2	He	7716.625	38583.127	2.48	14176	54.43	200000	
V	51	2	He	0.118	0.592	12.58	159	0.07	2000	
Cr	52	2	He	0.367	1.833	33.35	257	0.14	2000	
Mn	55	2	He	99.487	497.433	2.01	21560	0.46	2000	
Fe	56	2	He	166.243	831.217	0.60	54947	0.30	200000	
Co	59	2	He	1.757	8.787	3.44	1070	0.16	2000	

Sample Report

Ni	60	2	He	2.908	14.538	15.41	413	0.70	2000	
Cu	63	2	He	-0.263	-1.313	-52.00	373	-0.07	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Zn	66	2	He	21.995	109.973	4.34	1887	1.17	2000	
As	75	2	He	0.311	1.557	83.34	27	1.17	2000	
Sb	121	2	He	0.104	0.518	69.67	103	0.10	2000	
Se	78	2	He	1.408	7.041	184.80	10	14.08	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	555755	0.77	606326	91.66	70	125	
In	115	1	nogas	660286	1.03	717978	91.96	70	125	
Li	6	1	nogas	237346	2.45	264394	89.77	70	125	
Bi	209	1	nogas	973526	0.52	1029814	94.53	70	125	
Ge	72	2	He	31145	0.75	35160	88.58	70	125	

Sample Report

Sample Table

Sample Name	HS17121169-01SD
Data File Name	247SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:17:28-06:00
Sample Type	Sample
Dilution	25
Comment	TW B124039 Na
ISTD Ref FileName	236CALB.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	-0.001	-0.026	-1437.81	13	-0.01	2000	
B	11	1	nogas	-42.327	-1058.175	-2.24	52196	-0.08	2000	
Na	23	1	nogas	8706.397	217659.929	1.65	43761319	0.02	200000	
Mg	24	1	nogas	1218.213	30455.318	1.34	4220223	0.03	200000	
Al	27	1	nogas	1.026	25.649	11.64	16518	0.01	2000	
K	39	1	nogas	33.790	844.760	21.88	1310849	0.00	200000	
Ca	43	1	nogas	1356.275	33906.879	6.20	10483	12.94	200000	
Ca	44	1	nogas	1448.131	36203.283	3.45	181108	0.80	200000	
Ti	47	1	nogas	0.115	2.877	197.03	57	0.20	2000	
V	51	1	nogas	-4.047	-101.170	-24.12	86902	0.00	2000	
Cr	52	1	nogas	-0.058	-1.459	-66.88	4621	0.00	2000	
Mn	55	1	nogas	19.203	480.069	3.26	117968	0.02	2000	
Fe	56	1	nogas	12.512	312.792	17.37	422795	0.00	200000	
Co	59	1	nogas	0.321	8.016	3.51	1590	0.02	2000	
Ni	60	1	nogas	-0.166	-4.154	-31.94	673	-0.02	2000	
Cu	63	1	nogas	-0.460	-11.497	-9.02	1593	-0.03	2000	
Zn	66	1	nogas	3.694	92.340	5.40	3871	0.10	2000	
As	75	1	nogas	-2.809	-70.222	-18.79	14950	-0.02	2000	
Se	77	1	nogas	-6.521	-163.036	-149.67	5301	-0.12	2000	
Se	82	1	nogas	0.820	20.500	43.81	250	0.33	2000	
Sr	88	1	nogas	27.674	691.849	1.68	185907	0.01	2000	
Mo	95	1	nogas	0.041	1.035	19.24	70	0.06	2000	
Ag	107	1	nogas	0.000	-0.006	-2822.67	50	0.00	2000	
Cd	111	1	nogas	0.000	0.008	2168.91	3	0.01	2000	
Sn	118	1	nogas	-0.019	-0.484	-45.63	497	0.00	2000	
Sb	121	1	nogas	0.021	0.519	104.15	467	0.00	2000	
Ba	137	1	nogas	24.495	612.386	2.26	30766	0.08	2000	
Tl	205	1	nogas	0.013	0.315	33.18	200	0.01	2000	
Pb	208	1	nogas	-0.001	-0.021	-275.32	210	0.00	2000	
U	238	1	nogas	0.016	0.389	38.54	503	0.00	2000	
Si	28	1	nogas	807.994	20199.854	6.11	2161990	0.04	2000	
La	139	1	nogas	30.969	774.225	143.10	80	38.71	2000	
Au	197	1	nogas	135.150	3378.750	86.60	7	2027.25	2000	
Na	23	2	He	8821.487	220537.180	2.87	1624211	0.54	200000	
Mg	24	2	He	1199.298	29982.447	3.49	102591	1.17	200000	
Al	27	2	He	-0.280	-6.997	-586.10	117	-0.24	2000	
K	39	2	He	51.161	1279.037	7.97	8436	0.61	200000	
Ca	43	2	He	1366.614	34165.349	38.79	160	854.10	200000	
Ca	44	2	He	1387.439	34685.967	7.01	2527	54.91	200000	
V	51	2	He	0.117	2.913	48.50	155	0.08	2000	
Cr	52	2	He	0.036	0.897	302.49	113	0.03	2000	
Mn	55	2	He	19.654	491.348	6.24	4224	0.47	2000	
Fe	56	2	He	31.517	787.913	3.09	11007	0.29	200000	
Co	59	2	He	0.244	6.095	32.20	153	0.16	2000	

Sample Report

Ni	60	2	He	0.865	21.623	27.04	70	1.24	2000	
Cu	63	2	He	-0.603	-15.080	-15.27	210	-0.29	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Zn	66	2	He	4.421	110.534	8.73	450	0.98	2000	
As	75	2	He	0.020	0.499	1970.52	11	0.18	2000	
Sb	121	2	He	-0.069	-1.720	-24.89	33	-0.21	2000	
Se	78	2	He	-0.342	-8.544	-321.56	4	-8.54	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	549541	2.42	606326	90.63	70	125	
In	115	1	nogas	663326	1.37	717978	92.39	70	125	
Li	6	1	nogas	234351	0.23	264394	88.64	70	125	
Bi	209	1	nogas	971564	0.42	1029814	94.34	70	125	
Ge	72	2	He	30501	2.58	35160	86.75	70	125	

Sample Report

Sample Table

Sample Name	HS17121169-01PDS
Data File Name	248SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:19:40-06:00
Sample Type	Sample
Dilution	5
Comment	TW B124039 Na
ISTD Ref FileName	236CALB.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	108.192	540.958	2.13	167270	0.06	2000	
B	11	1	nogas	-39.896	-199.482	-4.00	53754	-0.07	2000	
Na	23	1	nogas	53979.562	269897.810	0.72	268182748	0.02	200000	
Mg	24	1	nogas	15158.377	75791.884	1.36	52818725	0.03	200000	
Al	27	1	nogas	68.045	340.227	1.78	438371	0.02	2000	
K	39	1	nogas	9471.533	47357.665	1.08	35313498	0.03	200000	
Ca	43	1	nogas	16604.218	83021.092	1.60	118693	13.99	200000	
Ca	44	1	nogas	16778.202	83891.008	0.80	1962271	0.86	200000	
Ti	47	1	nogas	91.273	456.363	3.69	33309	0.27	2000	
V	51	1	nogas	86.867	434.333	1.12	550401	0.02	2000	
Cr	52	1	nogas	92.499	462.495	1.21	426384	0.02	2000	
Mn	55	1	nogas	190.299	951.494	0.98	1124950	0.02	2000	
Fe	56	1	nogas	9346.665	46733.326	2.84	46219160	0.02	200000	
Co	59	1	nogas	94.397	471.986	1.64	448917	0.02	2000	
Ni	60	1	nogas	93.205	466.025	2.52	97712	0.10	2000	
Cu	63	1	nogas	91.815	459.075	1.96	241722	0.04	2000	
Zn	66	1	nogas	116.897	584.487	1.86	102075	0.11	2000	
As	75	1	nogas	90.996	454.981	2.19	94156	0.10	2000	
Se	77	1	nogas	58.324	291.619	7.15	7735	0.75	2000	
Se	82	1	nogas	94.806	474.030	8.14	4664	2.03	2000	
Sr	88	1	nogas	141.629	708.145	0.08	954730	0.01	2000	
Mo	95	1	nogas	93.047	465.236	1.54	131222	0.07	2000	
Ag	107	1	nogas	91.388	456.941	1.30	349721	0.03	2000	
Cd	111	1	nogas	93.614	468.070	0.25	78710	0.12	2000	
Sn	118	1	nogas	-0.013	-0.065	-127.28	503	0.00	2000	
Sb	121	1	nogas	88.240	441.198	2.07	322832	0.03	2000	
Ba	137	1	nogas	223.222	1116.112	0.89	273711	0.08	2000	
Tl	205	1	nogas	91.663	458.314	1.04	986170	0.01	2000	
Pb	208	1	nogas	90.960	454.802	1.25	748693	0.01	2000	
U	238	1	nogas	0.101	0.503	10.84	2197	0.00	2000	
Si	28	1	nogas	3780.899	18904.494	1.64	7735191	0.05	2000	>LDR
La	139	1	nogas	427.722	2138.610	23.04	390	109.67	2000	
Au	197	1	nogas	139.028	695.142	173.21	7	2085.42	2000	
Na	23	2	He	54048.945	270244.724	2.22	10015788	0.54	200000	
Mg	24	2	He	15604.868	78024.341	2.15	1365556	1.14	200000	
Al	27	2	He	64.384	321.920	3.66	3037	2.12	2000	
K	39	2	He	9451.881	47259.403	1.35	423426	2.23	200000	
Ca	43	2	He	15916.813	79584.063	9.37	1830	869.71	200000	
Ca	44	2	He	16050.483	80252.416	1.29	29505	54.40	200000	
V	51	2	He	91.753	458.766	2.91	30467	0.30	2000	
Cr	52	2	He	92.939	464.696	2.40	39619	0.23	2000	
Mn	55	2	He	191.029	955.143	3.13	41410	0.46	2000	
Fe	56	2	He	9372.524	46862.621	1.74	3047598	0.31	200000	
Co	59	2	He	91.257	456.284	2.71	55215	0.17	2000	

Sample Report

Ni	60	2	He	94.155	470.774	1.91	15698	0.60	2000	
Cu	63	2	He	93.419	467.094	0.94	44020	0.21	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Zn	66	2	He	110.973	554.864	5.99	9126	1.22	2000	
As	75	2	He	93.935	469.674	4.01	4852	1.94	2000	
Sb	121	2	He	85.343	426.717	1.47	34393	0.25	2000	
Se	78	2	He	98.056	490.278	8.19	336	29.18	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	552401	0.54	606326	91.11	70	125	
In	115	1	nogas	651779	0.52	717978	90.78	70	125	
Li	6	1	nogas	233647	0.40	264394	88.37	70	125	
Bi	209	1	nogas	938114	0.89	1029814	91.10	70	125	
Ge	72	2	He	31209	2.14	35160	88.76	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	251_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:26:17-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	102.883	1.976	179428	1.02	100	102.9	90	110	
B	11	1	nogas	460.654	4.844	458330	2.27	500	92.1	90	110	
Na	23	1	nogas	10358.052	1.160	55283799	0.72	10000	103.6	90	110	
Mg	24	1	nogas	9670.954	1.372	35669338	0.73	10000	96.7	90	110	
Al	27	1	nogas	67.161	0.279	455009	0.70	100	67.2	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	436.800	1.780	135109	2.27	500	87.4	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9682.437	1.390	37920021	0.76	10000	96.8	90	110	
Ca	43	1	nogas	10082.626	1.283	76142	0.56	10000	100.8	90	110	
Ca	44	1	nogas	10179.468	1.730	1257169	0.86	10000	101.8	90	110	
Ti	47	1	nogas	98.740	5.171	37868	4.33	100	98.7	90	110	
V	51	1	nogas	93.985	2.208	616697	1.27	100	94.0	90	110	
Cr	52	1	nogas	97.183	1.679	470638	0.87	100	97.2	90	110	
Mn	55	1	nogas	97.716	0.679	610152	0.64	100	97.7	90	110	
Fe	56	1	nogas	9632.736	1.285	50063308	0.30	10000	96.3	90	110	
Co	59	1	nogas	96.453	1.851	482181	1.32	100	96.5	90	110	
Ni	60	1	nogas	97.096	1.344	106957	0.59	100	97.1	90	110	
Cu	63	1	nogas	95.800	2.257	264973	1.36	100	95.8	90	110	
Zn	66	1	nogas	96.327	1.726	88547	0.75	100	96.3	90	110	
As	75	1	nogas	93.838	2.897	101494	2.03	100	93.8	90	110	
Se	77	1	nogas	66.143	6.839	8436	1.69	100	66.1	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	97.109	6.895	5014	5.81	100	97.1	90	110	
Sr	88	1	nogas	105.556	1.398	748087	0.52	100	105.6	90	110	
Mo	95	1	nogas	94.785	1.058	140526	0.90	100	94.8	90	110	
Ag	107	1	nogas	96.689	1.006	388976	1.22	100	96.7	90	110	
Cd	111	1	nogas	98.440	1.162	87909	1.49	100	98.4	90	110	
Sn	118	1	nogas	98.214	0.634	254954	0.73	100	98.2	90	110	
Sb	121	1	nogas	95.733	1.989	368136	1.07	100	95.7	90	110	
Ba	137	1	nogas	100.471	0.656	130973	0.75	100	100.5	90	110	
Tl	205	1	nogas	94.375	0.459	1074910	1.00	100	94.4	90	110	
Pb	208	1	nogas	93.677	0.728	816259	0.16	100	93.7	90	110	
U	238	1	nogas	95.788	0.508	2039634	1.28	100	95.8	90	110	
Li	7	1	nogas	103.508	1.619	458906	0.97	100	103.5	90	110	
Si	28	1	nogas	5049.785	0.600	10626850	0.51	5000	101.0	90	110	
Ba	135	1	nogas	99.517	1.921	75370	0.57	100	99.5	90	110	
La	139	1	nogas	202.404	29.782	227	22.20	100	202.4	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	264.296	115.078	13	114.56	100	264.3	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	95.182	0.696	446824	1.35	100	95.2	90	110	
Na	23	2	He	10404.366	0.767	2048553	1.35	10000	104.0	90	110	
Mg	24	2	He	9568.281	2.015	877363	0.60	10000	95.7	90	110	
Al	27	2	He	69.218	9.492	3407	8.31	100	69.2	90	110	CCV Main CR1-2 Failed
K	39	2	He	9585.939	2.808	449815	1.22	10000	95.9	90	110	
Ca	43	2	He	9795.257	6.516	1183	6.56	10000	98.0	90	110	
Ca	44	2	He	10142.291	3.006	19551	3.00	10000	101.4	90	110	
V	51	2	He	97.295	2.421	33850	1.07	100	97.3	90	110	
Cr	52	2	He	96.405	4.271	43061	3.61	100	96.4	90	110	
Mn	55	2	He	98.224	2.023	22355	2.96	100	98.2	90	110	
Fe	56	2	He	9782.249	2.230	3333258	2.20	10000	97.8	90	110	
Co	59	2	He	96.611	2.689	61252	2.04	100	96.6	90	110	
Ni	60	2	He	95.227	5.624	16628	4.89	100	95.2	90	110	
Cu	63	2	He	95.013	0.572	46904	1.14	100	95.0	90	110	
Zn	66	2	He	96.355	4.808	8319	3.09	100	96.4	90	110	
As	75	2	He	98.192	4.375	5314	2.83	100	98.2	90	110	
Sb	121	2	He	95.672	3.605	40390	2.90	100	95.7	90	110	
Se	78	2	He	97.719	6.801	351	5.48	100	97.7	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	580713	0.97	606326	95.78	70	125	
In	115	1	nogas	692294	1.36	717978	96.42	70	125	
Li	6	1	nogas	263608	2.01	264394	99.70	70	125	
Bi	209	1	nogas	993082	0.77	1029814	96.43	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	32702	1.71	35160	93.01	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	252_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:28:28-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	0.028	42.1	63	32.9	1	
B	11	1	nogas	-28.696	-22.1	67119	9.1	10	
Na	23	1	nogas	-102.318	-0.9	471713	1.3	100	
Mg	24	1	nogas	2.485	22.5	13308	17.3	100	
Al	27	1	nogas	-0.746	-5.3	5808	5.1	5	
P	31	1	nogas	1.280	76.6	10293	2.4	10	
K	39	1	nogas	-21.450	-63.3	1189678	4.9	100	
Ca	43	1	nogas	-53.778	-29.7	560	21.9	100	
Ca	44	1	nogas	-26.104	-19.2	11637	5.8	100	
Ti	47	1	nogas	0.165	16.0	80	12.5	2.5	
V	51	1	nogas	-3.711	-5.5	94610	0.7	2.5	
Cr	52	1	nogas	-0.070	-59.5	4881	4.1	2.5	
Mn	55	1	nogas	-0.096	-49.6	5454	5.0	2.5	
Fe	56	1	nogas	-22.343	-1.6	270122	0.6	100	
Co	59	1	nogas	0.027	61.8	213	39.3	2.5	
Ni	60	1	nogas	-0.643	-8.1	193	29.4	2.5	
Cu	63	1	nogas	-0.519	-6.8	1540	6.8	2.5	
Zn	66	1	nogas	-0.610	-9.5	170	31.1	2.5	
As	75	1	nogas	-2.292	-19.3	16435	2.2	2.5	
Se	77	1	nogas	-15.719	-28.4	5301	3.9	2.5	
Se	82	1	nogas	0.211	543.3	237	24.0	2.5	
Sr	88	1	nogas	0.003	614.8	510	22.6	2.5	
Mo	95	1	nogas	0.027	37.0	53	28.6	2.5	
Ag	107	1	nogas	0.029	51.7	173	35.3	2.5	
Cd	111	1	nogas	0.029	64.4	30	57.7	1	
Sn	118	1	nogas	0.032	146.3	667	18.1	5	
Sb	121	1	nogas	0.045	65.5	593	19.5	2.5	
Ba	137	1	nogas	-0.070	-69.4	137	47.6	2.5	
Tl	205	1	nogas	0.105	25.3	1327	23.5	1	
Pb	208	1	nogas	0.020	16.9	420	7.1	2.5	
U	238	1	nogas	0.027	28.0	810	21.6	2.5	
Si	28	1	nogas	2.399	154.2	709679	1.5	5	
La	139	1	nogas	-10.866	-190.7	50	34.6	2.5	
Au	197	1	nogas	124.660	173.2	7	173.2	2.5	CCB Main CR1 Failed
Na	23	2	He	-81.593	-6.7	18740	2.6	100	
Mg	24	2	He	1.823	4.1	243	2.4	100	
Al	27	2	He	-0.842	-133.3	100	55.7	5	
K	39	2	He	-9.069	-44.2	6315	2.3	100	
Ca	43	2	He	-25.298	-185.1	3	173.2	100	
Ca	44	2	He	-17.603	-16.6	3	173.2	100	
V	51	2	He	0.115	59.1	167	13.7	2.5	
Cr	52	2	He	0.064	214.8	137	47.0	2.5	
Mn	55	2	He	-0.110	-118.2	47	65.5	2.5	
Fe	56	2	He	1.079	21.8	1440	6.6	100	
Co	59	2	He	0.059	81.7	47	61.9	2.5	
Ni	60	2	He	0.587	25.1	27	94.4	2.5	
Cu	63	2	He	-0.715	-5.9	173	14.5	2.5	
Zn	66	2	He	-1.157	-12.1	7	173.2	2.5	

Continuing Calibration Blank (CCB) Report

As	75	2	He	-0.087	-137.2	7	100.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.026	417.4	77	61.6	2.5	
Se	78	2	He	-0.830	-37.0	3	43.3	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	587140	0.54	606326	96.84	70	125	
In	115	1	nogas	710381	0.77	717978	98.94	70	125	
Li	6	1	nogas	254189	2.26	264394	96.14	70	125	
Bi	209	1	nogas	1051317	0.58	1029814	102.09	70	125	
Ge	72	2	He	32992	3.29	35160	93.83	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	253_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:30:41-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	103.682	2.629	181183	0.61	100	103.7	90	110	
B	11	1	nogas	468.237	5.861	465240	2.47	500	93.6	90	110	
Na	23	1	nogas	10657.123	2.102	55292655	0.80	10000	106.6	90	110	
Mg	24	1	nogas	9846.158	1.835	35322363	1.06	10000	98.5	90	110	
Al	27	1	nogas	66.919	2.685	447571	2.17	100	66.9	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	432.371	1.351	132114	0.82	500	86.5	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9624.877	2.146	37220726	1.88	10000	96.2	90	110	
Ca	43	1	nogas	10125.859	1.907	75493	2.16	10000	101.3	90	110	
Ca	44	1	nogas	10124.316	0.988	1234519	0.57	10000	101.2	90	110	
Ti	47	1	nogas	97.783	1.129	37033	1.55	100	97.8	90	110	
V	51	1	nogas	92.170	1.171	599242	0.61	100	92.2	90	110	
Cr	52	1	nogas	97.746	1.050	467305	0.75	100	97.7	90	110	
Mn	55	1	nogas	98.077	1.212	604542	0.74	100	98.1	90	110	
Fe	56	1	nogas	9568.115	0.883	49096016	0.49	10000	95.7	90	110	
Co	59	1	nogas	97.476	0.625	481088	0.16	100	97.5	90	110	
Ni	60	1	nogas	97.895	0.898	106456	0.90	100	97.9	90	110	
Cu	63	1	nogas	98.134	1.005	267910	0.62	100	98.1	90	110	
Zn	66	1	nogas	98.723	1.000	89580	1.22	100	98.7	90	110	
As	75	1	nogas	93.552	2.032	99958	2.11	100	93.6	90	110	
Se	77	1	nogas	74.798	9.299	8662	3.56	100	74.8	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	93.047	4.807	4754	4.75	100	93.0	90	110	
Sr	88	1	nogas	105.531	1.504	738362	1.05	100	105.5	90	110	
Mo	95	1	nogas	96.524	1.185	141276	1.11	100	96.5	90	110	
Ag	107	1	nogas	96.350	1.207	382642	0.74	100	96.3	90	110	
Cd	111	1	nogas	96.552	0.943	85171	1.87	100	96.6	90	110	
Sn	118	1	nogas	99.348	1.737	254717	1.24	100	99.3	90	110	
Sb	121	1	nogas	96.105	1.028	364867	0.71	100	96.1	90	110	
Ba	137	1	nogas	100.531	2.738	129424	1.68	100	100.5	90	110	
Tl	205	1	nogas	94.353	0.809	1084750	0.89	100	94.4	90	110	
Pb	208	1	nogas	94.760	0.314	833485	0.81	100	94.8	90	110	
U	238	1	nogas	95.826	0.566	2059521	0.20	100	95.8	90	110	
Li	7	1	nogas	103.693	2.532	460645	1.90	100	103.7	90	110	
Si	28	1	nogas	5058.568	0.790	10507934	0.33	5000	101.2	90	110	
Ba	135	1	nogas	102.370	3.630	76573	2.88	100	102.4	90	110	
La	139	1	nogas	108.511	41.262	147	25.81	100	108.5	90	110	
Au	197	1	nogas	0.000	#DIV/0!	0	#DIV/0!	100	0.0	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	94.616	1.341	448339	1.58	100	94.6	90	110	
Na	23	2	He	10812.339	2.642	2079126	0.88	10000	108.1	90	110	
Mg	24	2	He	9807.306	1.313	879139	1.33	10000	98.1	90	110	
Al	27	2	He	67.246	2.451	3240	0.31	100	67.2	90	110	CCV Main CR1-2 Failed
K	39	2	He	9704.768	1.304	445135	0.86	10000	97.0	90	110	
Ca	43	2	He	9914.801	9.354	1170	8.42	10000	99.1	90	110	
Ca	44	2	He	10151.506	2.651	19124	0.64	10000	101.5	90	110	
V	51	2	He	98.110	2.160	33366	1.27	100	98.1	90	110	
Cr	52	2	He	100.881	2.329	44049	2.61	100	100.9	90	110	
Mn	55	2	He	99.553	3.905	22148	4.75	100	99.6	90	110	
Fe	56	2	He	9906.620	3.233	3298753	1.56	10000	99.1	90	110	
Co	59	2	He	100.261	3.251	62122	1.30	100	100.3	90	110	
Ni	60	2	He	99.191	4.092	16935	3.53	100	99.2	90	110	
Cu	63	2	He	96.384	1.234	46500	0.90	100	96.4	90	110	
Zn	66	2	He	97.735	5.160	8245	2.98	100	97.7	90	110	
As	75	2	He	100.307	2.118	5308	0.85	100	100.3	90	110	
Sb	121	2	He	98.449	1.822	40641	3.27	100	98.4	90	110	
Se	78	2	He	84.182	11.881	297	13.49	100	84.2	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
Ge	72	1	nogas	573277	0.47	606326	94.55	70	125	
In	115	1	nogas	683790	1.04	717978	95.24	70	125	
Li	6	1	nogas	264174	2.25	264394	99.92	70	125	
Bi	209	1	nogas	1002421	0.70	1029814	97.34	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	31967	2.07	35160	90.92	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	254_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:32:53-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	0.012	154.7	37	87.7	1	
B	11	1	nogas	-25.796	-32.4	67634	8.9	10	
Na	23	1	nogas	-108.656	-1.9	433170	3.2	100	
Mg	24	1	nogas	2.508	6.1	13208	5.0	100	
Al	27	1	nogas	-0.754	-4.2	5638	2.7	5	
P	31	1	nogas	2.669	65.1	10480	3.6	10	
K	39	1	nogas	-25.312	-16.6	1151197	0.4	100	
Ca	43	1	nogas	-62.959	-18.3	480	16.5	100	
Ca	44	1	nogas	-18.138	-27.3	12371	5.8	100	
Ti	47	1	nogas	0.054	227.0	37	128.9	2.5	
V	51	1	nogas	-4.129	-19.2	90485	3.9	2.5	
Cr	52	1	nogas	-0.140	-27.8	4454	5.1	2.5	
Mn	55	1	nogas	-0.088	-17.1	5398	1.5	2.5	
Fe	56	1	nogas	-24.244	-4.7	255069	3.3	100	
Co	59	1	nogas	0.024	54.9	193	33.7	2.5	
Ni	60	1	nogas	-0.584	-2.6	253	6.0	2.5	
Cu	63	1	nogas	-0.554	-26.2	1417	28.0	2.5	
Zn	66	1	nogas	-0.610	-2.7	167	9.2	2.5	
As	75	1	nogas	-4.154	-14.2	14470	3.1	2.5	
Se	77	1	nogas	-17.761	-36.5	5114	4.0	2.5	
Se	82	1	nogas	-0.924	-146.3	177	37.7	2.5	
Sr	88	1	nogas	0.003	236.4	503	9.4	2.5	
Mo	95	1	nogas	0.059	29.0	100	26.5	2.5	
Ag	107	1	nogas	0.034	50.0	190	36.8	2.5	
Cd	111	1	nogas	0.022	75.1	23	65.5	1	
Sn	118	1	nogas	0.057	68.5	727	14.7	5	
Sb	121	1	nogas	0.045	34.1	583	11.2	2.5	
Ba	137	1	nogas	-0.092	-16.5	107	19.5	2.5	
Tl	205	1	nogas	0.112	13.6	1403	14.3	1	
Pb	208	1	nogas	0.030	7.2	510	3.9	2.5	
U	238	1	nogas	0.030	28.6	870	23.6	2.5	
Si	28	1	nogas	14.503	36.2	719080	1.5	5	CCB Main CR1 Failed
La	139	1	nogas	-18.112	-211.8	43	74.2	2.5	
Au	197	1	nogas	64.087	173.2	3	173.2	2.5	CCB Main CR1 Failed
Na	23	2	He	-88.934	-7.0	17279	3.7	100	
Mg	24	2	He	2.438	10.9	300	8.8	100	
Al	27	2	He	-1.509	-25.4	67	22.9	5	
K	39	2	He	2.722	562.9	6848	8.5	100	
Ca	43	2	He	-52.331	0.0	0	#DIV/0!	100	
Ca	44	2	He	1.371	85.0	40	0.0	100	
V	51	2	He	0.029	71.0	137	2.2	2.5	
Cr	52	2	He	0.000	58183.0	107	27.1	2.5	
Mn	55	2	He	-0.107	-71.8	47	32.7	2.5	
Fe	56	2	He	2.007	38.2	1750	10.9	100	
Co	59	2	He	-0.010	-86.8	3	173.2	2.5	
Ni	60	2	He	0.576	34.6	27	142.0	2.5	
Cu	63	2	He	-0.721	-2.1	170	10.2	2.5	
Zn	66	2	He	-1.080	-17.3	13	114.6	2.5	

Continuing Calibration Blank (CCB) Report

As	75	2	He	-0.041	-322.6	9	78.1	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	-0.014	-294.2	60	33.3	2.5	
Se	78	2	He	2.671	65.6	15	45.8	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
Ge	72	1	nogas	575446	1.12	606326	94.91	70	125	
In	115	1	nogas	703318	0.74	717978	97.96	70	125	
Li	6	1	nogas	248221	2.32	264394	93.88	70	125	
Bi	209	1	nogas	1039247	1.45	1029814	100.92	70	125	
Ge	72	2	He	32972	5.80	35160	93.78	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	265_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:57:23-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	104.683	0.671	176491	1.24	100	104.7	90	110	
B	11	1	nogas	469.733	1.630	450117	0.78	500	93.9	90	110	
Na	23	1	nogas	10692.805	1.382	54583741	1.63	10000	106.9	90	110	
Mg	24	1	nogas	9818.385	1.416	34652435	0.27	10000	98.2	90	110	
Al	27	1	nogas	66.646	0.075	434268	0.61	100	66.6	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	441.149	0.173	131116	0.70	500	88.2	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9763.300	1.012	36760367	0.76	10000	97.6	90	110	
Ca	43	1	nogas	10280.345	1.807	74645	2.21	10000	102.8	90	110	
Ca	44	1	nogas	10211.147	1.293	1212733	1.28	10000	102.1	90	110	
Ti	47	1	nogas	97.511	2.608	35974	3.00	100	97.5	90	110	
V	51	1	nogas	99.426	2.595	621073	2.08	100	99.4	90	110	
Cr	52	1	nogas	97.170	0.411	452545	0.34	100	97.2	90	110	
Mn	55	1	nogas	97.785	0.358	587167	0.88	100	97.8	90	110	
Fe	56	1	nogas	9544.887	1.691	47712311	2.22	10000	95.4	90	110	
Co	59	1	nogas	96.892	1.165	465838	1.69	100	96.9	90	110	
Ni	60	1	nogas	98.682	2.208	104532	2.69	100	98.7	90	110	
Cu	63	1	nogas	97.634	2.752	259677	3.16	100	97.6	90	110	
Zn	66	1	nogas	99.659	1.013	88082	1.54	100	99.7	90	110	
As	75	1	nogas	100.835	1.632	103573	1.51	100	100.8	90	110	
Se	77	1	nogas	99.813	3.928	9376	2.11	100	99.8	90	110	
Se	82	1	nogas	96.965	7.090	4817	7.17	100	97.0	90	110	
Sr	88	1	nogas	107.239	0.141	730890	0.69	100	107.2	90	110	
Mo	95	1	nogas	96.955	1.145	138224	0.61	100	97.0	90	110	
Ag	107	1	nogas	96.257	0.152	372376	0.54	100	96.3	90	110	
Cd	111	1	nogas	98.064	2.467	84535	2.07	100	98.1	90	110	
Sn	118	1	nogas	99.784	2.044	250035	1.45	100	99.8	90	110	
Sb	121	1	nogas	98.133	0.470	362907	0.26	100	98.1	90	110	
Ba	137	1	nogas	101.871	1.313	128202	1.59	100	101.9	90	110	
Tl	205	1	nogas	95.077	1.410	1055940	1.01	100	95.1	90	110	
Pb	208	1	nogas	95.421	1.056	810787	0.60	100	95.4	90	110	
U	238	1	nogas	97.127	2.181	2016534	1.71	100	97.1	90	110	
Li	7	1	nogas	103.511	1.138	443598	0.78	100	103.5	90	110	
Si	28	1	nogas	5100.215	1.640	10314312	1.42	5000	102.0	90	110	
Ba	135	1	nogas	102.358	1.616	74845	1.79	100	102.4	90	110	
La	139	1	nogas	137.725	41.055	167	27.06	100	137.7	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	270.840	114.999	13	114.56	100	270.8	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	95.667	0.310	437933	0.65	100	95.7	90	110	
Na	23	2	He	10284.970	1.398	1956064	0.93	10000	102.8	90	110	
Mg	24	2	He	9445.675	2.037	836538	1.09	10000	94.5	90	110	
Al	27	2	He	62.971	3.756	3007	3.28	100	63.0	90	110	CCV Main CR1-2 Failed
K	39	2	He	9579.989	1.419	434242	0.62	10000	95.8	90	110	
Ca	43	2	He	11117.538	4.801	1297	5.68	10000	111.2	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9831.269	3.345	18310	4.35	10000	98.3	90	110	
V	51	2	He	95.696	1.244	32162	0.68	100	95.7	90	110	
Cr	52	2	He	95.404	0.721	41169	1.91	100	95.4	90	110	
Mn	55	2	He	99.011	1.886	21757	0.69	100	99.0	90	110	
Fe	56	2	He	9642.430	1.270	3173399	1.48	10000	96.4	90	110	
Co	59	2	He	96.214	3.122	58921	3.11	100	96.2	90	110	
Ni	60	2	He	94.630	1.999	15961	0.72	100	94.6	90	110	
Cu	63	2	He	95.626	1.467	45594	2.39	100	95.6	90	110	
Zn	66	2	He	94.742	5.222	7905	5.22	100	94.7	90	110	
As	75	2	He	95.702	1.365	5005	2.39	100	95.7	90	110	
Sb	121	2	He	96.845	2.013	39495	2.36	100	96.8	90	110	
Se	78	2	He	87.280	3.882	303	4.95	100	87.3	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
Ge	72	1	nogas	558417	0.55	606326	92.10	70	125	
In	115	1	nogas	668304	0.79	717978	93.08	70	125	
Li	6	1	nogas	254768	0.58	264394	96.36	70	125	
Bi	209	1	nogas	968407	0.69	1029814	94.04	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	31583	1.37	35160	89.83	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	266_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T20:59:34-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	35.6	73	28.4	1	
B	11	1	nogas	-31.940	-25.7	61697	10.2	10	
Na	23	1	nogas	-76.075	-4.5	597319	3.2	100	
Mg	24	1	nogas	2.278	28.2	12274	19.1	100	
Al	27	1	nogas	-0.789	-3.5	5424	2.8	5	
P	31	1	nogas	0.348	476.0	9853	5.5	10	
K	39	1	nogas	-23.236	-33.5	1162159	2.1	100	
Ca	43	1	nogas	-64.525	-20.4	470	20.3	100	
Ca	44	1	nogas	-24.195	-24.8	11664	5.8	100	
Ti	47	1	nogas	0.028	141.3	27	57.3	2.5	
V	51	1	nogas	-0.324	-827.2	110981	12.6	2.5	
Cr	52	1	nogas	-0.011	-321.4	5081	3.6	2.5	
Mn	55	1	nogas	-0.174	-14.1	4884	2.6	2.5	
Fe	56	1	nogas	-26.733	-4.5	242960	2.5	100	
Co	59	1	nogas	0.026	49.1	207	30.7	2.5	
Ni	60	1	nogas	-0.548	-3.4	293	7.1	2.5	
Cu	63	1	nogas	-0.465	-1.5	1660	1.6	2.5	
Zn	66	1	nogas	-0.537	-12.7	233	26.2	2.5	
As	75	1	nogas	0.066	1272.9	18227	3.4	2.5	
Se	77	1	nogas	3.873	231.1	5968	5.6	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.249	-705.7	210	40.7	2.5	
Sr	88	1	nogas	0.016	36.5	597	7.6	2.5	
Mo	95	1	nogas	0.048	85.8	83	73.3	2.5	
Ag	107	1	nogas	0.035	61.7	193	44.0	2.5	
Cd	111	1	nogas	0.026	160.9	27	142.0	1	
Sn	118	1	nogas	0.153	28.5	970	12.4	5	
Sb	121	1	nogas	0.166	13.2	1047	8.6	2.5	
Ba	137	1	nogas	-0.076	-24.7	127	19.9	2.5	
Tl	205	1	nogas	0.110	15.4	1360	14.7	1	
Pb	208	1	nogas	0.027	5.7	473	3.2	2.5	
U	238	1	nogas	0.037	11.3	997	9.1	2.5	
Si	28	1	nogas	22.097	13.7	735909	1.3	5	CCB Main CR1 Failed
La	139	1	nogas	-37.579	-18.7	27	21.7	2.5	
Au	197	1	nogas	127.356	86.6	7	86.6	2.5	CCB Main CR1 Failed
Na	23	2	He	-61.762	-6.1	22341	2.0	100	
Mg	24	2	He	1.371	82.1	200	52.7	100	
Al	27	2	He	-1.719	-13.5	57	20.4	5	
K	39	2	He	5.526	82.5	6908	2.6	100	
Ca	43	2	He	30.299	472.4	10	173.2	100	
Ca	44	2	He	1.650	839.9	40	66.1	100	
V	51	2	He	0.208	59.2	197	21.1	2.5	
Cr	52	2	He	0.025	678.2	117	64.9	2.5	
Mn	55	2	He	-0.049	-89.3	60	16.7	2.5	
Fe	56	2	He	1.419	32.8	1537	10.1	100	
Co	59	2	He	0.028	143.3	27	94.4	2.5	
Ni	60	2	He	0.586	5.9	27	21.7	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.635	-12.3	210	19.0	2.5	
Zn	66	2	He	-0.691	-51.5	47	65.5	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	-0.041	-324.2	9	78.1	2.5	
Sb	121	2	He	0.045	29.2	83	6.9	2.5	
Se	78	2	He	-0.812	-81.3	3	86.6	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	577008	0.66	606326	95.16	70	125	
In	115	1	nogas	696400	0.69	717978	96.99	70	125	
Li	6	1	nogas	242801	0.78	264394	91.83	70	125	
Bi	209	1	nogas	1025937	0.52	1029814	99.62	70	125	
Ge	72	2	He	32571	1.46	35160	92.64	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	277_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T21:30:06-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	104.433	0.375	177075	0.54	100	104.4	90	110	
B	11	1	nogas	438.573	2.896	428607	1.62	500	87.7	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	10364.702	1.494	53824001	1.13	10000	103.6	90	110	
Mg	24	1	nogas	9631.992	0.027	34568534	0.98	10000	96.3	90	110	
Al	27	1	nogas	65.984	0.448	435443	1.37	100	66.0	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	426.258	0.557	128598	1.41	500	85.3	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9772.772	1.222	37254775	1.34	10000	97.7	90	110	
Ca	43	1	nogas	10089.537	2.086	74190	2.39	10000	100.9	90	110	
Ca	44	1	nogas	10156.921	1.438	1221384	1.13	10000	101.6	90	110	
Ti	47	1	nogas	97.337	0.883	36358	1.85	100	97.3	90	110	
V	51	1	nogas	102.586	0.579	645321	1.08	100	102.6	90	110	
Cr	52	1	nogas	97.426	0.404	459424	1.64	100	97.4	90	110	
Mn	55	1	nogas	98.405	1.252	598190	0.72	100	98.4	90	110	
Fe	56	1	nogas	9708.466	0.907	49126885	1.30	10000	97.1	90	110	
Co	59	1	nogas	98.456	0.704	479252	1.14	100	98.5	90	110	
Ni	60	1	nogas	98.457	0.383	105598	1.77	100	98.5	90	110	
Cu	63	1	nogas	98.637	1.144	265558	0.79	100	98.6	90	110	
Zn	66	1	nogas	100.777	1.837	90159	0.40	100	100.8	90	110	
As	75	1	nogas	102.003	0.993	105887	2.21	100	102.0	90	110	
Se	77	1	nogas	118.079	4.616	10187	2.26	100	118.1	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.093	2.784	4834	1.88	100	96.1	90	110	
Sr	88	1	nogas	105.760	0.803	729795	0.67	100	105.8	90	110	
Mo	95	1	nogas	97.363	1.675	140543	1.82	100	97.4	90	110	
Ag	107	1	nogas	98.145	1.313	384412	1.34	100	98.1	90	110	
Cd	111	1	nogas	97.823	1.234	87269	1.12	100	97.8	90	110	
Sn	118	1	nogas	98.756	0.642	256110	1.07	100	98.8	90	110	
Sb	121	1	nogas	97.955	1.980	366726	0.63	100	98.0	90	110	
Ba	137	1	nogas	100.618	1.614	131045	2.27	100	100.6	90	110	
Tl	205	1	nogas	94.675	0.919	1083979	0.54	100	94.7	90	110	
Pb	208	1	nogas	94.756	1.166	830066	1.59	100	94.8	90	110	
U	238	1	nogas	94.964	1.311	2032763	1.75	100	95.0	90	110	
Li	7	1	nogas	103.215	0.810	444944	0.79	100	103.2	90	110	
Si	28	1	nogas	4978.081	0.820	10209576	1.23	5000	99.6	90	110	
Ba	135	1	nogas	101.095	2.043	76490	1.13	100	101.1	90	110	
La	139	1	nogas	147.018	52.150	180	34.70	100	147.0	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	131.757	173.205	7	173.21	100	131.8	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	95.111	0.559	448828	0.17	100	95.1	90	110	
Na	23	2	He	10052.056	3.361	1959504	1.55	10000	100.5	90	110	
Mg	24	2	He	9236.520	2.956	838182	0.79	10000	92.4	90	110	
Al	27	2	He	58.645	2.375	2880	3.66	100	58.6	90	110	CCV Main CR1-2 Failed
K	39	2	He	9273.350	2.486	430935	0.75	10000	92.7	90	110	
Ca	43	2	He	10327.783	6.854	1233	4.08	10000	103.3	90	110	
Ca	44	2	He	9716.871	3.890	18533	1.38	10000	97.2	90	110	
V	51	2	He	94.075	3.133	32395	0.28	100	94.1	90	110	
Cr	52	2	He	94.845	4.252	41918	1.25	100	94.8	90	110	
Mn	55	2	He	93.884	4.516	21137	1.61	100	93.9	90	110	
Fe	56	2	He	9410.771	3.496	3172851	1.07	10000	94.1	90	110	
Co	59	2	He	95.485	3.241	59907	0.83	100	95.5	90	110	
Ni	60	2	He	93.988	7.707	16228	4.77	100	94.0	90	110	
Cu	63	2	He	95.565	1.599	46690	1.44	100	95.6	90	110	
Zn	66	2	He	95.130	1.719	8135	2.77	100	95.1	90	110	
As	75	2	He	91.093	2.685	4882	2.06	100	91.1	90	110	
Sb	121	2	He	95.243	0.989	39809	1.98	100	95.2	90	110	
Se	78	2	He	91.577	1.989	326	4.79	100	91.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	565414	1.42	606326	93.25	70	125	
In	115	1	nogas	691588	0.91	717978	96.32	70	125	
Li	6	1	nogas	256237	0.90	264394	96.91	70	125	
Bi	209	1	nogas	998316	0.45	1029814	96.94	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	32374	2.94	35160	92.08	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	278_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T21:32:17-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	0.032	77.7	67	60.6	1	
B	11	1	nogas	-56.127	-9.8	43888	10.4	10	
Na	23	1	nogas	-119.678	-1.3	370874	0.6	100	
Mg	24	1	nogas	2.527	15.7	13108	12.3	100	
Al	27	1	nogas	-0.805	-3.7	5331	3.0	5	
P	31	1	nogas	1.819	195.6	10283	8.4	10	
K	39	1	nogas	-26.221	-32.9	1153267	1.5	100	
Ca	43	1	nogas	-92.986	-10.0	260	26.6	100	
Ca	44	1	nogas	-34.079	-3.5	10490	1.4	100	
Ti	47	1	nogas	0.090	135.9	50	91.7	2.5	
V	51	1	nogas	3.856	30.8	133509	4.3	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.068	64.2	5471	5.1	2.5	
Mn	55	1	nogas	-0.108	-36.5	5301	3.9	2.5	
Fe	56	1	nogas	-27.436	-2.4	239925	2.8	100	
Co	59	1	nogas	0.015	75.0	150	37.1	2.5	
Ni	60	1	nogas	-0.652	-5.3	180	19.2	2.5	
Cu	63	1	nogas	-0.594	-7.0	1313	8.0	2.5	
Zn	66	1	nogas	-0.548	-14.0	223	29.8	2.5	
As	75	1	nogas	2.418	26.6	20343	1.9	2.5	
Se	77	1	nogas	35.112	4.2	7195	1.0	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.404	-212.0	203	22.2	2.5	
Sr	88	1	nogas	0.008	203.5	540	21.4	2.5	
Mo	95	1	nogas	0.057	15.4	97	11.9	2.5	
Ag	107	1	nogas	0.020	58.5	133	35.4	2.5	
Cd	111	1	nogas	0.015	42.4	17	34.6	1	
Sn	118	1	nogas	0.056	55.1	717	11.3	5	
Sb	121	1	nogas	0.006	778.3	433	37.6	2.5	
Ba	137	1	nogas	-0.122	-3.5	67	8.7	2.5	
Tl	205	1	nogas	0.110	31.2	1383	30.5	1	
Pb	208	1	nogas	0.025	46.4	460	22.6	2.5	
U	238	1	nogas	0.031	14.8	877	12.3	2.5	
Si	28	1	nogas	-7.838	-96.9	678814	1.6	5	
La	139	1	nogas	-45.372	-53.0	20	100.0	2.5	
Au	197	1	nogas	250.676	173.2	13	173.2	2.5	CCB Main CR1 Failed
Na	23	2	He	-99.990	-3.9	15133	3.9	100	
Mg	24	2	He	2.151	32.5	273	23.5	100	
Al	27	2	He	-1.380	-64.2	73	56.8	5	
K	39	2	He	-11.312	-34.7	6201	3.6	100	
Ca	43	2	He	-24.560	-195.9	3	173.2	100	
Ca	44	2	He	-5.623	-98.4	27	43.3	100	
V	51	2	He	0.331	8.5	243	3.8	2.5	
Cr	52	2	He	-0.010	-682.4	103	31.1	2.5	
Mn	55	2	He	-0.169	-74.7	33	86.6	2.5	
Fe	56	2	He	0.997	75.6	1407	16.7	100	
Co	59	2	He	-0.004	-390.6	7	173.2	2.5	
Ni	60	2	He	0.471	6.9	7	86.6	2.5	
Cu	63	2	He	-0.638	-8.0	210	9.5	2.5	
Zn	66	2	He	-1.200	-5.4	3	173.2	2.5	

Continuing Calibration Blank (CCB) Report

As	75	2	He	0.000	97866.4	11	148.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	-0.053	-151.0	43	81.0	2.5	
Se	78	2	He	0.122	493.9	6	33.3	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	578290	1.46	606326	95.38	70	125	
In	115	1	nogas	694888	0.94	717978	96.78	70	125	
Li	6	1	nogas	242137	1.40	264394	91.58	70	125	
Bi	209	1	nogas	1040414	1.08	1029814	101.03	70	125	
Ge	72	2	He	32932	2.61	35160	93.66	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	286_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T21:49:56-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	104.438	0.693	185157	1.85	100	104.4	90	110	
B	11	1	nogas	476.324	1.705	478614	0.20	500	95.3	90	110	
Na	23	1	nogas	10584.511	2.546	56867897	2.70	10000	105.8	90	110	
Mg	24	1	nogas	9761.010	2.904	36247538	1.71	10000	97.6	90	110	
Al	27	1	nogas	65.751	0.701	458856	0.13	100	65.8	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	436.698	0.568	139071	1.03	500	87.3	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9605.685	0.961	38746562	1.51	10000	96.1	90	110	
Ca	43	1	nogas	10078.957	1.414	78376	1.97	10000	100.8	90	110	
Ca	44	1	nogas	10055.127	0.149	1278857	0.53	10000	100.6	90	110	
Ti	47	1	nogas	93.867	3.724	37080	4.16	100	93.9	90	110	
V	51	1	nogas	95.180	2.750	641542	1.93	100	95.2	90	110	
Cr	52	1	nogas	96.658	1.720	481985	1.16	100	96.7	90	110	
Mn	55	1	nogas	96.657	1.682	621443	1.09	100	96.7	90	110	
Fe	56	1	nogas	9561.919	2.894	51166637	2.32	10000	95.6	90	110	
Co	59	1	nogas	96.628	1.968	497352	1.41	100	96.6	90	110	
Ni	60	1	nogas	95.980	2.380	108865	1.83	100	96.0	90	110	
Cu	63	1	nogas	96.578	1.195	275026	0.62	100	96.6	90	110	
Zn	66	1	nogas	98.154	2.334	92891	2.32	100	98.2	90	110	
As	75	1	nogas	99.389	0.986	109573	0.99	100	99.4	90	110	
Se	77	1	nogas	82.846	13.218	9356	4.50	100	82.8	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.525	2.529	5134	1.85	100	96.5	90	110	
Sr	88	1	nogas	105.663	1.225	771033	0.97	100	105.7	90	110	
Mo	95	1	nogas	97.094	1.912	148202	1.39	100	97.1	90	110	
Ag	107	1	nogas	97.473	1.215	403731	1.27	100	97.5	90	110	
Cd	111	1	nogas	97.975	0.654	91895	1.50	100	98.0	90	110	
Sn	118	1	nogas	97.251	2.229	265137	1.94	100	97.3	90	110	
Sb	121	1	nogas	98.238	0.543	388972	0.18	100	98.2	90	110	
Ba	137	1	nogas	100.390	1.763	137434	0.79	100	100.4	90	110	
Tl	205	1	nogas	95.123	2.184	1134849	1.56	100	95.1	90	110	
Pb	208	1	nogas	95.523	0.969	871960	1.18	100	95.5	90	110	
U	238	1	nogas	96.791	3.288	2158536	2.37	100	96.8	90	110	
Li	7	1	nogas	103.674	0.969	467165	1.30	100	103.7	90	110	
Si	28	1	nogas	4972.656	1.078	10785487	1.30	5000	99.5	90	110	
Ba	135	1	nogas	99.781	3.345	79370	2.93	100	99.8	90	110	
La	139	1	nogas	101.672	58.085	150	35.28	100	101.7	90	110	
Au	197	1	nogas	0.000	#DIV/0!	0	#DIV/0!	100	0.0	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	96.124	0.763	472689	0.69	100	96.1	90	110	
Na	23	2	He	10223.357	3.460	2116152	1.49	10000	102.2	90	110	
Mg	24	2	He	9216.336	1.849	888526	1.06	10000	92.2	90	110	
Al	27	2	He	62.694	3.124	3260	3.84	100	62.7	90	110	CCV Main CR1-2 Failed
K	39	2	He	9283.166	0.324	458357	2.11	10000	92.8	90	110	
Ca	43	2	He	9481.986	9.225	1203	7.54	10000	94.8	90	110	
Ca	44	2	He	9735.110	2.014	19738	3.76	10000	97.4	90	110	
V	51	2	He	93.987	0.606	34390	1.42	100	94.0	90	110	
Cr	52	2	He	96.432	1.042	45293	1.43	100	96.4	90	110	
Mn	55	2	He	95.418	0.881	22832	2.06	100	95.4	90	110	
Fe	56	2	He	9607.232	2.616	3441387	1.96	10000	96.1	90	110	
Co	59	2	He	95.035	2.194	63343	0.46	100	95.0	90	110	
Ni	60	2	He	96.393	1.649	17706	3.24	100	96.4	90	110	
Cu	63	2	He	95.365	0.927	49502	2.62	100	95.4	90	110	
Zn	66	2	He	94.537	3.097	8586	2.31	100	94.5	90	110	
As	75	2	He	96.078	2.895	5469	2.51	100	96.1	90	110	
Sb	121	2	He	92.743	2.915	41162	1.14	100	92.7	90	110	
Se	78	2	He	94.313	5.576	356	3.51	100	94.3	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	597889	0.58	606326	98.61	70	125	
In	115	1	nogas	727076	1.17	717978	101.27	70	125	
Li	6	1	nogas	267899	1.17	264394	101.33	70	125	
Bi	209	1	nogas	1040329	0.93	1029814	101.02	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	34382	1.94	35160	97.79	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	287_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T21:52:08-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	236CALB.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	0.012	76.3	37	41.7	1	
B	11	1	nogas	-47.622	-7.7	52490	6.5	10	
Na	23	1	nogas	-110.818	-1.1	439063	1.4	100	
Mg	24	1	nogas	2.399	29.6	13342	20.8	100	
Al	27	1	nogas	-0.746	-2.8	6018	0.9	5	
P	31	1	nogas	0.960	96.3	10567	1.4	10	
K	39	1	nogas	-13.583	-91.3	1263229	2.9	100	
Ca	43	1	nogas	-89.209	-13.0	303	30.6	100	
Ca	44	1	nogas	-35.023	-5.7	10914	2.1	100	
Ti	47	1	nogas	-0.009	-428.1	13	114.6	2.5	
V	51	1	nogas	-0.698	-80.4	114898	1.3	2.5	
Cr	52	1	nogas	-0.027	-268.9	5274	6.0	2.5	
Mn	55	1	nogas	-0.247	-2.1	4677	1.6	2.5	
Fe	56	1	nogas	-27.451	-7.9	252197	3.8	100	
Co	59	1	nogas	0.033	43.0	253	29.1	2.5	
Ni	60	1	nogas	-0.643	-4.5	200	17.3	2.5	
Cu	63	1	nogas	-0.446	-13.9	1804	8.9	2.5	
Zn	66	1	nogas	-0.592	-11.5	193	33.3	2.5	
As	75	1	nogas	-0.540	-81.2	18657	2.8	2.5	
Se	77	1	nogas	-4.042	-84.5	5968	1.7	2.5	
Se	82	1	nogas	-0.017	-6590.7	233	24.4	2.5	
Sr	88	1	nogas	0.016	88.8	627	17.8	2.5	
Mo	95	1	nogas	0.047	6.2	87	6.7	2.5	
Ag	107	1	nogas	0.049	18.7	263	13.3	2.5	
Cd	111	1	nogas	0.024	89.4	27	78.1	1	
Sn	118	1	nogas	0.040	50.2	720	8.3	5	
Sb	121	1	nogas	0.116	26.8	900	14.2	2.5	
Ba	137	1	nogas	-0.101	-21.6	100	30.0	2.5	
Tl	205	1	nogas	0.124	21.5	1623	21.7	1	
Pb	208	1	nogas	0.035	23.5	573	13.2	2.5	
U	238	1	nogas	0.039	8.7	1113	7.3	2.5	
Si	28	1	nogas	16.225	25.5	763764	2.1	5	CCB Main CR1 Failed
La	139	1	nogas	-54.378	-23.9	13	86.6	2.5	
Au	197	1	nogas	0.000	#DIV/0!	0	#DIV/0!	2.5	
Na	23	2	He	-94.355	-2.7	16852	2.3	100	
Mg	24	2	He	2.011	19.0	270	12.8	100	
Al	27	2	He	-1.168	-19.3	87	13.3	5	
K	39	2	He	-4.902	-386.0	6735	11.6	100	
Ca	43	2	He	2.028	4643.4	7	173.2	100	
Ca	44	2	He	5.611	177.7	50	40.0	100	
V	51	2	He	0.162	48.8	191	14.7	2.5	
Cr	52	2	He	-0.038	-318.7	93	59.0	2.5	
Mn	55	2	He	-0.158	-62.5	37	63.0	2.5	
Fe	56	2	He	1.442	29.9	1623	11.4	100	
Co	59	2	He	0.026	35.0	27	21.7	2.5	
Ni	60	2	He	0.634	20.0	37	63.0	2.5	
Cu	63	2	He	-0.688	-12.2	193	23.3	2.5	
Zn	66	2	He	-1.013	-0.5	20	0.0	2.5	

Continuing Calibration Blank (CCB) Report

As	75	2	He	0.010	908.4	12	41.7	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.102	80.1	113	33.4	2.5	
Se	78	2	He	0.234	271.9	7	34.6	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	608319	1.43	606326	100.33	70	125	
In	115	1	nogas	740357	0.88	717978	103.12	70	125	
Li	6	1	nogas	253790	1.71	264394	95.99	70	125	
Bi	209	1	nogas	1089048	0.99	1029814	105.75	70	125	
Ge	72	2	He	34181	2.11	35160	97.22	70	125	

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	289CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T21:57:44-06:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	3	5196.15
B	11	1	nogas	25258	0.02
Na	23	1	nogas	372880	0.00
Mg	24	1	nogas	4335	0.40
Al	27	1	nogas	11240	0.03
P	31	1	nogas	10567	0.05
K	39	1	nogas	1205251	0.00
Ca	43	1	nogas	277	11.71
Ca	44	1	nogas	10557	0.05
Ti	47	1	nogas	37	154.83
V	51	1	nogas	130743	0.00
Cr	52	1	nogas	6231	0.14
Mn	55	1	nogas	5921	0.10
Fe	56	1	nogas	273959	0.00
Co	59	1	nogas	87	46.76
Ni	60	1	nogas	453	4.62
Cu	63	1	nogas	2457	0.25
Zn	66	1	nogas	470	2.52
As	75	1	nogas	21584	0.01
Se	77	1	nogas	7068	0.13
Se	82	1	nogas	277	6.17
Sr	88	1	nogas	387	3.86
Mo	95	1	nogas	67	25.98
Ag	107	1	nogas	53	73.18
Cd	111	1	nogas	7	2598.08
Sn	118	1	nogas	767	1.11
Sb	121	1	nogas	573	1.41
Ba	137	1	nogas	283	1.90
Tl	205	1	nogas	130	21.33
Pb	208	1	nogas	263	8.33
Li	7	1	nogas	20916	0.02
Si	28	1	nogas	686724	0.00
La	139	1	nogas	23	280.57
Na	23	2	He	16031	0.02
Mg	24	2	He	93	35.07
Al	27	2	He	87	60.03
K	39	2	He	6655	0.17
Ca	44	2	He	70	93.52
V	51	2	He	227	7.80
Cr	52	2	He	137	17.21
Mn	55	2	He	63	14.39
Fe	56	2	He	1243	0.88

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	17	415.69
Ni	60	2	He	23	106.04
Cu	63	2	He	450	2.75
Zn	66	2	He	53	81.19
As	75	2	He	17	432.63
Sb	121	2	He	57	78.37
Se	78	2	He	4	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Ge	72	1	nogas	610209	1.72
In	115	1	nogas	742039	1.43
Li	6	1	nogas	256544	1.54
Bi	209	1	nogas	1099361	0.50
Ge	72	2	He	34709	5.13

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	290CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T21:59:56-06:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	289CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	3851	0.10
B	11	1	nogas	33057	0.01
Na	23	1	nogas	1517573	0.00
Mg	24	1	nogas	817942	0.00
Al	27	1	nogas	31405	0.01
P	31	1	nogas	14433	0.01
K	39	1	nogas	2035034	0.00
Ca	43	1	nogas	1923	0.20
Ca	44	1	nogas	38139	0.00
Ti	47	1	nogas	753	1.42
V	51	1	nogas	150641	0.00
Cr	52	1	nogas	17132	0.01
Mn	55	1	nogas	18964	0.01
Fe	56	1	nogas	1458623	0.00
Co	59	1	nogas	11617	0.04
Ni	60	1	nogas	2454	0.45
Cu	63	1	nogas	10683	0.03
Zn	66	1	nogas	2864	0.61
As	75	1	nogas	24511	0.01
Se	77	1	nogas	7425	0.03
Se	82	1	nogas	313	4.70
Sr	88	1	nogas	16271	0.03
Mo	95	1	nogas	3200	0.04
Ag	107	1	nogas	8936	0.01
Cd	111	1	nogas	1823	0.54
Sn	118	1	nogas	6538	0.06
Sb	121	1	nogas	8873	0.04
Ba	137	1	nogas	3034	0.15
Tl	205	1	nogas	24767	0.01
Pb	208	1	nogas	19983	0.01
Si	28	1	nogas	890154	0.00
La	139	1	nogas	83	68.05
Na	23	2	He	55898	0.00
Mg	24	2	He	18907	0.01
Al	27	2	He	237	7.21
K	39	2	He	16164	0.02
Ca	43	2	He	20	433.01
Ca	44	2	He	430	1.08
V	51	2	He	952	0.41
Cr	52	2	He	1113	0.73

Calibration Standard Report

Mn	55	2	He	537	3.15
Fe	56	2	He	75648	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	1343	0.78
Ni	60	2	He	430	6.14
Cu	63	2	He	1817	0.10
Zn	66	2	He	260	3.91
As	75	2	He	116	7.21
Sb	121	2	He	1010	0.43
Se	78	2	He	5	2148.08

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	613880	0.81	610209	100.60	70	125	
In	115	1	nogas	742626	0.54	742039	100.08	70	125	
Li	6	1	nogas	255710	0.74	256544	99.67	70	125	
Bi	209	1	nogas	1091480	1.08	1099361	99.28	70	125	
Ge	72	2	He	34823	1.98	34709	100.33	70	125	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	291CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T22:02:08-06:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	289CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	9976	0.06
B	11	1	nogas	43483	0.01
Na	23	1	nogas	3092713	0.00
Mg	24	1	nogas	1976086	0.00
Al	27	1	nogas	49359	0.00
P	31	1	nogas	18690	0.01
K	39	1	nogas	3209158	0.00
Ca	43	1	nogas	4287	0.05
Ca	44	1	nogas	76983	0.00
Ti	47	1	nogas	1897	0.49
V	51	1	nogas	163260	0.00
Cr	52	1	nogas	31062	0.01
Mn	55	1	nogas	39245	0.00
Fe	56	1	nogas	3059962	0.00
Co	59	1	nogas	26865	0.01
Ni	60	1	nogas	6015	0.13
Cu	63	1	nogas	16682	0.02
Zn	66	1	nogas	5731	0.10
As	75	1	nogas	27499	0.00
Se	77	1	nogas	7685	0.05
Se	82	1	nogas	447	4.26
Sr	88	1	nogas	37813	0.01
Mo	95	1	nogas	7869	0.02
Ag	107	1	nogas	21464	0.02
Cd	111	1	nogas	5021	0.09
Sn	118	1	nogas	14627	0.02
Sb	121	1	nogas	21798	0.01
Ba	137	1	nogas	7489	0.07
Tl	205	1	nogas	59729	0.00
Pb	208	1	nogas	46852	0.01
Si	28	1	nogas	1409247	0.00
La	139	1	nogas	110	21.87
Na	23	2	He	113658	0.00
Mg	24	2	He	46260	0.00
Al	27	2	He	403	5.71
K	39	2	He	30517	0.00
Ca	43	2	He	40	250.00
Ca	44	2	He	1153	0.65
V	51	2	He	1983	0.18
Cr	52	2	He	2490	0.28

Calibration Standard Report

Mn	55	2	He	1263	0.85
Fe	56	2	He	181912	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	3327	0.19
Ni	60	2	He	993	2.25
Cu	63	2	He	2804	0.12
Zn	66	2	He	493	2.51
As	75	2	He	289	6.22
Sb	121	2	He	2217	0.40
Se	78	2	He	16	270.63

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	597887	0.84	610209	97.98	70	125	
In	115	1	nogas	725017	0.65	742039	97.71	70	125	
Li	6	1	nogas	250003	0.40	256544	97.45	70	125	
Bi	209	1	nogas	1056383	0.76	1099361	96.09	70	125	
Ge	72	2	He	33938	2.73	34709	97.78	70	125	

Calibration Standard Report

Sample Table

Sample Name	10/50/1000
Data File Name	292CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T22:04:20-06:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	289CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	19795	0.01
B	11	1	nogas	67678	0.00
Na	23	1	nogas	6010891	0.00
Mg	24	1	nogas	4044207	0.00
Al	27	1	nogas	90119	0.00
P	31	1	nogas	27278	0.01
K	39	1	nogas	5219797	0.00
Ca	43	1	nogas	8726	0.03
Ca	44	1	nogas	144809	0.00
Ti	47	1	nogas	4404	0.04
V	51	1	nogas	204455	0.00
Cr	52	1	nogas	58044	0.00
Mn	55	1	nogas	73841	0.00
Fe	56	1	nogas	5981101	0.00
Co	59	1	nogas	54550	0.00
Ni	60	1	nogas	13255	0.01
Cu	63	1	nogas	32862	0.01
Zn	66	1	nogas	10443	0.07
As	75	1	nogas	32949	0.01
Se	77	1	nogas	8579	0.05
Se	82	1	nogas	770	2.11
Sr	88	1	nogas	77307	0.00
Mo	95	1	nogas	15925	0.02
Ag	107	1	nogas	43955	0.00
Cd	111	1	nogas	9763	0.03
Sn	118	1	nogas	29811	0.01
Sb	121	1	nogas	42575	0.01
Ba	137	1	nogas	14567	0.03
Tl	205	1	nogas	124377	0.00
Pb	208	1	nogas	95155	0.00
Si	28	1	nogas	1915603	0.00
La	139	1	nogas	60	55.56
Na	23	2	He	217934	0.00
Mg	24	2	He	93957	0.00
Al	27	2	He	633	1.23
K	39	2	He	54679	0.00
Ca	43	2	He	117	23.62
Ca	44	2	He	2044	0.56
V	51	2	He	3868	0.08
Cr	52	2	He	5044	0.07

Calibration Standard Report

Mn	55	2	He	2474	0.35
Fe	56	2	He	373005	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	7122	0.04
Ni	60	2	He	2057	0.37
Cu	63	2	He	5584	0.08
Zn	66	2	He	947	0.39
As	75	2	He	649	2.32
Sb	121	2	He	4621	0.10
Se	78	2	He	36	77.16

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	595686	0.59	610209	97.62	70	125	
In	115	1	nogas	714769	1.10	742039	96.33	70	125	
Li	6	1	nogas	248282	0.86	256544	96.78	70	125	
Bi	209	1	nogas	1054936	0.86	1099361	95.96	70	125	
Ge	72	2	He	34201	1.06	34709	98.54	70	125	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	293CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T22:06:32-06:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	289CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	192052	0.00
B	11	1	nogas	478365	0.00
Na	23	1	nogas	52277039	0.00
Mg	24	1	nogas	37360444	0.00
Al	27	1	nogas	685576	0.00
P	31	1	nogas	154533	0.00
K	39	1	nogas	39720022	0.00
Ca	43	1	nogas	77166	0.00
Ca	44	1	nogas	1268096	0.00
Ti	47	1	nogas	38864	0.00
V	51	1	nogas	675006	0.00
Cr	52	1	nogas	497996	0.00
Mn	55	1	nogas	638712	0.00
Fe	56	1	nogas	53307572	0.00
Co	59	1	nogas	511407	0.00
Ni	60	1	nogas	113437	0.00
Cu	63	1	nogas	285029	0.00
Zn	66	1	nogas	95545	0.00
As	75	1	nogas	115469	0.00
Se	77	1	nogas	10924	0.06
Se	82	1	nogas	5341	0.14
Sr	88	1	nogas	736431	0.00
Mo	95	1	nogas	153384	0.00
Ag	107	1	nogas	417676	0.00
Cd	111	1	nogas	92956	0.00
Sn	118	1	nogas	271920	0.00
Sb	121	1	nogas	401883	0.00
Ba	137	1	nogas	138132	0.00
Tl	205	1	nogas	1182632	0.00
Pb	208	1	nogas	906563	0.00
Si	28	1	nogas	10835215	0.00
La	139	1	nogas	133	17.18
Na	23	2	He	1905283	0.00
Mg	24	2	He	879076	0.00
Al	27	2	He	4764	0.19
K	39	2	He	456472	0.00
Ca	43	2	He	1150	1.05
Ca	44	2	He	18901	0.02
V	51	2	He	34917	0.00
Cr	52	2	He	44675	0.00

Calibration Standard Report

Mn	55	2	He	23249	0.01
Fe	56	2	He	3492632	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	63755	0.00
Ni	60	2	He	18090	0.01
Cu	63	2	He	50414	0.00
Zn	66	2	He	8659	0.01
As	75	2	He	5402	0.08
Sb	121	2	He	42823	0.01
Se	78	2	He	406	3.16

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	594314	2.11	610209	97.40	70	125	
In	115	1	nogas	711132	1.09	742039	95.83	70	125	
Li	6	1	nogas	265704	0.97	256544	103.57	70	125	
Bi	209	1	nogas	1052114	0.54	1099361	95.70	70	125	
Ge	72	2	He	32912	1.05	34709	94.82	70	125	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	294CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T22:08:42-06:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	289CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	375887	0.00
B	11	1	nogas	959345	0.00
Na	23	1	nogas	104315640	0.00
Mg	24	1	nogas	73096310	0.00
Al	27	1	nogas	1341767	0.00
P	31	1	nogas	301458	0.00
K	39	1	nogas	76357923	0.00
Ca	43	1	nogas	154321	0.00
Ca	44	1	nogas	2461117	0.00
Ti	47	1	nogas	76973	0.00
V	51	1	nogas	1226034	0.00
Cr	52	1	nogas	975745	0.00
Mn	55	1	nogas	1255403	0.00
Fe	56	1	nogas	103302511	0.00
Co	59	1	nogas	1009524	0.00
Ni	60	1	nogas	225226	0.00
Cu	63	1	nogas	559721	0.00
Zn	66	1	nogas	190087	0.00
As	75	1	nogas	206882	0.00
Se	77	1	nogas	14253	0.00
Se	82	1	nogas	10383	0.03
Sr	88	1	nogas	1476024	0.00
Mo	95	1	nogas	312469	0.00
Ag	107	1	nogas	827004	0.00
Cd	111	1	nogas	185457	0.00
Sn	118	1	nogas	548508	0.00
Sb	121	1	nogas	807352	0.00
Ba	137	1	nogas	273985	0.00
Tl	205	1	nogas	2399285	0.00
Pb	208	1	nogas	1813711	0.00
Si	28	1	nogas	20304043	0.00
La	139	1	nogas	273	2.79
Na	23	2	He	3705892	0.00
Mg	24	2	He	1762038	0.00
Al	27	2	He	8972	0.04
K	39	2	He	906364	0.00
Ca	43	2	He	2384	0.19
Ca	44	2	He	37190	0.00
V	51	2	He	68982	0.00
Cr	52	2	He	87503	0.00

Calibration Standard Report

Mn	55	2	He	44561	0.00
Fe	56	2	He	6783462	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Co	59	2	He	125650	0.00
Ni	60	2	He	34592	0.01
Cu	63	2	He	97971	0.00
Zn	66	2	He	17176	0.02
As	75	2	He	11016	0.02
Sb	121	2	He	87388	0.00
Se	78	2	He	700	0.78

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	582580	0.29	610209	95.47	70	125	
In	115	1	nogas	700722	0.72	742039	94.43	70	125	
Li	6	1	nogas	289233	1.33	256544	112.74	70	125	
Bi	209	1	nogas	1028799	0.56	1099361	93.58	70	125	
Ge	72	2	He	32107	2.26	34709	92.50	70	125	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICCV
Data File Name	295_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T22:10:52-06:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	106.675	2.786	191871	1.17	100	106.7	90	110	
B	11	1	nogas	566.123	1.862	525464	0.60	500	113.2	90	110	ICV Main CR1 Failed
Na	23	1	nogas	9803.989	1.468	52882745	1.45	10000	98.0	90	110	
Mg	24	1	nogas	9741.360	2.310	36857275	1.19	10000	97.4	90	110	
Al	27	1	nogas	75.427	0.305	529794	0.40	100	75.4	90	110	ICV Main CR1 Failed
P	31	1	nogas	453.106	1.077	146204	1.11	500	90.6	90	110	
K	39	1	nogas	9729.336	1.089	39067650	1.44	10000	97.3	90	110	
Ca	43	1	nogas	9435.698	1.408	75128	1.91	10000	94.4	90	110	
Ca	44	1	nogas	9756.212	0.685	1248597	0.79	10000	97.6	90	110	
Ti	47	1	nogas	94.696	2.057	37638	2.44	100	94.7	90	110	
V	51	1	nogas	88.126	1.115	628848	0.79	100	88.1	90	110	ICV Main CR1 Failed
Cr	52	1	nogas	98.192	0.892	498051	1.15	100	98.2	90	110	
Mn	55	1	nogas	98.109	0.111	639041	0.51	100	98.1	90	110	
Fe	56	1	nogas	9745.079	0.755	52296813	0.27	10000	97.5	90	110	
Co	59	1	nogas	98.390	1.031	512967	0.52	100	98.4	90	110	
Ni	60	1	nogas	97.596	2.823	113576	2.42	100	97.6	90	110	
Cu	63	1	nogas	97.098	1.669	281981	1.40	100	97.1	90	110	
Zn	66	1	nogas	98.841	1.920	97100	1.54	100	98.8	90	110	
As	75	1	nogas	89.792	1.466	108225	1.10	100	89.8	90	110	ICV Main CR1 Failed
Se	77	1	nogas	51.118	29.204	9009	7.07	100	51.1	90	110	ICV Main CR1 Failed
Se	82	1	nogas	98.749	6.054	5421	5.76	100	98.7	90	110	
Sr	88	1	nogas	95.542	0.717	726136	0.20	100	95.5	90	110	
Mo	95	1	nogas	95.627	2.241	153368	2.31	100	95.6	90	110	
Ag	107	1	nogas	96.829	2.043	413287	1.75	100	96.8	90	110	
Cd	111	1	nogas	97.771	1.072	93794	1.03	100	97.8	90	110	
Sn	118	1	nogas	92.888	1.107	263323	1.77	100	92.9	90	110	
Sb	121	1	nogas	98.582	1.167	409772	0.65	100	98.6	90	110	
Ba	137	1	nogas	97.291	1.018	138155	0.36	100	97.3	90	110	
Tl	205	1	nogas	99.659	1.243	1232147	1.79	100	99.7	90	110	
Pb	208	1	nogas	98.283	1.083	921119	0.29	100	98.3	90	110	
U	238	1	nogas	95.331	1.511	2200398	0.24	100	95.3	90	110	
Li	7	1	nogas	110.257	0.915	509716	2.03	100	110.3	90	110	ICV Main CR1 Failed
Si	28	1	nogas	5052.381	0.657	10981576	1.13	5000	101.0	90	110	
Ba	135	1	nogas	97.484	0.768	80811	1.54	100	97.5	90	110	
La	139	1	nogas	203.213	56.094	283	51.07	100	203.2	90	110	ICV Main CR1 Failed
Au	197	1	nogas	-76.571	0.000	0	#DIV/0!	100	-76.6	90	110	ICV Main CR1 Failed
Tl	203	1	nogas	100.779	1.300	511043	0.87	100	100.8	90	110	
Na	23	2	He	10416.544	1.171	1985669	1.91	10000	104.2	90	110	
Mg	24	2	He	9829.492	1.154	883167	1.42	10000	98.3	90	110	
Al	27	2	He	82.505	3.025	3897	5.04	100	82.5	90	110	ICV Main CR1 Failed
K	39	2	He	9817.632	1.916	457170	2.68	10000	98.2	90	110	
Ca	43	2	He	9000.388	2.618	1087	1.41	10000	90.0	90	110	
Ca	44	2	He	9966.506	6.322	18977	3.72	10000	99.7	90	110	
V	51	2	He	98.346	2.298	34736	0.33	100	98.3	90	110	
Cr	52	2	He	101.317	3.536	45457	2.98	100	101.3	90	110	
Mn	55	2	He	97.915	1.606	22468	1.00	100	97.9	90	110	
Fe	56	2	He	9732.221	3.044	3386157	0.73	10000	97.3	90	110	
Co	59	2	He	101.130	3.509	64982	1.06	100	101.1	90	110	
Ni	60	2	He	97.090	2.693	17332	3.36	100	97.1	90	110	
Cu	63	2	He	99.351	4.900	50076	2.46	100	99.4	90	110	
Zn	66	2	He	97.342	6.435	8552	3.83	100	97.3	90	110	
As	75	2	He	98.592	1.771	5528	2.39	100	98.6	90	110	
Sn	118	2	He	95.708	3.511	29614	1.27	100	95.7	90	110	
Sb	121	2	He	95.041	4.062	42208	2.62	100	95.0	90	110	
Se	78	2	He	85.965	12.095	319	12.64	100	86.0	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
Ge	72	1	nogas	602437	0.52	610209	98.73	70	125	
In	115	1	nogas	726612	1.09	742039	97.92	70	125	
Li	6	1	nogas	270649	2.12	256544	105.50	70	125	

Initial Calibration Verification (ICV) Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Bi	209	1	nogas	1067915	1.28	1099361	97.14	70	125	
Ge	72	2	He	32915	2.56	34709	94.83	70	125	

Sample Report

Sample Table

Sample Name	LLCCV2
Data File Name	296SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T22:13:03-06:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	289CALB.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	2.308	2.308	7.08	3917	0.06	2000	
B	11	1	nogas	51.365	51.365	12.81	67781	0.08	2000	
Na	23	1	nogas	205.360	205.360	1.95	1457529	0.01	200000	
Mg	24	1	nogas	208.648	208.648	2.51	788195	0.03	200000	
Al	27	1	nogas	2.790	2.790	2.34	30250	0.01	2000	
K	39	1	nogas	221.346	221.346	2.84	2049607	0.01	200000	
Ca	43	1	nogas	219.560	219.560	8.80	2013	10.90	200000	
Ca	44	1	nogas	218.319	218.319	3.04	38082	0.57	200000	
Ti	47	1	nogas	2.001	2.001	9.26	830	0.24	2000	
V	51	1	nogas	-5.571	-5.571	-9.92	97392	-0.01	2000	
Cr	52	1	nogas	1.788	1.788	3.87	15090	0.01	2000	
Mn	55	1	nogas	2.102	2.102	5.83	19388	0.01	2000	
Fe	56	1	nogas	208.408	208.408	2.80	1381851	0.02	200000	
Co	59	1	nogas	2.134	2.134	8.24	11201	0.02	2000	
Ni	60	1	nogas	1.899	1.899	19.04	2667	0.07	2000	
Cu	63	1	nogas	2.803	2.803	4.30	10483	0.03	2000	
Zn	66	1	nogas	2.635	2.635	5.61	3144	0.08	2000	
As	75	1	nogas	-3.830	-3.830	-22.00	18724	-0.02	2000	
Se	77	1	nogas	-35.168	-35.168	-17.88	5591	-0.63	2000	
Se	82	1	nogas	0.764	0.764	147.75	313	0.24	2000	
Sr	88	1	nogas	2.121	2.121	1.51	16478	0.01	2000	
Mo	95	1	nogas	1.895	1.895	8.39	3100	0.06	2000	
Ag	107	1	nogas	2.095	2.095	6.25	8986	0.02	2000	
Cd	111	1	nogas	1.999	1.999	9.44	1913	0.10	2000	
Sn	118	1	nogas	2.177	2.177	3.05	6868	0.03	2000	
Sb	121	1	nogas	1.966	1.966	4.48	8719	0.02	2000	
Ba	137	1	nogas	2.197	2.197	8.38	3374	0.07	2000	
Tl	205	1	nogas	2.052	2.052	2.59	25762	0.01	2000	
Pb	208	1	nogas	2.076	2.076	0.22	19917	0.01	2000	
U	238	1	nogas	2.016	2.016	1.03	47228	0.00	2000	
Si	28	1	nogas	169.790	169.790	5.39	1023372	0.02	2000	
La	139	1	nogas	55.077	55.077	105.52	93	59.01	2000	
Au	197	1	nogas	155.854	155.854	258.30	10	1558.54	2000	
Na	23	2	He	190.220	190.220	1.63	53357	0.36	200000	
Mg	24	2	He	197.648	197.648	6.52	18583	1.06	200000	
Al	27	2	He	1.663	1.663	41.76	227	0.73	2000	
K	39	2	He	195.462	195.462	9.84	15924	1.23	200000	
Ca	43	2	He	132.507	132.507	34.72	17	795.04	200000	
Ca	44	2	He	211.580	211.580	14.42	487	43.47	200000	
V	51	2	He	1.961	1.961	1.04	867	0.23	2000	

Sample Report

Cr	52	2	He	2.204	2.204	11.13	1163	0.19	2000	
Mn	55	2	He	2.184	2.184	8.12	583	0.37	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Fe	56	2	He	203.087	203.087	0.57	74839	0.27	200000	
Co	59	2	He	1.948	1.948	17.09	1320	0.15	2000	
Ni	60	2	He	1.601	1.601	19.99	420	0.38	2000	
Cu	63	2	He	2.361	2.361	11.85	1680	0.14	2000	
Zn	66	2	He	2.693	2.693	33.85	280	0.96	2000	
As	75	2	He	1.810	1.810	21.37	122	1.48	2000	
Sb	121	2	He	2.013	2.013	11.53	987	0.20	2000	
Se	78	2	He	3.331	3.331	90.79	17	19.99	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	601803	0.68	610209	98.62	70	125	
In	115	1	nogas	722942	0.77	742039	97.43	70	125	
Li	6	1	nogas	255058	0.19	256544	99.42	70	125	
Bi	209	1	nogas	1078976	0.70	1099361	98.15	70	125	
Ge	72	2	He	34285	1.23	34709	98.78	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	LLCCV5
Data File Name	297LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T22:15:16-06:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	5.770	3.659	9816	2.75	5	115.4	70	130	
B	11	1	nogas	39.390	2.604	58014	1.08	25	157.6	70	130	LLICV Main CR1 Failed
Na	23	1	nogas	517.884	1.785	3124990	1.86	500	103.6	70	130	
Mg	24	1	nogas	521.507	1.707	1967047	2.41	500	104.3	70	130	
Al	27	1	nogas	5.600	2.917	49998	1.62	5	112.0	70	130	
P	31	1	nogas	26.883	2.744	18637	1.24	25	107.5	70	130	
K	39	1	nogas	507.567	1.421	3191145	0.31	500	101.5	70	130	
Ca	43	1	nogas	538.370	8.359	4581	7.73	500	107.7	70	130	
Ca	44	1	nogas	518.193	1.840	76792	1.53	500	103.6	70	130	
Ti	47	1	nogas	5.190	5.935	2114	6.10	5	103.8	70	130	
V	51	1	nogas	-0.791	-122.909	125605	4.43	5	-15.8	70	130	LLICV Main CR1 Failed
Cr	52	1	nogas	5.042	5.918	31663	5.25	5	100.8	70	130	
Mn	55	1	nogas	5.080	1.098	38938	0.50	5	101.6	70	130	
Fe	56	1	nogas	517.886	1.389	3059550	0.63	500	103.6	70	130	
Co	59	1	nogas	5.151	1.629	27155	2.06	5	103.0	70	130	
Ni	60	1	nogas	4.840	9.309	6125	8.27	5	96.8	70	130	
Cu	63	1	nogas	4.783	5.148	16328	4.67	5	95.7	70	130	
Zn	66	1	nogas	5.122	8.249	5621	7.56	5	102.4	70	130	
As	75	1	nogas	-0.316	-183.080	22282	2.36	5	-6.3	70	130	LLICV Main CR1 Failed
Se	77	1	nogas	-30.294	-28.202	5835	5.19	5	-605.9	70	130	LLICV Main CR1 Failed
Se	82	1	nogas	3.569	16.542	463	6.59	5	71.4	70	130	
Sr	88	1	nogas	5.008	2.367	38725	1.71	5	100.2	70	130	
Mo	95	1	nogas	4.991	0.770	8132	1.19	5	99.8	70	130	
Ag	107	1	nogas	5.325	1.462	22960	1.33	5	106.5	70	130	
Cd	111	1	nogas	4.993	7.259	4867	7.65	5	99.9	70	130	
Sn	118	1	nogas	5.050	4.388	15244	3.82	5	101.0	70	130	
Sb	121	1	nogas	5.024	3.495	21591	2.87	5	100.5	70	130	
Ba	137	1	nogas	5.137	2.097	7669	1.63	5	102.7	70	130	
Tl	205	1	nogas	4.859	1.535	60860	2.05	5	97.2	70	130	
Pb	208	1	nogas	5.000	1.787	47634	2.94	5	100.0	70	130	
U	238	1	nogas	4.898	1.352	114501	1.23	5	98.0	70	130	
Li	7	1	nogas	5.909	1.730	45568	0.79	5	118.2	70	130	
Si	28	1	nogas	368.105	4.108	1440308	2.64	25	1472.4	70	130	LLICV Main CR1 Failed
La	139	1	nogas	46.093	91.245	83	66.09	5	921.9	70	130	LLICV Main CR1 Failed
Au	197	1	nogas	230.334	151.256	13	114.56	5	4606.7	70	130	LLICV Main CR1 Failed
Na	23	2	He	501.095	1.599	112967	1.01	500	100.2	70	130	
Mg	24	2	He	498.161	3.678	46040	3.30	500	99.6	70	130	
Al	27	2	He	3.875	38.152	327	20.84	5	77.5	70	130	
K	39	2	He	502.133	1.920	30160	1.73	500	100.4	70	130	
Ca	43	2	He	484.320	29.373	60	28.87	500	96.9	70	130	
Ca	44	2	He	488.574	19.123	1020	17.97	500	97.7	70	130	
V	51	2	He	4.961	1.141	1939	1.07	5	99.2	70	130	
Cr	52	2	He	4.464	15.660	2184	14.23	5	89.3	70	130	
Mn	55	2	He	5.198	6.213	1283	6.35	5	104.0	70	130	
Fe	56	2	He	511.384	0.805	183894	0.36	500	102.3	70	130	
Co	59	2	He	5.290	1.485	3507	1.86	5	105.8	70	130	
Ni	60	2	He	4.804	14.930	997	13.32	5	96.1	70	130	
Cu	63	2	He	5.022	5.626	3022	4.39	5	100.4	70	130	
Zn	66	2	He	6.301	12.064	600	11.67	5	126.0	70	130	
As	75	2	He	4.315	17.641	264	16.93	5	86.3	70	130	
Sb	121	2	He	4.775	9.438	2230	9.07	5	95.5	70	130	
Se	78	2	He	6.234	29.959	27	25.70	5	124.7	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	607258	0.66	610209	99.52	70	125	
In	115	1	nogas	737299	0.44	742039	99.36	70	125	
Li	6	1	nogas	255891	0.95	256544	99.75	70	125	
Bi	209	1	nogas	1079668	1.75	1099361	98.21	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Ge	72	2	He	33790	0.45	34709	97.35	70	125	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICCB
Data File Name	298_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T22:17:31-06:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	0.012	26.6	23	24.7	1	
B	11	1	nogas	4.113	36.6	28940	5.8	10	
Na	23	1	nogas	-20.427	-10.1	262660	3.0	100	
Mg	24	1	nogas	-0.323	-147.2	3101	59.1	100	
Al	27	1	nogas	-0.960	-2.7	4511	3.6	5	
P	31	1	nogas	-0.806	-69.9	10230	1.9	10	
K	39	1	nogas	-4.684	-62.0	1175972	0.6	100	
Ca	43	1	nogas	-10.267	-118.5	193	50.2	100	
Ca	44	1	nogas	-4.993	-56.5	9820	3.2	100	
Ti	47	1	nogas	-0.032	-44.3	23	24.7	2.5	
V	51	1	nogas	-6.454	-1.8	92833	0.4	2.5	
Cr	52	1	nogas	-0.267	-11.9	4831	3.6	2.5	
Mn	55	1	nogas	-0.189	-8.9	4641	1.8	2.5	
Fe	56	1	nogas	-8.478	-21.3	226073	4.3	100	
Co	59	1	nogas	0.012	75.6	147	31.5	2.5	
Ni	60	1	nogas	-0.303	-4.4	117	13.1	2.5	
Cu	63	1	nogas	-0.311	-8.5	1537	5.5	2.5	
Zn	66	1	nogas	-0.390	-22.7	193	44.6	2.5	
As	75	1	nogas	-5.414	-11.9	17296	3.6	2.5	
Se	77	1	nogas	-36.942	-22.5	5548	6.2	2.5	
Se	82	1	nogas	-1.043	-81.2	220	19.8	2.5	
Sr	88	1	nogas	-0.029	-23.4	160	33.1	2.5	
Mo	95	1	nogas	-0.031	-23.3	17	69.3	2.5	
Ag	107	1	nogas	0.013	53.1	110	27.3	2.5	
Cd	111	1	nogas	0.004	291.4	10	100.0	1	
Sn	118	1	nogas	0.005	377.4	773	7.4	5	
Sb	121	1	nogas	-0.043	-80.2	390	35.9	2.5	
Ba	137	1	nogas	-0.107	-39.3	127	47.6	2.5	
Tl	205	1	nogas	0.018	16.6	357	11.3	1	
Pb	208	1	nogas	-0.008	-150.0	183	67.3	2.5	
U	238	1	nogas	0.006	53.7	367	21.9	2.5	
Si	28	1	nogas	-5.473	-18.9	669406	0.8	5	
La	139	1	nogas	15.653	102.6	43	48.0	2.5	ICB Main CR1 Failed
Au	197	1	nogas	227.433	115.8	13	86.6	2.5	ICB Main CR1 Failed
Na	23	2	He	-21.868	-13.3	11501	5.1	100	
Mg	24	2	He	-0.414	-54.1	53	39.0	100	
Al	27	2	He	-1.991	-44.3	53	78.1	5	
K	39	2	He	-0.629	-1227.9	6511	5.8	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-27.690	-10.7	13	43.3	100	
V	51	2	He	-0.001	-3129.0	147	8.2	2.5	
Cr	52	2	He	-0.018	-423.7	127	27.7	2.5	
Mn	55	2	He	-0.122	-40.1	33	34.6	2.5	
Fe	56	2	He	-1.331	-7.6	743	4.7	100	

Initial Calibration Blank (ICB) Report

Co	59	2	He	0.001	2918.9	17	91.7	2.5	
Ni	60	2	He	-0.671	0.0	0	#DIV/0!	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Cu	63	2	He	-0.415	-12.0	233	10.8	2.5	
Zn	66	2	He	-0.112	-150.4	23	65.5	2.5	
As	75	2	He	-0.194	-62.0	6	124.9	2.5	
Sb	121	2	He	-0.020	-62.6	47	12.4	2.5	
Se	78	2	He	0.721	152.5	7	62.4	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	604644	0.51	610209	99.09	70	125	
In	115	1	nogas	734503	0.17	742039	98.98	70	125	
Li	6	1	nogas	258641	1.90	256544	100.82	70	125	
Bi	209	1	nogas	1100838	0.82	1099361	100.13	70	125	
Ge	72	2	He	34085	0.21	34709	98.20	70	125	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	299ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T22:19:43-06:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	0.002	327.2	7	173.2	0	ICSA Main CR1 Failed
B	11	1	nogas	4.833	50.1	28243	6.2	0	ICSA Main CR1 Failed
Na	23	1	nogas	98047.309	1.2	515408095	0.6	0	
Mg	24	1	nogas	95378.422	1.1	353909508	0.2	0	
Al	27	1	nogas	62611.289	0.6	420210940	0.5	0	
P	31	1	nogas	81510.305	0.3	23846164	0.6	0	
K	39	1	nogas	97532.121	2.0	371720275	2.1	0	
Ca	43	1	nogas	95517.859	0.7	739729	0.5	0	
Ca	44	1	nogas	94611.426	0.3	11728403	0.5	0	
Ti	47	1	nogas	1981.610	0.5	767899	0.4	0	
V	51	1	nogas	-14.937	-6.5	43329	12.5	0	ICSA Main CR1 Failed
Cr	52	1	nogas	-0.171	-28.0	5164	4.7	0	ICSA Main CR1 Failed
Mn	55	1	nogas	0.185	25.0	6868	4.6	0	ICSA Main CR1 Failed
Fe	56	1	nogas	96118.792	0.9	501060278	0.5	0	
Co	59	1	nogas	0.073	22.0	453	17.7	0	ICSA Main CR1 Failed
Ni	60	1	nogas	0.125	78.4	597	18.5	0	ICSA Main CR1 Failed
Cu	63	1	nogas	0.397	19.7	3484	6.4	0	ICSA Main CR1 Failed
Zn	66	1	nogas	0.882	31.5	1400	18.6	0	ICSA Main CR1 Failed
As	75	1	nogas	-12.805	-5.8	9923	6.9	0	ICSA Main CR1 Failed
Se	77	1	nogas	-88.443	-8.6	3407	8.5	0	ICSA Main CR1 Failed
Se	82	1	nogas	-2.298	-48.2	150	37.1	0	ICSA Main CR1 Failed
Sr	88	1	nogas	0.871	1.6	6832	1.1	0	ICSA Main CR1 Failed
Mo	95	1	nogas	1938.729	0.4	3033235	0.2	0	
Ag	107	1	nogas	0.040	35.1	217	27.0	0	ICSA Main CR1 Failed
Cd	111	1	nogas	0.688	29.1	640	28.4	0	ICSA Main CR1 Failed
Sn	118	1	nogas	-0.023	-145.9	660	13.9	0	ICSA Main CR1 Failed
Sb	121	1	nogas	0.012	181.6	600	14.5	0	ICSA Main CR1 Failed
Ba	137	1	nogas	0.002	509.7	270	6.4	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.011	4.1	253	2.3	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.080	7.1	953	5.3	0	ICSA Main CR1 Failed
Si	28	1	nogas	42.142	6.4	745650	0.6	0	
La	139	1	nogas	57.922	49.5	93	37.6	0	
Na	23	2	He	96000.574	2.8	18002802	1.1	0	
Mg	24	2	He	94528.207	2.8	8412142	0.6	0	
Al	27	2	He	67179.402	2.8	3027338	1.6	0	
K	39	2	He	95410.932	2.7	4346236	1.2	0	
Ca	43	2	He	90249.165	3.5	10797	2.8	0	
Ca	44	2	He	96516.015	3.0	181627	0.3	0	
V	51	2	He	-0.227	-24.7	63	35.2	0	ICSA Main CR1 Failed
Cr	52	2	He	0.122	19.5	183	6.3	0	ICSA Main CR1 Failed
Mn	55	2	He	0.078	372.8	77	83.9	0	ICSA Main CR1 Failed
Fe	56	2	He	93006.077	3.0	32053228	0.9	0	
Co	59	2	He	0.028	25.7	33	17.3	0	ICSA Main CR1 Failed
Ni	60	2	He	-0.332	-48.1	60	50.0	0	ICSA Main CR1 Failed
Cu	63	2	He	-0.044	-125.7	407	5.1	0	ICSA Main CR1 Failed
Zn	66	2	He	0.447	122.6	70	65.5	0	ICSA Main CR1 Failed
As	75	2	He	-0.048	-227.0	13	43.3	0	ICSA Main CR1 Failed
Sb	121	2	He	-0.045	-32.0	33	17.3	0	ICSA Main CR1 Failed
Se	78	2	He	1.545	77.6	9	44.6	0	ICSA Main CR1 Failed

Interference Check Solution A (ICS-A) Report

Interference Check Solution A (ICS-A) Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	587933	0.45	610209	96.35	70	125	
In	115	1	nogas	698165	0.37	742039	94.09	70	125	
Li	6	1	nogas	247390	0.68	256544	96.43	70	125	
Bi	209	1	nogas	1016480	0.24	1099361	92.46	70	125	
Ge	72	2	He	32618	3.37	34709	93.98	70	125	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	300ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T22:22:00-06:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	104.884	1.272	187875	0.89	100	104.9	80	120	
B	11	1	nogas	545.214	1.326	504911	1.22	100	545.2	80	120	
Na	23	1	nogas	104902.836	1.314	555181112	0.41	100	104902.8	80	120	ICSB Main CR1 Failed
Mg	24	1	nogas	102492.190	0.942	382909984	0.14	100	102492.2	80	120	ICSB Main CR1 Failed
Al	27	1	nogas	61794.907	1.979	415486914	1.02	100	61794.9	80	120	ICSB Main CR1 Failed
K	39	1	nogas	106036.542	2.703	404741376	1.73	100	106036.5	80	120	
Ca	43	1	nogas	103086.299	1.129	799824	0.48	100	103086.3	80	120	ICSB Main CR1 Failed
Ca	44	1	nogas	102933.996	1.298	12782947	0.54	100	102934.0	80	120	
Ti	47	1	nogas	2035.122	1.076	790125	0.62	100	2035.1	80	120	ICSB Main CR1 Failed
V	51	1	nogas	82.284	3.556	582416	2.01	100	82.3	80	120	
Cr	52	1	nogas	95.106	1.122	471883	1.59	100	95.1	80	120	
Mn	55	1	nogas	96.880	1.100	617065	0.35	100	96.9	80	120	
Fe	56	1	nogas	104689.773	0.826	546759946	0.24	100	104689.8	80	120	
Co	59	1	nogas	96.376	0.830	491316	0.44	100	96.4	80	120	
Ni	60	1	nogas	95.690	1.579	108898	1.22	100	95.7	80	120	
Cu	63	1	nogas	95.379	1.696	270873	1.16	100	95.4	80	120	
Zn	66	1	nogas	98.365	1.922	94485	0.99	100	98.4	80	120	
As	75	1	nogas	86.781	1.914	103006	1.29	100	86.8	80	120	
Se	77	1	nogas	14.906	65.687	7408	5.40	100	14.9	80	120	
Se	82	1	nogas	95.078	2.358	5114	3.07	100	95.1	80	120	
Sr	88	1	nogas	98.030	1.499	728455	0.61	100	98.0	80	120	
Mo	95	1	nogas	2009.730	0.852	3150324	0.75	100	2009.7	80	120	ICSB Main CR1 Failed
Ag	107	1	nogas	92.801	0.994	387302	0.36	100	92.8	80	120	
Cd	111	1	nogas	98.642	1.679	91026	2.33	100	98.6	80	120	
Sn	118	1	nogas	99.409	1.443	270987	1.49	100	99.4	80	120	
Sb	121	1	nogas	97.066	1.559	394522	1.29	100	97.1	80	120	
Ba	137	1	nogas	97.247	1.770	132825	1.67	100	97.2	80	120	
Tl	205	1	nogas	95.580	1.975	1127686	1.50	100	95.6	80	120	
Pb	208	1	nogas	98.321	0.840	879458	0.25	100	98.3	80	120	
U	238	1	nogas	101.680	0.651	2240129	1.33	100	101.7	80	120	
Si	28	1	nogas	5138.984	0.806	10909929	0.45	100	5139.0	80	120	ICSB Main CR1 Failed
La	139	1	nogas	348.984	8.638	453	8.92	100	349.0	80	120	ICSB Main CR1 Failed
Na	23	2	He	103789.340	5.119	19490424	1.17	100	103789.3	80	120	ICSB Main CR1 Failed
Mg	24	2	He	102111.979	4.307	9102385	0.52	100	102112.0	80	120	ICSB Main CR1 Failed
Al	27	2	He	65365.117	2.399	2952047	2.28	100	65365.1	80	120	ICSB Main CR1 Failed
K	39	2	He	102243.245	3.827	4665267	0.82	100	102243.2	80	120	ICSB Main CR1 Failed
Ca	43	2	He	98621.243	2.525	11824	2.42	100	98621.2	80	120	
Ca	44	2	He	104702.557	5.024	197328	0.68	100	104702.6	80	120	
V	51	2	He	96.080	4.655	33678	0.32	100	96.1	80	120	
Cr	52	2	He	94.524	3.648	42101	0.93	100	94.5	80	120	
Mn	55	2	He	96.050	3.425	21878	1.28	100	96.1	80	120	
Fe	56	2	He	101167.949	3.809	34930844	0.93	100	101167.9	80	120	
Co	59	2	He	94.811	5.961	60443	1.53	100	94.8	80	120	
Ni	60	2	He	91.769	6.664	16248	2.07	100	91.8	80	120	
Cu	63	2	He	95.389	6.128	47730	2.46	100	95.4	80	120	
Zn	66	2	He	94.098	2.048	8219	3.55	100	94.1	80	120	
As	75	2	He	97.220	1.888	5414	4.32	100	97.2	80	120	
Sb	121	2	He	94.967	3.898	41874	2.52	100	95.0	80	120	
Se	78	2	He	94.361	9.713	346	5.04	100	94.4	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	589072	0.97	610209	96.54	70	125	
In	115	1	nogas	698864	0.68	742039	94.18	70	125	
Li	6	1	nogas	269451	0.63	256544	105.03	70	125	
Bi	209	1	nogas	1019159	0.69	1099361	92.70	70	125	
Ge	72	2	He	32695	4.53	34709	94.20	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	304_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T22:33:56-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	101.349	1.024	182221	0.55	100	101.3	90	110	
B	11	1	nogas	490.586	1.037	458708	1.59	500	98.1	90	110	
Na	23	1	nogas	10400.671	1.286	55866755	1.35	10000	104.0	90	110	
Mg	24	1	nogas	9544.164	0.420	35979092	0.47	10000	95.4	90	110	
Al	27	1	nogas	66.316	0.559	456976	0.62	100	66.3	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	434.192	1.621	137467	0.46	500	86.8	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9831.398	0.824	38604565	0.61	10000	98.3	90	110	
Ca	43	1	nogas	9963.606	1.139	77585	1.08	10000	99.6	90	110	
Ca	44	1	nogas	10321.697	1.367	1291546	0.24	10000	103.2	90	110	
Ti	47	1	nogas	95.535	2.592	37137	1.46	100	95.5	90	110	
V	51	1	nogas	83.484	2.864	589340	1.18	100	83.5	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	96.662	2.370	479639	1.20	100	96.7	90	110	
Mn	55	1	nogas	98.253	2.467	625951	1.36	100	98.3	90	110	
Fe	56	1	nogas	9753.788	1.696	51201104	0.75	10000	97.5	90	110	
Co	59	1	nogas	96.714	1.741	493233	0.73	100	96.7	90	110	
Ni	60	1	nogas	95.258	1.774	108452	0.75	100	95.3	90	110	
Cu	63	1	nogas	96.849	2.352	275122	1.49	100	96.8	90	110	
Zn	66	1	nogas	98.034	1.018	94224	1.53	100	98.0	90	110	
As	75	1	nogas	87.104	2.968	103352	1.95	100	87.1	90	110	CCV Main CR1-2 Failed
Se	77	1	nogas	13.433	72.024	7352	4.01	100	13.4	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	95.196	12.719	5118	10.91	100	95.2	90	110	
Sr	88	1	nogas	105.216	2.663	782106	1.53	100	105.2	90	110	
Mo	95	1	nogas	94.358	2.123	148024	1.20	100	94.4	90	110	
Ag	107	1	nogas	96.992	1.442	404971	0.86	100	97.0	90	110	
Cd	111	1	nogas	96.877	1.484	92712	1.89	100	96.9	90	110	
Sn	118	1	nogas	96.182	0.901	271941	0.56	100	96.2	90	110	
Sb	121	1	nogas	97.095	2.085	394783	0.95	100	97.1	90	110	
Ba	137	1	nogas	98.928	0.690	140133	0.70	100	98.9	90	110	
Tl	205	1	nogas	95.600	0.558	1172127	0.33	100	95.6	90	110	
Pb	208	1	nogas	96.556	0.887	897514	1.17	100	96.6	90	110	
U	238	1	nogas	95.897	1.537	2195438	1.98	100	95.9	90	110	
Li	7	1	nogas	101.450	0.499	470443	0.69	100	101.4	90	110	
Si	28	1	nogas	4998.607	0.631	10635454	1.29	5000	100.0	90	110	
Ba	135	1	nogas	99.986	2.057	82676	2.41	100	100.0	90	110	
La	139	1	nogas	143.212	43.166	207	39.11	100	143.2	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	82.560	333.846	7	173.21	100	82.6	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	95.563	0.793	480601	0.59	100	95.6	90	110	
Na	23	2	He	10362.351	3.570	2021920	0.99	10000	103.6	90	110	
Mg	24	2	He	9394.888	2.064	864295	1.19	10000	93.9	90	110	
Al	27	2	He	65.474	11.369	3194	10.06	100	65.5	90	110	CCV Main CR1-2 Failed
K	39	2	He	9417.614	2.203	449220	0.55	10000	94.2	90	110	
Ca	43	2	He	9909.351	5.797	1227	8.17	10000	99.1	90	110	
Ca	44	2	He	9971.090	2.477	19471	5.09	10000	99.7	90	110	
V	51	2	He	93.300	1.995	33756	1.08	100	93.3	90	110	
Cr	52	2	He	95.085	0.783	43709	2.80	100	95.1	90	110	
Mn	55	2	He	93.440	1.439	21964	2.78	100	93.4	90	110	
Fe	56	2	He	9470.205	2.158	3374662	0.68	10000	94.7	90	110	
Co	59	2	He	93.398	0.795	61490	2.40	100	93.4	90	110	
Ni	60	2	He	94.470	2.371	17269	1.71	100	94.5	90	110	
Cu	63	2	He	93.427	1.295	48285	2.68	100	93.4	90	110	
Zn	66	2	He	92.757	2.683	8352	0.55	100	92.8	90	110	
As	75	2	He	92.591	3.290	5318	4.14	100	92.6	90	110	
Sb	121	2	He	94.563	3.181	43007	1.52	100	94.6	90	110	
Se	78	2	He	94.350	5.469	357	2.76	100	94.3	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	589347	1.13	610209	96.58	70	125	
In	115	1	nogas	724811	0.88	742039	97.68	70	125	
Li	6	1	nogas	270458	0.83	256544	105.42	70	125	
Bi	209	1	nogas	1059041	0.53	1099361	96.33	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	33707	2.75	34709	97.11	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	305_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T22:36:07-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	0.034	63.1	60	60.1	1	
B	11	1	nogas	23.098	26.7	44041	11.5	10	CCB Main CR1 Failed
Na	23	1	nogas	-8.637	-14.9	320782	3.1	100	
Mg	24	1	nogas	2.871	7.3	15110	5.8	100	
Al	27	1	nogas	-0.577	-9.1	7138	4.3	5	
P	31	1	nogas	-7.131	-5.2	8312	1.0	10	
K	39	1	nogas	3.069	244.8	1204085	2.4	100	
Ca	43	1	nogas	1.977	182.5	290	9.1	100	
Ca	44	1	nogas	3.216	103.1	10847	4.0	100	
Ti	47	1	nogas	0.068	75.4	63	32.9	2.5	
V	51	1	nogas	-11.801	-8.1	62261	7.9	2.5	
Cr	52	1	nogas	-0.418	-10.2	4064	4.5	2.5	
Mn	55	1	nogas	-0.234	-25.4	4341	8.1	2.5	
Fe	56	1	nogas	-6.200	-12.8	237840	1.7	100	
Co	59	1	nogas	0.037	31.6	277	21.8	2.5	
Ni	60	1	nogas	-0.282	-11.3	140	25.8	2.5	
Cu	63	1	nogas	-0.251	-16.3	1707	7.1	2.5	
Zn	66	1	nogas	-0.383	-12.1	200	22.9	2.5	
As	75	1	nogas	-9.869	-6.4	13002	5.4	2.5	
Se	77	1	nogas	-75.689	-5.8	4004	5.1	2.5	
Se	82	1	nogas	-0.656	-54.1	240	8.3	2.5	
Sr	88	1	nogas	0.032	35.9	623	14.4	2.5	
Mo	95	1	nogas	0.106	53.3	237	37.9	2.5	
Ag	107	1	nogas	0.037	45.7	213	35.2	2.5	
Cd	111	1	nogas	0.027	43.3	33	34.6	1	
Sn	118	1	nogas	0.207	180.6	1355	78.8	5	
Sb	121	1	nogas	-0.009	-31.5	530	1.9	2.5	
Ba	137	1	nogas	-0.117	-23.7	113	35.7	2.5	
Tl	205	1	nogas	0.111	15.6	1533	15.7	1	
Pb	208	1	nogas	0.031	21.9	557	13.0	2.5	
U	238	1	nogas	0.042	16.8	1213	15.0	2.5	
Si	28	1	nogas	18.093	34.8	716319	1.7	5	CCB Main CR1 Failed
La	139	1	nogas	0.128	9098.2	23	65.5	2.5	
Au	197	1	nogas	-76.571	0.0	0	#DIV/0!	2.5	
Na	23	2	He	-18.488	-15.9	12251	4.3	100	
Mg	24	2	He	2.847	21.6	360	17.3	100	
Al	27	2	He	-1.988	-40.8	53	71.0	5	
K	39	2	He	15.790	17.0	7345	0.2	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-15.937	-67.0	37	56.8	100	
V	51	2	He	-0.113	-44.2	107	16.8	2.5	
Cr	52	2	He	0.060	251.5	163	41.7	2.5	
Mn	55	2	He	-0.109	-59.1	37	41.7	2.5	
Fe	56	2	He	1.657	33.8	1833	10.6	100	
Co	59	2	He	-0.004	-843.2	13	173.2	2.5	
Ni	60	2	He	-0.455	-24.1	40	50.0	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.597	-0.9	140	0.0	2.5	
Zn	66	2	He	0.068	427.0	40	66.1	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	-0.176	-32.9	7	50.0	2.5	
Sb	121	2	He	-0.006	-1301.6	53	65.8	2.5	
Se	78	2	He	0.546	337.3	6	115.5	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	603555	0.80	610209	98.91	70	125	
In	115	1	nogas	738496	0.44	742039	99.52	70	125	
Li	6	1	nogas	253616	1.07	256544	98.86	70	125	
Bi	209	1	nogas	1095828	1.53	1099361	99.68	70	125	
Ge	72	2	He	34341	1.96	34709	98.94	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	316_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T23:00:30-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	101.761	1.930	192579	2.39	100	101.8	90	110	
B	11	1	nogas	497.721	1.611	489379	1.81	500	99.5	90	110	
Na	23	1	nogas	10199.028	1.153	56500524	0.56	10000	102.0	90	110	
Mg	24	1	nogas	9530.010	1.569	37046513	1.03	10000	95.3	90	110	
Al	27	1	nogas	70.001	2.934	507552	2.12	100	70.0	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	435.616	3.294	145266	1.92	500	87.1	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9658.007	1.979	39976431	0.59	10000	96.6	90	110	
Ca	43	1	nogas	9599.589	3.180	78767	2.82	10000	96.0	90	110	
Ca	44	1	nogas	9787.752	1.786	1290958	0.23	10000	97.9	90	110	
Ti	47	1	nogas	92.212	4.370	37775	4.30	100	92.2	90	110	
V	51	1	nogas	91.490	1.899	667795	0.48	100	91.5	90	110	
Cr	52	1	nogas	95.661	2.227	500206	0.66	100	95.7	90	110	
Mn	55	1	nogas	97.216	2.161	652642	0.73	100	97.2	90	110	
Fe	56	1	nogas	9715.922	2.572	53734697	1.01	10000	97.2	90	110	
Co	59	1	nogas	96.937	1.479	520903	0.07	100	96.9	90	110	
Ni	60	1	nogas	95.790	2.922	114897	1.81	100	95.8	90	110	
Cu	63	1	nogas	96.038	0.740	287511	0.86	100	96.0	90	110	
Zn	66	1	nogas	96.742	1.580	97982	2.11	100	96.7	90	110	
As	75	1	nogas	92.492	1.932	114210	1.39	100	92.5	90	110	
Se	77	1	nogas	73.839	12.026	10210	3.71	100	73.8	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	92.271	4.792	5238	3.11	100	92.3	90	110	
Sr	88	1	nogas	97.760	1.226	765796	0.36	100	97.8	90	110	
Mo	95	1	nogas	93.618	1.624	154749	0.71	100	93.6	90	110	
Ag	107	1	nogas	95.101	2.345	418345	1.13	100	95.1	90	110	
Cd	111	1	nogas	96.386	1.555	95655	1.46	100	96.4	90	110	
Sn	118	1	nogas	93.095	0.084	273000	0.64	100	93.1	90	110	
Sb	121	1	nogas	94.898	2.183	406578	1.38	100	94.9	90	110	
Ba	137	1	nogas	97.940	1.799	143871	1.45	100	97.9	90	110	
Tl	205	1	nogas	95.798	0.366	1215830	0.65	100	95.8	90	110	
Pb	208	1	nogas	96.685	1.958	930281	2.07	100	96.7	90	110	
U	238	1	nogas	95.286	0.406	2258032	0.90	100	95.3	90	110	
Li	7	1	nogas	104.421	2.106	508976	2.47	100	104.4	90	110	
Si	28	1	nogas	4985.894	3.039	11177043	1.72	5000	99.7	90	110	
Ba	135	1	nogas	95.963	2.608	82285	2.12	100	96.0	90	110	
La	139	1	nogas	160.159	30.632	237	28.13	100	160.2	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-76.571	0.000	0	#DIV/0!	100	-76.6	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	96.233	0.564	500991	1.14	100	96.2	90	110	
Na	23	2	He	10025.318	0.878	2020160	1.40	10000	100.3	90	110	
Mg	24	2	He	9305.308	1.748	883469	0.87	10000	93.1	90	110	
Al	27	2	He	68.118	4.282	3424	3.20	100	68.1	90	110	CCV Main CR1-2 Failed
K	39	2	He	9396.837	1.199	462667	1.40	10000	94.0	90	110	
Ca	43	2	He	9104.846	14.008	1163	15.39	10000	91.0	90	110	
Ca	44	2	He	9551.442	1.674	19237	0.49	10000	95.5	90	110	
V	51	2	He	94.589	1.069	35319	1.15	100	94.6	90	110	
Cr	52	2	He	95.254	3.013	45166	1.36	100	95.3	90	110	
Mn	55	2	He	95.106	5.674	23053	3.72	100	95.1	90	110	
Fe	56	2	He	9349.784	1.214	3438892	1.24	10000	93.5	90	110	
Co	59	2	He	95.509	0.950	64885	1.73	100	95.5	90	110	
Ni	60	2	He	93.755	4.566	17686	3.96	100	93.8	90	110	
Cu	63	2	He	92.184	5.386	49134	3.14	100	92.2	90	110	
Zn	66	2	He	95.099	10.992	8829	9.49	100	95.1	90	110	
As	75	2	He	91.448	4.557	5416	2.52	100	91.4	90	110	
Sb	121	2	He	93.820	2.735	44036	0.68	100	93.8	90	110	
Se	78	2	He	87.957	16.882	345	17.77	100	88.0	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
Ge	72	1	nogas	620997	1.55	610209	101.77	70	125	
In	115	1	nogas	751657	0.57	742039	101.30	70	125	
Li	6	1	nogas	284644	0.46	256544	110.95	70	125	
Bi	209	1	nogas	1096256	0.76	1099361	99.72	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	34782	2.14	34709	100.21	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	317_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T23:02:42-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	0.056	23.5	93	22.3	1	
B	11	1	nogas	24.322	29.4	43337	13.4	10	CCB Main CR1 Failed
Na	23	1	nogas	64.380	4.7	661849	1.7	100	
Mg	24	1	nogas	5.392	11.4	22920	9.0	100	
Al	27	1	nogas	-0.719	-9.2	5688	7.6	5	
P	31	1	nogas	-2.979	-20.7	8822	1.3	10	
K	39	1	nogas	22.747	63.2	1182682	5.5	100	
Ca	43	1	nogas	-5.495	-96.6	213	19.5	100	
Ca	44	1	nogas	2.164	61.6	9890	2.5	100	
Ti	47	1	nogas	0.018	257.1	40	43.3	2.5	
V	51	1	nogas	-4.424	-1.4	96187	1.6	2.5	
Cr	52	1	nogas	-0.281	-5.3	4384	2.9	2.5	
Mn	55	1	nogas	-0.111	-24.8	4741	3.1	2.5	
Fe	56	1	nogas	6.261	12.1	281079	2.0	100	
Co	59	1	nogas	0.044	32.5	293	24.2	2.5	
Ni	60	1	nogas	-0.170	-12.8	250	8.0	2.5	
Cu	63	1	nogas	-0.350	-14.0	1310	8.8	2.5	
Zn	66	1	nogas	-0.292	-37.0	267	35.6	2.5	
As	75	1	nogas	-5.479	-7.8	15881	3.3	2.5	
Se	77	1	nogas	-27.699	-22.9	5451	5.5	2.5	
Se	82	1	nogas	-1.658	-28.7	173	14.5	2.5	
Sr	88	1	nogas	0.092	11.4	997	6.0	2.5	
Mo	95	1	nogas	0.006	292.5	70	37.8	2.5	
Ag	107	1	nogas	0.040	14.9	207	10.1	2.5	
Cd	111	1	nogas	0.044	28.2	47	24.7	1	
Sn	118	1	nogas	-0.009	-66.6	690	2.5	5	
Sb	121	1	nogas	-0.009	-249.8	487	18.0	2.5	
Ba	137	1	nogas	-0.119	-31.8	103	49.7	2.5	
Tl	205	1	nogas	0.116	34.0	1520	32.6	1	
Pb	208	1	nogas	0.030	22.5	520	12.6	2.5	
U	238	1	nogas	0.038	22.1	1057	19.1	2.5	
Si	28	1	nogas	52.628	13.4	726477	3.1	5	CCB Main CR1 Failed
La	139	1	nogas	-12.296	-76.4	7	173.2	2.5	
Au	197	1	nogas	3.225	4285.2	3	173.2	2.5	CCB Main CR1 Failed
Na	23	2	He	56.292	13.1	23095	2.2	100	
Mg	24	2	He	5.280	19.8	503	17.9	100	
Al	27	2	He	-0.492	-43.7	107	5.4	5	
K	39	2	He	19.374	26.3	6435	4.4	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-30.479	-11.4	7	86.6	100	
V	51	2	He	0.096	162.6	157	28.0	2.5	
Cr	52	2	He	-0.090	-55.2	80	21.7	2.5	
Mn	55	2	He	-0.018	-479.2	50	34.6	2.5	
Fe	56	2	He	2.530	46.0	1833	16.4	100	
Co	59	2	He	0.028	59.1	30	33.3	2.5	
Ni	60	2	He	-0.628	-5.9	7	86.6	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.364	-21.4	223	13.7	2.5	
Zn	66	2	He	0.140	179.3	40	50.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	-0.245	-15.8	2	86.6	2.5	
Sb	121	2	He	-0.027	-397.9	37	110.2	2.5	
Se	78	2	He	0.397	100.7	5	24.7	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	557124	1.30	610209	91.30	70	125	
In	115	1	nogas	692856	0.24	742039	93.37	70	125	
Li	6	1	nogas	243859	0.45	256544	95.06	70	125	
Bi	209	1	nogas	1034973	1.43	1099361	94.14	70	125	
Ge	72	2	He	29392	3.17	34709	84.68	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	328_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T23:27:11-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	102.105	1.423	178856	0.69	100	102.1	90	110	
B	11	1	nogas	490.852	1.920	447102	1.37	500	98.2	90	110	
Na	23	1	nogas	9687.261	1.100	53091876	1.08	10000	96.9	90	110	
Mg	24	1	nogas	9287.741	0.778	35706866	0.78	10000	92.9	90	110	
Al	27	1	nogas	68.243	1.172	476909	0.44	100	68.2	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	416.012	1.402	134108	0.54	500	83.2	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9324.111	1.685	37216353	0.85	10000	93.2	90	110	
Ca	43	1	nogas	9370.828	2.320	74073	2.44	10000	93.7	90	110	
Ca	44	1	nogas	9633.102	1.382	1224030	0.77	10000	96.3	90	110	
Ti	47	1	nogas	93.403	1.327	36853	0.53	100	93.4	90	110	
V	51	1	nogas	94.073	1.020	657846	1.60	100	94.1	90	110	
Cr	52	1	nogas	93.663	0.748	471925	0.72	100	93.7	90	110	
Mn	55	1	nogas	95.494	0.597	617676	0.68	100	95.5	90	110	
Fe	56	1	nogas	9465.969	0.403	50441929	0.66	10000	94.7	90	110	
Co	59	1	nogas	94.893	1.546	491172	1.21	100	94.9	90	110	
Ni	60	1	nogas	93.005	1.383	107493	2.15	100	93.0	90	110	
Cu	63	1	nogas	94.760	1.166	273262	0.37	100	94.8	90	110	
Zn	66	1	nogas	94.411	1.050	92113	1.52	100	94.4	90	110	
As	75	1	nogas	92.256	1.081	109788	1.35	100	92.3	90	110	
Se	77	1	nogas	87.329	6.326	10363	2.30	100	87.3	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	93.875	5.032	5131	5.46	100	93.9	90	110	
Sr	88	1	nogas	96.923	0.815	731315	0.07	100	96.9	90	110	
Mo	95	1	nogas	91.999	0.361	146490	0.88	100	92.0	90	110	
Ag	107	1	nogas	93.751	1.882	397253	1.20	100	93.8	90	110	
Cd	111	1	nogas	93.670	3.345	91545	2.97	100	93.7	90	110	
Sn	118	1	nogas	89.793	1.555	259363	1.93	100	89.8	90	110	CCV Main CR1-2 Failed
Sb	121	1	nogas	95.913	1.054	395859	1.70	100	95.9	90	110	
Ba	137	1	nogas	94.079	0.939	136122	0.96	100	94.1	90	110	
Tl	205	1	nogas	93.392	0.388	1158902	0.95	100	93.4	90	110	
Pb	208	1	nogas	93.390	0.360	878572	1.04	100	93.4	90	110	
U	238	1	nogas	90.775	1.291	2103414	2.30	100	90.8	90	110	
Li	7	1	nogas	104.791	1.258	472713	0.18	100	104.8	90	110	
Si	28	1	nogas	4818.192	2.188	10427131	1.30	5000	96.4	90	110	
Ba	135	1	nogas	93.125	1.652	78660	2.34	100	93.1	90	110	
La	139	1	nogas	107.238	26.286	163	21.50	100	107.2	90	110	
Au	197	1	nogas	2.667	5145.954	3	173.21	100	2.7	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	94.134	0.340	479137	0.77	100	94.1	90	110	
Na	23	2	He	10396.867	1.691	1879595	1.45	10000	104.0	90	110	
Mg	24	2	He	9461.752	0.230	806301	0.71	10000	94.6	90	110	
Al	27	2	He	69.990	11.295	3154	10.56	100	70.0	90	110	CCV Main CR1-2 Failed
K	39	2	He	9476.641	1.396	418725	1.86	10000	94.8	90	110	
Ca	43	2	He	9752.296	11.525	1117	11.20	10000	97.5	90	110	
Ca	44	2	He	10090.798	3.320	18236	2.83	10000	100.9	90	110	
V	51	2	He	95.376	1.624	31961	1.58	100	95.4	90	110	
Cr	52	2	He	96.281	2.478	40979	2.06	100	96.3	90	110	
Mn	55	2	He	94.206	1.076	20506	0.92	100	94.2	90	110	
Fe	56	2	He	9557.749	1.948	3154813	1.54	10000	95.6	90	110	
Co	59	2	He	97.810	2.013	59633	2.15	100	97.8	90	110	
Ni	60	2	He	94.728	3.393	16041	3.81	100	94.7	90	110	
Cu	63	2	He	96.363	1.292	46106	1.27	100	96.4	90	110	
Zn	66	2	He	98.881	4.337	8246	3.91	100	98.9	90	110	
As	75	2	He	90.467	3.591	4812	3.87	100	90.5	90	110	
Sb	121	2	He	95.355	3.684	40179	3.94	100	95.4	90	110	
Se	78	2	He	94.991	10.183	333	9.61	100	95.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	598104	0.79	610209	98.02	70	125	
In	115	1	nogas	740294	1.09	742039	99.76	70	125	
Li	6	1	nogas	263516	1.34	256544	102.72	70	125	
Bi	209	1	nogas	1071846	1.10	1099361	97.50	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	31212	0.50	34709	89.92	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	329_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T23:29:22-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	0.048	47.1	80	45.1	1	
B	11	1	nogas	20.755	27.7	39882	10.6	10	CCB Main CR1 Failed
Na	23	1	nogas	45.924	6.5	585148	1.8	100	
Mg	24	1	nogas	5.634	6.9	24423	7.1	100	
Al	27	1	nogas	-0.775	-11.3	5418	9.8	5	
P	31	1	nogas	-3.471	-57.4	8829	5.4	10	
K	39	1	nogas	4.707	154.9	1136108	2.6	100	
Ca	43	1	nogas	-2.366	-86.8	240	7.2	100	
Ca	44	1	nogas	1.959	295.0	10026	6.1	100	
Ti	47	1	nogas	0.025	263.1	43	58.1	2.5	
V	51	1	nogas	1.180	46.0	127660	1.4	2.5	
Cr	52	1	nogas	-0.258	-12.9	4564	2.5	2.5	
Mn	55	1	nogas	-0.137	-15.5	4664	3.6	2.5	
Fe	56	1	nogas	6.321	25.1	286035	1.9	100	
Co	59	1	nogas	0.026	16.9	207	11.2	2.5	
Ni	60	1	nogas	-0.122	-39.5	307	18.0	2.5	
Cu	63	1	nogas	-0.265	-19.7	1563	8.0	2.5	
Zn	66	1	nogas	-0.308	-18.6	257	21.5	2.5	
As	75	1	nogas	-2.009	-26.1	19264	2.9	2.5	
Se	77	1	nogas	2.176	696.3	6648	7.8	2.5	
Se	82	1	nogas	-1.374	-103.7	190	36.8	2.5	
Sr	88	1	nogas	0.087	11.4	977	6.3	2.5	
Mo	95	1	nogas	0.032	54.8	110	24.1	2.5	
Ag	107	1	nogas	0.027	47.1	157	32.8	2.5	
Cd	111	1	nogas	0.022	101.6	27	78.1	1	
Sn	118	1	nogas	-0.029	-124.3	643	15.3	5	
Sb	121	1	nogas	0.016	167.7	593	18.0	2.5	
Ba	137	1	nogas	-0.089	-4.0	147	3.9	2.5	
Tl	205	1	nogas	0.128	4.8	1687	5.5	1	
Pb	208	1	nogas	0.024	32.2	477	13.5	2.5	
U	238	1	nogas	0.041	27.0	1140	23.4	2.5	
Si	28	1	nogas	32.214	22.4	699313	1.4	5	CCB Main CR1 Failed
La	139	1	nogas	-1.614	-495.9	20	50.0	2.5	
Au	197	1	nogas	317.439	155.1	17	124.9	2.5	CCB Main CR1 Failed
Na	23	2	He	42.356	12.7	22187	2.5	100	
Mg	24	2	He	5.375	18.9	547	17.6	100	
Al	27	2	He	-1.137	-108.6	87	63.5	5	
K	39	2	He	6.556	193.9	6311	7.4	100	
Ca	43	2	He	0.000	#DIV/0!	0	#DIV/0!	100	
Ca	44	2	He	-8.344	-384.6	47	121.8	100	
V	51	2	He	0.136	37.1	182	10.8	2.5	
Cr	52	2	He	-0.111	-83.7	77	49.4	2.5	
Mn	55	2	He	-0.095	-144.3	37	83.3	2.5	
Fe	56	2	He	1.894	15.5	1757	6.2	100	
Co	59	2	He	0.019	45.7	27	21.7	2.5	
Ni	60	2	He	-0.572	-15.6	17	91.7	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.368	-49.0	237	35.4	2.5	
Zn	66	2	He	-0.006	-6560.3	30	100.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	-0.249	-14.4	2	86.6	2.5	
Sb	121	2	He	0.005	589.1	53	21.7	2.5	
Se	78	2	He	1.086	205.0	7	103.3	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	566457	1.02	610209	92.83	70	125	
In	115	1	nogas	700919	0.62	742039	94.46	70	125	
Li	6	1	nogas	240306	1.35	256544	93.67	70	125	
Bi	209	1	nogas	1055246	1.58	1099361	95.99	70	125	
Ge	72	2	He	31419	1.83	34709	90.52	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	340_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T23:53:41-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	102.603	1.428	174700	0.19	100	102.6	90	110	
B	11	1	nogas	509.922	2.071	450481	1.05	500	102.0	90	110	
Na	23	1	nogas	10007.249	1.178	50259952	0.47	10000	100.1	90	110	
Mg	24	1	nogas	9508.277	0.794	33506743	0.58	10000	95.1	90	110	
Al	27	1	nogas	69.433	1.089	457568	0.45	100	69.4	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	429.942	1.848	130418	0.73	500	86.0	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9672.822	2.232	36378073	1.09	10000	96.7	90	110	
Ca	43	1	nogas	9606.891	2.020	71623	1.02	10000	96.1	90	110	
Ca	44	1	nogas	9846.495	1.195	1180069	0.22	10000	98.5	90	110	
Ti	47	1	nogas	95.191	2.893	35426	1.81	100	95.2	90	110	
V	51	1	nogas	95.487	1.607	628039	0.89	100	95.5	90	110	
Cr	52	1	nogas	96.230	0.247	457255	0.93	100	96.2	90	110	
Mn	55	1	nogas	96.343	0.330	587839	0.89	100	96.3	90	110	
Fe	56	1	nogas	9569.004	0.688	48099510	0.42	10000	95.7	90	110	
Co	59	1	nogas	96.869	1.486	473032	1.70	100	96.9	90	110	
Ni	60	1	nogas	95.872	1.498	104521	2.44	100	95.9	90	110	
Cu	63	1	nogas	97.047	0.754	263965	0.96	100	97.0	90	110	
Zn	66	1	nogas	97.681	1.090	89891	1.83	100	97.7	90	110	
As	75	1	nogas	95.065	3.282	106078	2.43	100	95.1	90	110	
Se	77	1	nogas	87.310	19.661	9773	5.85	100	87.3	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	92.054	2.887	4751	3.29	100	92.1	90	110	
Sr	88	1	nogas	99.988	1.536	711667	0.47	100	100.0	90	110	
Mo	95	1	nogas	94.798	0.613	142393	0.55	100	94.8	90	110	
Ag	107	1	nogas	96.935	2.186	387467	1.25	100	96.9	90	110	
Cd	111	1	nogas	97.870	1.452	90476	1.53	100	97.9	90	110	
Sn	118	1	nogas	94.726	1.121	258734	0.68	100	94.7	90	110	
Sb	121	1	nogas	99.352	1.258	386768	0.38	100	99.4	90	110	
Ba	137	1	nogas	97.142	0.785	132931	0.19	100	97.1	90	110	
Tl	205	1	nogas	96.135	1.664	1154192	0.15	100	96.1	90	110	
Pb	208	1	nogas	96.849	0.907	881587	0.84	100	96.8	90	110	
U	238	1	nogas	95.090	0.386	2131908	1.22	100	95.1	90	110	
Li	7	1	nogas	105.418	1.126	462178	1.94	100	105.4	90	110	
Si	28	1	nogas	4935.673	1.269	10062024	1.44	5000	98.7	90	110	
Ba	135	1	nogas	97.917	1.362	78210	0.74	100	97.9	90	110	
La	139	1	nogas	116.857	7.253	167	6.93	100	116.9	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-76.571	0.000	0	#DIV/0!	100	-76.6	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	96.951	0.392	477518	1.26	100	97.0	90	110	
Na	23	2	He	10018.706	1.511	1781013	2.18	10000	100.2	90	110	
Mg	24	2	He	9419.900	2.366	788930	1.51	10000	94.2	90	110	
Al	27	2	He	68.958	2.362	3057	3.04	100	69.0	90	110	CCV Main CR1-2 Failed
K	39	2	He	9394.095	0.800	408027	1.00	10000	93.9	90	110	
Ca	43	2	He	8548.584	16.009	963	16.78	10000	85.5	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9723.124	1.966	17275	1.72	10000	97.2	90	110	
V	51	2	He	95.498	1.355	31456	1.55	100	95.5	90	110	
Cr	52	2	He	97.315	2.039	40708	0.85	100	97.3	90	110	
Mn	55	2	He	94.489	3.398	20212	2.24	100	94.5	90	110	
Fe	56	2	He	9485.782	0.854	3078064	1.92	10000	94.9	90	110	
Co	59	2	He	96.769	0.562	57991	1.04	100	96.8	90	110	
Ni	60	2	He	93.894	4.664	15624	3.74	100	93.9	90	110	
Cu	63	2	He	97.351	1.059	45778	0.79	100	97.4	90	110	
Zn	66	2	He	98.547	2.581	8079	2.85	100	98.5	90	110	
As	75	2	He	97.303	1.700	5086	2.80	100	97.3	90	110	
Sb	121	2	He	96.913	0.633	40140	1.93	100	96.9	90	110	
Se	78	2	He	90.822	8.454	313	7.17	100	90.8	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	564242	1.10	610209	92.47	70	125	
In	115	1	nogas	700181	0.63	742039	94.36	70	125	
Li	6	1	nogas	256145	1.26	256544	99.84	70	125	
Bi	209	1	nogas	1037196	1.53	1099361	94.35	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	30681	1.53	34709	88.40	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	341_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-05T23:55:52-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	0.078	23.0	130	23.1	1	
B	11	1	nogas	24.899	23.6	44061	11.4	10	CCB Main CR1 Failed
Na	23	1	nogas	8.091	8.3	387803	1.2	100	
Mg	24	1	nogas	4.113	11.6	18714	8.8	100	
Al	27	1	nogas	-0.734	-8.6	5698	6.6	5	
P	31	1	nogas	-0.908	-148.0	9583	4.7	10	
K	39	1	nogas	5.676	70.2	1142711	0.6	100	
Ca	43	1	nogas	1.112	561.1	267	17.7	100	
Ca	44	1	nogas	-3.388	-94.5	9416	3.4	100	
Ti	47	1	nogas	0.106	73.8	73	39.4	2.5	
V	51	1	nogas	-1.048	-67.9	116114	3.3	2.5	
Cr	52	1	nogas	-0.236	-37.9	4684	9.7	2.5	
Mn	55	1	nogas	-0.034	-111.4	5301	4.9	2.5	
Fe	56	1	nogas	2.841	76.3	269308	3.4	100	
Co	59	1	nogas	0.030	36.4	230	23.0	2.5	
Ni	60	1	nogas	-0.214	-6.9	207	7.4	2.5	
Cu	63	1	nogas	-0.312	-5.6	1440	3.5	2.5	
Zn	66	1	nogas	-0.320	-11.4	247	13.0	2.5	
As	75	1	nogas	-2.354	-25.0	19004	2.5	2.5	
Se	77	1	nogas	-7.722	-201.8	6298	8.7	2.5	
Se	82	1	nogas	-1.999	-96.2	160	59.6	2.5	
Sr	88	1	nogas	0.045	21.5	680	10.3	2.5	
Mo	95	1	nogas	0.007	137.0	73	20.8	2.5	
Ag	107	1	nogas	0.045	20.4	230	15.7	2.5	
Cd	111	1	nogas	0.011	148.1	17	91.7	1	
Sn	118	1	nogas	-0.003	-841.3	723	9.2	5	
Sb	121	1	nogas	-0.006	-513.9	510	23.8	2.5	
Ba	137	1	nogas	-0.121	-17.7	103	27.9	2.5	
Tl	205	1	nogas	0.117	14.5	1593	13.8	1	
Pb	208	1	nogas	0.037	7.3	613	4.7	2.5	
U	238	1	nogas	0.038	14.9	1090	12.6	2.5	
Si	28	1	nogas	39.583	18.0	715533	2.6	5	CCB Main CR1 Failed
La	139	1	nogas	3.688	551.0	27	94.4	2.5	CCB Main CR1 Failed
Au	197	1	nogas	-76.571	0.0	0	#DIV/0!	2.5	
Na	23	2	He	8.471	56.2	15654	5.3	100	
Mg	24	2	He	3.711	53.7	393	42.7	100	
Al	27	2	He	-2.246	-32.9	37	83.3	5	
K	39	2	He	7.497	58.6	6188	1.1	100	
Ca	43	2	He	29.041	173.2	3	173.2	100	
Ca	44	2	He	-13.634	-50.6	37	31.5	100	
V	51	2	He	0.141	36.4	179	7.6	2.5	
Cr	52	2	He	-0.054	-425.7	100	98.5	2.5	
Mn	55	2	He	-0.075	-164.3	40	66.1	2.5	
Fe	56	2	He	2.158	17.7	1797	8.4	100	
Co	59	2	He	0.037	160.3	37	95.8	2.5	
Ni	60	2	He	-0.446	-44.4	37	87.7	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.456	-6.1	190	5.3	2.5	
Zn	66	2	He	-0.004	-8645.5	30	88.2	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	-0.268	-14.1	1	173.2	2.5	
Sb	121	2	He	0.023	449.9	60	72.6	2.5	
Se	78	2	He	0.923	38.1	7	17.3	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	568010	0.70	610209	93.08	70	125	
In	115	1	nogas	709796	1.30	742039	95.65	70	125	
Li	6	1	nogas	245284	1.36	256544	95.61	70	125	
Bi	209	1	nogas	1078943	0.59	1099361	98.14	70	125	
Ge	72	2	He	30591	2.03	34709	88.14	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	352_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-06T00:20:09-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	105.267	0.368	163108	1.41	100	105.3	90	110	
B	11	1	nogas	494.443	3.528	398104	2.19	500	98.9	90	110	
Na	23	1	nogas	10041.399	1.027	48362543	0.74	10000	100.4	90	110	
Mg	24	1	nogas	9581.005	2.440	32378218	2.44	10000	95.8	90	110	
Al	27	1	nogas	70.112	1.268	442650	0.92	100	70.1	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	439.540	0.778	127560	0.39	500	87.9	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9765.855	1.880	35186564	1.50	10000	97.7	90	110	
Ca	43	1	nogas	9663.617	0.516	69043	0.62	10000	96.6	90	110	
Ca	44	1	nogas	9920.218	1.580	1139225	1.54	10000	99.2	90	110	
Ti	47	1	nogas	96.634	2.412	34471	3.15	100	96.6	90	110	
V	51	1	nogas	84.666	2.495	546818	2.72	100	84.7	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	96.538	0.553	439532	0.53	100	96.5	90	110	
Mn	55	1	nogas	98.279	0.650	574479	0.30	100	98.3	90	110	
Fe	56	1	nogas	9749.239	0.395	46954789	0.53	10000	97.5	90	110	
Co	59	1	nogas	97.955	1.018	458334	0.74	100	98.0	90	110	
Ni	60	1	nogas	97.087	0.828	101413	1.58	100	97.1	90	110	
Cu	63	1	nogas	97.101	1.531	253062	0.74	100	97.1	90	110	
Zn	66	1	nogas	96.583	1.053	85167	0.98	100	96.6	90	110	
As	75	1	nogas	88.215	0.703	95774	0.27	100	88.2	90	110	CCV Main CR1-2 Failed
Se	77	1	nogas	41.398	5.186	7739	0.66	100	41.4	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	101.785	2.403	5008	2.83	100	101.8	90	110	
Sr	88	1	nogas	99.687	0.689	679953	1.04	100	99.7	90	110	
Mo	95	1	nogas	94.477	1.324	135979	0.66	100	94.5	90	110	
Ag	107	1	nogas	96.521	1.512	369720	0.92	100	96.5	90	110	
Cd	111	1	nogas	98.622	1.545	84762	1.49	100	98.6	90	110	
Sn	118	1	nogas	95.586	0.994	242733	0.99	100	95.6	90	110	
Sb	121	1	nogas	98.821	0.912	368646	0.46	100	98.8	90	110	
Ba	137	1	nogas	99.816	1.147	126986	1.20	100	99.8	90	110	
Tl	205	1	nogas	97.360	0.935	1080017	1.53	100	97.4	90	110	
Pb	208	1	nogas	97.953	0.707	823758	1.29	100	98.0	90	110	
U	238	1	nogas	97.806	2.129	2025386	0.15	100	97.8	90	110	
Li	7	1	nogas	107.531	1.705	428527	0.96	100	107.5	90	110	
Si	28	1	nogas	4942.122	2.428	9652415	1.49	5000	98.8	90	110	
Ba	135	1	nogas	100.039	0.755	74290	0.81	100	100.0	90	110	
La	139	1	nogas	115.497	26.481	153	22.91	100	115.5	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	11.669	1309.777	3	173.21	100	11.7	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	98.208	1.861	446793	0.21	100	98.2	90	110	
Na	23	2	He	9860.699	5.567	1718818	2.82	10000	98.6	90	110	
Mg	24	2	He	9329.613	2.737	766647	1.12	10000	93.3	90	110	
Al	27	2	He	70.092	4.435	3047	4.75	100	70.1	90	110	CCV Main CR1-2 Failed
K	39	2	He	9464.471	4.832	403058	1.72	10000	94.6	90	110	
Ca	43	2	He	9871.044	19.297	1087	16.78	10000	98.7	90	110	
Ca	44	2	He	9667.760	2.399	16855	2.05	10000	96.7	90	110	
V	51	2	He	95.295	3.581	30787	0.52	100	95.3	90	110	
Cr	52	2	He	95.949	4.668	39368	2.23	100	95.9	90	110	
Mn	55	2	He	95.830	1.182	20125	3.47	100	95.8	90	110	
Fe	56	2	He	9341.565	3.092	2973252	0.70	10000	93.4	90	110	
Co	59	2	He	96.035	4.367	56443	1.97	100	96.0	90	110	
Ni	60	2	He	96.207	5.096	15701	2.91	100	96.2	90	110	
Cu	63	2	He	94.994	5.089	43813	2.33	100	95.0	90	110	
Zn	66	2	He	92.619	7.527	7465	10.59	100	92.6	90	110	
As	75	2	He	95.780	8.786	4905	5.93	100	95.8	90	110	
Sb	121	2	He	96.011	5.023	38990	2.17	100	96.0	90	110	
Se	78	2	He	97.341	13.612	329	10.63	100	97.3	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	540665	0.78	610209	88.60	70	125	
In	115	1	nogas	650957	0.06	742039	87.73	70	125	
Li	6	1	nogas	233079	1.77	256544	90.85	70	125	
Bi	209	1	nogas	958252	2.01	1099361	87.16	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	30114	3.13	34709	86.76	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	353_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-06T00:22:20-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	86.1	73	82.2	1	
B	11	1	nogas	19.957	25.1	37323	10.7	10	CCB Main CR1 Failed
Na	23	1	nogas	41.467	3.2	524993	1.1	100	
Mg	24	1	nogas	6.013	5.1	24054	3.4	100	
Al	27	1	nogas	-0.746	-4.1	5411	4.3	5	
P	31	1	nogas	1.195	146.6	9786	5.8	10	
K	39	1	nogas	16.147	3.1	1135762	1.4	100	
Ca	43	1	nogas	2.585	446.6	267	30.5	100	
Ca	44	1	nogas	2.121	196.4	9693	6.1	100	
Ti	47	1	nogas	0.067	229.4	57	97.2	2.5	
V	51	1	nogas	-10.101	-6.3	65099	5.0	2.5	
Cr	52	1	nogas	-0.461	-20.1	3480	11.0	2.5	
Mn	55	1	nogas	0.094	63.6	5848	7.2	2.5	
Fe	56	1	nogas	2.026	29.2	255044	1.8	100	
Co	59	1	nogas	0.041	46.1	270	32.3	2.5	
Ni	60	1	nogas	-0.174	-26.2	240	19.1	2.5	
Cu	63	1	nogas	-0.340	-11.4	1313	8.1	2.5	
Zn	66	1	nogas	-0.328	-12.3	230	15.7	2.5	
As	75	1	nogas	-9.207	-12.5	12328	7.0	2.5	
Se	77	1	nogas	-59.170	-21.3	4211	9.6	2.5	
Se	82	1	nogas	-1.652	-13.1	170	5.9	2.5	
Sr	88	1	nogas	0.066	2.8	800	2.5	2.5	
Mo	95	1	nogas	0.023	153.9	93	55.0	2.5	
Ag	107	1	nogas	0.038	40.6	193	29.9	2.5	
Cd	111	1	nogas	0.027	150.0	30	120.2	1	
Sn	118	1	nogas	-0.022	-359.6	640	32.3	5	
Sb	121	1	nogas	0.005	204.8	530	5.7	2.5	
Ba	137	1	nogas	-0.084	-44.3	147	33.6	2.5	
Tl	205	1	nogas	0.132	21.9	1660	20.5	1	
Pb	208	1	nogas	0.038	34.2	573	19.1	2.5	
U	238	1	nogas	0.047	1.1	1213	0.5	2.5	
Si	28	1	nogas	40.389	11.6	689477	2.3	5	CCB Main CR1 Failed
La	139	1	nogas	21.487	46.1	47	24.7	2.5	CCB Main CR1 Failed
Au	197	1	nogas	-76.571	0.0	0	#DIV/0!	2.5	
Na	23	2	He	32.822	15.1	19648	1.2	100	
Mg	24	2	He	6.858	9.9	647	10.3	100	
Al	27	2	He	-1.458	-56.2	70	51.5	5	
K	39	2	He	11.707	51.3	6278	1.1	100	
Ca	43	2	He	62.464	173.2	7	173.2	100	
Ca	44	2	He	-15.266	-44.8	33	34.6	100	
V	51	2	He	-0.102	-104.3	98	35.4	2.5	
Cr	52	2	He	-0.048	-124.9	100	26.5	2.5	
Mn	55	2	He	0.009	890.3	57	27.0	2.5	
Fe	56	2	He	2.717	21.7	1953	12.6	100	
Co	59	2	He	-0.001	-2381.8	13	114.6	2.5	
Ni	60	2	He	-0.530	-23.8	23	89.2	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.507	-17.3	163	21.5	2.5	
Zn	66	2	He	-0.076	-108.1	23	24.7	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	-0.140	-51.4	8	49.5	2.5	
Sb	121	2	He	-0.056	-163.2	27	142.0	2.5	
Se	78	2	He	-0.032	-2972.9	3	91.7	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	546147	1.20	610209	89.50	70	125	
In	115	1	nogas	673618	0.62	742039	90.78	70	125	
Li	6	1	nogas	228238	0.79	256544	88.97	70	125	
Bi	209	1	nogas	1005986	0.76	1099361	91.51	70	125	
Ge	72	2	He	30174	3.17	34709	86.93	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	364_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-06T00:46:45-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	105.865	0.967	179724	1.19	100	105.9	90	110	
B	11	1	nogas	487.197	2.768	430250	2.40	500	97.4	90	110	
Na	23	1	nogas	10090.097	1.776	52589018	0.53	10000	100.9	90	110	
Mg	24	1	nogas	9626.961	2.492	35207493	2.06	10000	96.3	90	110	
Al	27	1	nogas	69.524	0.253	480006	1.21	100	69.5	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	438.313	0.700	139100	0.78	500	87.7	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9692.843	0.331	38192345	1.04	10000	96.9	90	110	
Ca	43	1	nogas	9627.478	0.803	75208	1.87	10000	96.3	90	110	
Ca	44	1	nogas	9926.033	0.509	1246265	1.20	10000	99.3	90	110	
Ti	47	1	nogas	94.873	1.553	36993	0.42	100	94.9	90	110	
V	51	1	nogas	84.676	1.064	597853	1.72	100	84.7	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	95.754	0.502	476686	0.99	100	95.8	90	110	
Mn	55	1	nogas	97.585	0.356	623705	1.25	100	97.6	90	110	
Fe	56	1	nogas	9768.210	0.196	51436990	1.41	10000	97.7	90	110	
Co	59	1	nogas	97.771	1.231	500129	0.28	100	97.8	90	110	
Ni	60	1	nogas	96.965	1.573	110723	1.18	100	97.0	90	110	
Cu	63	1	nogas	97.286	0.587	277223	1.45	100	97.3	90	110	
Zn	66	1	nogas	98.324	1.022	94793	2.32	100	98.3	90	110	
As	75	1	nogas	88.133	0.382	104635	1.15	100	88.1	90	110	CCV Main CR1-2 Failed
Se	77	1	nogas	11.472	56.616	7298	2.22	100	11.5	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	94.651	5.463	5108	4.16	100	94.7	90	110	
Sr	88	1	nogas	100.126	1.031	746609	0.50	100	100.1	90	110	
Mo	95	1	nogas	94.755	1.158	149107	1.16	100	94.8	90	110	
Ag	107	1	nogas	96.693	0.786	404948	0.87	100	96.7	90	110	
Cd	111	1	nogas	97.531	0.668	92413	0.36	100	97.5	90	110	
Sn	118	1	nogas	96.575	0.331	270381	1.33	100	96.6	90	110	
Sb	121	1	nogas	102.188	1.139	416770	1.54	100	102.2	90	110	
Ba	137	1	nogas	100.975	1.496	141625	1.89	100	101.0	90	110	
Tl	205	1	nogas	97.547	1.146	1196829	0.54	100	97.5	90	110	
Pb	208	1	nogas	97.945	0.977	911054	0.84	100	97.9	90	110	
U	238	1	nogas	95.570	1.643	2189579	2.12	100	95.6	90	110	
Li	7	1	nogas	107.793	0.063	470654	0.24	100	107.8	90	110	
Si	28	1	nogas	4977.073	0.099	10624351	1.35	5000	99.5	90	110	
Ba	135	1	nogas	101.118	0.946	82786	1.43	100	101.1	90	110	
La	139	1	nogas	153.362	35.930	217	31.42	100	153.4	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	479.784	160.288	23	137.77	100	479.8	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	98.229	0.681	494366	0.31	100	98.2	90	110	
Na	23	2	He	9851.638	2.349	1889096	1.02	10000	98.5	90	110	
Mg	24	2	He	9217.203	2.825	832644	0.46	10000	92.2	90	110	
Al	27	2	He	69.432	11.604	3317	10.40	100	69.4	90	110	CCV Main CR1-2 Failed
K	39	2	He	9345.172	2.610	437809	0.35	10000	93.5	90	110	
Ca	43	2	He	9263.719	8.985	1127	11.24	10000	92.6	90	110	
Ca	44	2	He	9926.974	3.526	19021	1.97	10000	99.3	90	110	
V	51	2	He	93.850	2.990	33340	0.57	100	93.9	90	110	
Cr	52	2	He	94.450	1.426	42629	1.11	100	94.4	90	110	
Mn	55	2	He	96.214	5.878	22195	4.47	100	96.2	90	110	
Fe	56	2	He	9425.290	1.094	3299137	1.46	10000	94.3	90	110	
Co	59	2	He	94.808	2.935	61275	1.15	100	94.8	90	110	
Ni	60	2	He	95.702	3.379	17179	2.75	100	95.7	90	110	
Cu	63	2	He	93.072	4.003	47215	2.05	100	93.1	90	110	
Zn	66	2	He	94.166	3.966	8326	2.02	100	94.2	90	110	
As	75	2	He	97.876	3.327	5516	0.84	100	97.9	90	110	
Sb	121	2	He	96.984	2.003	43324	0.94	100	97.0	90	110	
Se	78	2	He	88.029	0.802	328	2.66	100	88.0	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
Ge	72	1	nogas	591117	1.31	610209	96.87	70	125	
In	115	1	nogas	717680	1.00	742039	96.72	70	125	
Li	6	1	nogas	255357	0.23	256544	99.54	70	125	
Bi	209	1	nogas	1059830	0.87	1099361	96.40	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	33102	2.47	34709	95.37	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	365_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-06T00:48:56-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	0.056	29.2	90	29.4	1	
B	11	1	nogas	29.307	22.2	45091	11.5	10	CCB Main CR1 Failed
Na	23	1	nogas	27.905	16.4	495872	2.5	100	
Mg	24	1	nogas	6.203	13.1	26662	12.8	100	
Al	27	1	nogas	-0.738	-6.1	5821	6.6	5	
P	31	1	nogas	1.086	84.2	10400	3.6	10	
K	39	1	nogas	20.493	10.1	1227165	1.9	100	
Ca	43	1	nogas	-11.450	-93.8	177	46.1	100	
Ca	44	1	nogas	3.577	104.0	10503	2.9	100	
Ti	47	1	nogas	-0.056	-27.2	13	43.3	2.5	
V	51	1	nogas	-11.951	-3.8	59279	5.1	2.5	
Cr	52	1	nogas	-0.457	-8.7	3730	6.6	2.5	
Mn	55	1	nogas	0.078	81.7	6131	5.6	2.5	
Fe	56	1	nogas	2.790	55.3	275760	1.8	100	
Co	59	1	nogas	0.053	4.7	350	5.0	2.5	
Ni	60	1	nogas	-0.163	-44.7	270	31.6	2.5	
Cu	63	1	nogas	-0.350	-5.0	1370	4.4	2.5	
Zn	66	1	nogas	-0.344	-13.6	230	19.0	2.5	
As	75	1	nogas	-10.622	-5.3	11844	4.9	2.5	
Se	77	1	nogas	-67.591	-1.8	4171	1.4	2.5	
Se	82	1	nogas	-1.740	-63.8	177	31.2	2.5	
Sr	88	1	nogas	0.068	33.4	863	18.5	2.5	
Mo	95	1	nogas	0.015	155.6	87	40.5	2.5	
Ag	107	1	nogas	0.046	59.2	240	48.1	2.5	
Cd	111	1	nogas	0.057	50.3	60	44.1	1	
Sn	118	1	nogas	-0.033	-56.5	647	7.3	5	
Sb	121	1	nogas	0.745	13.1	3540	12.5	2.5	
Ba	137	1	nogas	-0.034	-171.1	227	35.9	2.5	
Tl	205	1	nogas	0.115	11.3	1543	11.1	1	
Pb	208	1	nogas	0.032	39.5	550	22.0	2.5	
U	238	1	nogas	0.047	26.5	1287	22.6	2.5	
Si	28	1	nogas	42.345	11.6	738906	2.7	5	CCB Main CR1 Failed
La	139	1	nogas	16.374	146.2	43	70.5	2.5	CCB Main CR1 Failed
Au	197	1	nogas	80.649	337.7	7	173.2	2.5	CCB Main CR1 Failed
Na	23	2	He	21.903	28.8	18937	4.7	100	
Mg	24	2	He	7.058	10.3	707	9.4	100	
Al	27	2	He	-2.071	-31.6	47	61.9	5	
K	39	2	He	18.392	68.1	6995	7.0	100	
Ca	43	2	He	111.110	173.2	13	173.2	100	CCB Main CR1 Failed
Ca	44	2	He	4.739	639.1	73	78.7	100	
V	51	2	He	-0.087	-45.9	109	11.2	2.5	
Cr	52	2	He	-0.024	-69.0	117	4.9	2.5	
Mn	55	2	He	0.005	3500.5	60	60.1	2.5	
Fe	56	2	He	2.620	18.8	2047	9.2	100	
Co	59	2	He	0.018	252.3	27	108.3	2.5	
Ni	60	2	He	-0.478	-7.2	33	17.3	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.402	-39.1	227	33.7	2.5	
Zn	66	2	He	-0.056	-650.4	27	114.6	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	-0.064	-390.6	12	110.2	2.5	
Sb	121	2	He	0.615	24.1	320	21.6	2.5	
Se	78	2	He	1.587	114.5	9	68.9	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	582219	1.43	610209	95.41	70	125	
In	115	1	nogas	716068	0.80	742039	96.50	70	125	
Li	6	1	nogas	232453	1.43	256544	90.61	70	125	
Bi	209	1	nogas	1063407	1.06	1099361	96.73	70	125	
Ge	72	2	He	32171	1.47	34709	92.69	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	369_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-06T00:57:47-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	105.593	1.941	169716	2.12	100	105.6	90	110	
B	11	1	nogas	492.956	3.866	411811	2.87	500	98.6	90	110	
Na	23	1	nogas	10057.273	1.481	49332528	0.72	10000	100.6	90	110	
Mg	24	1	nogas	9626.915	0.921	33135302	1.00	10000	96.3	90	110	
Al	27	1	nogas	69.107	0.966	452721	0.92	100	69.1	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	445.973	1.877	134102	1.30	500	89.2	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9631.696	1.002	36012802	1.11	10000	96.3	90	110	
Ca	43	1	nogas	9560.538	2.115	70850	1.75	10000	95.6	90	110	
Ca	44	1	nogas	9816.170	0.648	1169373	0.59	10000	98.2	90	110	
Ti	47	1	nogas	94.507	1.065	34965	1.46	100	94.5	90	110	
V	51	1	nogas	82.661	4.802	556559	3.91	100	82.7	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	96.251	0.103	454568	0.48	100	96.3	90	110	
Mn	55	1	nogas	96.659	2.035	586126	1.63	100	96.7	90	110	
Fe	56	1	nogas	9692.728	1.124	48421585	0.68	10000	96.9	90	110	
Co	59	1	nogas	97.494	1.280	473166	0.85	100	97.5	90	110	
Ni	60	1	nogas	99.063	0.809	107318	0.99	100	99.1	90	110	
Cu	63	1	nogas	97.079	0.533	262451	0.87	100	97.1	90	110	
Zn	66	1	nogas	97.757	0.665	89409	0.94	100	97.8	90	110	
As	75	1	nogas	87.772	2.757	98952	2.43	100	87.8	90	110	CCV Main CR1-2 Failed
Se	77	1	nogas	20.500	43.702	7258	4.65	100	20.5	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	86.527	6.237	4454	6.29	100	86.5	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	99.671	0.435	705151	0.02	100	99.7	90	110	
Mo	95	1	nogas	94.700	1.122	141381	0.87	100	94.7	90	110	
Ag	107	1	nogas	97.572	1.494	387680	1.29	100	97.6	90	110	
Cd	111	1	nogas	97.692	0.448	88562	0.18	100	97.7	90	110	
Sn	118	1	nogas	94.832	1.166	254008	0.74	100	94.8	90	110	
Sb	121	1	nogas	101.380	1.025	392266	0.58	100	101.4	90	110	
Ba	137	1	nogas	99.264	2.106	133198	1.88	100	99.3	90	110	
Tl	205	1	nogas	96.633	0.278	1112866	1.25	100	96.6	90	110	
Pb	208	1	nogas	98.373	1.820	858778	1.25	100	98.4	90	110	
U	238	1	nogas	95.945	3.116	2062597	1.98	100	95.9	90	110	
Li	7	1	nogas	107.137	1.436	442990	1.35	100	107.1	90	110	
Si	28	1	nogas	4966.317	0.230	10058887	0.23	5000	99.3	90	110	
Ba	135	1	nogas	97.843	2.285	76637	1.87	100	97.8	90	110	
La	139	1	nogas	138.678	25.501	190	22.94	100	138.7	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	429.133	59.085	20	50.00	100	429.1	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	98.180	1.244	463741	0.22	100	98.2	90	110	
Na	23	2	He	9712.977	2.435	1782334	2.28	10000	97.1	90	110	
Mg	24	2	He	9293.179	1.875	803351	1.49	10000	92.9	90	110	
Al	27	2	He	74.329	4.023	3390	4.54	100	74.3	90	110	CCV Main CR1-2 Failed
K	39	2	He	9359.076	1.643	419561	1.47	10000	93.6	90	110	
Ca	43	2	He	8814.710	14.068	1023	13.30	10000	88.1	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9624.379	4.613	17646	3.77	10000	96.2	90	110	
V	51	2	He	94.010	2.428	31956	1.38	100	94.0	90	110	
Cr	52	2	He	96.469	2.769	41647	1.31	100	96.5	90	110	
Mn	55	2	He	95.427	0.310	21073	1.42	100	95.4	90	110	
Fe	56	2	He	9331.481	1.052	3124795	0.58	10000	93.3	90	110	
Co	59	2	He	98.169	4.390	60693	2.75	100	98.2	90	110	
Ni	60	2	He	98.623	1.897	16939	2.91	100	98.6	90	110	
Cu	63	2	He	93.359	2.340	45320	0.68	100	93.4	90	110	
Zn	66	2	He	93.308	8.657	7899	9.26	100	93.3	90	110	
As	75	2	He	97.673	1.749	5269	1.69	100	97.7	90	110	
Sb	121	2	He	97.745	2.262	41777	2.05	100	97.7	90	110	
Se	78	2	He	76.995	7.904	275	6.19	100	77.0	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
Ge	72	1	nogas	560798	0.44	610209	91.90	70	125	
In	115	1	nogas	686618	0.43	742039	92.53	70	125	
Li	6	1	nogas	241760	0.78	256544	94.24	70	125	
Bi	209	1	nogas	994738	1.18	1099361	90.48	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	31666	1.62	34709	91.23	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	370_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-06T00:59:59-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	24.0	90	22.2	1	
B	11	1	nogas	35.207	24.7	49245	12.3	10	CCB Main CR1 Failed
Na	23	1	nogas	9.420	10.7	386966	0.7	100	
Mg	24	1	nogas	4.429	7.5	19482	7.5	100	
Al	27	1	nogas	-0.731	-6.7	5718	5.1	5	
P	31	1	nogas	2.115	4.1	10430	1.8	10	
K	39	1	nogas	20.934	43.6	1197824	1.4	100	
Ca	43	1	nogas	-7.310	-27.2	203	5.7	100	
Ca	44	1	nogas	5.579	167.4	10483	10.4	100	
Ti	47	1	nogas	0.077	151.5	63	71.2	2.5	
V	51	1	nogas	-12.113	-3.8	56907	3.6	2.5	
Cr	52	1	nogas	-0.429	-16.1	3767	7.9	2.5	
Mn	55	1	nogas	-0.006	-547.3	5468	2.1	2.5	
Fe	56	1	nogas	-0.590	-171.5	251920	1.8	100	
Co	59	1	nogas	0.047	24.1	313	19.5	2.5	
Ni	60	1	nogas	-0.229	-39.5	190	51.8	2.5	
Cu	63	1	nogas	-0.301	-20.2	1470	11.8	2.5	
Zn	66	1	nogas	-0.393	-19.0	180	40.1	2.5	
As	75	1	nogas	-10.890	-4.2	11307	3.9	2.5	
Se	77	1	nogas	-72.346	-9.6	3887	5.2	2.5	
Se	82	1	nogas	-0.030	-3830.8	257	22.8	2.5	
Sr	88	1	nogas	0.042	38.0	663	19.2	2.5	
Mo	95	1	nogas	0.033	143.7	113	66.2	2.5	
Ag	107	1	nogas	0.047	53.3	237	41.0	2.5	
Cd	111	1	nogas	0.022	186.1	27	142.0	1	
Sn	118	1	nogas	0.018	249.3	773	16.4	5	
Sb	121	1	nogas	1.227	8.7	5338	9.5	2.5	
Ba	137	1	nogas	-0.096	-30.7	137	29.6	2.5	
Tl	205	1	nogas	0.121	30.6	1573	28.6	1	
Pb	208	1	nogas	0.028	21.2	500	11.1	2.5	
U	238	1	nogas	0.042	8.9	1143	8.4	2.5	
Si	28	1	nogas	55.658	1.9	746024	2.0	5	CCB Main CR1 Failed
La	139	1	nogas	-1.558	-901.3	20	86.6	2.5	
Au	197	1	nogas	330.104	113.4	17	91.7	2.5	CCB Main CR1 Failed
Na	23	2	He	5.233	20.9	16178	0.8	100	
Mg	24	2	He	3.221	11.4	377	7.7	100	
Al	27	2	He	-1.358	-1.3	80	0.0	5	
K	39	2	He	2.610	403.7	6415	7.6	100	
Ca	43	2	He	27.566	173.2	3	173.2	100	
Ca	44	2	He	-20.378	-15.2	27	21.7	100	
V	51	2	He	-0.135	-71.2	95	34.4	2.5	
Cr	52	2	He	-0.105	-107.4	83	60.4	2.5	
Mn	55	2	He	0.031	446.2	67	45.8	2.5	
Fe	56	2	He	1.611	42.2	1737	14.2	100	
Co	59	2	He	0.033	166.4	37	95.8	2.5	
Ni	60	2	He	-0.425	-43.7	43	74.2	2.5	

Continuing Calibration Blank (CCB) Report

Cu	63	2	He	-0.471	-15.5	197	19.3	2.5	
Zn	66	2	He	-0.140	-80.4	20	50.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
As	75	2	He	-0.150	-62.2	8	65.5	2.5	
Sb	121	2	He	1.181	17.2	577	16.5	2.5	
Se	78	2	He	1.878	59.5	11	39.0	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	567720	1.72	610209	93.04	70	125	
In	115	1	nogas	700837	1.57	742039	94.45	70	125	
Li	6	1	nogas	231310	1.50	256544	90.16	70	125	
Bi	209	1	nogas	1038212	1.15	1099361	94.44	70	125	
Ge	72	2	He	32805	1.00	34709	94.51	70	125	

Sample Report

Sample Table

Sample Name	LLICV2
Data File Name	371SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-06T01:02:12-06:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	289CALB.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	2.393	2.393	3.78	3634	0.07	2000	
B	11	1	nogas	14.071	14.071	8.68	32931	0.04	2000	
Na	23	1	nogas	207.556	207.556	0.63	1352839	0.02	200000	
Mg	24	1	nogas	207.926	207.926	0.63	723295	0.03	200000	
Al	27	1	nogas	2.794	2.794	2.41	28497	0.01	2000	
K	39	1	nogas	237.926	237.926	1.51	1989849	0.01	200000	
Ca	43	1	nogas	195.331	195.331	8.24	1713	11.40	200000	
Ca	44	1	nogas	216.963	216.963	2.61	35684	0.61	200000	
Ti	47	1	nogas	2.288	2.288	22.69	887	0.26	2000	
V	51	1	nogas	-9.538	-9.538	-6.98	70494	-0.01	2000	
Cr	52	1	nogas	1.536	1.536	1.43	13015	0.01	2000	
Mn	55	1	nogas	2.279	2.279	2.01	19321	0.01	2000	
Fe	56	1	nogas	230.381	230.381	1.58	1410969	0.02	200000	
Co	59	1	nogas	2.047	2.047	4.36	10113	0.02	2000	
Ni	60	1	nogas	1.830	1.830	4.58	2434	0.08	2000	
Cu	63	1	nogas	2.773	2.773	5.06	9786	0.03	2000	
Zn	66	1	nogas	2.574	2.574	16.08	2904	0.09	2000	
As	75	1	nogas	-7.270	-7.270	-17.06	14533	-0.05	2000	
Se	77	1	nogas	-63.920	-63.920	-13.79	4197	-1.52	2000	
Se	82	1	nogas	0.873	0.873	44.74	300	0.29	2000	
Sr	88	1	nogas	2.032	2.032	0.79	14870	0.01	2000	
Mo	95	1	nogas	2.028	2.028	4.42	3117	0.07	2000	
Ag	107	1	nogas	2.184	2.184	0.54	8813	0.02	2000	
Cd	111	1	nogas	1.908	1.908	5.93	1723	0.11	2000	
Sn	118	1	nogas	1.991	1.991	2.82	5985	0.03	2000	
Sb	121	1	nogas	3.033	3.033	4.14	12372	0.02	2000	
Ba	137	1	nogas	2.250	2.250	4.34	3254	0.07	2000	
Tl	205	1	nogas	2.046	2.046	1.41	24243	0.01	2000	
Pb	208	1	nogas	2.133	2.133	2.50	19306	0.01	2000	
U	238	1	nogas	1.955	1.955	1.46	43246	0.00	2000	
Si	28	1	nogas	130.600	130.600	7.23	887869	0.01	2000	
La	139	1	nogas	67.980	67.980	7.21	103	65.79	2000	
Au	197	1	nogas	330.945	330.945	153.10	17	1985.67	2000	
Na	23	2	He	206.309	206.309	2.41	52892	0.39	200000	
Mg	24	2	He	198.007	198.007	2.91	17426	1.14	200000	
Al	27	2	He	1.087	1.087	113.76	187	0.58	2000	
K	39	2	He	210.197	210.197	3.57	15564	1.35	200000	
Ca	43	2	He	56.701	56.701	173.21	7	850.52	200000	
Ca	44	2	He	181.579	181.579	21.32	400	45.39	200000	
V	51	2	He	1.935	1.935	8.41	803	0.24	2000	

Sample Report

Cr	52	2	He	1.872	1.872	15.21	943	0.20	2000	
Mn	55	2	He	1.665	1.665	9.84	430	0.39	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Fe	56	2	He	200.861	200.861	1.05	69268	0.29	200000	
Co	59	2	He	2.088	2.088	2.60	1323	0.16	2000	
Ni	60	2	He	1.992	1.992	25.46	460	0.43	2000	
Cu	63	2	He	2.446	2.446	17.73	1613	0.15	2000	
Zn	66	2	He	2.052	2.052	23.05	207	0.99	2000	
As	75	2	He	1.628	1.628	38.17	104	1.56	2000	
Sb	121	2	He	2.654	2.654	34.40	1200	0.22	2000	
Se	78	2	He	3.258	3.258	39.62	15	21.25	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	566449	1.43	610209	92.83	70	125	
In	115	1	nogas	681895	0.14	742039	91.89	70	125	
Li	6	1	nogas	228235	0.89	256544	88.97	70	125	
Bi	209	1	nogas	1018527	1.30	1099361	92.65	70	125	
Ge	72	2	He	32077	0.13	34709	92.42	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	LLICV5
Data File Name	372LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-06T01:04:23-06:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	6.205	0.350	9633	1.37	5	124.1	70	130	
B	11	1	nogas	24.429	8.356	41545	2.59	25	97.7	70	130	
Na	23	1	nogas	523.392	0.792	2954037	1.17	500	104.7	70	130	
Mg	24	1	nogas	520.422	1.206	1838151	1.24	500	104.1	70	130	
Al	27	1	nogas	5.726	3.174	47905	2.07	5	114.5	70	130	
P	31	1	nogas	28.971	0.705	18143	0.76	25	115.9	70	130	
K	39	1	nogas	518.238	1.039	3044393	0.91	500	103.6	70	130	
Ca	43	1	nogas	500.334	2.990	4027	2.90	500	100.1	70	130	
Ca	44	1	nogas	526.206	2.663	73270	1.85	500	105.2	70	130	
Ti	47	1	nogas	4.977	5.396	1910	5.76	5	99.5	70	130	
V	51	1	nogas	-5.956	-19.659	90454	6.52	5	-119.1	70	130	LLICV Main CR1 Failed
Cr	52	1	nogas	4.783	2.313	28577	1.38	5	95.7	70	130	
Mn	55	1	nogas	5.217	1.123	37508	1.33	5	104.3	70	130	
Fe	56	1	nogas	528.934	2.724	2936838	2.03	500	105.8	70	130	
Co	59	1	nogas	5.100	2.238	25312	1.91	5	102.0	70	130	
Ni	60	1	nogas	5.067	2.987	6018	2.86	5	101.3	70	130	
Cu	63	1	nogas	4.856	3.106	15574	2.49	5	97.1	70	130	
Zn	66	1	nogas	5.608	7.915	5744	7.62	5	112.2	70	130	
As	75	1	nogas	-3.268	-10.375	18304	2.03	5	-65.4	70	130	LLICV Main CR1 Failed
Se	77	1	nogas	-45.262	-22.053	4934	7.74	5	-905.2	70	130	LLICV Main CR1 Failed
Se	82	1	nogas	4.520	38.125	483	17.60	5	90.4	70	130	
Sr	88	1	nogas	5.150	1.247	37492	1.70	5	103.0	70	130	
Mo	95	1	nogas	4.849	1.641	7442	2.09	5	97.0	70	130	
Ag	107	1	nogas	5.347	4.612	21714	5.02	5	106.9	70	130	
Cd	111	1	nogas	5.248	1.531	4877	1.95	5	105.0	70	130	
Sn	118	1	nogas	4.975	0.521	14333	1.00	5	99.5	70	130	
Sb	121	1	nogas	5.939	5.046	23934	4.47	5	118.8	70	130	
Ba	137	1	nogas	5.383	4.374	7649	3.36	5	107.7	70	130	
Tl	205	1	nogas	4.909	1.753	59371	1.40	5	98.2	70	130	
Pb	208	1	nogas	5.033	1.087	46297	1.38	5	100.7	70	130	
U	238	1	nogas	4.911	1.280	110877	0.41	5	98.2	70	130	
Li	7	1	nogas	5.895	3.485	41525	2.88	5	117.9	70	130	
Si	28	1	nogas	361.442	4.743	1343152	2.11	25	1445.8	70	130	LLICV Main CR1 Failed
La	139	1	nogas	65.328	30.424	103	24.35	5	1306.6	70	130	LLICV Main CR1 Failed
Au	197	1	nogas	-76.571	0.000	0	#DIV/0!	5	-1531.4	70	130	LLICV Main CR1 Failed
Na	23	2	He	507.086	2.902	106346	1.02	500	101.4	70	130	
Mg	24	2	He	498.367	3.626	42919	2.71	500	99.7	70	130	
Al	27	2	He	4.765	26.318	343	16.04	5	95.3	70	130	
K	39	2	He	508.222	5.625	28363	2.94	500	101.6	70	130	
Ca	43	2	He	604.287	41.757	70	42.86	500	120.9	70	130	
Ca	44	2	He	527.594	14.765	1020	12.25	500	105.5	70	130	
V	51	2	He	4.788	6.180	1747	4.20	5	95.8	70	130	
Cr	52	2	He	5.413	6.238	2444	7.21	5	108.3	70	130	
Mn	55	2	He	5.293	6.382	1217	6.38	5	105.9	70	130	
Fe	56	2	He	506.275	3.564	169633	2.13	500	101.3	70	130	
Co	59	2	He	4.955	5.986	3060	4.58	5	99.1	70	130	
Ni	60	2	He	4.811	0.959	930	1.86	5	96.2	70	130	
Cu	63	2	He	4.493	6.844	2564	5.75	5	89.9	70	130	
Zn	66	2	He	5.681	10.016	507	7.98	5	113.6	70	130	
As	75	2	He	4.967	5.429	281	4.79	5	99.3	70	130	
Sb	121	2	He	6.162	5.851	2667	5.11	5	123.2	70	130	
Se	78	2	He	6.966	25.460	28	21.43	5	139.3	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
Ge	72	1	nogas	571803	0.46	610209	93.71	70	125	
In	115	1	nogas	703053	1.09	742039	94.75	70	125	
Li	6	1	nogas	233452	1.18	256544	91.00	70	125	
Bi	209	1	nogas	1042662	0.88	1099361	94.84	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Ge	72	2	He	31493	1.66	34709	90.73	70	125	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	373ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-06T01:06:35-06:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	122.8	23	107.9	0	ICSA Main CR1 Failed
B	11	1	nogas	-2.833	-106.0	20122	10.2	0	ICSA Main CR1 Failed
Na	23	1	nogas	94979.647	0.4	477115261	0.3	0	
Mg	24	1	nogas	93083.447	0.5	330052174	0.2	0	
Al	27	1	nogas	60958.740	1.0	398139207	0.8	0	
P	31	1	nogas	80362.612	1.0	22879562	1.1	0	
K	39	1	nogas	96311.891	0.6	357228708	0.6	0	
Ca	43	1	nogas	94146.884	0.5	709555	0.6	0	
Ca	44	1	nogas	93746.316	0.7	11309384	0.8	0	
Ti	47	1	nogas	1944.657	0.7	733359	0.7	0	
V	51	1	nogas	-19.178	-0.6	19315	2.9	0	ICSA Main CR1 Failed
Cr	52	1	nogas	-0.295	-20.3	4437	6.3	0	ICSA Main CR1 Failed
Mn	55	1	nogas	0.279	22.4	7262	5.4	0	ICSA Main CR1 Failed
Fe	56	1	nogas	95956.940	0.6	486801678	0.5	0	
Co	59	1	nogas	0.070	6.0	427	4.9	0	ICSA Main CR1 Failed
Ni	60	1	nogas	0.506	16.4	1000	9.0	0	ICSA Main CR1 Failed
Cu	63	1	nogas	0.413	28.5	3434	9.3	0	ICSA Main CR1 Failed
Zn	66	1	nogas	1.023	9.7	1493	6.1	0	ICSA Main CR1 Failed
As	75	1	nogas	-14.695	-1.7	7942	2.9	0	ICSA Main CR1 Failed
Se	77	1	nogas	-104.935	-0.3	2697	0.4	0	ICSA Main CR1 Failed
Se	82	1	nogas	-0.132	-471.1	253	12.1	0	ICSA Main CR1 Failed
Sr	88	1	nogas	0.914	0.6	6958	0.6	0	ICSA Main CR1 Failed
Mo	95	1	nogas	1968.689	2.3	2997429	2.2	0	
Ag	107	1	nogas	0.035	62.5	193	46.4	0	ICSA Main CR1 Failed
Cd	111	1	nogas	0.716	19.3	653	19.4	0	ICSA Main CR1 Failed
Sn	118	1	nogas	0.036	152.6	803	17.7	0	ICSA Main CR1 Failed
Sb	121	1	nogas	0.582	8.0	2830	6.5	0	ICSA Main CR1 Failed
Ba	137	1	nogas	-0.019	-150.0	237	16.0	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.009	34.0	227	16.7	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.092	14.3	1037	10.3	0	ICSA Main CR1 Failed
Si	28	1	nogas	55.611	6.9	751734	1.0	0	
La	139	1	nogas	75.904	13.0	113	10.2	0	
Na	23	2	He	94155.623	1.2	16752306	0.3	0	
Mg	24	2	He	91595.800	0.7	7734952	2.0	0	
Al	27	2	He	64935.584	1.2	2776360	1.6	0	
K	39	2	He	95811.391	1.4	4140724	1.0	0	
Ca	43	2	He	87734.478	7.7	9960	8.0	0	
Ca	44	2	He	96526.219	1.0	172360	1.1	0	
V	51	2	He	-0.277	-7.2	43	16.5	0	ICSA Main CR1 Failed
Cr	52	2	He	0.239	19.1	223	9.3	0	ICSA Main CR1 Failed
Mn	55	2	He	0.234	51.3	107	23.6	0	ICSA Main CR1 Failed
Fe	56	2	He	92210.902	1.1	30152573	0.6	0	
Co	59	2	He	0.031	61.6	33	34.6	0	ICSA Main CR1 Failed
Ni	60	2	He	-0.349	-56.7	53	60.3	0	ICSA Main CR1 Failed
Cu	63	2	He	-0.083	-231.8	367	23.8	0	ICSA Main CR1 Failed
Zn	66	2	He	1.287	33.7	137	27.7	0	ICSA Main CR1 Failed
As	75	2	He	-0.205	-35.7	4	86.6	0	ICSA Main CR1 Failed
Sb	121	2	He	0.445	41.7	237	33.9	0	ICSA Main CR1 Failed
Se	78	2	He	3.218	25.9	15	20.8	0	ICSA Main CR1 Failed

Interference Check Solution A (ICS-A) Report

Interference Check Solution A (ICS-A) Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	572151	0.13	610209	93.76	70	125	
In	115	1	nogas	684734	0.97	742039	92.28	70	125	
Li	6	1	nogas	225615	0.74	256544	87.94	70	125	
Bi	209	1	nogas	993099	0.90	1099361	90.33	70	125	
Ge	72	2	He	30932	1.46	34709	89.12	70	125	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	374ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-06T01:08:53-06:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	289CALB.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	108.068	2.082	172441	0.72	100	108.1	80	120	
B	11	1	nogas	561.579	1.543	462586	0.55	100	561.6	80	120	
Na	23	1	nogas	104394.968	1.231	528053828	0.96	100	104395.0	80	120	
Mg	24	1	nogas	102442.941	0.729	365791767	0.60	100	102442.9	80	120	
Al	27	1	nogas	61486.341	0.225	399746341	0.23	100	61486.3	80	120	ICSB Main CR1 Failed
K	39	1	nogas	106422.678	1.334	392798050	1.24	100	106422.7	80	120	
Ca	43	1	nogas	104172.183	0.185	781483	0.29	100	104172.2	80	120	
Ca	44	1	nogas	102946.955	1.599	12361326	1.59	100	102947.0	80	120	
Ti	47	1	nogas	2046.790	0.217	768338	0.51	100	2046.8	80	120	
V	51	1	nogas	79.104	1.814	546121	1.16	100	79.1	80	120	
Cr	52	1	nogas	95.115	1.079	456261	0.94	100	95.1	80	120	
Mn	55	1	nogas	97.237	1.014	598798	0.68	100	97.2	80	120	
Fe	56	1	nogas	105841.403	2.144	534436962	1.83	100	105841.4	80	120	
Co	59	1	nogas	97.387	1.178	480012	0.91	100	97.4	80	120	
Ni	60	1	nogas	96.586	1.336	106272	1.18	100	96.6	80	120	
Cu	63	1	nogas	96.868	1.036	265957	0.88	100	96.9	80	120	
Zn	66	1	nogas	99.066	1.847	92009	1.84	100	99.1	80	120	
As	75	1	nogas	86.055	0.415	98939	0.62	100	86.1	80	120	
Se	77	1	nogas	3.825	38.077	6748	0.76	100	3.8	80	120	
Se	82	1	nogas	99.625	4.697	5168	4.15	100	99.6	80	120	
Sr	88	1	nogas	101.522	0.564	729426	0.40	100	101.5	80	120	
Mo	95	1	nogas	2051.043	0.653	3108505	0.51	100	2051.0	80	120	
Ag	107	1	nogas	96.372	0.793	388891	1.07	100	96.4	80	120	
Cd	111	1	nogas	100.607	1.069	91793	1.64	100	100.6	80	120	
Sn	118	1	nogas	101.091	1.488	272456	1.09	100	101.1	80	120	
Sb	121	1	nogas	101.864	0.795	400280	0.67	100	101.9	80	120	
Ba	137	1	nogas	102.398	1.644	138270	1.07	100	102.4	80	120	
Tl	205	1	nogas	97.255	1.305	1113766	1.36	100	97.3	80	120	
Pb	208	1	nogas	99.975	0.177	867988	0.85	100	100.0	80	120	
U	238	1	nogas	101.670	2.392	2174002	2.52	100	101.7	80	120	
Si	28	1	nogas	5129.705	0.286	10530617	0.59	100	5129.7	80	120	ICSB Main CR1 Failed
La	139	1	nogas	293.480	29.851	380	27.73	100	293.5	80	120	ICSB Main CR1 Failed
Na	23	2	He	104918.756	2.707	18157231	0.11	100	104918.8	80	120	
Mg	24	2	He	104142.711	2.738	8553853	0.94	100	104142.7	80	120	ICSB Main CR1 Failed
Al	27	2	He	65832.234	3.869	2737239	1.23	100	65832.2	80	120	ICSB Main CR1 Failed
K	39	2	He	105636.428	2.828	4440310	0.60	100	105636.4	80	120	
Ca	43	2	He	100014.885	5.539	11037	3.17	100	100014.9	80	120	ICSB Main CR1 Failed
Ca	44	2	He	109544.293	1.984	190284	0.69	100	109544.3	80	120	ICSB Main CR1 Failed
V	51	2	He	100.219	1.637	32372	1.12	100	100.2	80	120	
Cr	52	2	He	100.565	0.501	41276	2.86	100	100.6	80	120	
Mn	55	2	He	97.956	1.480	20556	1.31	100	98.0	80	120	
Fe	56	2	He	104790.144	2.996	33330367	0.37	100	104790.1	80	120	ICSB Main CR1 Failed
Co	59	2	He	100.701	3.844	59168	1.40	100	100.7	80	120	
Ni	60	2	He	94.960	5.581	15494	3.92	100	95.0	80	120	
Cu	63	2	He	99.134	4.241	45701	2.19	100	99.1	80	120	
Zn	66	2	He	102.594	3.982	8252	5.39	100	102.6	80	120	
As	75	2	He	101.858	6.299	5222	6.59	100	101.9	80	120	
Sb	121	2	He	103.756	0.161	42154	2.53	100	103.8	80	120	
Se	78	2	He	93.935	1.741	318	2.74	100	93.9	80	120	

QC ISTD Table

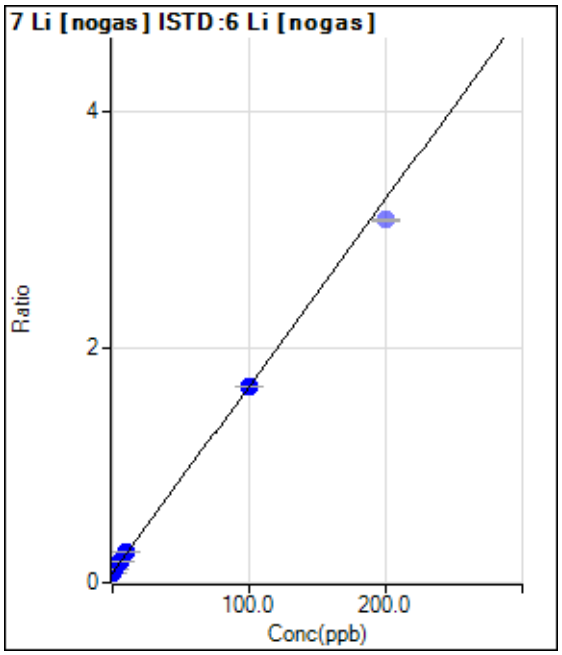
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	569529	0.33	610209	93.33	70	125	
In	115	1	nogas	691014	0.58	742039	93.12	70	125	
Li	6	1	nogas	240070	1.63	256544	93.58	70	125	
Bi	209	1	nogas	989193	0.80	1099361	89.98	70	125	
Ge	72	2	He	30100	2.66	34709	86.72	70	125	

Calibration for 026_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\010518A.b\
Analysis File: 010518A.batch.bin
DA Date-Time: 1/5/2018 10:38:02 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	020CALB.d	CAL BLK	1/5/2018 11:13:19 AM
2	021CALS.d	2/10/200	1/5/2018 11:15:31 AM
3	022CALS.d	5/25/500	1/5/2018 11:17:43 AM
4	023CALS.d	10/50/1000	1/5/2018 11:19:54 AM
5	024CALS.d	100/500/10K	1/5/2018 11:22:05 AM
6	025CALS.d	200/1000/20K	1/5/2018 11:24:17 AM
7			

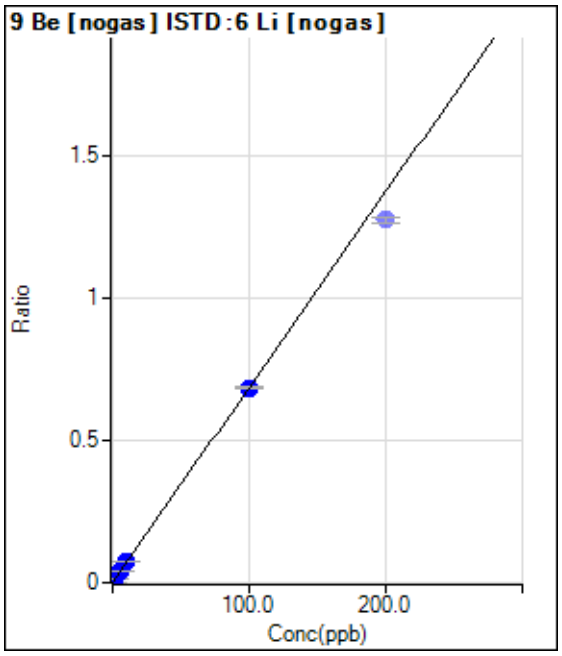
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	17395.34	0.0823	P	4.1
2	☐	2.000	2.334	25491.65	0.1193	P	3.2
3	☐	5.000	5.866	36246.89	0.1754	P	3.2
4	☐	10.000	11.065	53794.40	0.2579	P	0.8
5	☐	100.000	99.844	375027.73	1.6670	P	0.4
6	☑	200.000		732070.66	3.0826	P	0.6
7	☐	1.000					

y = 0.0159 * x + 0.0823
R = 0.9999
DL = 0.6306
BEC = 5.183

Weight: <None>
Min Conc: <None>

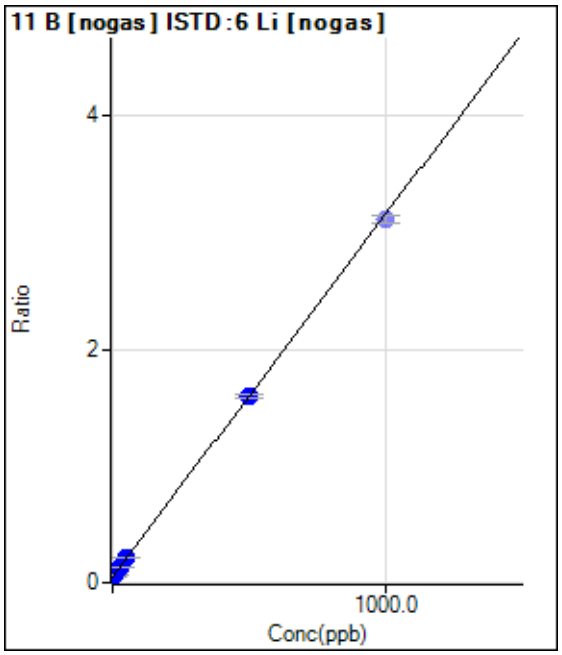


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0000	P	100.
2	☐	2.000	2.017	2966.97	0.0139	P	7.0
3	☐	5.000	5.601	7951.88	0.0385	P	3.8
4	☐	10.000	10.868	15550.29	0.0746	P	5.8
5	☐	100.000	99.883	154114.62	0.6851	P	1.4
6	☑	200.000		302651.92	1.2745	P	1.5
7	☐	1.000					

y = 0.0069 * x + 4.7682E-005
R = 1.0000
DL = 0.02096
BEC = 0.006953

Weight: <None>
Min Conc: <None>

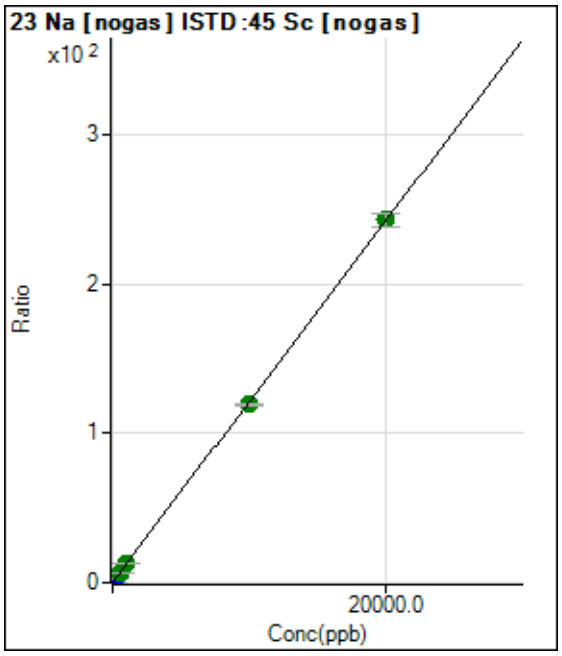
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10213.09	0.0483	P	6.7
2	☐	10.000	7.522	15320.11	0.0717	P	0.7
3	☐	25.000	25.795	26550.05	0.1285	P	4.1
4	☐	50.000	52.652	44201.42	0.2119	P	3.5
5	☐	500.000	499.745	360267.47	1.6012	P	2.2
6	☑	1000.000		738368.79	3.1097	P	2.3
7	☐	5.000					

y = 0.0031 * x + 0.0483
R = 1.0000
DL = 3.112
BEC = 15.55

Weight: <None>
Min Conc: <None>

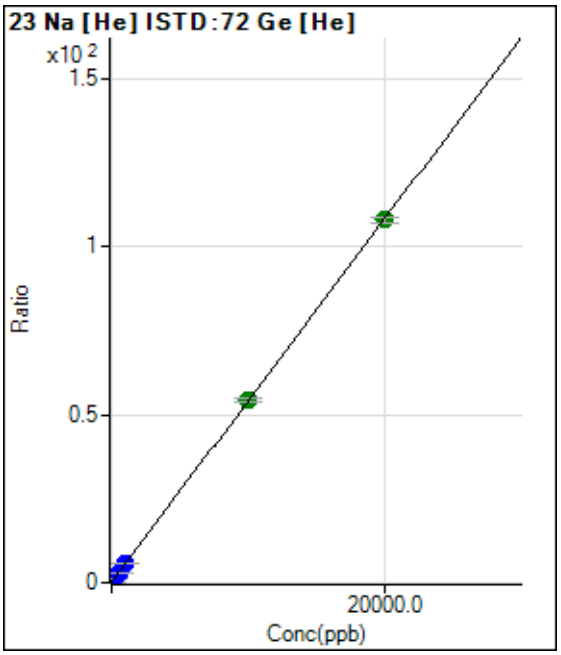


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	64798.50	0.1850	P	2.3
2	☐	200.000	219.412	985287.75	2.8379	P	2.1
3	☐	500.000	538.050	2361000.18	6.6904	A	0.9
4	☐	1000.000	1035.852	4522233.05	12.7091	A	1.5
5	☐	10000.00	9856.495	42045198.86	119.355	A	1.4
6	☐	20000.00	20068.815	85407743.58	242.828	A	3.6
7	☐	100.000					

y = 0.0121 * x + 0.1850
R = 1.0000
DL = 1.034
BEC = 15.3

Weight: <None>
Min Conc: <None>

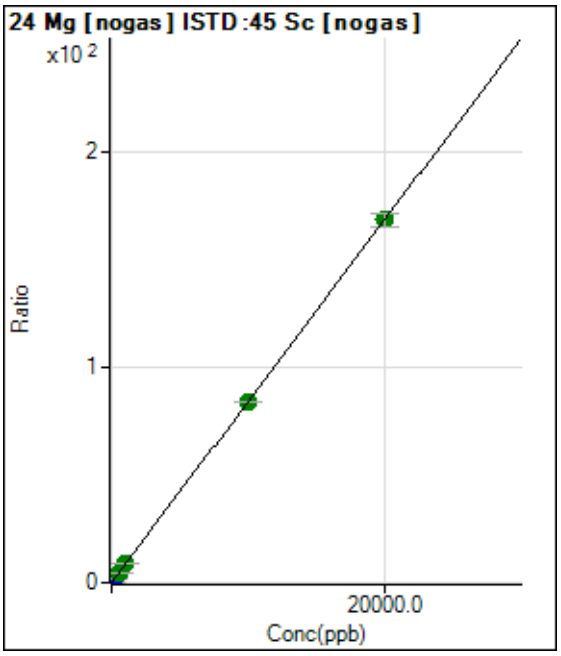
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3467.08	0.1174	P	6.6
2	☐	200.000	214.878	36885.26	1.2797	P	3.8
3	☐	500.000	521.511	87423.70	2.9384	P	0.7
4	☐	1000.000	1052.236	174307.43	5.8092	P	1.8
5	☐	10000.00	10081.109	1610580.50	54.6489	A	1.9
6	☐	20000.00	19956.147	3148098.91	108.065	A	1.3
7	☐	100.000					

y = 0.0054 * x + 0.1174
R = 1.0000
DL = 4.304
BEC = 21.7

Weight: <None>
Min Conc: <None>

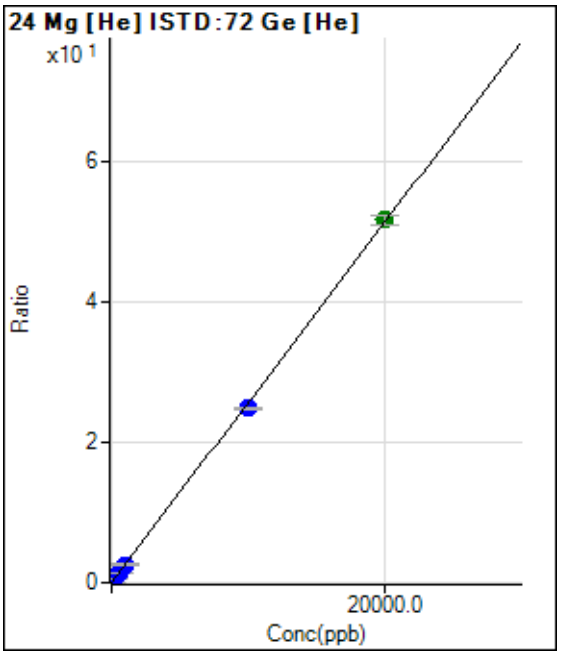


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2100.65	0.0060	P	69.4
2	☐	200.000	220.498	645769.06	1.8598	P	0.9
3	☐	500.000	550.671	1636029.07	4.6357	A	1.8
4	☐	1000.000	1062.372	3179377.29	8.9377	A	2.4
5	☐	10000.00	9980.488	29561655.87	83.9157	A	0.6
6	☐	20000.00	20005.166	59159561.74	168.197	A	3.4
7	☐	100.000					

y = 0.0084 * x + 0.0060
R = 1.0000
DL = 1.48
BEC = 0.7111

Weight: <None>
Min Conc: <None>

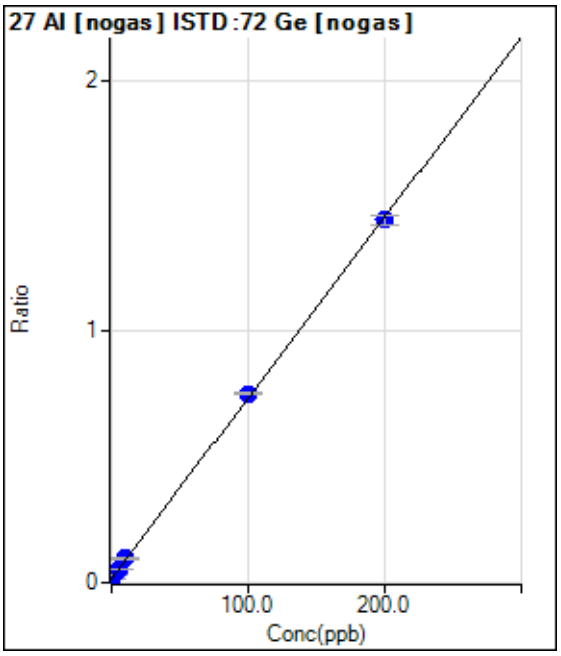
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36.67	0.0012	P	83.0
2	☐	200.000	203.031	15066.65	0.5229	P	5.5
3	☐	500.000	506.345	38742.82	1.3021	P	1.6
4	☐	1000.000	1010.580	77940.53	2.5976	P	1.9
5	☐	10000.00	9690.079	733773.40	24.8965	P	1.4
6	☐	20000.00	20154.243	1508187.01	51.7805	A	2.4
7	☐	100.000					

y = 0.0026 * x + 0.0012
R = 0.9998
DL = 1.201
BEC = 0.4821

Weight: <None>
Min Conc: <None>

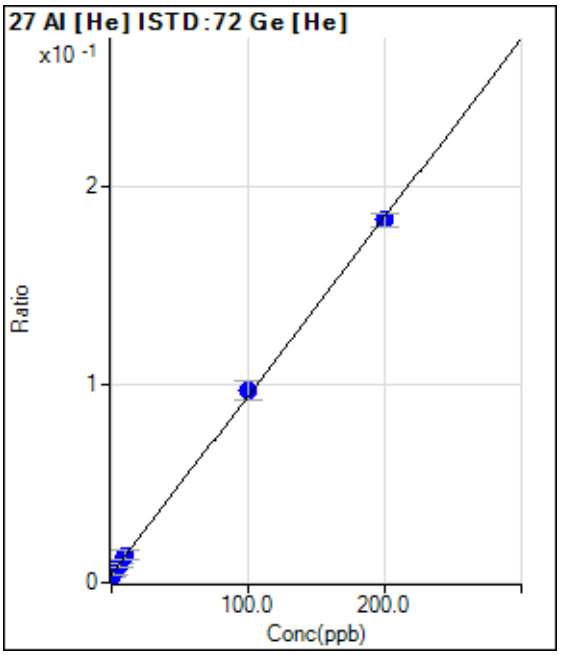


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8435.50	0.0161	P	3.5
2	☐	2.000	1.740	15070.09	0.0286	P	3.5
3	☐	5.000	5.111	28216.07	0.0529	P	1.2
4	☐	10.000	11.095	51040.65	0.0959	P	1.2
5	☐	100.000	102.543	397458.86	0.7534	P	0.9
6	☐	200.000	198.674	758098.66	1.4446	P	2.7
7	☐	1.000					

y = 0.0072 * x + 0.0161
R = 0.9999
DL = 0.2389
BEC = 2.244

Weight: <None>
Min Conc: <None>

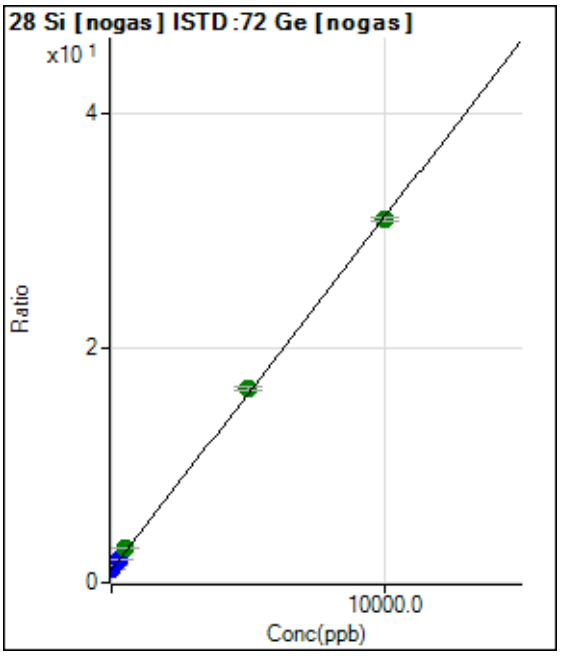
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-1.390	90.00	0.0030	P	38.4
2	☐	2.000	1.132	153.34	0.0053	P	48.8
3	☐	5.000	5.034	263.34	0.0088	P	25.4
4	☐	10.000	10.775	420.02	0.0140	P	33.7
5	☐	100.000	102.960	2866.96	0.0972	P	9.7
6	☐	200.000	198.489	5344.25	0.1834	P	3.7
7	☐	1.000					

y = 9.0223E-004 * x + 0.0043
R = 0.9998
DL = 3.89
BEC = 4.768

Weight: <None>
Min Conc: <None>

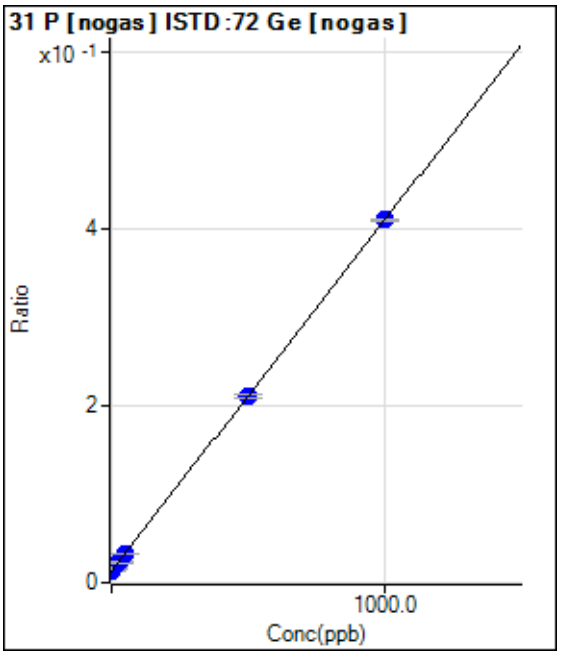


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	566648.29	1.0836	P	1.5
2	☐	100.000	108.729	742259.16	1.4111	P	1.2
3	☐	250.000	276.310	1022196.34	1.9158	P	0.2
4	☐	500.000	636.349	1596541.44	3.0001	A	1.3
5	☐	5000.000	5146.058	8746590.08	16.5818	A	2.2
6	☐	10000.00	9919.409	16246758.93	30.9574	A	1.1
7	☐	50.000					

y = 0.0030 * x + 1.0836
R = 0.9998
DL = 16.37
BEC = 359.8

Weight: <None>
Min Conc: <None>

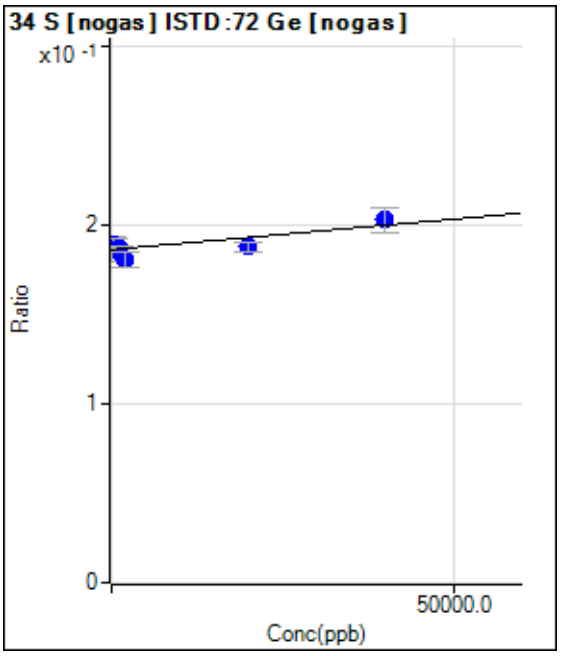
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6968.20	0.0133	P	5.9
2	☐	10.000	7.537	8575.62	0.0163	P	7.4
3	☐	25.000	24.100	12197.74	0.0229	P	4.3
4	☐	50.000	49.505	17518.98	0.0329	P	3.6
5	☐	500.000	497.367	110878.78	0.2102	P	1.8
6	☐	1000.000	1001.388	215033.89	0.4097	P	0.6
7	☐	5.000					

y = 3.9584E-004 * x + 0.0133
R = 1.0000
DL = 5.934
BEC = 33.66

Weight: <None>
Min Conc: <None>

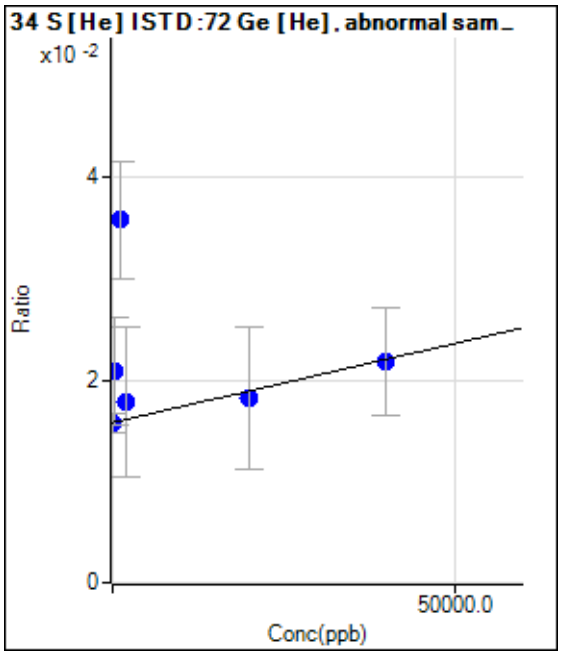


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	97522.72	0.1865	P	7.7
2	☐	400.000	7814.741	99468.60	0.1891	P	3.5
3	☐	1000.000	3392.791	100103.57	0.1876	P	0.5
4	☐	2000.000	-17073.366	96115.02	0.1806	P	4.5
5	☐	20000.00	4349.759	99130.86	0.1879	P	2.5
6	☐	40000.00	48644.821	106537.02	0.2030	P	6.8
7	☐	200.000					

y = 3.4108E-007 * x + 0.1865
R = 0.8456
DL = 1.26E+05
BEC = 5.467E+05

Weight: <None>
Min Conc: <None>

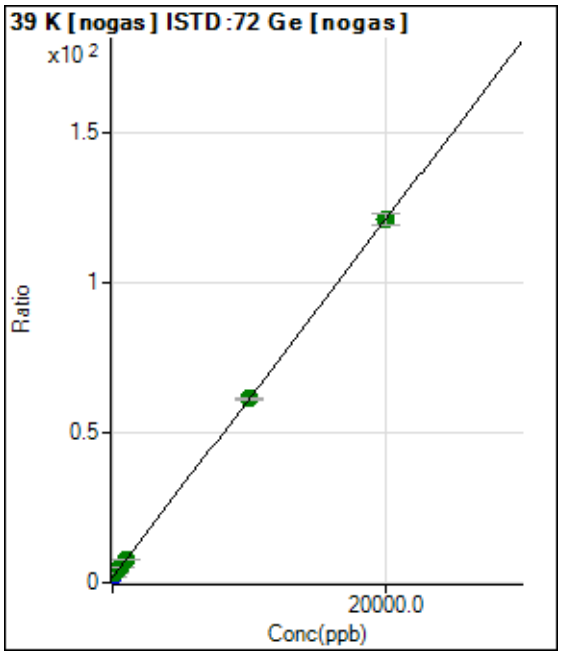
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	466.78	0.0158	P	12.5
2	☐	400.000	32927.848	600.16	0.0209	P	50.8
3	☐	1000.000	128286.117	1066.95	0.0358	P	32.4
4	☐	2000.000	12653.710	533.45	0.0178	P	83.5
5	☐	20000.00	15562.284	533.45	0.0182	P	77.3
6	☐	40000.00	38178.741	633.50	0.0218	P	48.7
7	☐	200.000					

y = 1.5592E-007 * x + 0.0158
R = -0.1055
DL = 3.793E+04
BEC = 1.014E+05

Weight: <None>
Min Conc: <None>

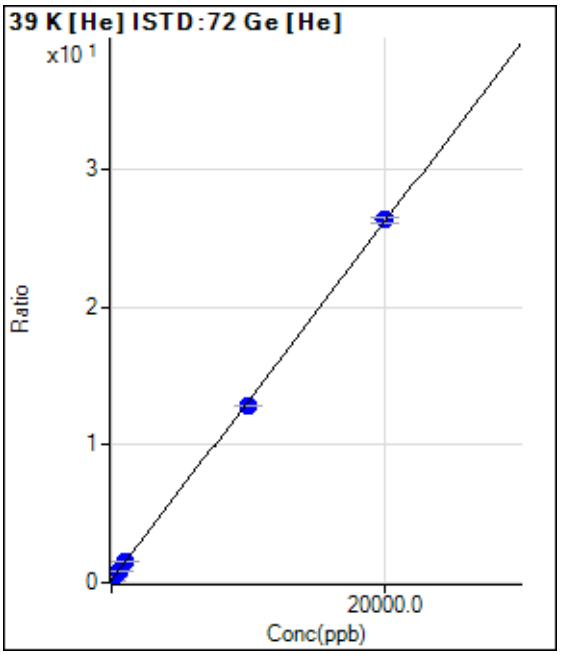


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	867942.57	1.6598	P	0.9
2	☐	200.000	221.809	1569294.34	2.9832	A	0.5
3	☐	500.000	541.887	2610670.56	4.8929	A	0.8
4	☐	1000.000	1059.215	4246746.45	7.9795	A	0.7
5	☐	10000.00	10003.895	32361531.97	61.3469	A	0.7
6	☐	20000.00	19993.826	63469378.50	120.950	A	3.0
7	☐	100.000					

y = 0.0060 * x + 1.6598
R = 1.0000
DL = 7.677
BEC = 278.2

Weight: <None>
Min Conc: <None>

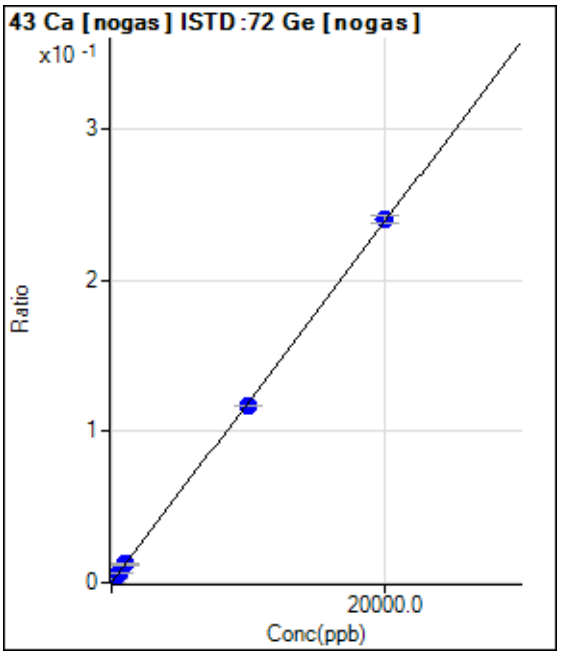
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5360.92	0.1816	P	5.5
2	☐	200.000	201.535	12788.24	0.4438	P	5.0
3	☐	500.000	503.154	24878.11	0.8362	P	3.7
4	☐	1000.000	1036.133	45886.97	1.5297	P	3.8
5	☐	10000.00	9751.885	379359.24	12.8698	P	0.8
6	☐	20000.00	20122.156	767878.24	26.3626	P	1.5
7	☐	100.000					

y = 0.0013 * x + 0.1816
R = 0.9999
DL = 22.95
BEC = 139.6

Weight: <None>
Min Conc: <None>

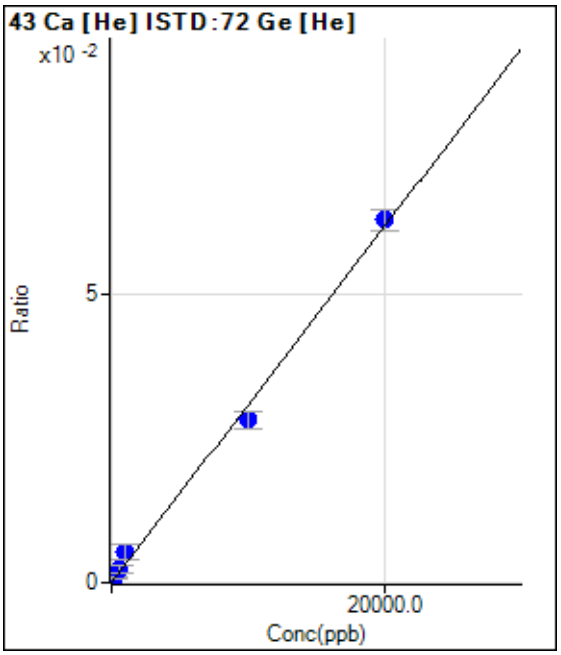


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	93.33	0.0002	P	60.9
2	☐	200.000	227.371	1520.10	0.0029	P	8.9
3	☐	500.000	537.611	3517.10	0.0066	P	1.7
4	☐	1000.000	1020.407	6571.38	0.0124	P	5.8
5	☐	10000.00	9775.512	61611.92	0.1168	P	0.4
6	☐	20000.00	20110.010	125990.07	0.2401	P	2.0
7	☐	100.000					

y = 1.1929E-005 * x + 1.7828E-004
R = 0.9999
DL = 27.3
BEC = 14.95

Weight: <None>
Min Conc: <None>

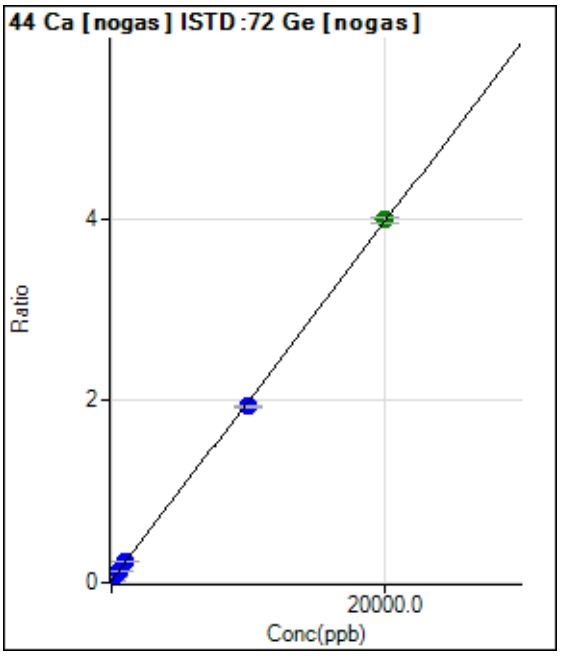
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	0.00	0.0000	P	
2	☐	200.000	262.321	23.33	0.0008	P	25.3
3	☐	500.000	763.804	70.00	0.0024	P	57.7
4	☐	1000.000	1685.717	156.67	0.0052	P	50.5
5	☐	10000.00	9168.473	833.37	0.0283	P	10.7
6	☐	20000.00	20374.259	1833.48	0.0629	P	6.1
7	☐	100.000					

y = 3.0875E-006 * x + 0.0000E+000
R = 0.9980
DL = 0
BEC = 0

Weight: <None>
Min Conc: <None>

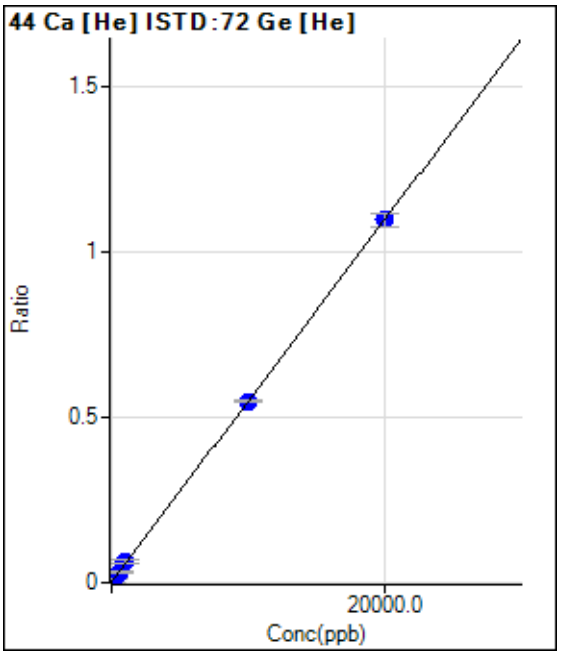


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11937.66	0.0228	P	1.7
2	☐	200.000	205.180	33262.01	0.0632	P	0.7
3	☐	500.000	511.366	65907.15	0.1235	P	1.1
4	☐	1000.000	1040.883	121231.10	0.2278	P	1.6
5	☐	10000.00	9735.714	1023329.96	1.9400	P	1.3
6	☐	20000.00	20129.763	2092636.74	3.9867	A	1.8
7	☐	100.000					

y = 1.9692E-004 * x + 0.0228
R = 0.9999
DL = 5.777
BEC = 115.9

Weight: <None>
Min Conc: <None>

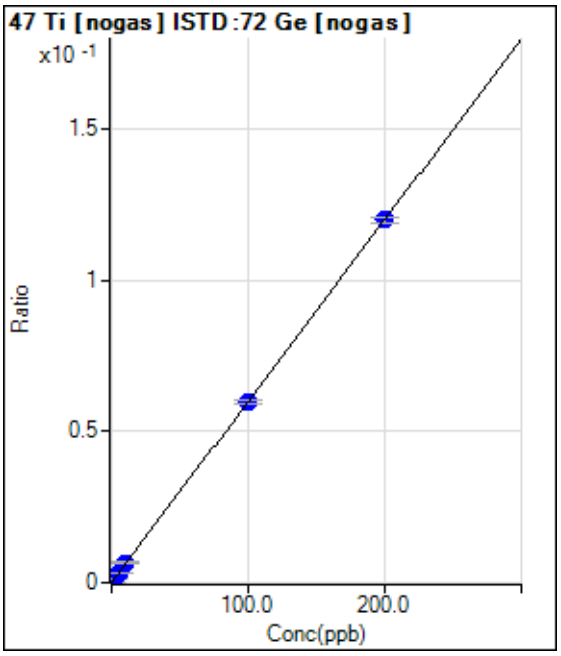
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43.33	0.0015	P	47.9
2	☐	200.000	226.471	400.02	0.0139	P	9.0
3	☐	500.000	526.936	903.37	0.0304	P	14.4
4	☐	1000.000	1120.431	1890.15	0.0629	P	14.9
5	☐	10000.00	9966.751	16154.44	0.5481	P	1.2
6	☐	20000.00	20009.665	32009.67	1.0989	P	3.8
7	☐	100.000					

y = 5.4846E-005 * x + 0.0015
R = 1.0000
DL = 38.47
BEC = 26.76

Weight: <None>
Min Conc: <None>

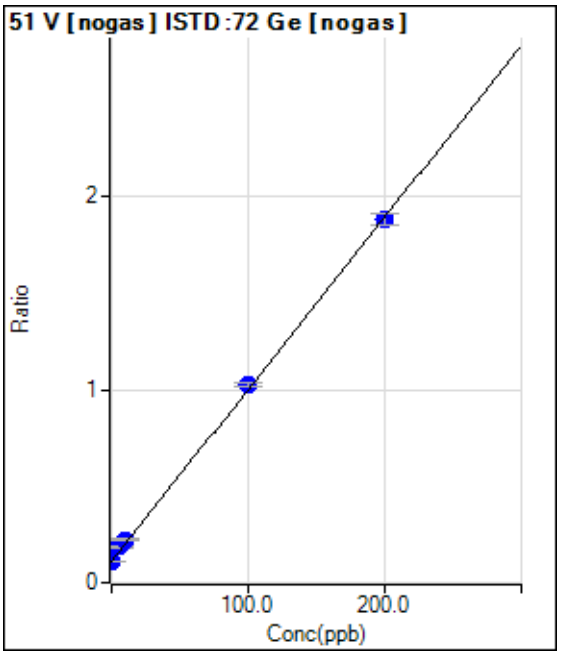


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26.67	0.0001	P	86.6
2	☐	2.000	1.994	656.70	0.0012	P	17.4
3	☐	5.000	5.217	1696.78	0.0032	P	7.7
4	☐	10.000	10.620	3417.07	0.0064	P	9.6
5	☐	100.000	99.671	31575.61	0.0599	P	1.5
6	☐	200.000	200.128	63043.89	0.1201	P	1.4
7	☐	1.000					

y = 6.0001E-004 * x + 5.0972E-005
R = 1.0000
DL = 0.2207
BEC = 0.08495

Weight: <None>
Min Conc: <None>

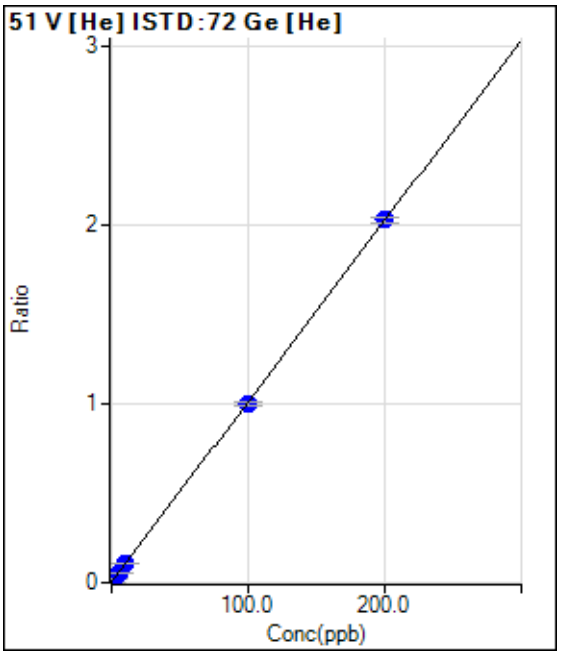
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	57974.87	0.1109	P	6.6
2	☐	2.000	7.365	92866.48	0.1765	P	1.6
3	☐	5.000	8.620	100142.64	0.1877	P	3.8
4	☐	10.000	12.588	118725.48	0.2231	P	1.4
5	☐	100.000	102.307	539562.55	1.0228	P	2.0
6	☐	200.000	198.573	987042.11	1.8809	P	3.2
7	☐	1.000					

y = 0.0089 * x + 0.1109
R = 0.9997
DL = 2.475
BEC = 12.44

Weight: <None>
Min Conc: <None>

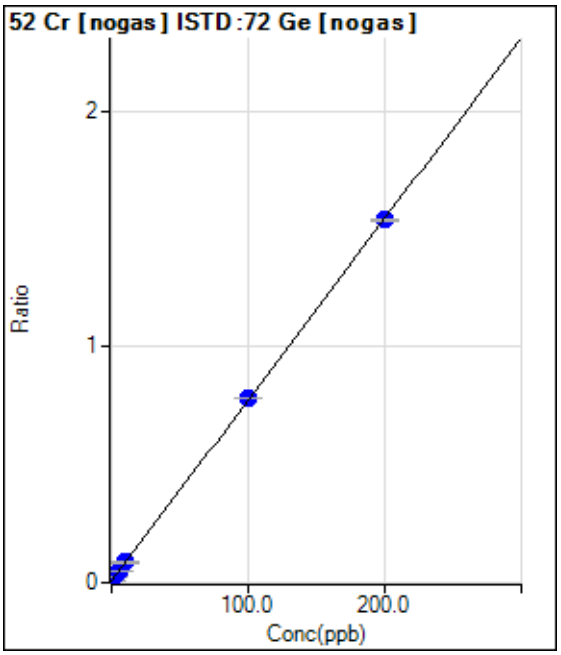


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.026	108.00	0.0037	P	14.3
2	☐	2.000	2.110	727.35	0.0253	P	9.6
3	☐	5.000	5.153	1666.75	0.0560	P	1.6
4	☐	10.000	10.375	3265.65	0.1088	P	0.7
5	☐	100.000	98.824	29558.30	1.0030	P	1.8
6	☐	200.000	200.564	59178.41	2.0316	P	1.3
7	☐	1.000					

y = 0.0101 * x + 0.0039
R = 1.0000
DL = 0.1557
BEC = 0.3881

Weight: <None>
Min Conc: <None>

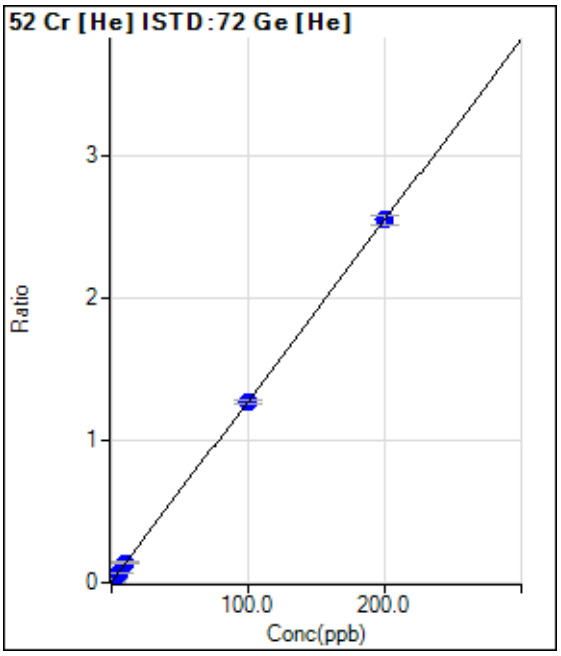
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3593.81	0.0069	P	5.1
2	☐	2.000	2.440	13465.47	0.0256	P	4.9
3	☐	5.000	5.477	26090.04	0.0489	P	2.1
4	☐	10.000	10.287	45667.08	0.0858	P	2.4
5	☐	100.000	100.955	412275.18	0.7815	P	0.6
6	☐	200.000	199.492	807025.46	1.5376	P	0.4
7	☐	1.000					

y = 0.0077 * x + 0.0069
R = 1.0000
DL = 0.1367
BEC = 0.8958

Weight: <None>
Min Conc: <None>

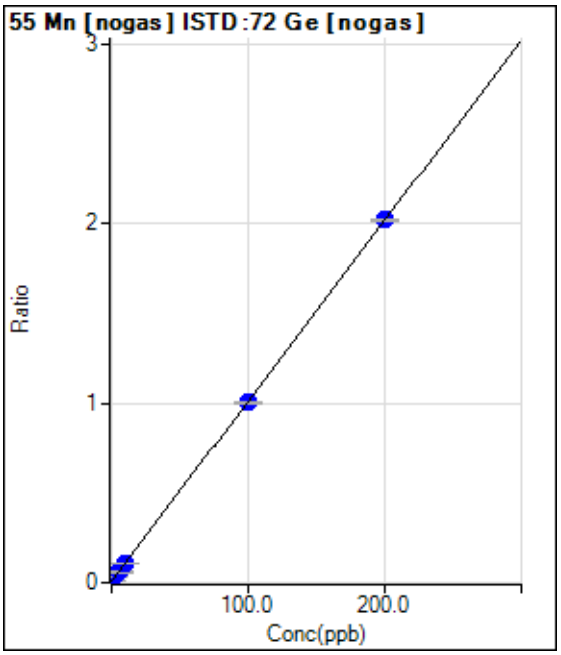


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	173.34	0.0059	P	39.8
2	☐	2.000	1.805	833.37	0.0288	P	13.3
3	☐	5.000	5.022	2073.50	0.0697	P	5.9
4	☐	10.000	10.391	4140.59	0.1379	P	6.5
5	☐	100.000	99.631	37497.55	1.2721	P	1.8
6	☐	200.000	200.166	74271.95	2.5499	P	2.8
7	☐	1.000					

y = 0.0127 * x + 0.0059
R = 1.0000
DL = 0.5522
BEC = 0.4625

Weight: <None>
Min Conc: <None>

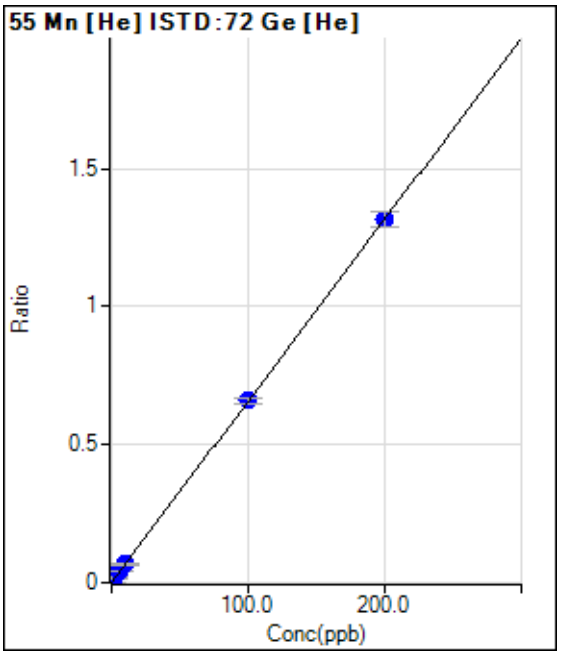
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3847.18	0.0074	P	1.1
2	☐	2.000	2.151	15226.90	0.0289	P	2.2
3	☐	5.000	5.222	31889.86	0.0598	P	4.8
4	☐	10.000	10.332	59107.54	0.1111	P	1.4
5	☐	100.000	99.043	528317.69	1.0015	P	0.8
6	☐	200.000	200.455	1059869.57	2.0195	P	0.6
7	☐	1.000					

y = 0.0100 * x + 0.0074
R = 1.0000
DL = 0.0246
BEC = 0.733

Weight: <None>
Min Conc: <None>

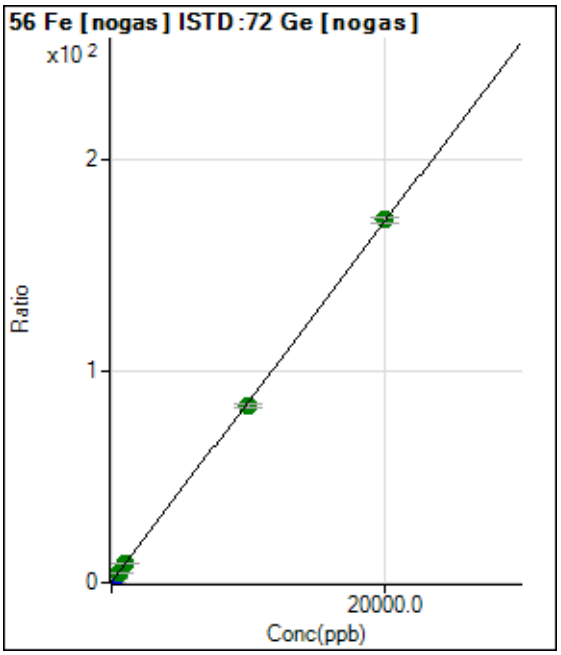


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0006	P	125.
2	☐	2.000	2.367	463.35	0.0161	P	31.0
3	☐	5.000	5.896	1170.07	0.0393	P	1.9
4	☐	10.000	10.075	2003.49	0.0668	P	9.5
5	☐	100.000	100.224	19437.99	0.6595	P	2.6
6	☐	200.000	199.858	38282.79	1.3146	P	4.3
7	☐	1.000					

y = 0.0066 * x + 5.6352E-004
R = 1.0000
DL = 0.3214
BEC = 0.08571

Weight: <None>
Min Conc: <None>

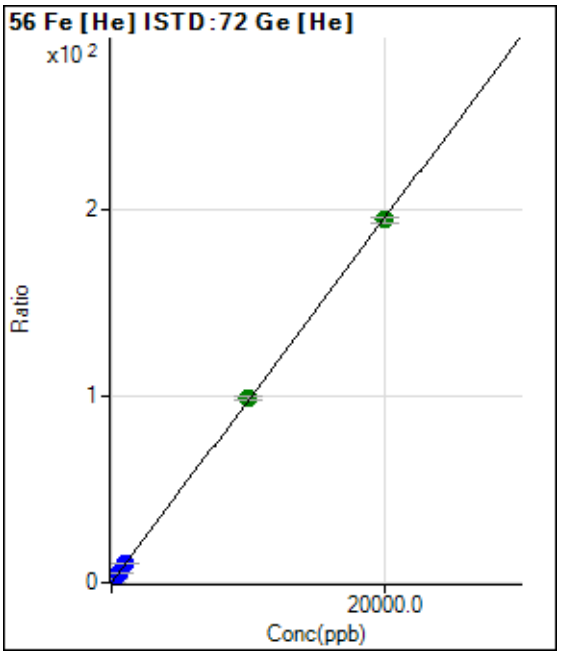
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	198494.62	0.3796	P	3.6
2	☐	200.000	209.144	1135214.28	2.1583	P	3.6
3	☐	500.000	524.956	2584526.10	4.8443	A	2.0
4	☐	1000.000	1037.992	4900068.99	9.2075	A	1.9
5	☐	10000.00	9755.454	43965425.98	83.3479	A	1.8
6	☐	20000.00	20119.658	90013012.43	171.493	A	1.5
7	☐	100.000					

y = 0.0085 * x + 0.3796
R = 0.9999
DL = 4.764
BEC = 44.63

Weight: <None>
Min Conc: <None>

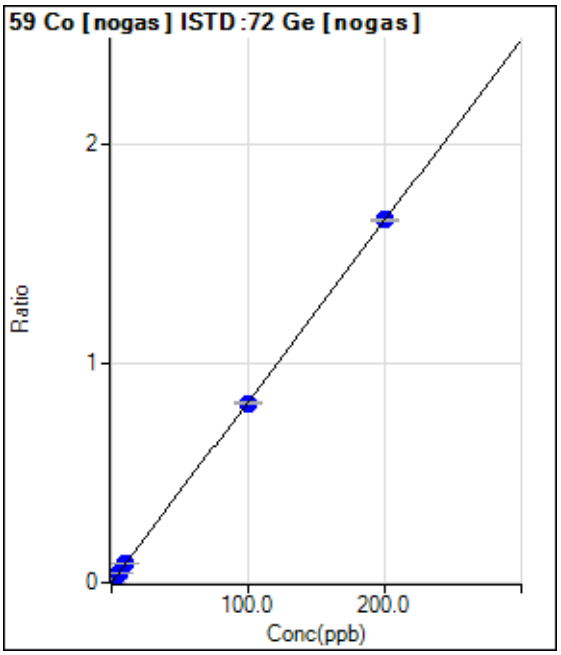


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	690.03	0.0234	P	15.2
2	☐	200.000	217.515	61887.21	2.1469	P	3.4
3	☐	500.000	535.413	156205.48	5.2505	P	1.7
4	☐	1000.000	1070.662	314350.17	10.4759	P	2.0
5	☐	10000.00	10168.334	2926201.21	99.2939	A	2.0
6	☐	20000.00	19911.239	5662790.75	194.411	A	1.5
7	☐	100.000					

y = 0.0098 * x + 0.0234
R = 1.0000
DL = 1.09
BEC = 2.395

Weight: <None>
Min Conc: <None>

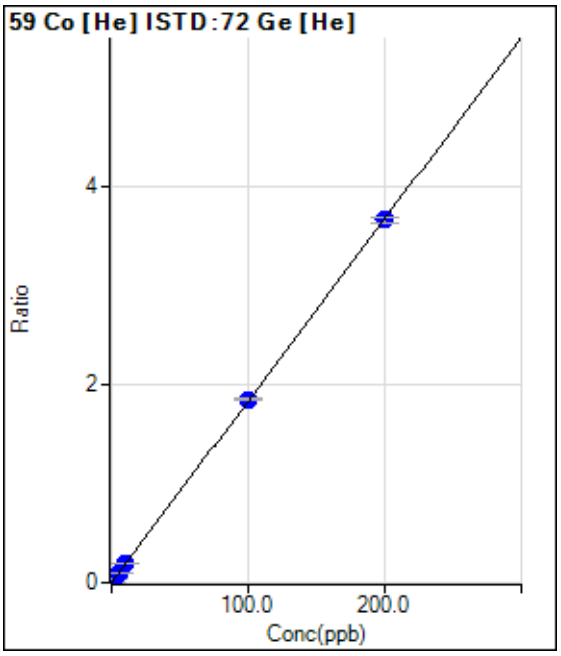
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	83.33	0.0002	P	18.3
2	☐	2.000	2.096	9175.96	0.0174	P	5.2
3	☐	5.000	5.156	22768.79	0.0427	P	2.0
4	☐	10.000	10.397	45700.82	0.0859	P	2.7
5	☐	100.000	99.153	431318.30	0.8176	P	1.1
6	☐	200.000	200.399	867237.88	1.6524	P	0.4
7	☐	1.000					

y = 0.0082 * x + 1.5935E-004
R = 1.0000
DL = 0.01061
BEC = 0.01933

Weight: <None>
Min Conc: <None>

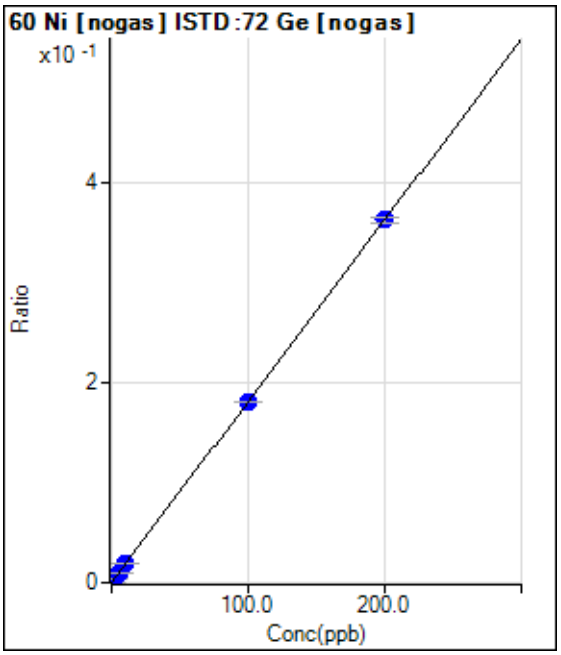


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13.33	0.0005	P	86.6
2	☐	2.000	2.419	1296.74	0.0449	P	9.7
3	☐	5.000	5.354	2943.64	0.0989	P	5.2
4	☐	10.000	10.300	5697.74	0.1899	P	4.9
5	☐	100.000	100.681	54603.31	1.8523	P	1.1
6	☐	200.000	199.631	106969.30	3.6722	P	1.4
7	☐	1.000					

y = 0.0184 * x + 4.5258E-004
R = 1.0000
DL = 0.06393
BEC = 0.02461

Weight: <None>
Min Conc: <None>

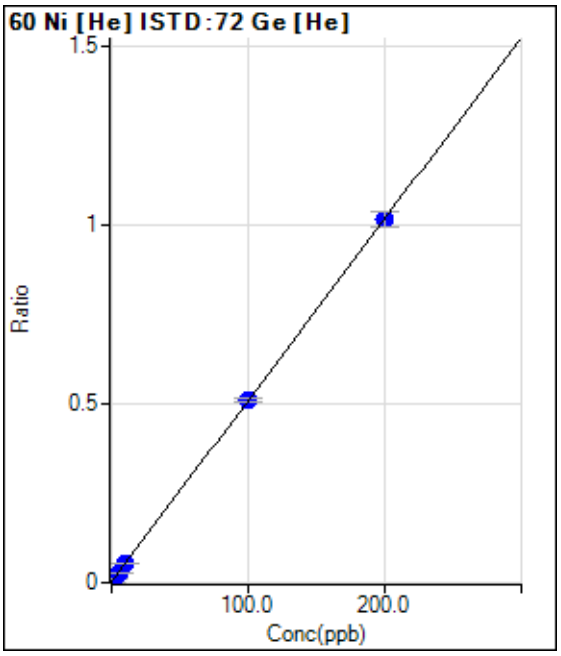
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.005	116.67	0.0002	P	21.7
2	☐	2.000	2.014	2036.83	0.0039	P	4.2
3	☐	5.000	5.039	4984.17	0.0093	P	1.7
4	☐	10.000	10.205	9939.69	0.0187	P	3.9
5	☐	100.000	99.516	95017.03	0.1801	P	0.6
6	☐	200.000	200.231	190102.05	0.3622	P	1.4
7	☐	1.000					

y = 0.0018 * x + 2.3158E-004
R = 1.0000
DL = 0.08051
BEC = 0.1281

Weight: <None>
Min Conc: <None>

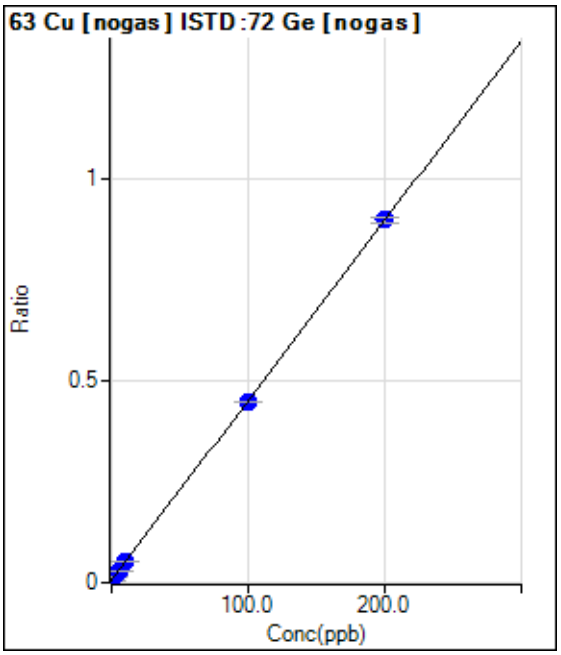


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.382	16.67	0.0006	P	124.
2	☐	2.000	1.703	320.01	0.0111	P	14.1
3	☐	5.000	4.950	820.04	0.0276	P	5.1
4	☐	10.000	10.378	1653.45	0.0551	P	4.6
5	☐	100.000	100.729	15113.52	0.5126	P	2.0
6	☐	200.000	199.621	29515.78	1.0135	P	4.3
7	☐	1.000					

y = 0.0051 * x + 0.0025
R = 1.0000
DL = 0.417
BEC = 0.4932

Weight: <None>
Min Conc: <None>

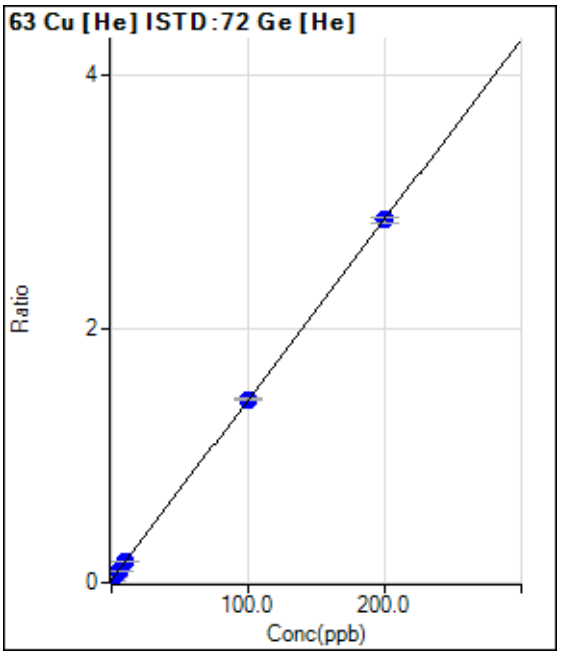
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3233.72	0.0062	P	7.9
2	☐	2.000	1.983	7905.28	0.0150	P	3.0
3	☐	5.000	5.127	15497.29	0.0291	P	6.9
4	☐	10.000	10.262	27652.61	0.0520	P	2.4
5	☐	100.000	99.154	236589.74	0.4485	P	1.0
6	☐	200.000	200.407	472440.06	0.9002	P	1.6
7	☐	1.000					

y = 0.0045 * x + 0.0062
R = 1.0000
DL = 0.3306
BEC = 1.386

Weight: <None>
Min Conc: <None>

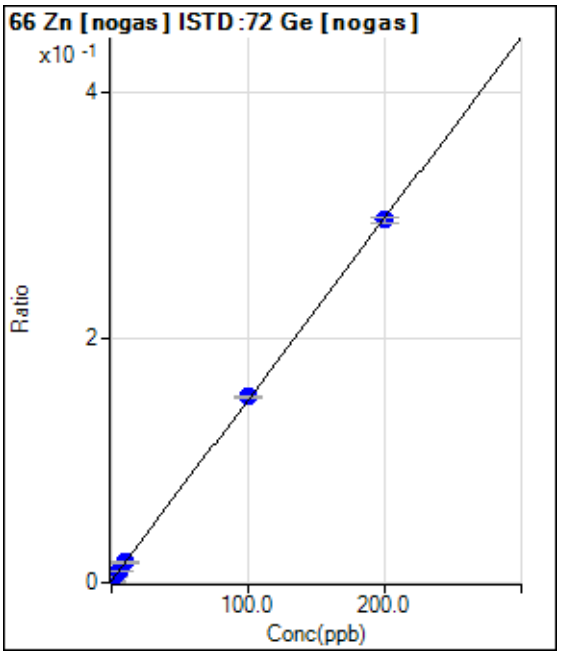


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.250	483.35	0.0164	P	18.5
2	☐	2.000	2.061	1416.76	0.0491	P	2.9
3	☐	5.000	4.728	2586.93	0.0869	P	4.5
4	☐	10.000	10.377	5010.85	0.1670	P	6.6
5	☐	100.000	100.190	42446.02	1.4402	P	1.2
6	☐	200.000	199.892	83116.89	2.8535	P	1.3
7	☐	1.000					

y = 0.0142 * x + 0.0199
R = 1.0000
DL = 0.6403
BEC = 1.404

Weight: <None>
Min Conc: <None>

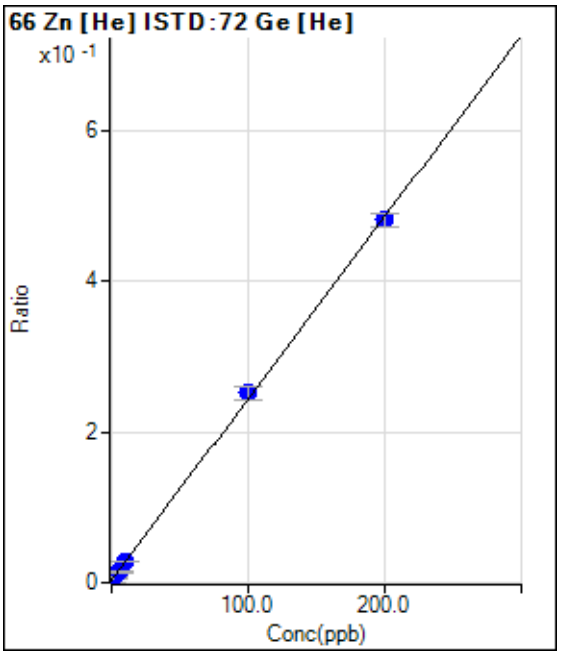
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.627	346.68	0.0007	P	48.6
2	☐	2.000	1.781	2223.53	0.0042	P	3.5
3	☐	5.000	4.928	4740.75	0.0089	P	3.4
4	☐	10.000	10.102	8805.77	0.0165	P	1.6
5	☐	100.000	101.636	80223.62	0.1521	P	1.0
6	☐	200.000	199.181	155591.80	0.2965	P	1.6
7	☐	1.000					

y = 0.0015 * x + 0.0016
R = 0.9999
DL = 0.652
BEC = 1.075

Weight: <None>
Min Conc: <None>

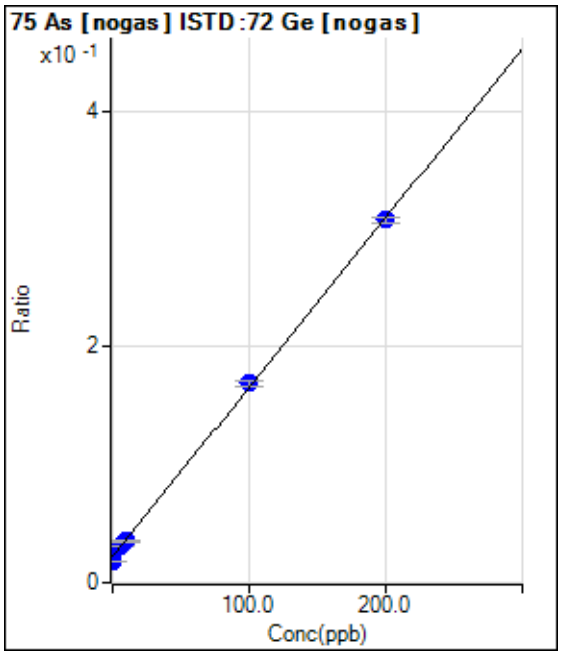


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-1.237	3.33	0.0001	P	173.
2	☐	2.000	1.370	183.34	0.0064	P	38.7
3	☐	5.000	4.986	450.01	0.0151	P	14.4
4	☐	10.000	10.359	843.37	0.0281	P	8.1
5	☐	100.000	103.066	7418.41	0.2519	P	6.8
6	☐	200.000	198.456	14049.38	0.4821	P	3.8
7	☐	1.000					

y = 0.0024 * x + 0.0031
R = 0.9998
DL = 0.242
BEC = 1.284

Weight: <None>
Min Conc: <None>

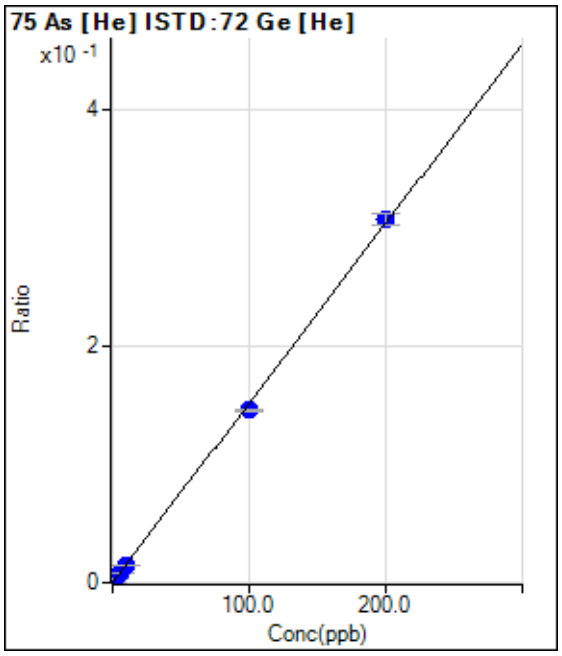
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-2.946	9506.19	0.0182	P	3.8
2	☐	2.000	3.628	14519.80	0.0276	P	0.9
3	☐	5.000	6.128	16638.41	0.0312	P	1.5
4	☐	10.000	9.135	18894.06	0.0355	P	5.9
5	☐	100.000	102.112	89034.89	0.1688	P	2.1
6	☐	200.000	198.943	161437.01	0.3076	P	1.4
7	☐	1.000					

y = 0.0014 * x + 0.0224
R = 0.9997
DL = 1.442
BEC = 15.62

Weight: <None>
Min Conc: <None>

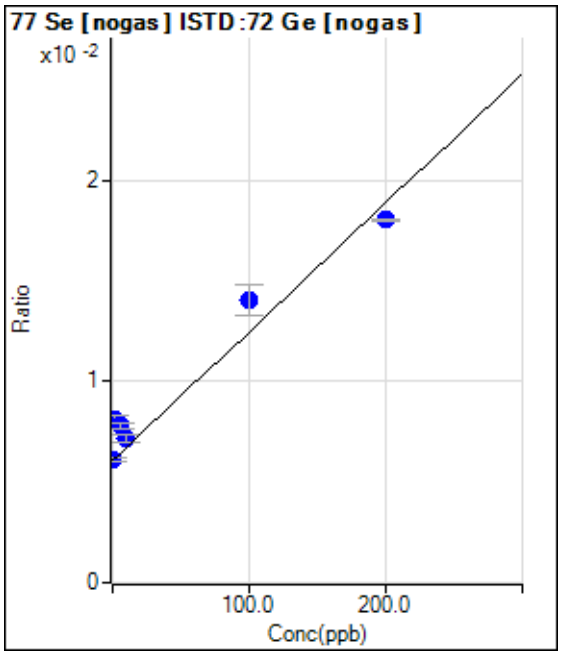


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4.44	0.0002	P	173.
2	☐	2.000	2.118	96.67	0.0034	P	16.7
3	☐	5.000	5.270	242.23	0.0081	P	9.0
4	☐	10.000	9.687	445.57	0.0148	P	2.9
5	☐	100.000	95.847	4289.46	0.1455	P	1.7
6	☐	200.000	202.084	8933.49	0.3067	P	3.2
7	☐	1.000					

y = 0.0015 * x + 1.5033E-004
R = 0.9997
DL = 0.515
BEC = 0.09911

Weight: <None>
Min Conc: <None>

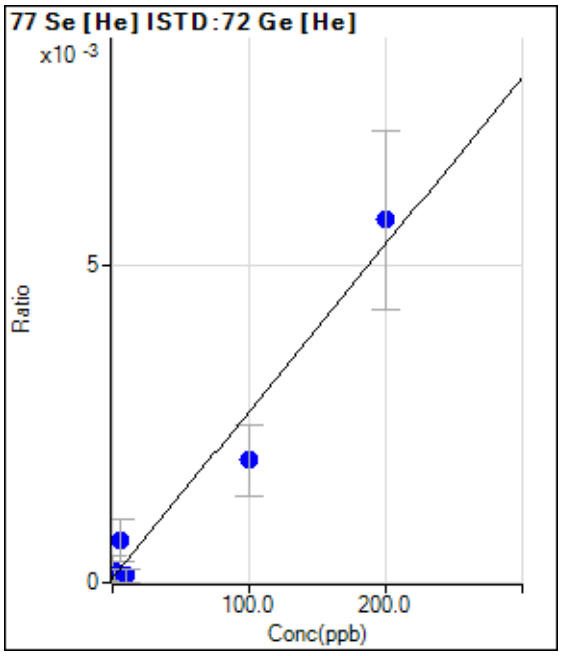
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3173.71	0.0061	P	3.0
2	☐	2.000	31.489	4253.97	0.0081	P	5.8
3	☐	5.000	27.186	4167.26	0.0078	P	3.4
4	☐	10.000	17.314	3820.51	0.0072	P	6.1
5	☐	100.000	124.208	7391.74	0.0140	P	10.8
6	☐	200.000	186.681	9456.11	0.0180	P	0.8
7	☐	1.000					

y = 6.4004E-005 * x + 0.0061
R = 0.9824
DL = 8.543
BEC = 94.82

Weight: <None>
Min Conc: <None>

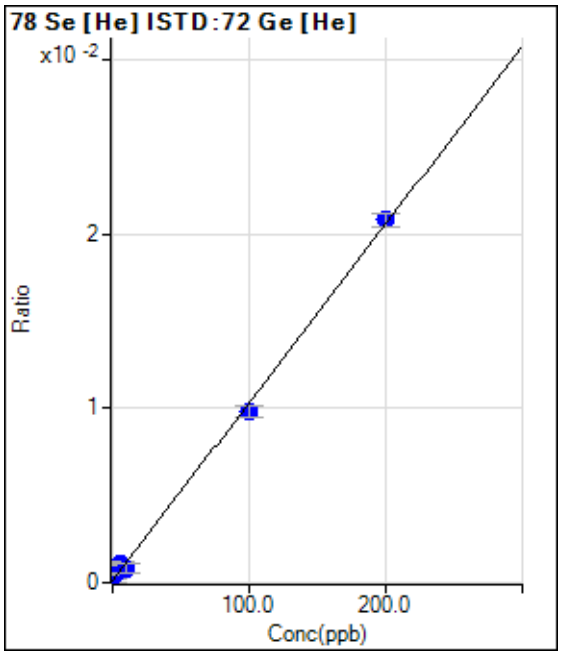


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	5.785	6.67	0.0002	P	173.
2	☐	2.000	1.663	3.33	0.0001	P	173.
3	☐	5.000	22.861	20.00	0.0007	P	100.
4	☐	10.000	1.426	3.33	0.0001	P	173.
5	☐	100.000	70.559	56.67	0.0019	P	57.2
6	☐	200.000	214.706	166.67	0.0057	P	49.0
7	☐	1.000					

y = 2.6363E-005 * x + 7.2283E-005
R = 0.9781
DL = 44.31
BEC = 2.742

Weight: <None>
Min Conc: <None>

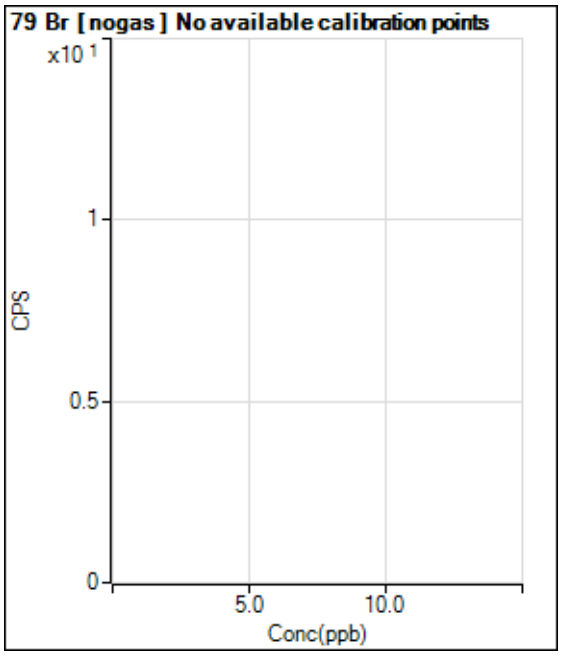
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0001	P	125.
2	☐	2.000	3.172	12.67	0.0004	P	21.7
3	☐	5.000	9.398	32.00	0.0011	P	18.2
4	☐	10.000	6.940	24.67	0.0008	P	56.5
5	☐	100.000	95.068	290.00	0.0098	P	6.0
6	☐	200.000	202.498	606.68	0.0208	P	3.8
7	☐	1.000					

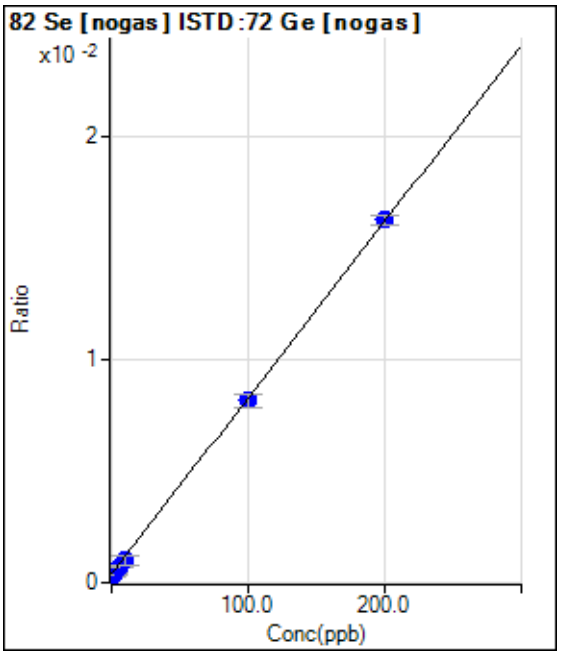
y = 1.0229E-004 * x + 1.1337E-004
R = 0.9991
DL = 4.16
BEC = 1.108

Weight: <None>
Min Conc: <None>



	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					

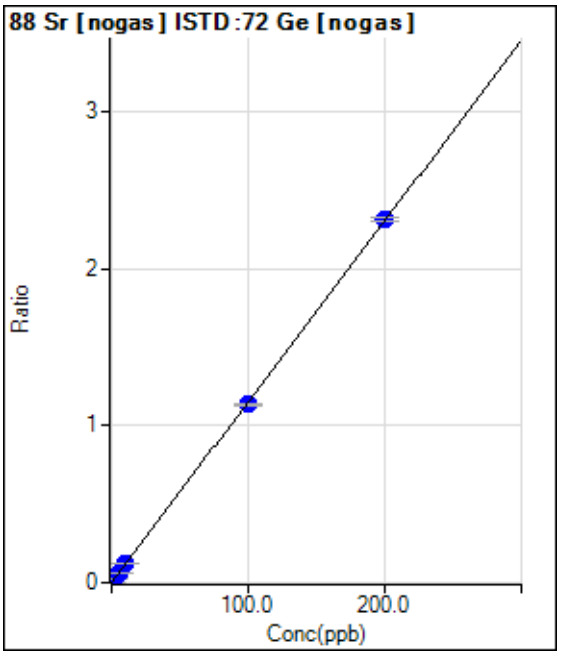
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	203.34	0.0004	P	46.1
2	☐	2.000	-0.035	203.34	0.0004	P	12.1
3	☐	5.000	4.258	386.68	0.0007	P	13.6
4	☐	10.000	7.999	543.36	0.0010	P	43.7
5	☐	100.000	98.340	4293.96	0.0081	P	8.0
6	☐	200.000	200.969	8519.00	0.0162	P	2.5
7	☐	1.000					

y = 7.8832E-005 * x + 3.8926E-004
R = 0.9999
DL = 6.83
BEC = 4.938

Weight: <None>
Min Conc: <None>

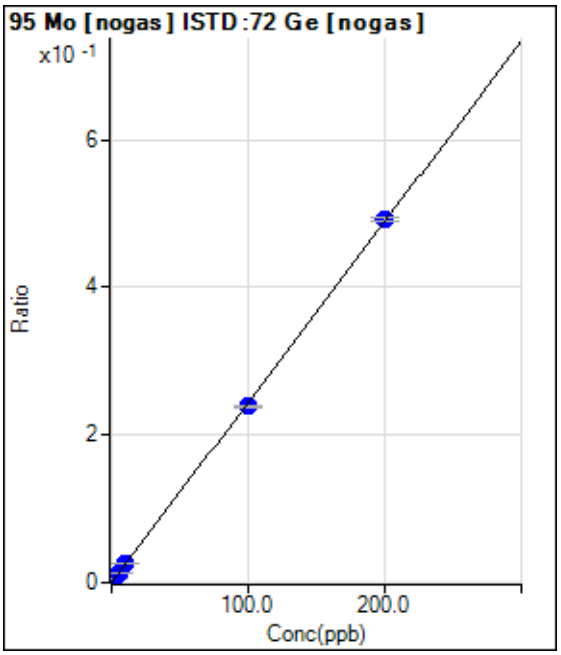


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	226.68	0.0004	P	13.7
2	☐	2.000	2.148	13235.43	0.0252	P	3.5
3	☐	5.000	5.026	31098.98	0.0583	P	3.2
4	☐	10.000	10.343	63596.53	0.1195	P	0.8
5	☐	100.000	98.486	598273.57	1.1342	P	1.1
6	☐	200.000	200.738	1212948.68	2.3112	P	1.2
7	☐	1.000					

y = 0.0115 * x + 4.3359E-004
R = 1.0000
DL = 0.01548
BEC = 0.03767

Weight: <None>
Min Conc: <None>

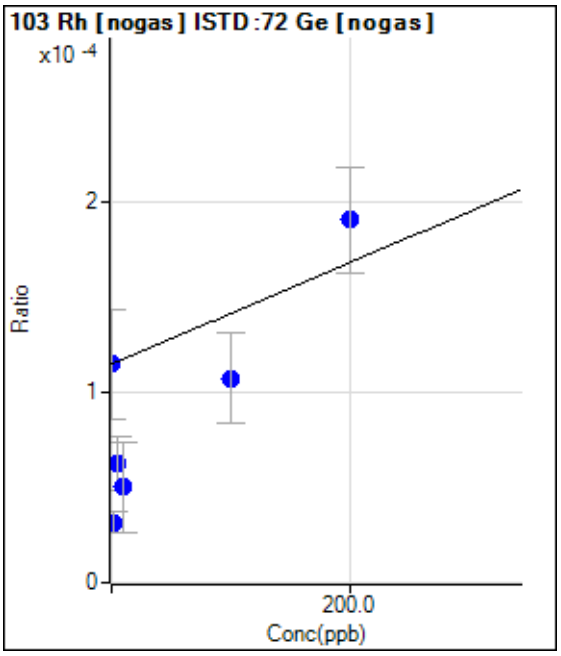
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	0.00	0.0000	P	
2	☐	2.000	2.145	2756.96	0.0052	P	7.5
3	☐	5.000	5.167	6734.86	0.0126	P	3.3
4	☐	10.000	10.437	13569.09	0.0255	P	3.9
5	☐	100.000	97.840	126093.54	0.2390	P	1.1
6	☐	200.000	201.053	257786.15	0.4912	P	1.1
7	☐	1.000					

y = 0.0024 * x + 0.0000E+000
R = 0.9999
DL = 0
BEC = 0

Weight: <None>
Min Conc: <None>

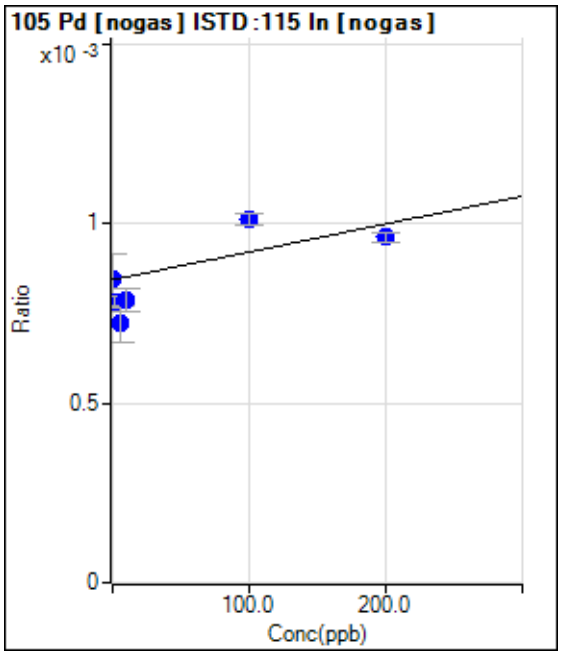


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	60.00	0.0001	P	49.6
2	☐	2.000	-311.999	16.67	0.0000	P	34.2
3	☐	5.000	-195.915	33.33	0.0001	P	45.7
4	☐	10.000	-243.225	26.67	0.0000	P	94.3
5	☐	100.000	-27.395	56.67	0.0001	P	44.2
6	☐	200.000	284.521	100.00	0.0002	P	29.0
7	☐	1.000					

y = 2.6577E-007 * x + 1.1456E-004
R = 0.8590
DL = 641
BEC = 431

Weight: <None>
Min Conc: <None>

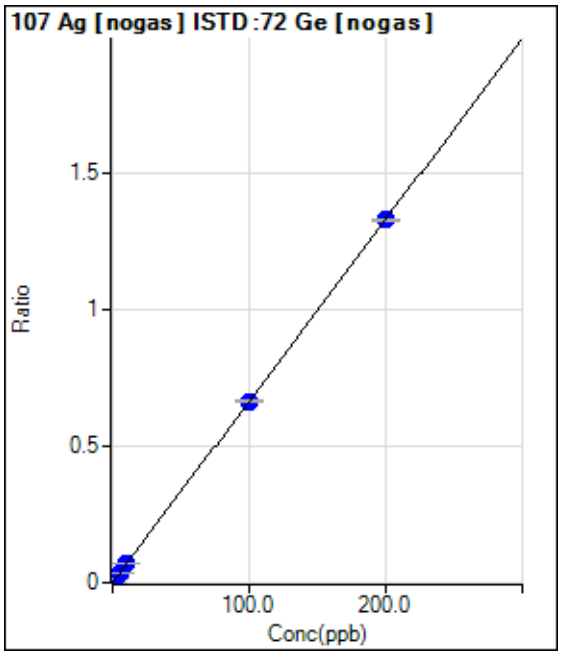
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	530.02	0.0008	P	16.8
2	☐	2.000	-77.618	496.69	0.0008	P	4.1
3	☐	5.000	-157.167	456.69	0.0007	P	14.1
4	☐	10.000	-72.493	510.02	0.0008	P	8.2
5	☐	100.000	214.370	643.36	0.0010	P	3.2
6	☐	200.000	151.790	606.69	0.0010	P	2.9
7	☐	1.000					

y = 7.7863E-007 * x + 8.4458E-004
R = 0.7965
DL = 547.1
BEC = 1085

Weight: <None>
Min Conc: <None>

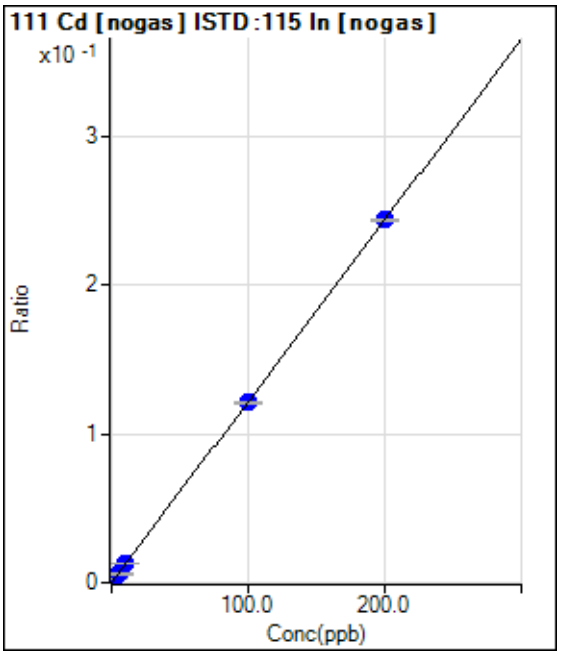


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	83.34	0.0002	P	77.3
2	☐	2.000	2.129	7531.88	0.0143	P	1.3
3	☐	5.000	5.405	19268.21	0.0361	P	2.4
4	☐	10.000	10.580	37532.84	0.0705	P	0.9
5	☐	100.000	100.103	351284.49	0.6660	P	1.7
6	☐	200.000	199.908	697919.03	1.3298	P	0.8
7	☐	1.000					

y = 0.0067 * x + 1.5936E-004
R = 1.0000
DL = 0.05553
BEC = 0.02396

Weight: <None>
Min Conc: <None>

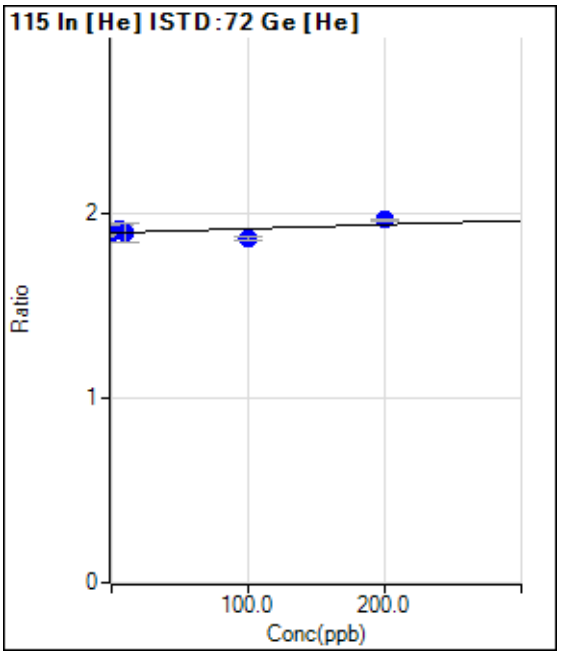
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	0.00	0.0000	P	
2	☐	2.000	2.212	1703.46	0.0027	P	12.4
3	☐	5.000	4.811	3707.16	0.0059	P	5.1
4	☐	10.000	10.512	8278.89	0.0128	P	0.8
5	☐	100.000	99.383	76864.74	0.1209	P	0.9
6	☐	200.000	200.285	153471.47	0.2436	P	0.9
7	☐	1.000					

y = 0.0012 * x + 0.0000E+000
R = 1.0000
DL = 0
BEC = 0

Weight: <None>
Min Conc: <None>

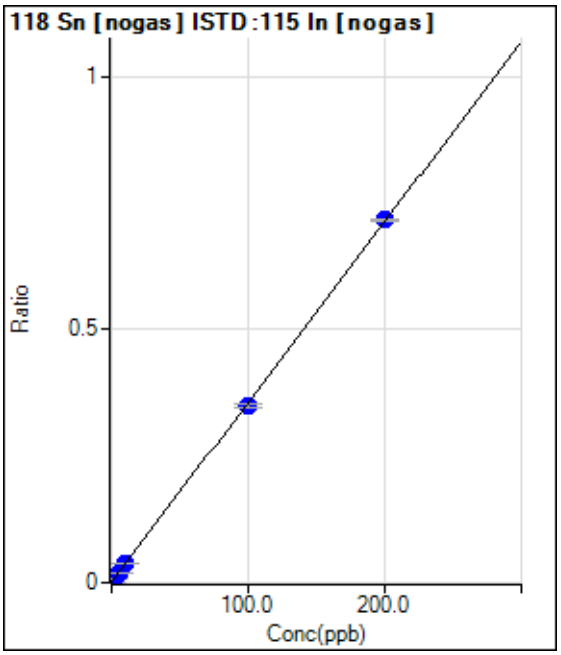


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	55908.11	1.8935	P	1.2
2	☐	2.000	51.981	54921.52	1.9052	P	3.3
3	☐	5.000	82.144	56891.72	1.9120	P	2.5
4	☐	10.000	4.566	56818.30	1.8945	P	5.2
5	☐	100.000	-124.842	54978.38	1.8654	P	1.3
6	☐	200.000	310.264	57202.54	1.9635	P	0.7
7	☐	1.000					

y = 2.2544E-004 * x + 1.8935
R = 0.5607
DL = 297.3
BEC = 8399

Weight: <None>
Min Conc: <None>

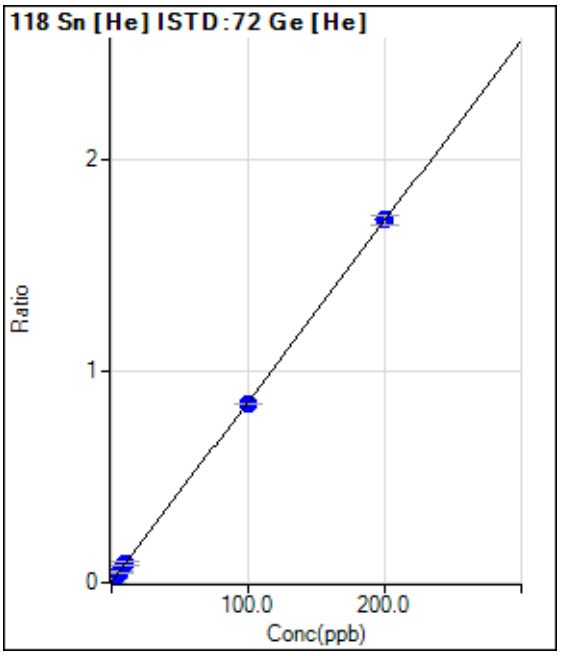
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	496.68	0.0008	P	9.8
2	☐	2.000	2.051	5124.28	0.0081	P	9.2
3	☐	5.000	5.259	12351.56	0.0195	P	7.1
4	☐	10.000	10.169	23957.78	0.0370	P	4.8
5	☐	100.000	97.799	221914.85	0.3491	P	2.3
6	☐	200.000	201.085	451637.57	0.7169	P	0.5
7	☐	1.000					

y = 0.0036 * x + 7.9095E-004
R = 0.9999
DL = 0.06545
BEC = 0.2221

Weight: <None>
Min Conc: <None>

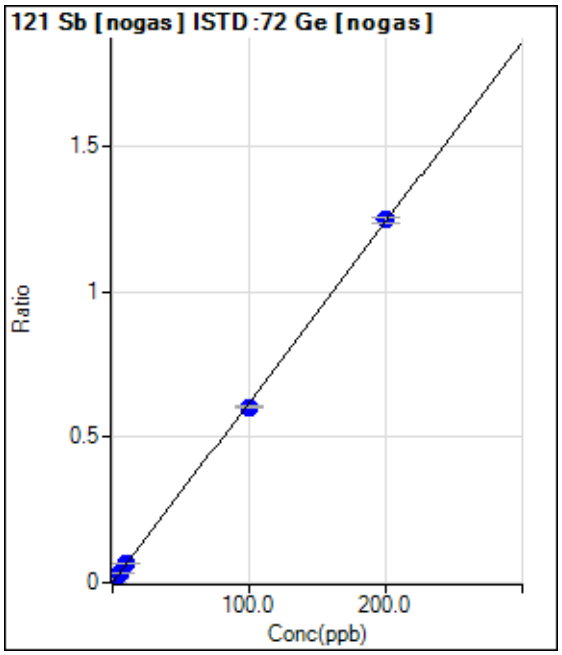


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	80.00	0.0027	P	12.6
2	☐	2.000	1.919	550.02	0.0191	P	13.8
3	☐	5.000	5.459	1470.10	0.0494	P	4.6
4	☐	10.000	10.339	2733.63	0.0911	P	17.6
5	☐	100.000	98.905	25016.03	0.8487	P	0.5
6	☐	200.000	200.520	50032.95	1.7179	P	2.6
7	☐	1.000					

y = 0.0086 * x + 0.0027
R = 1.0000
DL = 0.1201
BEC = 0.3168

Weight: <None>
Min Conc: <None>

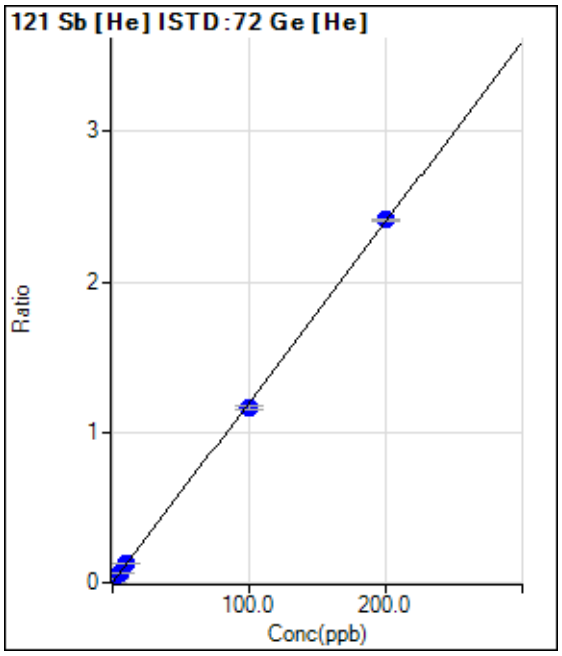
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	173.33	0.0003	P	12.5
2	☐	2.000	2.131	7115.06	0.0135	P	4.7
3	☐	5.000	5.246	17509.64	0.0328	P	3.3
4	☐	10.000	10.340	34256.04	0.0644	P	1.4
5	☐	100.000	97.374	318275.13	0.6034	P	0.9
6	☐	200.000	201.289	654400.39	1.2469	P	1.5
7	☐	1.000					

y = 0.0062 * x + 3.3161E-004
R = 0.9999
DL = 0.02004
BEC = 0.05355

Weight: <None>
Min Conc: <None>

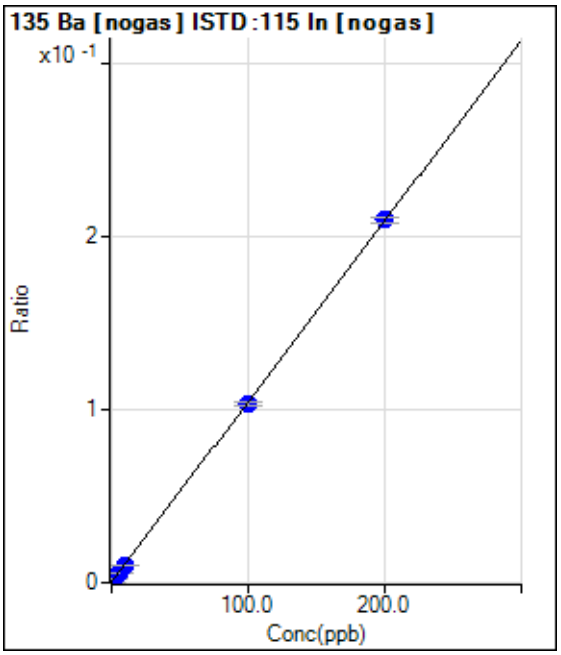


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0006	P	34.7
2	☐	2.000	2.625	923.38	0.0320	P	4.1
3	☐	5.000	5.320	1913.50	0.0643	P	13.6
4	☐	10.000	10.421	3763.84	0.1254	P	1.6
5	☐	100.000	97.419	34416.48	1.1678	P	2.1
6	☐	200.000	201.255	70263.52	2.4120	P	0.7
7	☐	1.000					

y = 0.0120 * x + 5.6460E-004
R = 0.9999
DL = 0.04907
BEC = 0.04712

Weight: <None>
Min Conc: <None>

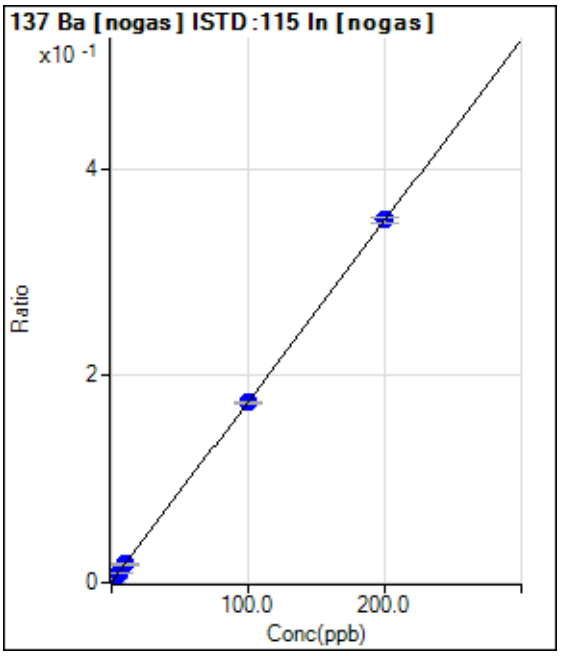
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	146.67	0.0002	P	32.6
2	☐	2.000	2.087	1526.77	0.0024	P	0.9
3	☐	5.000	4.986	3440.43	0.0054	P	7.3
4	☐	10.000	9.528	6588.13	0.0102	P	5.9
5	☐	100.000	98.673	65595.85	0.1031	P	2.1
6	☐	200.000	200.686	131994.15	0.2095	P	1.6
7	☐	1.000					

y = 0.0010 * x + 2.3380E-004
R = 1.0000
DL = 0.2193
BEC = 0.2242

Weight: <None>
Min Conc: <None>

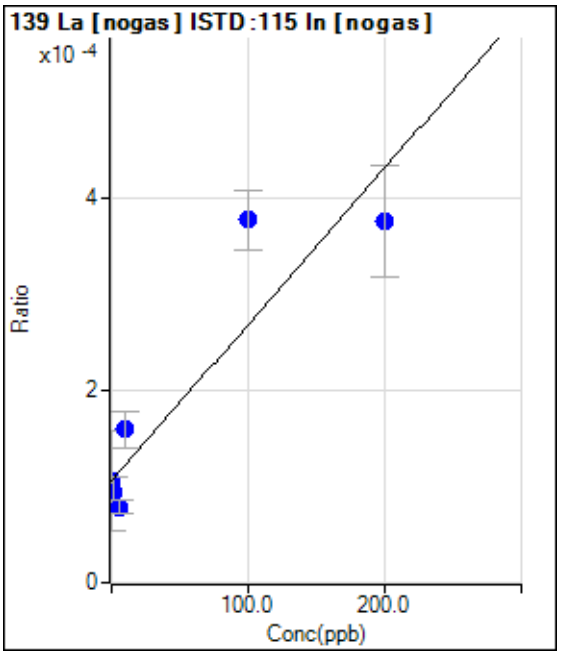


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	183.34	0.0003	P	20.5
2	☐	2.000	1.940	2333.55	0.0037	P	9.3
3	☐	5.000	5.008	5727.83	0.0090	P	1.2
4	☐	10.000	9.970	11470.93	0.0177	P	4.7
5	☐	100.000	99.249	110483.20	0.1738	P	1.0
6	☐	200.000	200.377	220816.95	0.3505	P	1.5
7	☐	1.000					

y = 0.0017 * x + 2.9197E-004
R = 1.0000
DL = 0.1029
BEC = 0.167

Weight: <None>
Min Conc: <None>

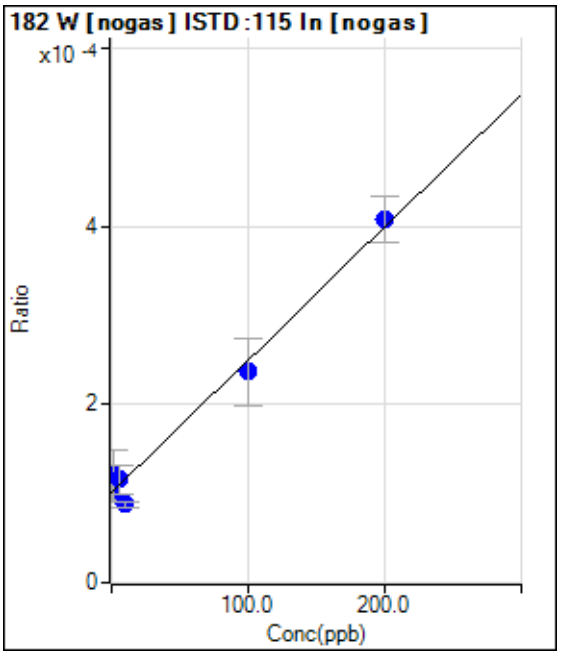
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	66.67	0.0001	P	99.5
2	☐	2.000	-7.042	60.00	0.0001	P	32.5
3	☐	5.000	-16.710	50.00	0.0001	P	18.7
4	☐	10.000	32.870	103.33	0.0002	P	23.4
5	☐	100.000	166.836	240.01	0.0004	P	16.7
6	☐	200.000	166.072	236.67	0.0004	P	31.0
7	☐	1.000					

y = 1.6240E-006 * x + 1.0596E-004
R = 0.9082
DL = 194.8
BEC = 65.24

Weight: <None>
Min Conc: <None>

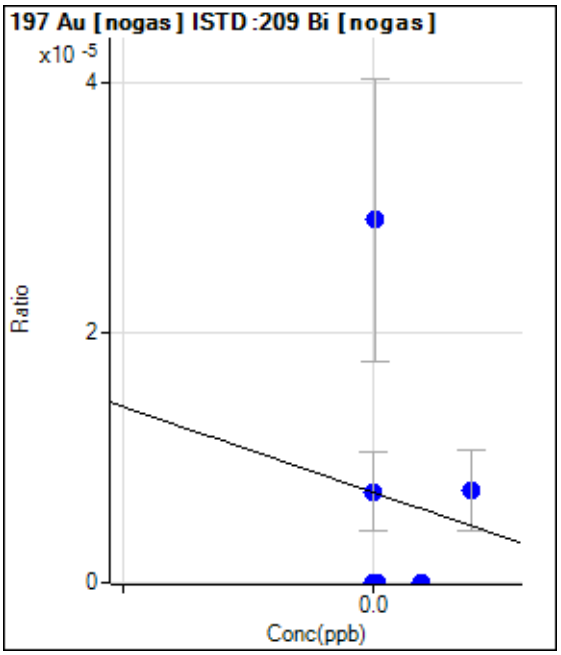


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	63.33	0.0001	P	18.2
2	☐	2.000	13.525	76.67	0.0001	P	45.5
3	☐	5.000	9.788	73.33	0.0001	P	27.1
4	☐	10.000	-8.995	56.67	0.0001	P	9.1
5	☐	100.000	90.881	150.00	0.0002	P	31.3
6	☐	200.000	205.274	256.68	0.0004	P	12.8
7	☐	1.000					

y = 1.4919E-006 * x + 1.0087E-004
R = 0.9911
DL = 36.88
BEC = 67.61

Weight: <None>
Min Conc: <None>

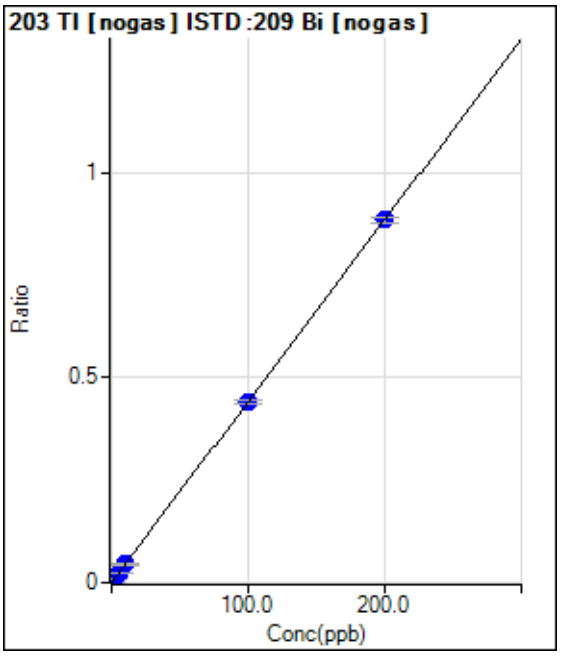
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6.67	0.0000	P	86.6
2	☐	2.000	532.665	0.00	0.0000	P	
3	☐	5.000	-1599.318	26.67	0.0000	P	78.2
4	☐	10.000	532.665	0.00	0.0000	P	
5	☐	100.000	532.665	0.00	0.0000	P	
6	☐	200.000	-7.664	6.67	0.0000	P	86.6
7	☐	1.000					

y = -1.3636E-008 * x + 7.2633E-006
R = -0.1500
DL = -1384
BEC = -532.7

Weight: <None>
Min Conc: <None>

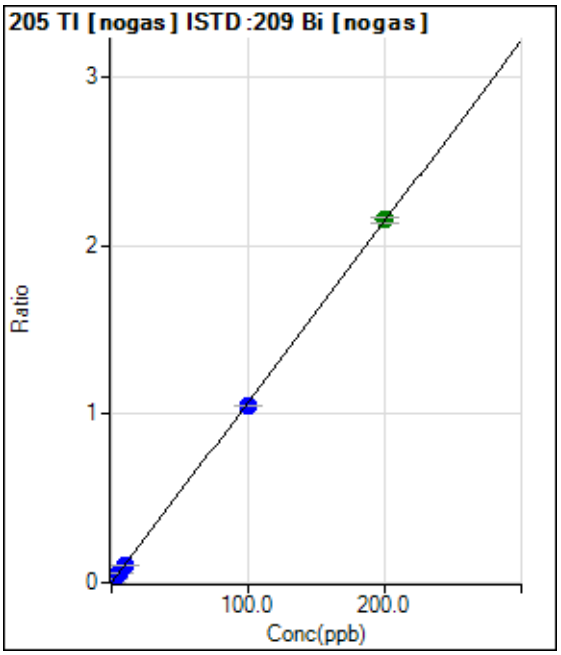


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	93.33	0.0001	P	22.0
2	☐	2.000	1.870	7728.77	0.0084	P	1.3
3	☐	5.000	5.190	21184.79	0.0230	P	1.8
4	☐	10.000	10.098	41272.47	0.0447	P	3.6
5	☐	100.000	99.659	398699.34	0.4406	P	1.4
6	☐	200.000	200.162	798329.57	0.8848	P	1.5
7	☐	1.000					

y = 0.0044 * x + 1.0190E-004
R = 1.0000
DL = 0.01521
BEC = 0.02305

Weight: <None>
Min Conc: <None>

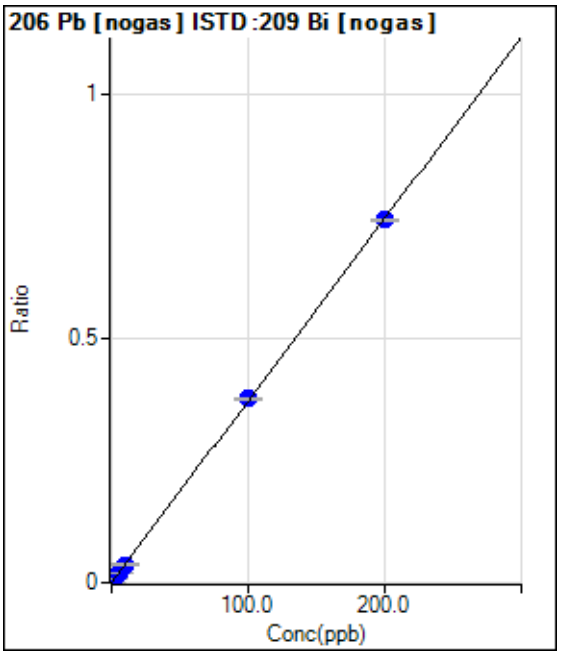
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	96.67	0.0001	P	32.0
2	☐	2.000	1.972	19606.15	0.0212	P	1.8
3	☐	5.000	4.973	49061.54	0.0534	P	1.7
4	☐	10.000	9.844	97345.49	0.1055	P	2.5
5	☐	100.000	98.395	953656.76	1.0538	P	0.1
6	☐	200.000	200.811	1940364.50	2.1505	A	1.8
7	☐	1.000					

y = 0.0107 * x + 1.0564E-004
R = 1.0000
DL = 0.009462
BEC = 0.009866

Weight: <None>
Min Conc: <None>

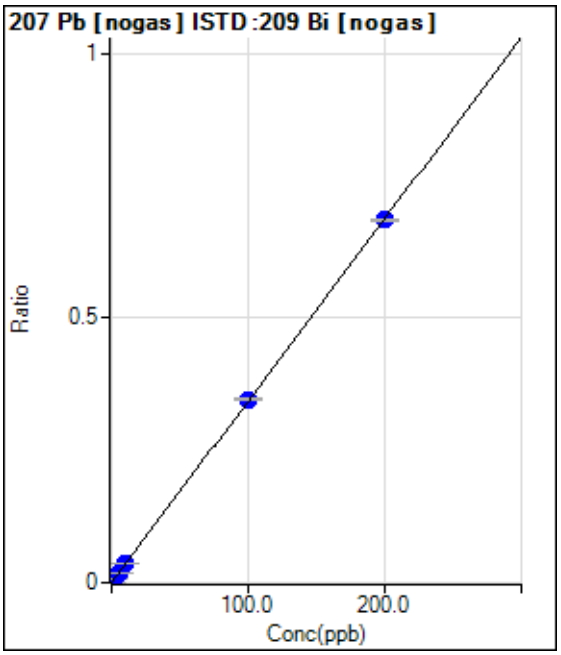


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	116.67	0.0001	P	4.5
2	☐	2.000	2.059	7198.52	0.0078	P	5.4
3	☐	5.000	5.142	17720.57	0.0193	P	2.8
4	☐	10.000	10.002	34472.25	0.0374	P	2.9
5	☐	100.000	100.974	340378.30	0.3761	P	1.0
6	☐	200.000	199.509	670409.91	0.7430	P	0.3
7	☐	1.000					

y = 0.0037 * x + 1.2741E-004
R = 1.0000
DL = 0.004664
BEC = 0.03422

Weight: <None>
Min Conc: <None>

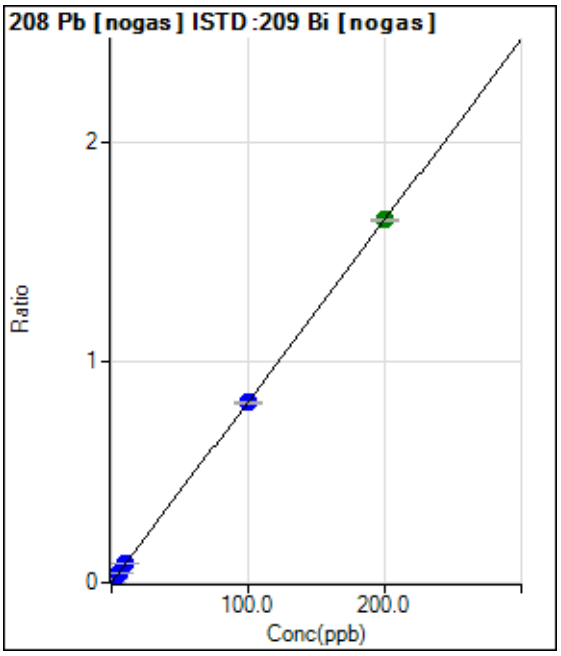
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	76.67	0.0001	P	40.2
2	☐	2.000	2.017	6468.17	0.0070	P	4.9
3	☐	5.000	5.287	16759.47	0.0182	P	3.6
4	☐	10.000	10.199	32357.65	0.0351	P	0.9
5	☐	100.000	100.735	312872.93	0.3457	P	0.8
6	☐	200.000	199.615	618036.52	0.6850	P	0.2
7	☐	1.000					

y = 0.0034 * x + 8.3799E-005
R = 1.0000
DL = 0.02948
BEC = 0.02442

Weight: <None>
Min Conc: <None>

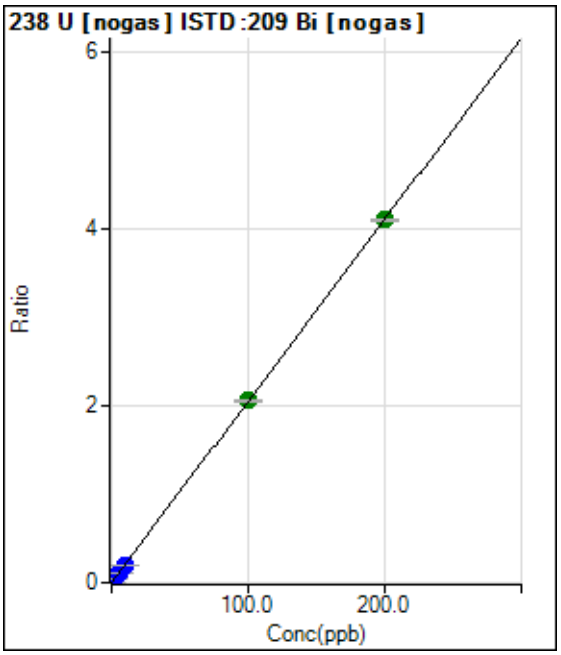


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	136.67	0.0001	P	40.9
2	☐	2.000	2.040	15644.98	0.0169	P	1.7
3	☐	5.000	5.105	38755.77	0.0421	P	0.9
4	☐	10.000	10.142	77115.74	0.0836	P	1.1
5	☐	100.000	99.489	740905.51	0.8187	P	0.8
6	☐	200.000	200.246	1486561.90	1.6477	A	0.8
7	☐	1.000					

y = 0.0082 * x + 1.4902E-004
R = 1.0000
DL = 0.02225
BEC = 0.01811

Weight: <None>
Min Conc: <None>

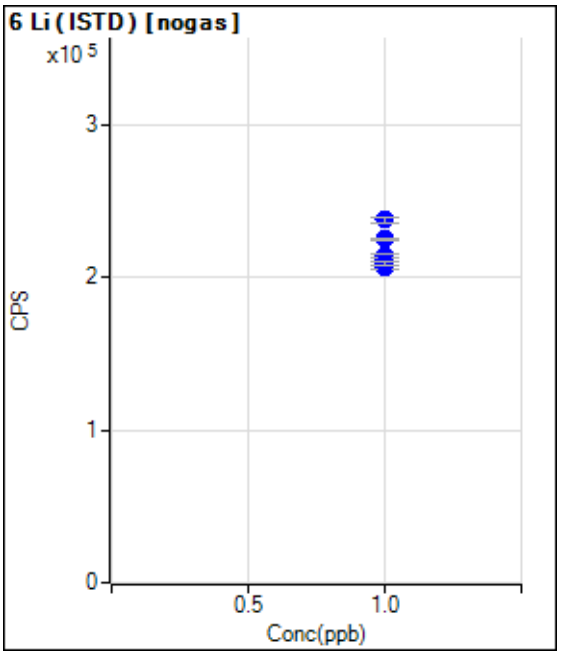
Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	183.34	0.0002	P	16.9
2	☐	2.000	1.994	37921.31	0.0411	P	2.5
3	☐	5.000	4.932	93116.51	0.1013	P	0.5
4	☐	10.000	9.698	183531.20	0.1989	P	1.9
5	☐	100.000	100.167	1857839.30	2.0529	A	0.8
6	☐	200.000	199.934	3696956.92	4.0974	A	0.6
7	☐	1.000					

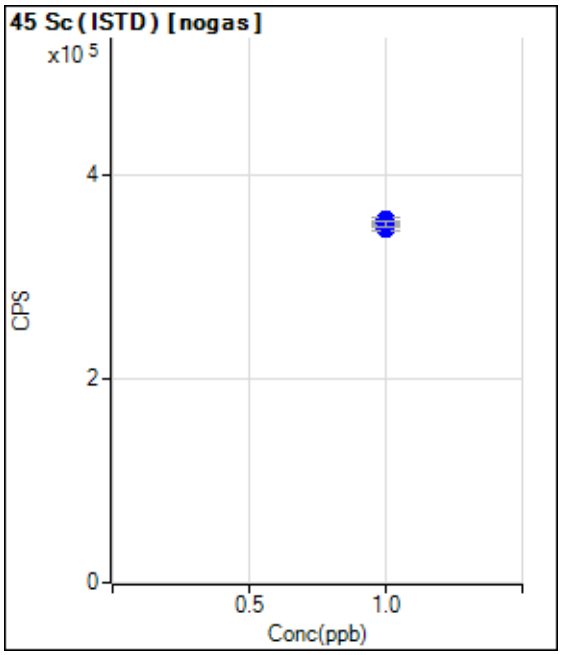
y = 0.0205 * x + 2.0010E-004
R = 1.0000
DL = 0.004943
BEC = 0.009765

Weight: <None>
Min Conc: <None>

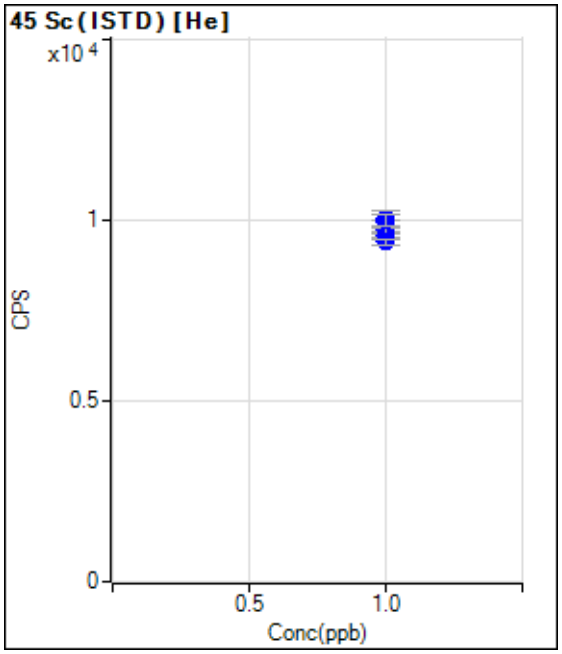


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		211472.98		P	1.2
2	☐	1.000		213696.99		P	1.3
3	☐	1.000		206727.51		P	1.2
4	☐	1.000		208600.64		P	1.2
5	☐	1.000		224973.24		P	0.7
6	☐	1.000		237495.61		P	1.8
7	☐	1.000					

Calibration for 026_ICV.d

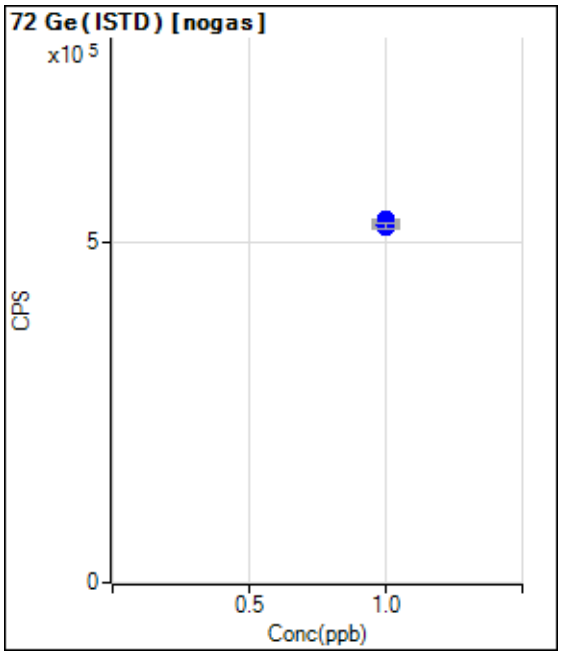


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		350142.61		P	0.8
2	☐	1.000		347216.18		P	0.8
3	☐	1.000		352895.09		P	0.8
4	☐	1.000		355790.48		P	1.4
5	☐	1.000		352282.42		P	0.9
6	☐	1.000		351845.05		P	1.6
7	☐	1.000					

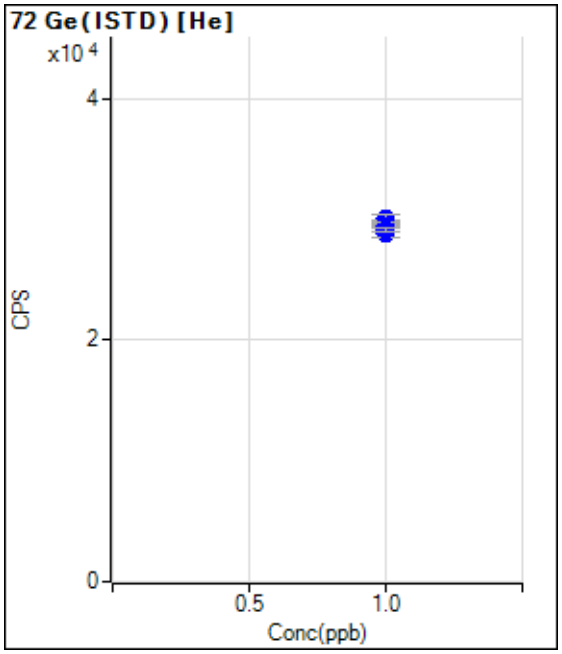


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		9936.34		P	6.5
2	☐	1.000		9592.79		P	1.9
3	☐	1.000		9749.62		P	5.2
4	☐	1.000		10043.10		P	4.7
5	☐	1.000		9996.37		P	3.2
6	☐	1.000		9399.39		P	1.7
7	☐	1.000					

Calibration for 026_ICV.d

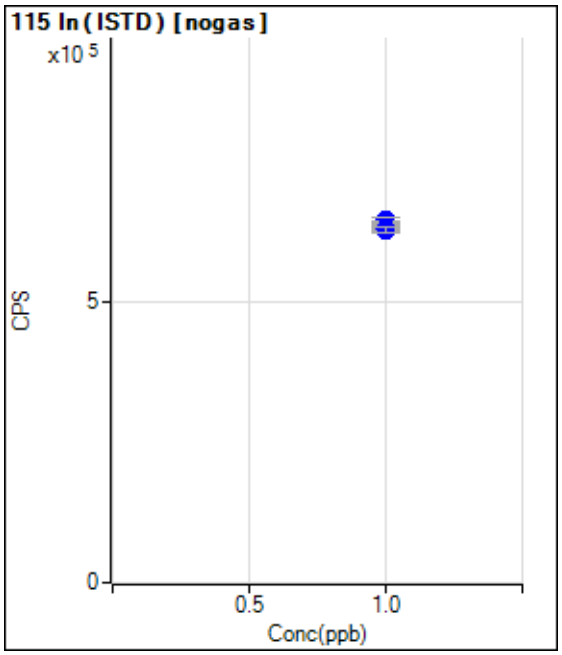


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		522917.04		P	0.5
2	☐	1.000		526041.14		P	0.8
3	☐	1.000		533572.43		P	0.7
4	☐	1.000		532193.24		P	0.6
5	☐	1.000		527534.89		P	0.7
6	☐	1.000		524852.33		P	1.2
7	☐	1.000					

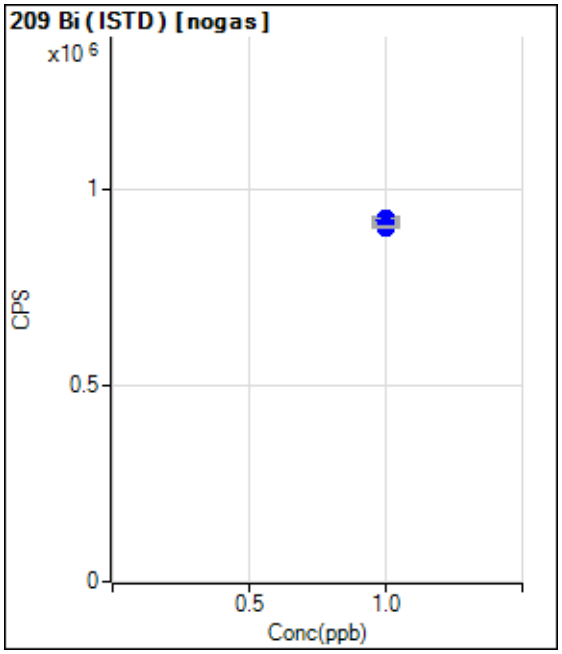


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		29525.91		P	0.5
2	☐	1.000		28844.75		P	3.0
3	☐	1.000		29753.00		P	0.7
4	☐	1.000		30013.25		P	2.2
5	☐	1.000		29475.73		P	1.7
6	☐	1.000		29131.82		P	1.5
7	☐	1.000					

Calibration for 026_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		627838.27		P	0.4
2	☐	1.000		633423.32		P	1.1
3	☐	1.000		633286.92		P	1.6
4	☐	1.000		647527.19		P	1.2
5	☐	1.000		635889.14		P	1.7
6	☐	1.000		629998.78		P	1.3
7	☐	1.000					



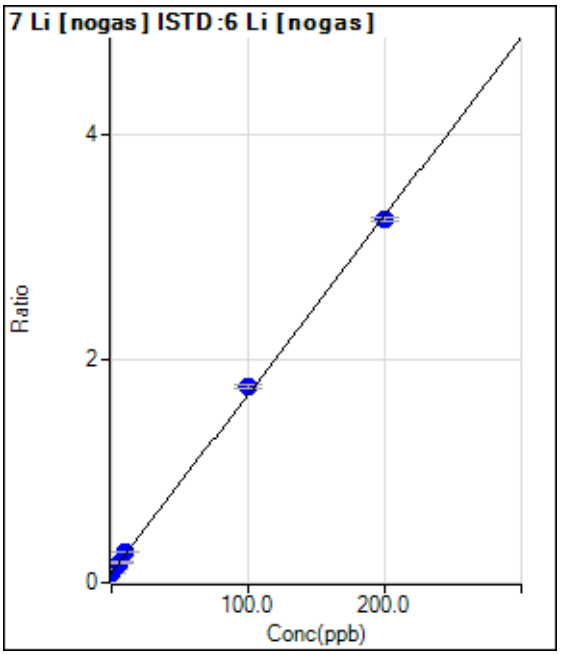
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		915562.43		P	0.6
2	☐	1.000		923823.89		P	1.4
3	☐	1.000		919580.12		P	1.0
4	☐	1.000		922494.52		P	1.0
5	☐	1.000		905004.75		P	0.8
6	☐	1.000		902242.88		P	0.6
7	☐	1.000					

Calibration for 242_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\010518A.b\
Analysis File: 010518A.batch.bin
DA Date-Time: 1/5/2018 10:38:02 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	236CALB.d	CAL BLK	1/5/2018 7:52:52 PM
2	237CALS.d	2/10/200	1/5/2018 7:55:04 PM
3	238CALS.d	5/25/500	1/5/2018 7:57:17 PM
4	239CALS.d	10/50/1000	1/5/2018 7:59:29 PM
5	240CALS.d	100/500/10K	1/5/2018 8:01:41 PM
6	241CALS.d	200/1000/20K	1/5/2018 8:03:52 PM
7			

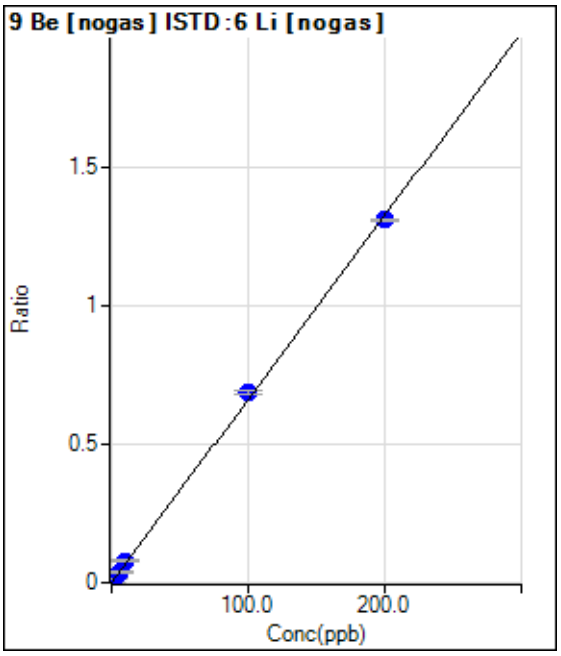
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	23575.72	0.0892	P	4.5
2	☐	2.000	2.279	32068.82	0.1256	P	1.2
3	☐	5.000	5.695	45698.35	0.1801	P	3.6
4	☐	10.000	11.618	67382.62	0.2746	P	1.7
5	☐	100.000	104.345	455859.20	1.7545	P	2.8
6	☐	200.000	197.726	864348.79	3.2449	P	1.1
7	☐	1.000					

y = 0.0160 * x + 0.0892
R = 0.9997
DL = 0.7577
BEC = 5.589

Weight: <None>
Min Conc: <None>

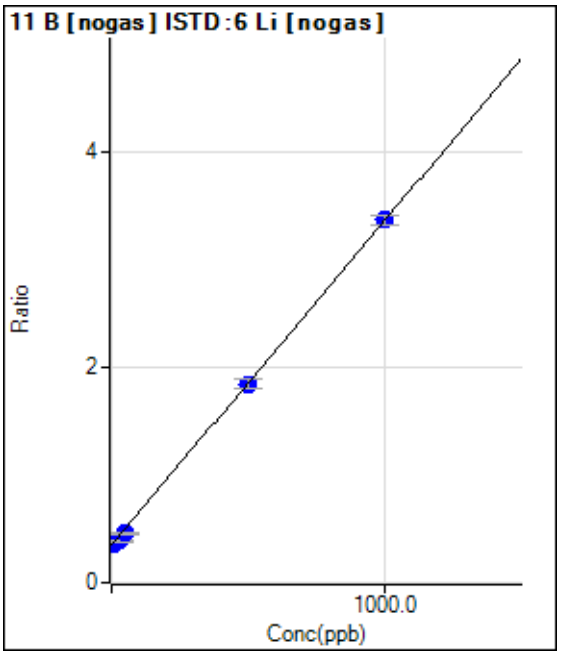


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0001	P	91.6
2	☐	2.000	2.247	3813.82	0.0149	P	3.8
3	☐	5.000	5.725	9632.78	0.0379	P	2.3
4	☐	10.000	11.940	19397.51	0.0791	P	2.9
5	☐	100.000	104.088	178987.13	0.6888	P	1.8
6	☐	200.000	197.838	348738.60	1.3091	P	0.4
7	☐	1.000					

y = 0.0066 * x + 6.3629E-005
R = 0.9997
DL = 0.02642
BEC = 0.009616

Weight: <None>
Min Conc: <None>

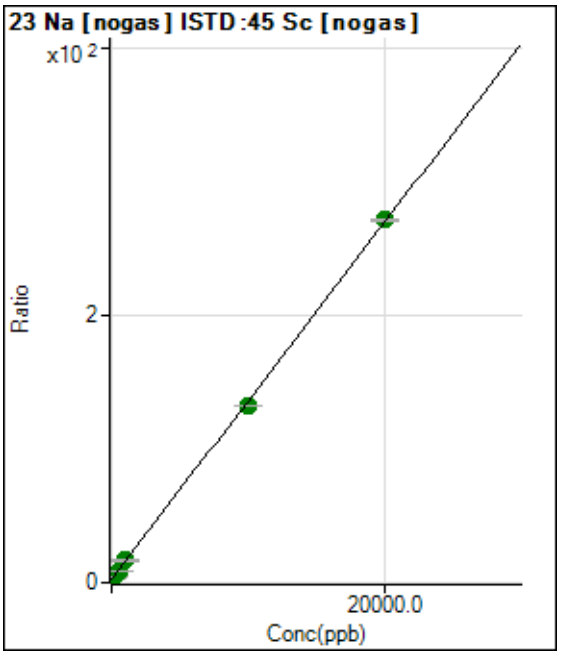
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	92627.33	0.3504	P	1.5
2	☐	10.000	1.083	90312.57	0.3536	P	1.6
3	☐	25.000	11.524	97740.83	0.3851	P	1.6
4	☐	50.000	35.979	112590.86	0.4589	P	1.8
5	☐	500.000	497.220	480446.41	1.8497	P	5.0
6	☐	1000.000	1002.517	898462.83	3.3735	P	2.6
7	☐	5.000					

y = 0.0030 * x + 0.3504
R = 0.9999
DL = 5.246
BEC = 116.2

Weight: <None>
Min Conc: <None>

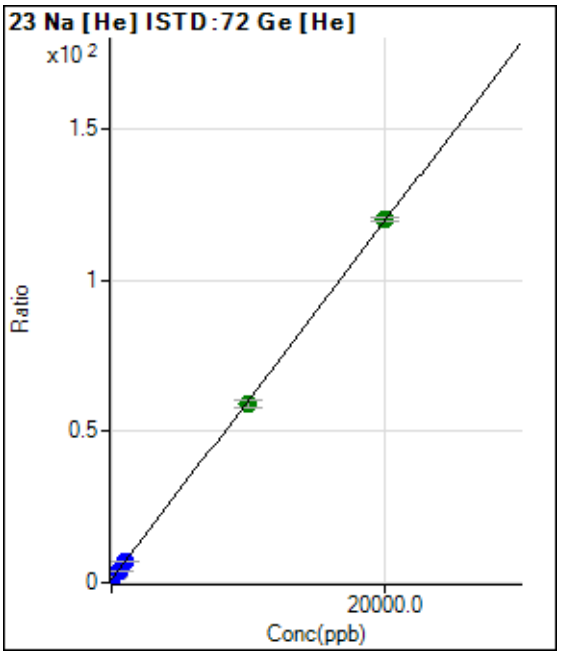


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1059452.43	2.5683	M	2.4
2	☐	200.000	183.123	2017824.65	5.0144	A	0.4
3	☐	500.000	462.585	3518150.21	8.7475	A	2.7
4	☐	1000.000	1071.312	6679776.45	16.8788	A	8.3
5	☐	10000.00	9716.111	50189163.62	132.355	A	0.9
6	☐	20000.00	20139.483	97251981.34	271.590	A	0.9
7	☐	100.000					

y = 0.0134 * x + 2.5683
R = 0.9998
DL = 14.08
BEC = 192.3

Weight: <None>
Min Conc: <None>

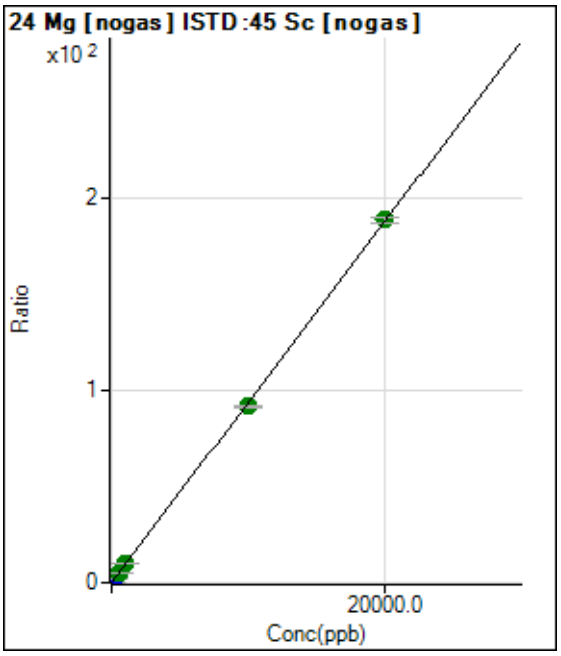
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36952.02	1.0517	P	3.8
2	☐	200.000	211.191	77648.75	2.3020	P	8.2
3	☐	500.000	489.237	130836.60	3.9481	P	6.6
4	☐	1000.000	1002.430	230771.95	6.9863	P	3.1
5	☐	10000.00	9807.064	1833375.75	59.1109	A	3.8
6	☐	20000.00	20096.504	3537211.72	120.025	A	1.0
7	☐	100.000					

y = 0.0059 * x + 1.0517
R = 0.9999
DL = 20.44
BEC = 177.7

Weight: <None>
Min Conc: <None>

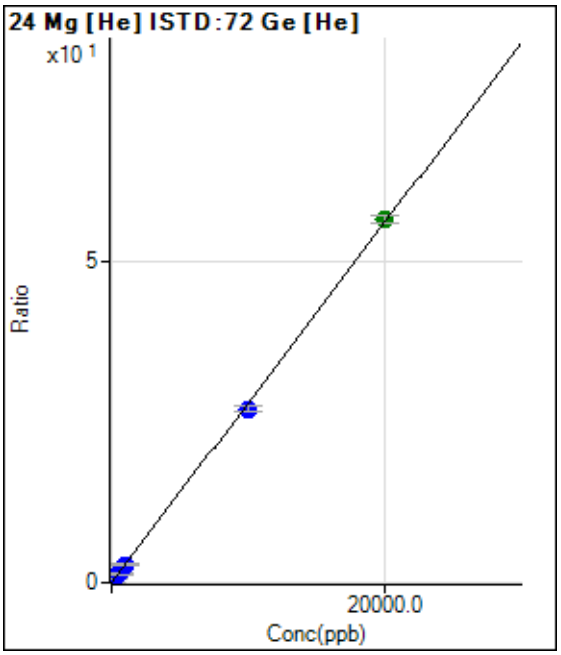


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4301.49	0.0105	P	27.1
2	☐	200.000	202.565	770533.81	1.9149	P	0.7
3	☐	500.000	509.983	1932693.92	4.8050	A	2.4
4	☐	1000.000	1046.423	3892180.94	9.8483	A	3.1
5	☐	10000.00	9778.074	34863466.40	91.9379	A	0.6
6	☐	20000.00	20108.367	67695232.76	189.057	A	1.4
7	☐	100.000					

y = 0.0094 * x + 0.0105
R = 0.9999
DL = 0.9055
BEC = 1.114

Weight: <None>
Min Conc: <None>

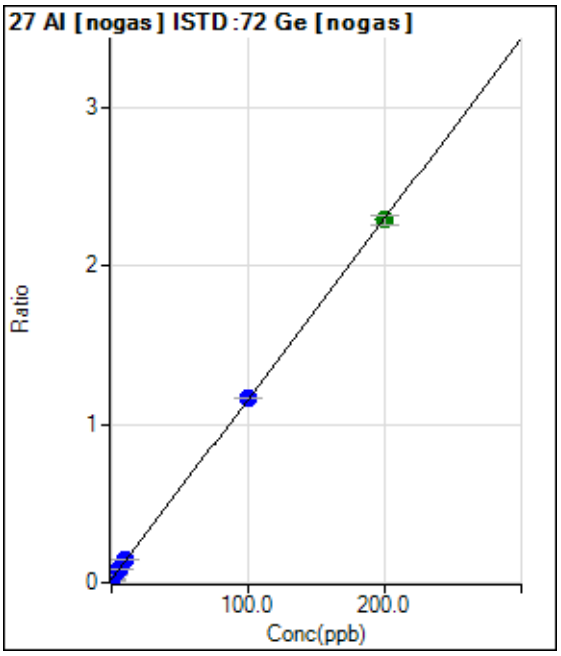
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	80.00	0.0023	P	18.4
2	☐	200.000	203.818	19357.63	0.5738	P	4.0
3	☐	500.000	491.252	45762.51	1.3799	P	4.7
4	☐	1000.000	1011.258	93779.45	2.8382	P	1.8
5	☐	10000.00	9663.563	840700.25	27.1024	P	3.0
6	☐	20000.00	20167.836	1666636.07	56.5601	A	2.3
7	☐	100.000					

y = 0.0028 * x + 0.0023
R = 0.9998
DL = 0.4458
BEC = 0.8084

Weight: <None>
Min Conc: <None>

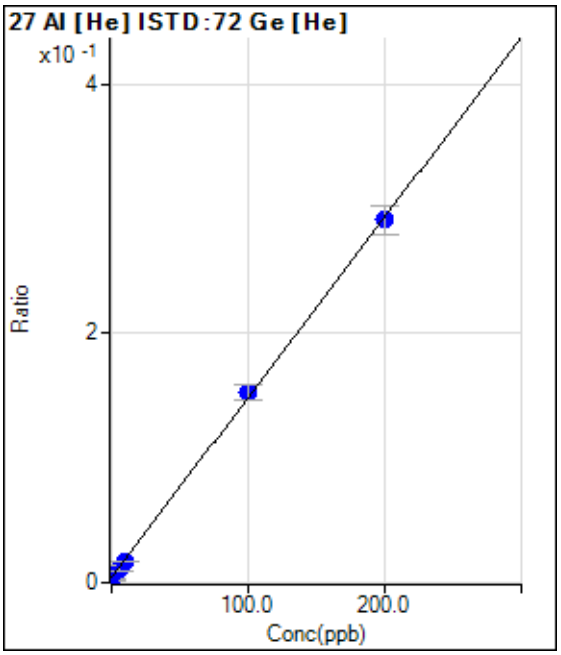


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11150.45	0.0184	P	4.3
2	☐	2.000	2.793	29895.61	0.0502	P	1.3
3	☐	5.000	5.766	49369.09	0.0841	P	2.1
4	☐	10.000	11.275	85522.54	0.1468	P	2.7
5	☐	100.000	100.747	647488.87	1.1662	P	0.7
6	☐	200.000	199.536	1226715.29	2.2917	A	2.6
7	☐	1.000					

y = 0.0114 * x + 0.0184
R = 1.0000
DL = 0.2067
BEC = 1.614

Weight: <None>
Min Conc: <None>

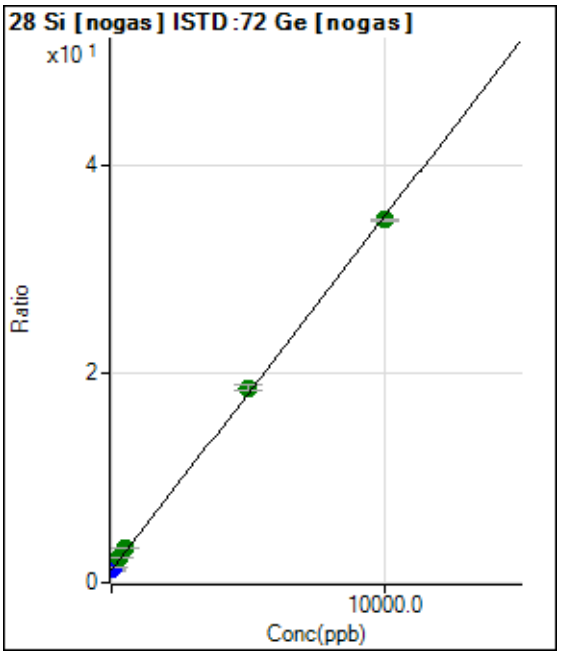
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.961	100.00	0.0028	P	43.0
2	☐	2.000	2.619	270.01	0.0080	P	17.0
3	☐	5.000	4.946	373.35	0.0114	P	39.7
4	☐	10.000	8.933	566.69	0.0171	P	5.9
5	☐	100.000	102.829	4737.40	0.1528	P	8.1
6	☐	200.000	198.634	8578.94	0.2913	P	8.1
7	☐	1.000					

y = 0.0014 * x + 0.0042
R = 0.9998
DL = 2.527
BEC = 2.922

Weight: <None>
Min Conc: <None>

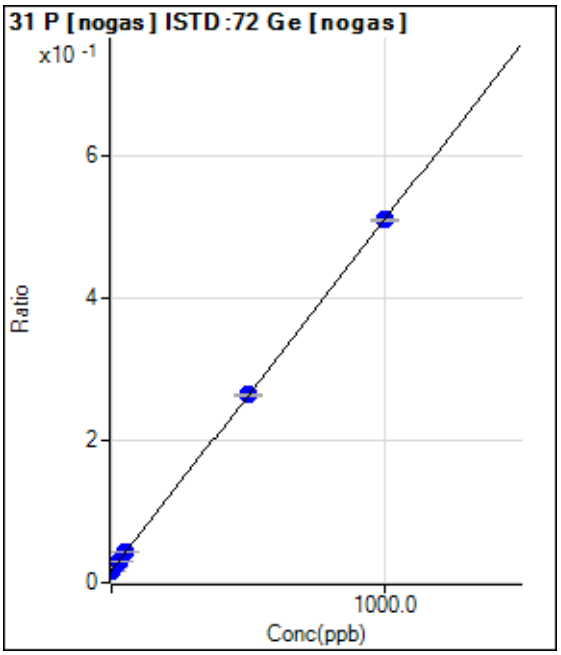


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	727909.57	1.2005	P	1.0
2	☐	100.000	103.360	923219.83	1.5505	P	0.2
3	☐	250.000	342.641	1386129.72	2.3608	A	1.3
4	☐	500.000	610.721	1903846.59	3.2686	A	1.3
5	☐	5000.000	5166.154	10379634.84	18.6943	A	2.0
6	☐	10000.00	9909.037	18606203.89	34.7548	A	0.8
7	☐	50.000					

y = 0.0034 * x + 1.2005
R = 0.9998
DL = 10.41
BEC = 354.5

Weight: <None>
Min Conc: <None>

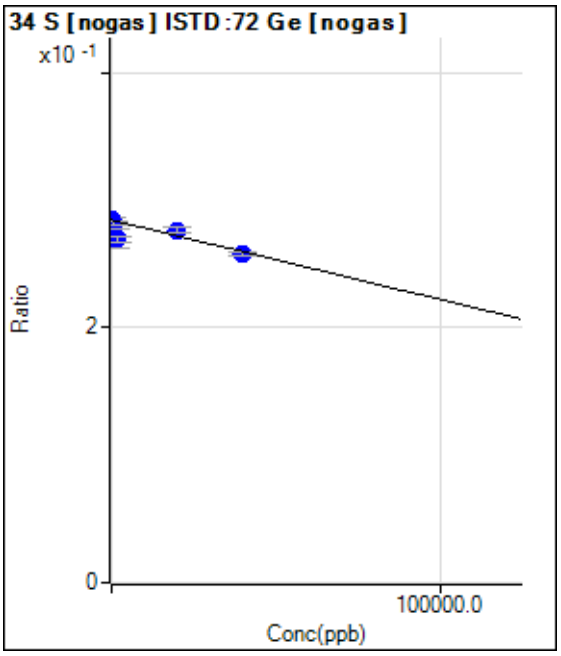
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10246.53	0.0169	P	1.8
2	☐	10.000	10.224	13068.39	0.0220	P	2.8
3	☐	25.000	25.418	17295.45	0.0295	P	2.7
4	☐	50.000	53.520	25245.05	0.0433	P	0.2
5	☐	500.000	500.227	146569.31	0.2640	P	0.8
6	☐	1000.000	999.698	273396.58	0.5107	P	0.8
7	☐	5.000					

y = 4.9393E-004 * x + 0.0169
R = 1.0000
DL = 1.897
BEC = 34.22

Weight: <None>
Min Conc: <None>

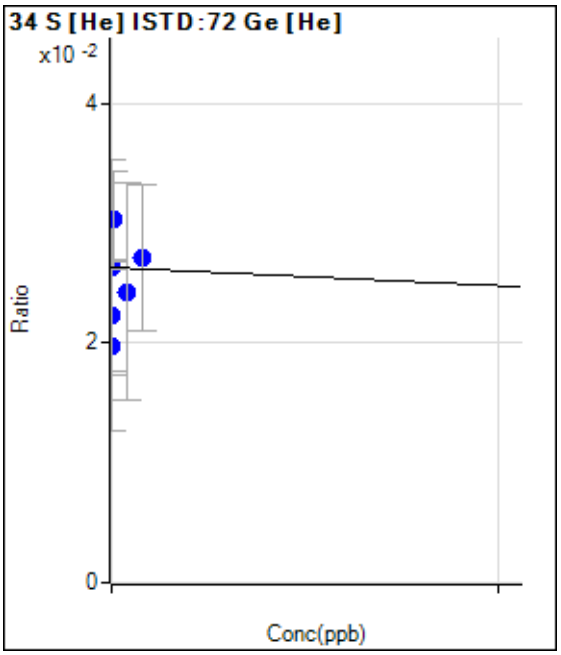


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	172438.58	0.2844	P	1.9
2	☐	400.000	3978.898	167851.21	0.2819	P	1.3
3	☐	1000.000	23232.450	158434.93	0.2699	P	5.9
4	☐	2000.000	23984.155	156985.88	0.2695	P	1.5
5	☐	20000.00	12919.280	153429.49	0.2763	P	1.6
6	☐	40000.00	41849.552	138301.39	0.2583	P	1.1
7	☐	200.000					

y = -6.2282E-007 * x + 0.2844
R = -0.7061
DL = -2.617E+04
BEC = -4.566E+05

Weight: <None>
Min Conc: <None>

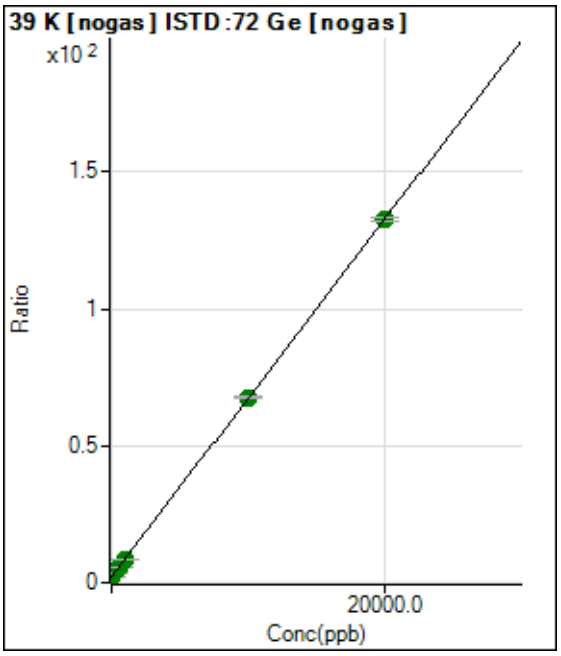
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	933.59	0.0263	P	67.9
2	☐	400.000	2147527.17	666.83	0.0198	P	71.8
3	☐	1000.000	1331465.19	733.51	0.0223	P	41.3
4	☐	2000.000	-1307228.14	1000.22	0.0303	P	26.7
5	☐	20000.00	673274.453	766.91	0.0243	P	74.6
6	☐	40000.00	-275908.721	800.19	0.0271	P	44.8
7	☐	200.000					

y = -3.0356E-009 * x + 0.0263
R = 0.2509
DL = -1.765E+07
BEC = -8.666E+06

Weight: <None>
Min Conc: <None>

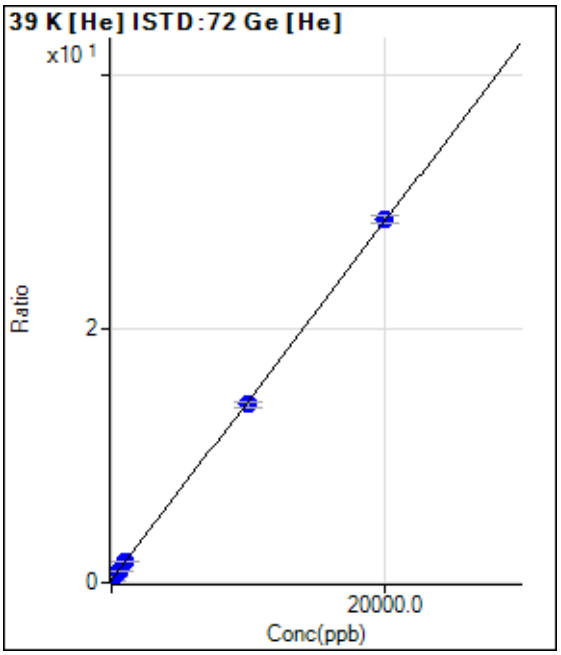


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1313118.45	2.1658	A	1.6
2	☐	200.000	191.056	2031133.70	3.4116	A	3.0
3	☐	500.000	489.953	3147265.57	5.3607	A	1.1
4	☐	1000.000	997.167	5049235.53	8.6682	A	0.9
5	☐	10000.00	10038.874	37548694.59	67.6281	A	0.9
6	☐	20000.00	19981.045	70909957.84	132.459	A	1.1
7	☐	100.000					

y = 0.0065 * x + 2.1658
R = 1.0000
DL = 15.66
BEC = 332.1

Weight: <None>
Min Conc: <None>

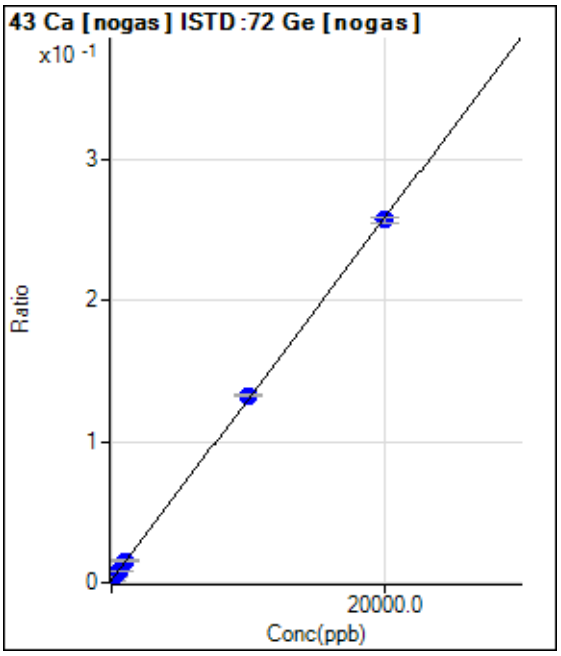
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7181.61	0.2043	P	3.1
2	☐	200.000	215.526	17181.93	0.5091	P	1.0
3	☐	500.000	498.293	30146.23	0.9089	P	4.0
4	☐	1000.000	1010.779	53969.80	1.6336	P	2.7
5	☐	10000.00	9803.591	436369.91	14.0670	P	2.9
6	☐	20000.00	20097.553	843437.10	28.6232	P	2.2
7	☐	100.000					

y = 0.0014 * x + 0.2043
R = 0.9999
DL = 13.43
BEC = 144.5

Weight: <None>
Min Conc: <None>

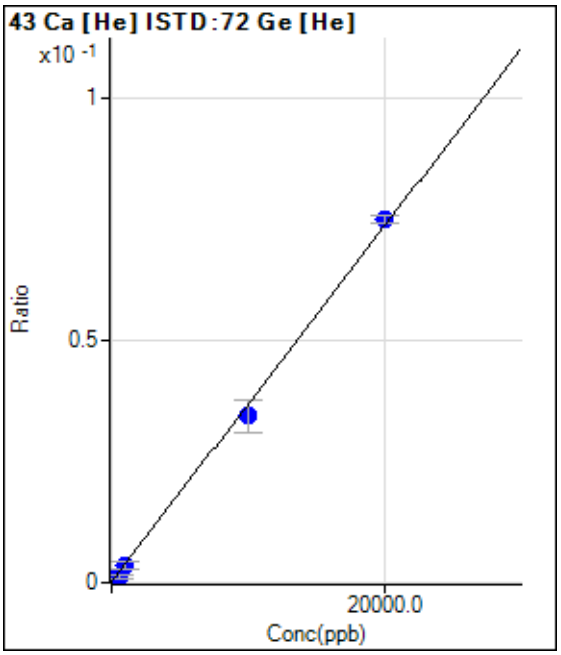


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	996.72	0.0016	P	11.8
2	☐	200.000	208.586	2573.59	0.0043	P	2.6
3	☐	500.000	510.245	4810.76	0.0082	P	7.6
4	☐	1000.000	1082.439	9052.49	0.0155	P	4.8
5	☐	10000.00	10183.866	73527.64	0.1324	P	0.9
6	☐	20000.00	19903.603	137717.44	0.2573	P	1.5
7	☐	100.000					

y = 1.2842E-005 * x + 0.0016
R = 0.9999
DL = 45.36
BEC = 128

Weight: <None>
Min Conc: <None>

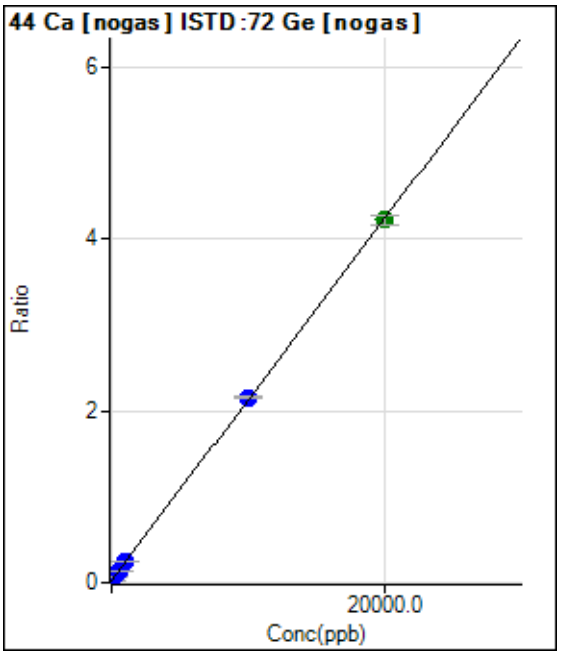
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6.67	0.0002	P	173.
2	☐	200.000	133.658	23.33	0.0007	P	62.9
3	☐	500.000	308.847	43.33	0.0013	P	58.2
4	☐	1000.000	944.660	120.00	0.0037	P	46.1
5	☐	10000.00	9304.797	1063.39	0.0344	P	19.4
6	☐	20000.00	20355.811	2210.19	0.0750	P	2.3
7	☐	100.000					

y = 3.6750E-006 * x + 1.9232E-004
R = 0.9992
DL = 271.9
BEC = 52.33

Weight: <None>
Min Conc: <None>

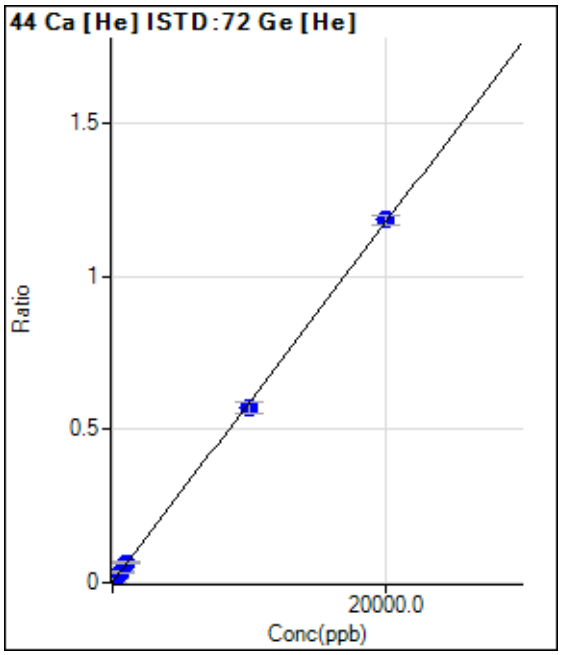


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	15340.39	0.0253	P	4.4
2	☐	200.000	206.226	40874.79	0.0687	P	2.9
3	☐	500.000	512.365	78097.46	0.1330	P	2.0
4	☐	1000.000	1026.035	140378.08	0.2410	P	2.2
5	☐	10000.00	10121.028	1195280.14	2.1528	P	1.0
6	☐	20000.00	19937.813	2257035.96	4.2164	A	2.5
7	☐	100.000					

y = 2.1021E-004 * x + 0.0253
R = 1.0000
DL = 15.89
BEC = 120.4

Weight: <None>
Min Conc: <None>

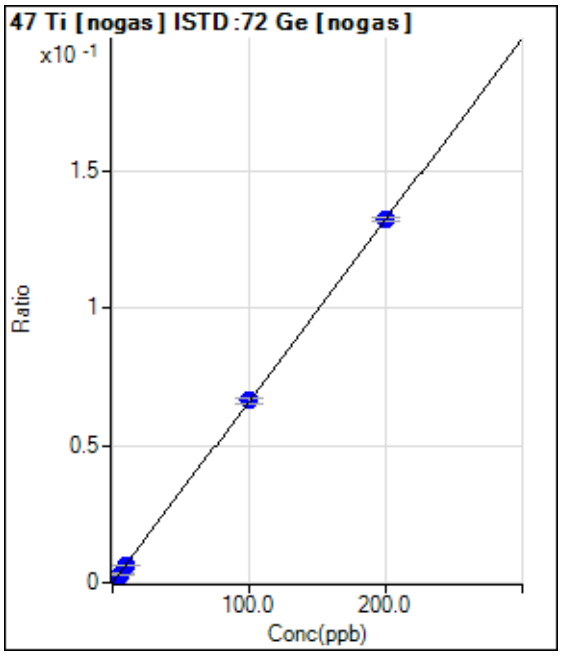
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	40.00	0.0011	P	66.6
2	☐	200.000	156.824	350.01	0.0104	P	9.1
3	☐	500.000	532.422	1073.40	0.0325	P	15.0
4	☐	1000.000	1089.639	2156.85	0.0653	P	2.8
5	☐	10000.00	9706.692	17739.42	0.5723	P	6.0
6	☐	20000.00	20141.793	34955.41	1.1863	P	2.8
7	☐	100.000					

y = 5.8841E-005 * x + 0.0011
R = 0.9998
DL = 38.55
BEC = 19.29

Weight: <None>
Min Conc: <None>

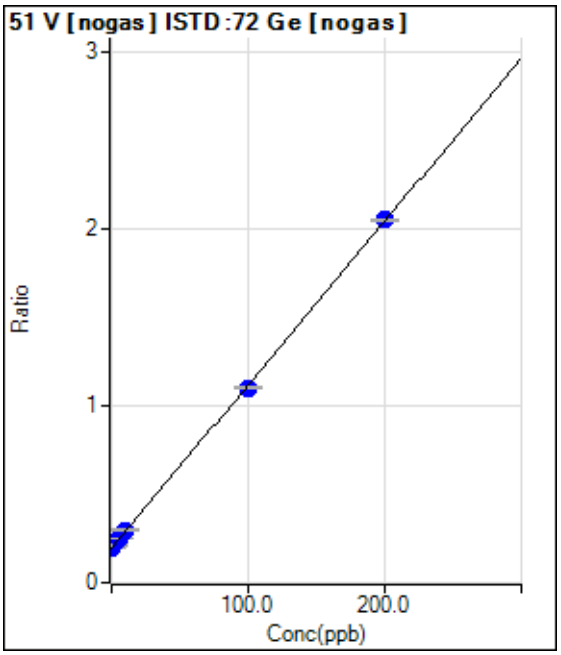


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0000	P	125.
2	☐	2.000	1.993	800.04	0.0013	P	5.4
3	☐	5.000	4.669	1826.81	0.0031	P	4.9
4	☐	10.000	9.234	3567.11	0.0061	P	2.7
5	☐	100.000	100.143	36732.21	0.0662	P	2.5
6	☐	200.000	199.975	70706.53	0.1321	P	0.9
7	☐	1.000					

y = 6.6034E-004 * x + 2.7560E-005
R = 1.0000
DL = 0.1569
BEC = 0.04174

Weight: <None>
Min Conc: <None>

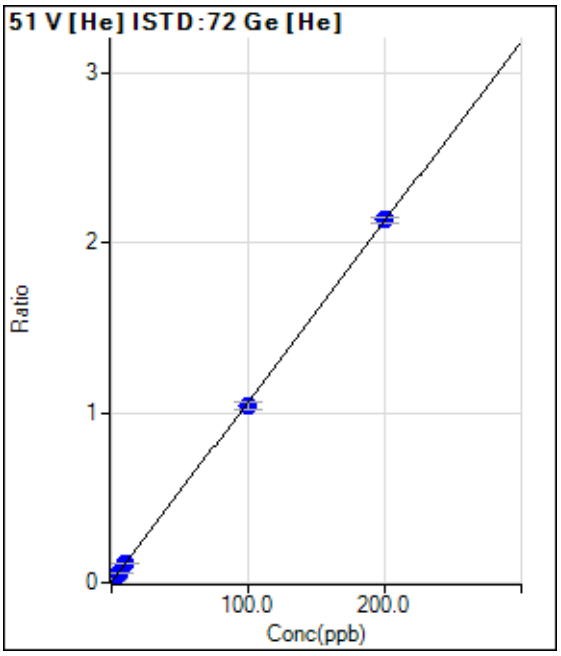
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	118455.74	0.1954	P	1.8
2	☐	2.000	1.889	126651.34	0.2128	P	7.0
3	☐	5.000	5.812	146170.04	0.2490	P	1.8
4	☐	10.000	11.190	173873.21	0.2985	P	2.6
5	☐	100.000	97.885	609639.63	1.0980	P	1.1
6	☐	200.000	200.979	1096874.76	2.0487	P	0.9
7	☐	1.000					

y = 0.0092 * x + 0.1954
R = 0.9999
DL = 1.125
BEC = 21.19

Weight: <None>
Min Conc: <None>

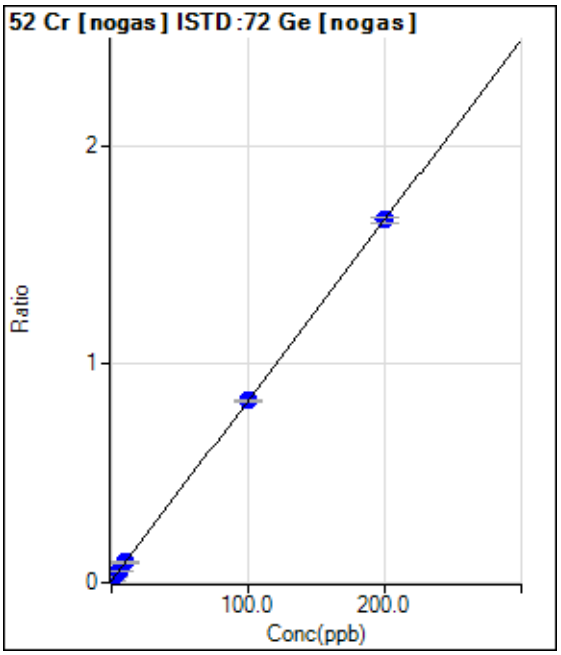


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.237	224.00	0.0064	P	6.0
2	☐	2.000	2.163	904.03	0.0268	P	3.1
3	☐	5.000	5.162	1942.12	0.0586	P	6.1
4	☐	10.000	10.455	3788.42	0.1147	P	5.0
5	☐	100.000	98.023	32347.24	1.0431	P	4.1
6	☐	200.000	200.960	62899.16	2.1344	P	1.4
7	☐	1.000					

y = 0.0106 * x + 0.0039
R = 0.9999
DL = 0.1087
BEC = 0.3642

Weight: <None>
Min Conc: <None>

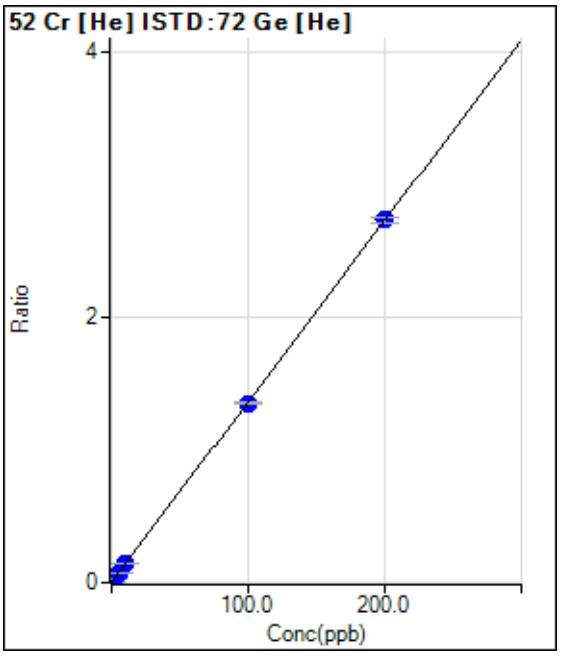
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5391.03	0.0089	P	7.7
2	☐	2.000	1.900	14626.48	0.0246	P	1.3
3	☐	5.000	5.081	29825.98	0.0508	P	3.6
4	☐	10.000	10.188	54138.09	0.0929	P	1.3
5	☐	100.000	99.711	461587.39	0.8314	P	1.8
6	☐	200.000	200.134	888462.20	1.6597	P	1.8
7	☐	1.000					

y = 0.0082 * x + 0.0089
R = 1.0000
DL = 0.2495
BEC = 1.078

Weight: <None>
Min Conc: <None>

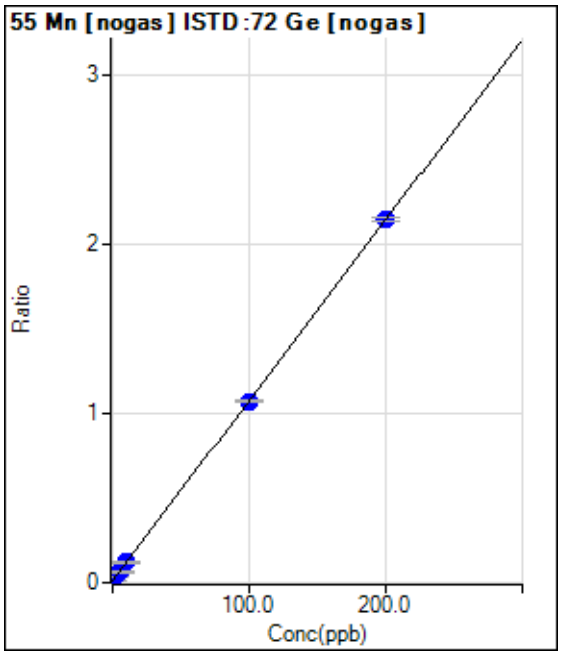


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	113.34	0.0033	P	76.1
2	☐	2.000	1.838	956.71	0.0283	P	23.5
3	☐	5.000	4.719	2240.20	0.0676	P	5.0
4	☐	10.000	10.481	4824.12	0.1461	P	5.7
5	☐	100.000	98.766	41874.09	1.3493	P	1.1
6	☐	200.000	200.602	80670.06	2.7372	P	1.6
7	☐	1.000					

y = 0.0136 * x + 0.0033
R = 1.0000
DL = 0.5451
BEC = 0.2386

Weight: <None>
Min Conc: <None>

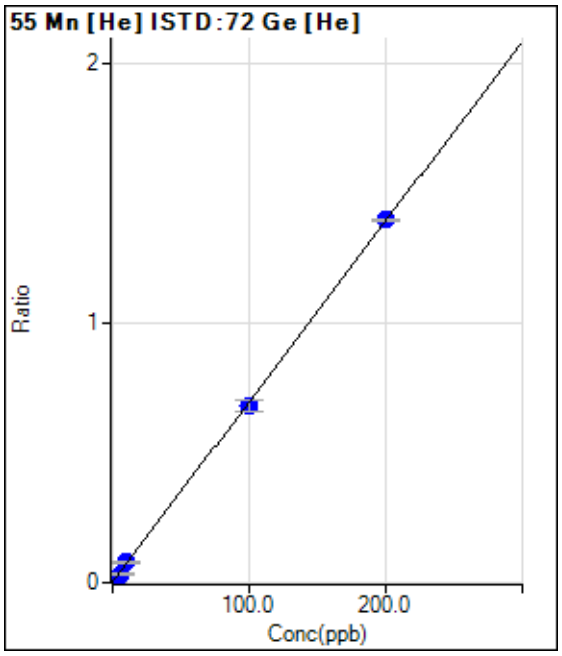
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6254.59	0.0103	P	5.9
2	☐	2.000	2.074	19291.08	0.0324	P	2.2
3	☐	5.000	4.953	37016.76	0.0631	P	3.7
4	☐	10.000	10.248	69565.94	0.1194	P	0.8
5	☐	100.000	99.570	594345.78	1.0705	P	0.7
6	☐	200.000	200.203	1146660.71	2.1420	P	1.2
7	☐	1.000					

y = 0.0106 * x + 0.0103
R = 1.0000
DL = 0.1718
BEC = 0.9688

Weight: <None>
Min Conc: <None>

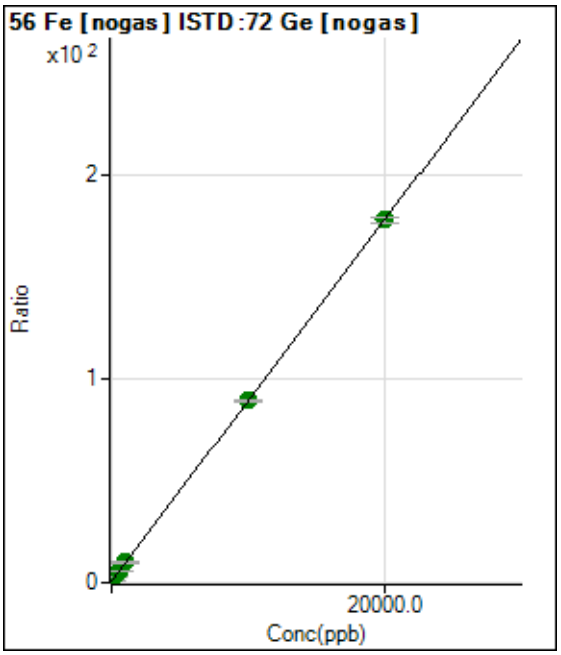


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	76.67	0.0022	P	32.9
2	☐	2.000	2.215	590.02	0.0175	P	21.3
3	☐	5.000	4.462	1100.05	0.0331	P	9.2
4	☐	10.000	10.920	2573.59	0.0779	P	6.7
5	☐	100.000	97.977	21136.53	0.6818	P	5.8
6	☐	200.000	200.977	41152.39	1.3963	P	0.8
7	☐	1.000					

y = 0.0069 * x + 0.0022
R = 0.9999
DL = 0.3098
BEC = 0.314

Weight: <None>
Min Conc: <None>

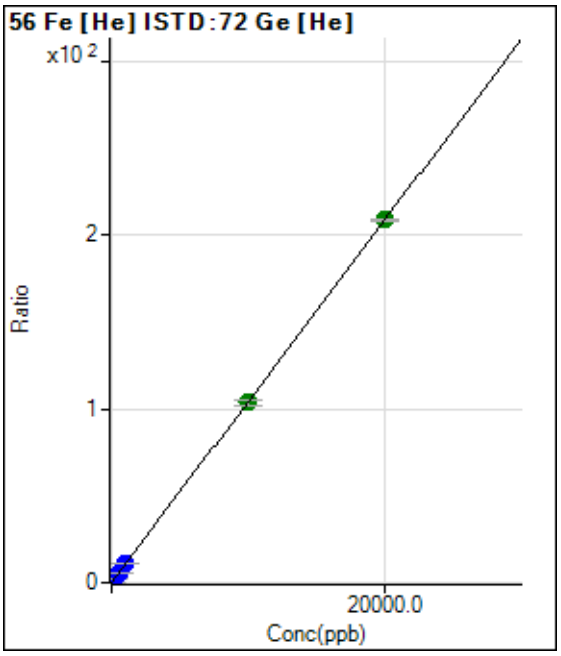
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	399310.82	0.6585	P	2.3
2	☐	200.000	216.181	1535235.13	2.5787	A	2.1
3	☐	500.000	519.904	3097710.29	5.2763	A	1.8
4	☐	1000.000	1049.515	5813246.62	9.9804	A	1.6
5	☐	10000.00	9986.471	49613313.61	89.3591	A	1.2
6	☐	20000.00	20003.629	95461575.05	178.332	A	1.8
7	☐	100.000					

y = 0.0089 * x + 0.6585
R = 1.0000
DL = 5.041
BEC = 74.14

Weight: <None>
Min Conc: <None>

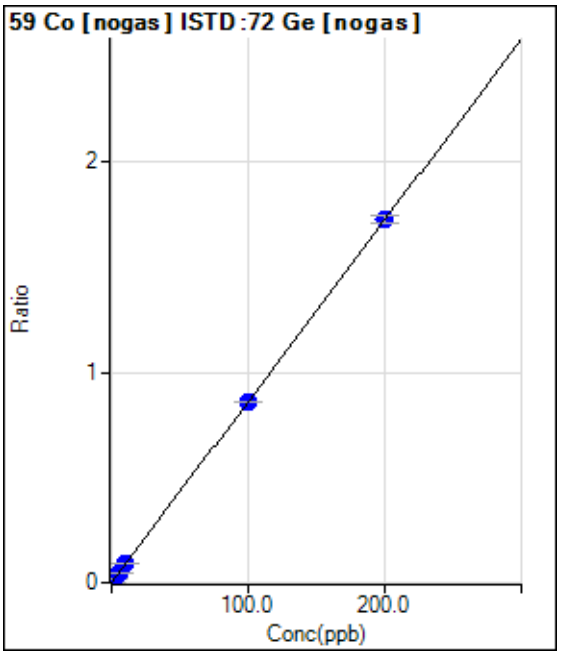


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1136.73	0.0324	P	15.0
2	☐	200.000	207.986	74205.15	2.1991	P	2.7
3	☐	500.000	511.466	177689.34	5.3606	P	5.9
4	☐	1000.000	1037.557	358176.96	10.8412	P	2.6
5	☐	10000.00	9933.940	3211257.77	103.519	A	2.9
6	☐	20000.00	20030.786	6151302.62	208.703	A	0.6
7	☐	100.000					

y = 0.0104 * x + 0.0324
R = 1.0000
DL = 1.402
BEC = 3.111

Weight: <None>
Min Conc: <None>

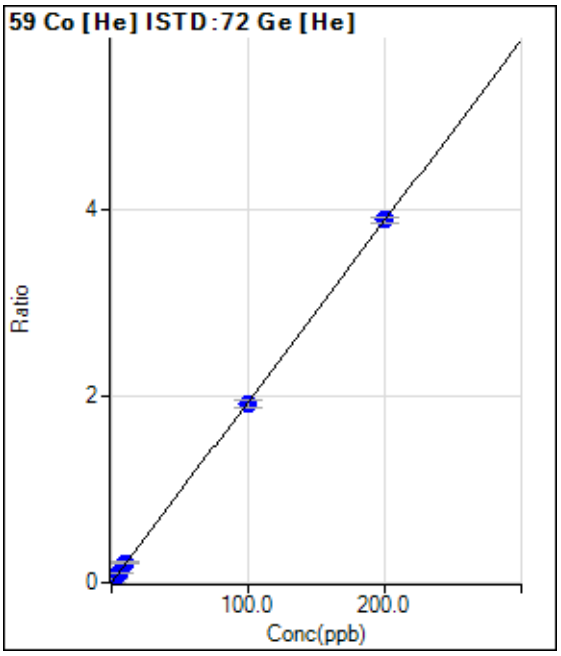
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	80.00	0.0001	P	25.2
2	☐	2.000	2.062	10643.50	0.0179	P	4.9
3	☐	5.000	5.118	25939.85	0.0442	P	2.0
4	☐	10.000	10.315	51791.07	0.0889	P	1.6
5	☐	100.000	99.412	475198.43	0.8559	P	0.2
6	☐	200.000	200.275	922886.37	1.7241	P	2.2
7	☐	1.000					

y = 0.0086 * x + 1.3198E-004
R = 1.0000
DL = 0.01161
BEC = 0.01533

Weight: <None>
Min Conc: <None>

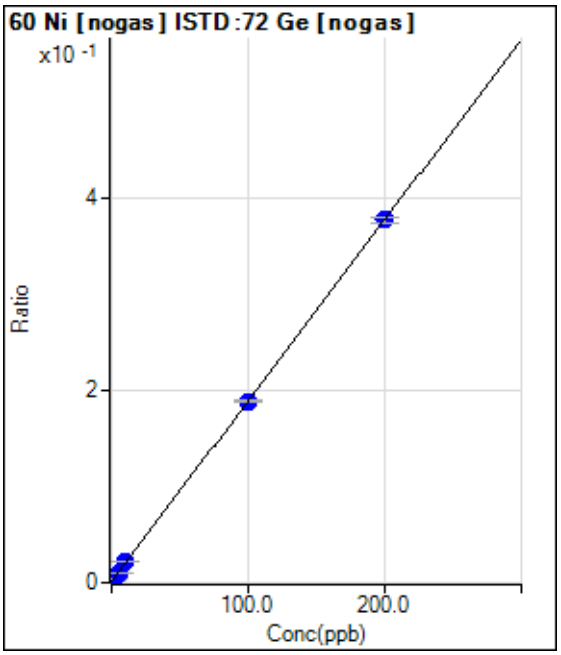


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0003	P	101.
2	☐	2.000	1.805	1190.06	0.0353	P	6.7
3	☐	5.000	5.128	3303.72	0.0997	P	7.3
4	☐	10.000	10.910	6994.87	0.2118	P	5.0
5	☐	100.000	98.777	59392.07	1.9154	P	4.5
6	☐	200.000	200.565	114611.50	3.8889	P	1.4
7	☐	1.000					

y = 0.0194 * x + 2.8392E-004
R = 1.0000
DL = 0.04465
BEC = 0.01464

Weight: <None>
Min Conc: <None>

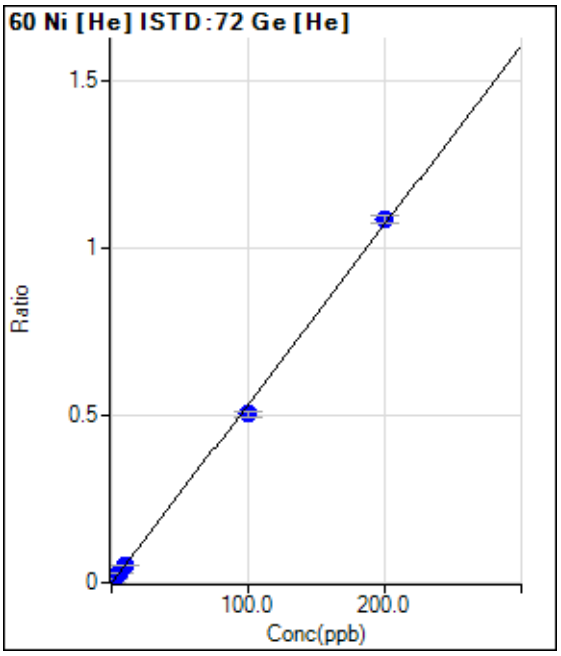
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.020	910.04	0.0015	P	14.1
2	☐	2.000	1.702	2823.62	0.0047	P	8.5
3	☐	5.000	4.837	6244.57	0.0106	P	4.3
4	☐	10.000	10.751	12681.57	0.0218	P	5.8
5	☐	100.000	99.520	104802.81	0.1888	P	1.0
6	☐	200.000	200.209	202445.86	0.3782	P	1.7
7	☐	1.000					

y = 0.0019 * x + 0.0015
R = 1.0000
DL = 0.3372
BEC = 0.8179

Weight: <None>
Min Conc: <None>

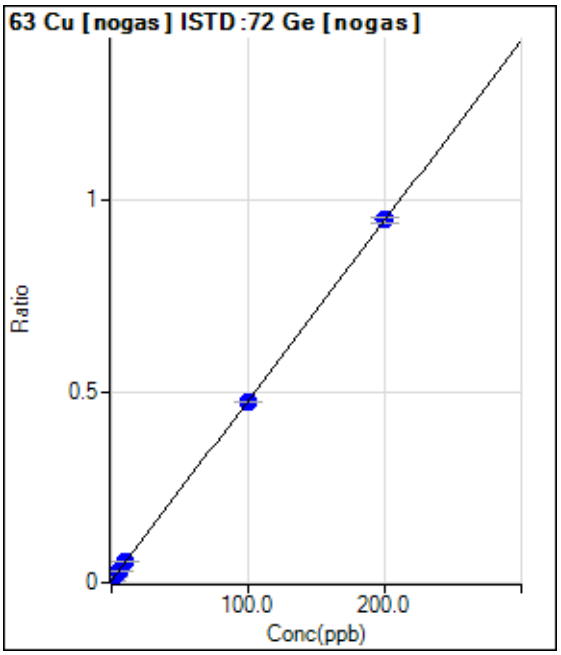


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.786	66.67	0.0019	P	14.1
2	☐	2.000	2.702	413.35	0.0122	P	35.0
3	☐	5.000	6.145	1016.72	0.0306	P	3.6
4	☐	10.000	10.227	1736.79	0.0526	P	6.2
5	☐	100.000	94.376	15637.42	0.5041	P	3.0
6	☐	200.000	202.765	32003.48	1.0857	P	2.0
7	☐	1.000					

y = 0.0054 * x - 0.0023
R = 0.9994
DL = 0.149
BEC = -0.4334

Weight: <None>
Min Conc: <None>

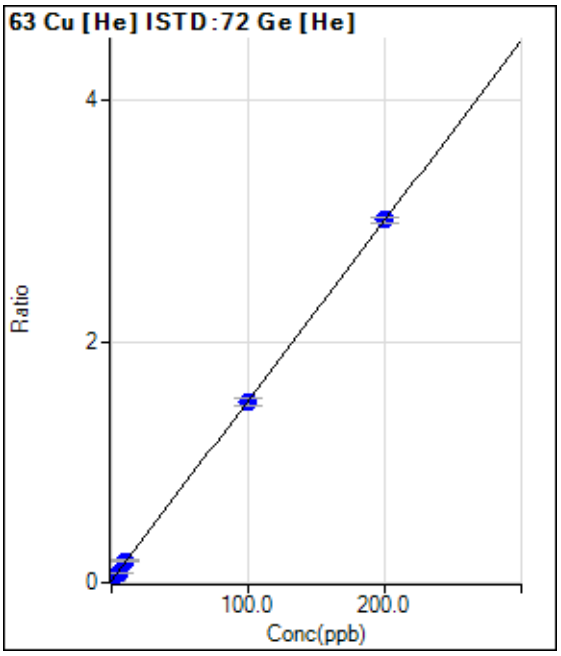
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3073.67	0.0051	P	8.1
2	☐	2.000	2.574	10236.59	0.0172	P	2.7
3	☐	5.000	4.888	16494.86	0.0281	P	0.9
4	☐	10.000	10.586	32000.11	0.0549	P	2.0
5	☐	100.000	99.289	262499.80	0.4728	P	0.6
6	☐	200.000	200.323	507882.21	0.9487	P	1.3
7	☐	1.000					

y = 0.0047 * x + 0.0051
R = 1.0000
DL = 0.2606
BEC = 1.076

Weight: <None>
Min Conc: <None>

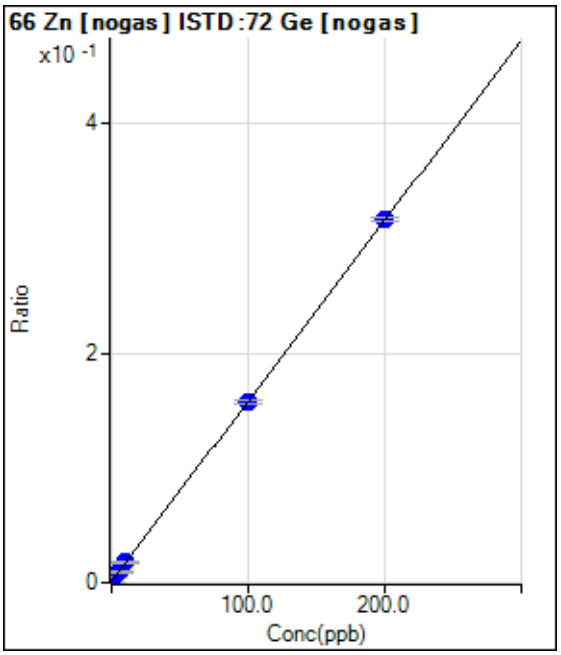


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.305	400.01	0.0114	P	6.9
2	☐	2.000	2.429	1763.47	0.0522	P	7.4
3	☐	5.000	4.451	2733.60	0.0824	P	1.6
4	☐	10.000	10.836	5864.44	0.1777	P	7.5
5	☐	100.000	99.242	46429.60	1.4975	P	5.0
6	☐	200.000	200.347	88613.74	3.0070	P	1.5
7	☐	1.000					

y = 0.0149 * x + 0.0159
R = 1.0000
DL = 0.1583
BEC = 1.066

Weight: <None>
Min Conc: <None>

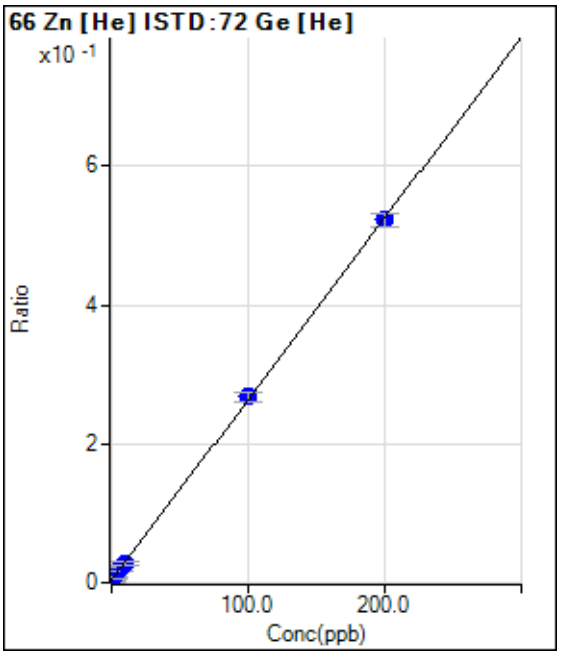
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.308	463.35	0.0008	P	15.6
2	☐	2.000	2.009	2620.25	0.0044	P	8.9
3	☐	5.000	5.262	5581.02	0.0095	P	8.1
4	☐	10.000	10.490	10326.65	0.0177	P	5.0
5	☐	100.000	99.157	87133.95	0.1569	P	1.8
6	☐	200.000	200.390	169117.45	0.3159	P	1.0
7	☐	1.000					

y = 0.0016 * x + 0.0012
R = 1.0000
DL = 0.2282
BEC = 0.7944

Weight: <None>
Min Conc: <None>

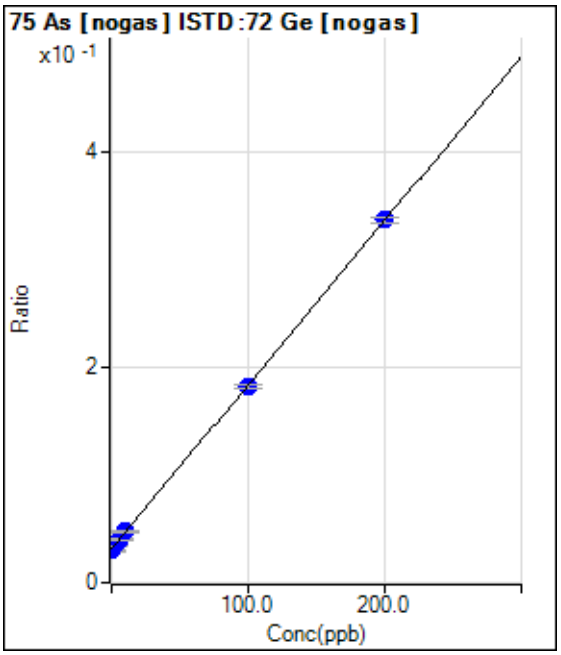


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.651	53.33	0.0015	P	62.2
2	☐	2.000	1.528	243.34	0.0072	P	17.7
3	☐	5.000	5.933	616.69	0.0187	P	30.8
4	☐	10.000	9.355	916.71	0.0276	P	22.0
5	☐	100.000	101.641	8318.80	0.2683	P	5.3
6	☐	200.000	199.193	15407.21	0.5227	P	3.5
7	☐	1.000					

y = 0.0026 * x + 0.0032
R = 0.9999
DL = 1.096
BEC = 1.238

Weight: <None>
Min Conc: <None>

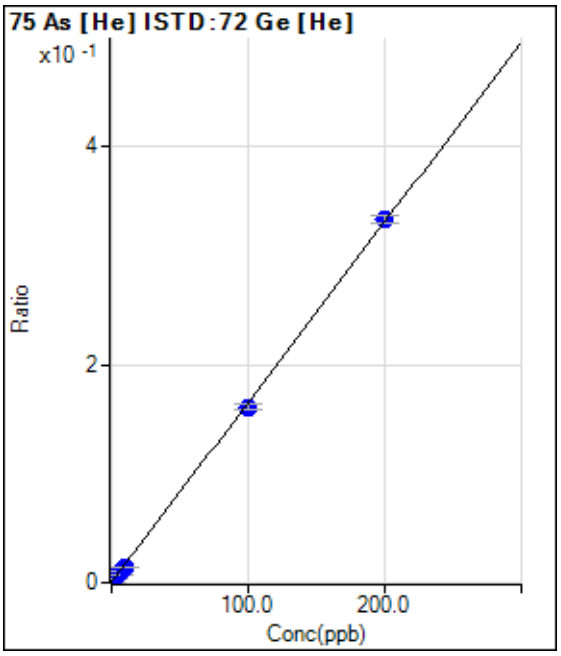
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-1.094	18083.17	0.0298	P	2.2
2	☐	2.000	2.153	20706.29	0.0348	P	2.7
3	☐	5.000	5.563	23476.58	0.0400	P	1.9
4	☐	10.000	10.992	28116.97	0.0483	P	3.8
5	☐	100.000	98.905	101345.83	0.1825	P	2.0
6	☐	200.000	200.482	180754.65	0.3376	P	1.5
7	☐	1.000					

y = 0.0015 * x + 0.0315
R = 0.9999
DL = 1.29
BEC = 20.62

Weight: <None>
Min Conc: <None>

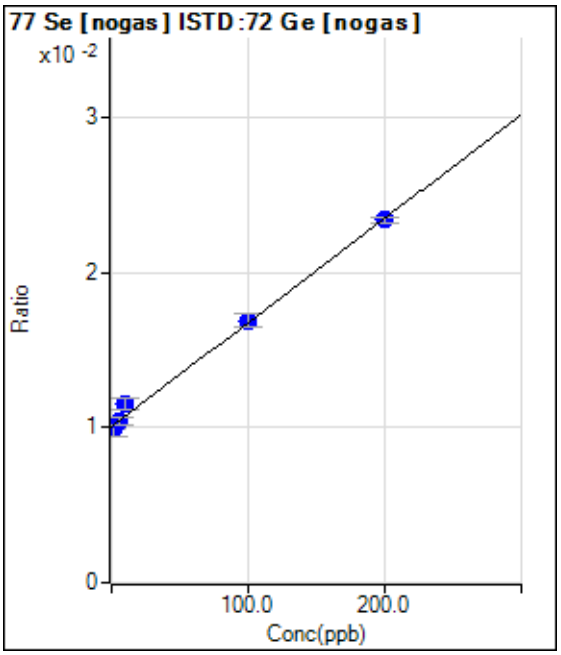


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	12.22	0.0003	P	75.5
2	☐	2.000	1.941	120.00	0.0035	P	14.7
3	☐	5.000	5.107	291.12	0.0088	P	24.0
4	☐	10.000	8.248	461.12	0.0140	P	7.3
5	☐	100.000	97.475	5006.32	0.1614	P	3.1
6	☐	200.000	201.348	9813.96	0.3330	P	2.1
7	☐	1.000					

y = 0.0017 * x + 3.4243E-004
R = 0.9999
DL = 0.4697
BEC = 0.2072

Weight: <None>
Min Conc: <None>

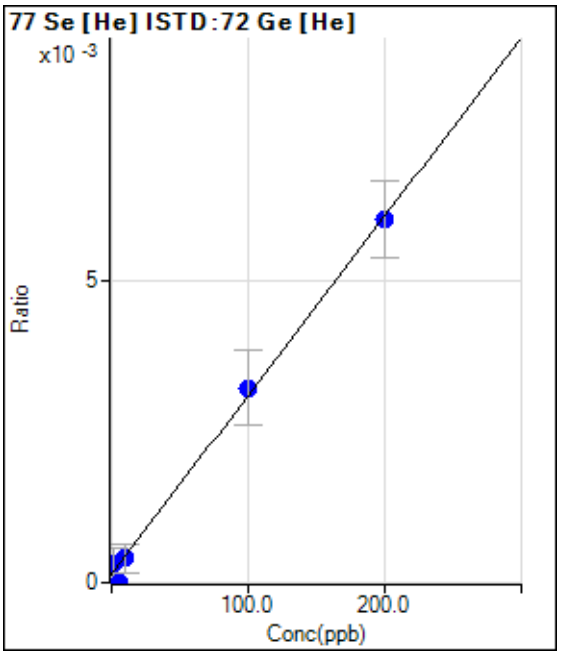
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6114.58	0.0101	P	3.4
2	☐	2.000	-2.884	5891.14	0.0099	P	9.9
3	☐	5.000	5.024	6117.87	0.0104	P	4.7
4	☐	10.000	21.884	6728.14	0.0116	P	6.4
5	☐	100.000	101.819	9396.11	0.0169	P	5.1
6	☐	200.000	198.545	12541.49	0.0234	P	1.7
7	☐	1.000					

y = 6.7187E-005 * x + 0.0101
R = 0.9976
DL = 15.29
BEC = 150.1

Weight: <None>
Min Conc: <None>

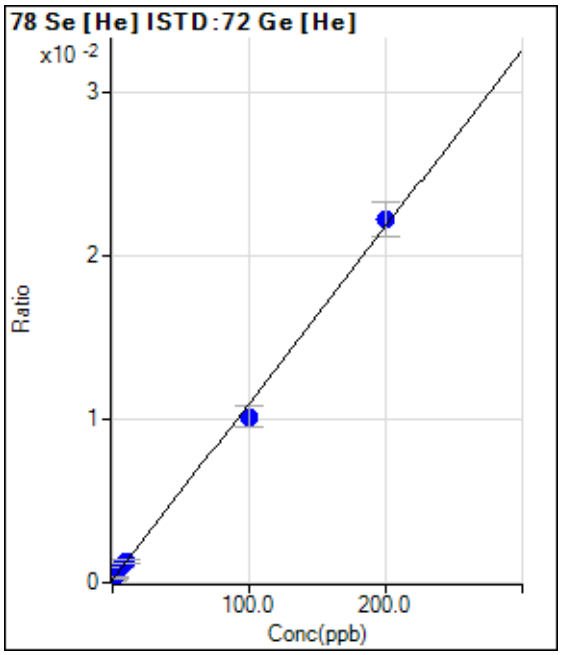


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	4.856	10.00	0.0003	P	3.0
2	☐	2.000	5.464	10.00	0.0003	P	173.
3	☐	5.000	-4.781	0.00	0.0000	P	
4	☐	10.000	9.050	13.33	0.0004	P	116.
5	☐	100.000	104.307	100.00	0.0032	P	39.0
6	☐	200.000	198.104	176.67	0.0060	P	21.1
7	☐	1.000					

y = 2.9531E-005 * x + 1.4118E-004
R = 0.9977
DL = 0.8667
BEC = 4.781

Weight: <None>
Min Conc: <None>

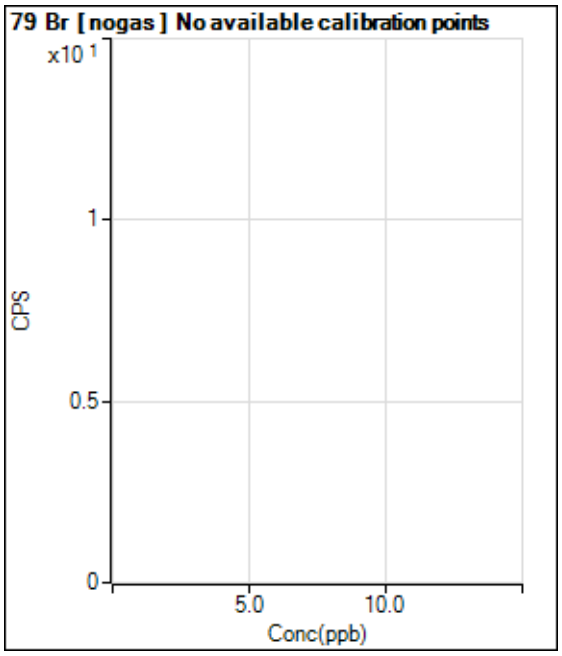
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6.00	0.0002	P	89.1
2	☐	2.000	1.152	10.00	0.0003	P	31.7
3	☐	5.000	6.798	30.00	0.0009	P	4.4
4	☐	10.000	10.327	42.67	0.0013	P	26.1
5	☐	100.000	92.290	314.00	0.0101	P	12.7
6	☐	200.000	203.802	654.02	0.0222	P	9.5
7	☐	1.000					

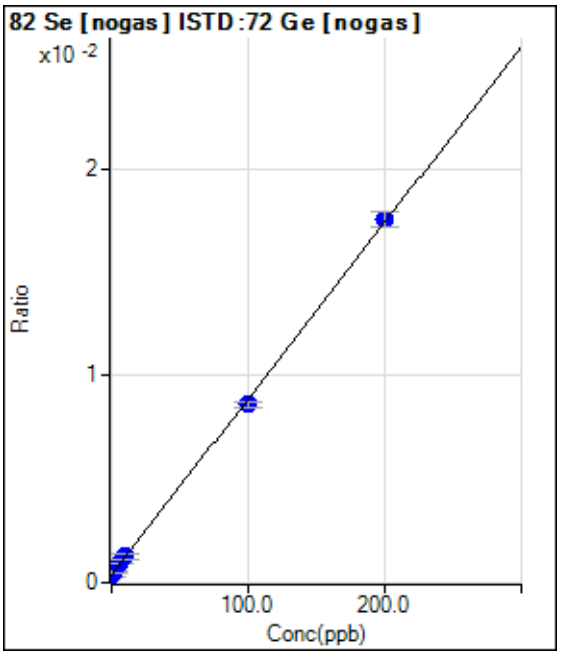
y = 1.0806E-004 * x + 1.7011E-004
R = 0.9989
DL = 4.206
BEC = 1.574

Weight: <None>
Min Conc: <None>



	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					

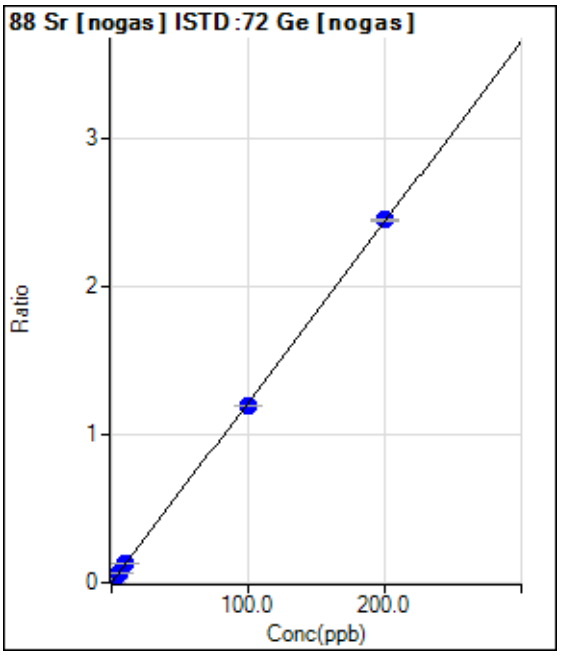
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	233.34	0.0004	P	54.4
2	☐	2.000	1.267	293.34	0.0005	P	19.8
3	☐	5.000	6.353	543.36	0.0009	P	6.8
4	☐	10.000	10.512	743.36	0.0013	P	20.3
5	☐	100.000	96.644	4774.13	0.0086	P	2.6
6	☐	200.000	201.626	9379.46	0.0175	P	4.2
7	☐	1.000					

y = 8.4981E-005 * x + 3.8528E-004
R = 0.9998
DL = 7.404
BEC = 4.534

Weight: <None>
Min Conc: <None>

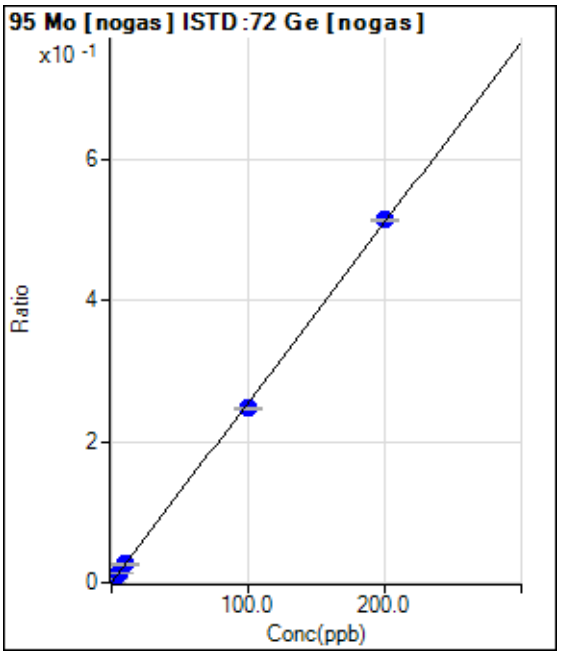


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	506.68	0.0008	P	36.6
2	☐	2.000	2.080	15607.43	0.0262	P	0.1
3	☐	5.000	4.918	35711.55	0.0608	P	1.3
4	☐	10.000	10.135	72505.51	0.1245	P	1.3
5	☐	100.000	97.903	663481.48	1.1950	P	0.3
6	☐	200.000	201.043	1313235.21	2.4530	P	0.5
7	☐	1.000					

y = 0.0122 * x + 8.3681E-004
R = 0.9999
DL = 0.07537
BEC = 0.06861

Weight: <None>
Min Conc: <None>

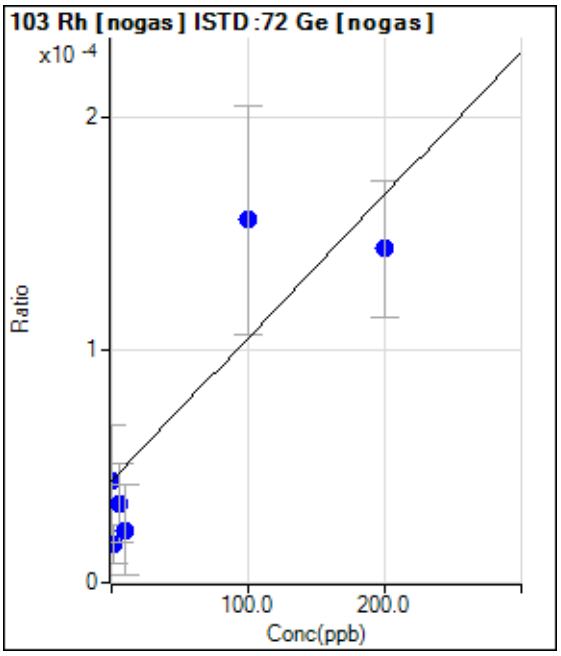
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13.33	0.0000	P	114.
2	☐	2.000	1.886	2880.31	0.0048	P	6.8
3	☐	5.000	4.903	7361.72	0.0125	P	2.9
4	☐	10.000	10.257	15263.83	0.0262	P	4.7
5	☐	100.000	96.976	137467.66	0.2476	P	1.1
6	☐	200.000	201.503	275400.37	0.5144	P	0.8
7	☐	1.000					

y = 0.0026 * x + 2.1915E-005
R = 0.9998
DL = 0.0294
BEC = 0.008584

Weight: <None>
Min Conc: <None>

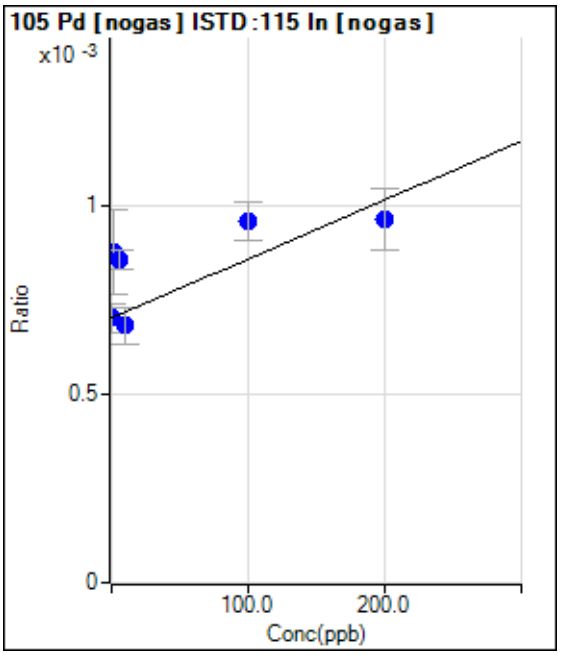


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26.67	0.0000	P	107.
2	☐	2.000	-44.008	10.00	0.0000	P	100.
3	☐	5.000	-15.686	20.00	0.0000	P	99.9
4	☐	10.000	-34.694	13.33	0.0000	P	173.
5	☐	100.000	182.297	86.67	0.0002	P	63.2
6	☐	200.000	162.064	76.67	0.0001	P	40.7
7	☐	1.000					

y = 6.1486E-007 * x + 4.3811E-005
R = 0.8822
DL = 230.4
BEC = 71.25

Weight: <None>
Min Conc: <None>

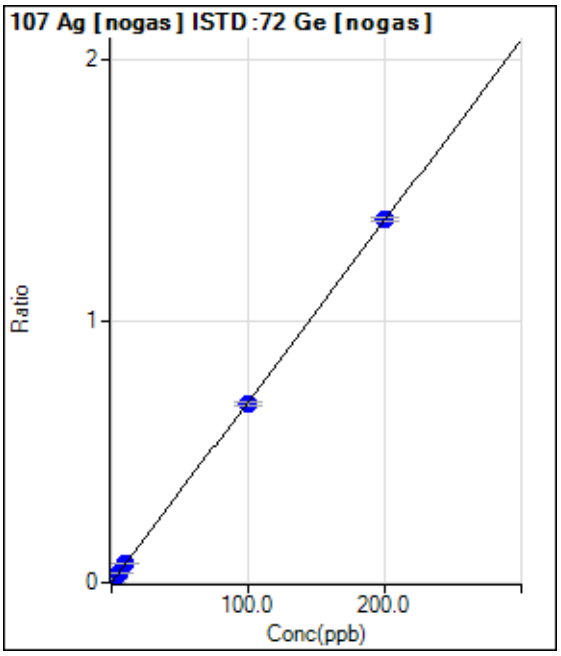
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	503.35	0.0007	P	10.9
2	☐	2.000	110.669	616.69	0.0009	P	25.7
3	☐	5.000	99.178	603.36	0.0009	P	5.7
4	☐	10.000	-13.325	473.35	0.0007	P	14.5
5	☐	100.000	163.257	636.69	0.0010	P	10.9
6	☐	200.000	166.097	616.69	0.0010	P	16.9
7	☐	1.000					

y = 1.5639E-006 * x + 7.0190E-004
R = 0.7013
DL = 146.6
BEC = 448.8

Weight: <None>
Min Conc: <None>

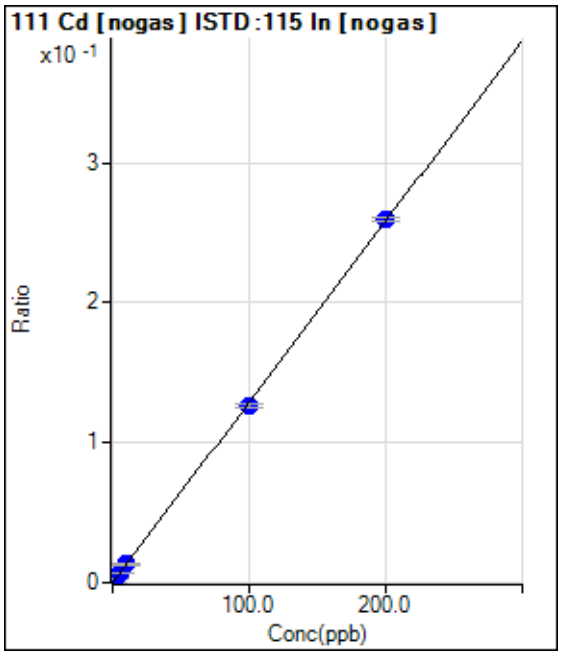


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.67	0.0001	P	20.5
2	☐	2.000	2.071	8599.07	0.0144	P	0.6
3	☐	5.000	5.085	20730.00	0.0353	P	7.4
4	☐	10.000	10.363	41866.35	0.0719	P	0.7
5	☐	100.000	98.926	380504.83	0.6853	P	1.5
6	☐	200.000	200.516	743589.73	1.3890	P	1.1
7	☐	1.000					

y = 0.0069 * x + 9.3477E-005
R = 1.0000
DL = 0.008306
BEC = 0.01349

Weight: <None>
Min Conc: <None>

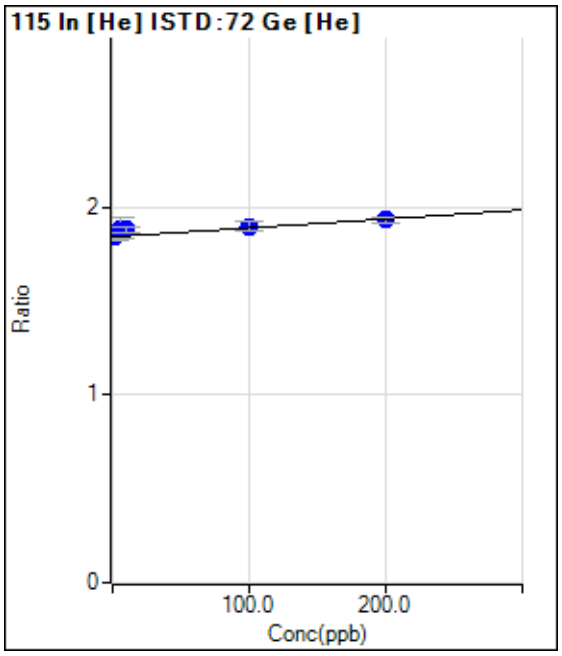
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.
2	☐	2.000	2.015	1836.81	0.0026	P	9.4
3	☐	5.000	5.181	4710.76	0.0067	P	1.4
4	☐	10.000	10.219	9172.75	0.0132	P	2.2
5	☐	100.000	98.320	84347.28	0.1268	P	2.2
6	☐	200.000	200.824	166288.65	0.2591	P	0.9
7	☐	1.000					

y = 0.0013 * x + 4.5521E-006
R = 0.9999
DL = 0.01834
BEC = 0.003529

Weight: <None>
Min Conc: <None>

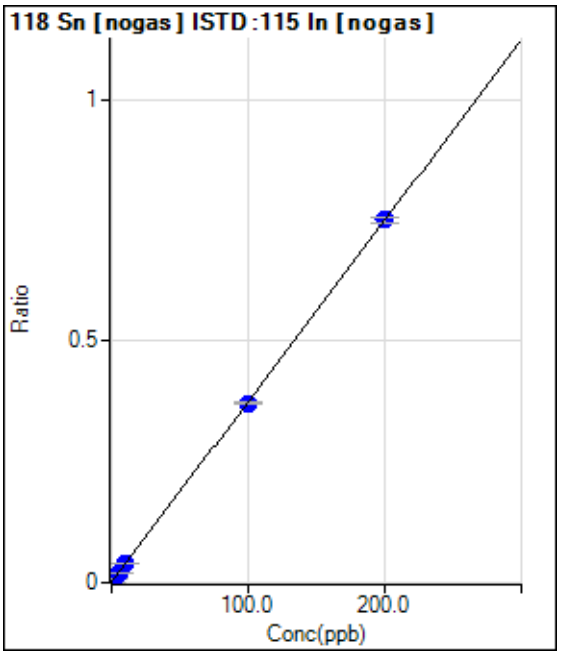


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	64810.37	1.8439	P	1.7
2	☐	2.000	8.759	62361.30	1.8481	P	2.2
3	☐	5.000	93.222	62595.50	1.8884	P	5.9
4	☐	10.000	79.764	62183.51	1.8820	P	1.7
5	☐	100.000	116.959	58928.75	1.8997	P	3.0
6	☐	200.000	185.759	56948.58	1.9326	P	2.0
7	☐	1.000					

y = 4.7740E-004 * x + 1.8439
R = 0.8632
DL = 197.7
BEC = 3862

Weight: <None>
Min Conc: <None>

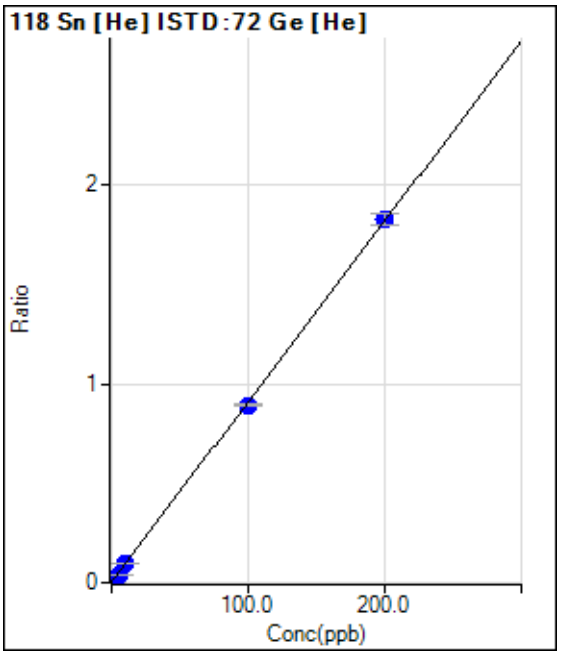
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	590.02	0.0008	P	12.1
2	☐	2.000	2.087	6087.95	0.0086	P	6.3
3	☐	5.000	4.973	13682.62	0.0194	P	2.2
4	☐	10.000	10.328	27456.64	0.0395	P	2.0
5	☐	100.000	99.177	247317.82	0.3719	P	1.7
6	☐	200.000	200.395	481795.33	0.7506	P	1.7
7	☐	1.000					

y = 0.0037 * x + 8.2088E-004
R = 1.0000
DL = 0.0797
BEC = 0.2194

Weight: <None>
Min Conc: <None>

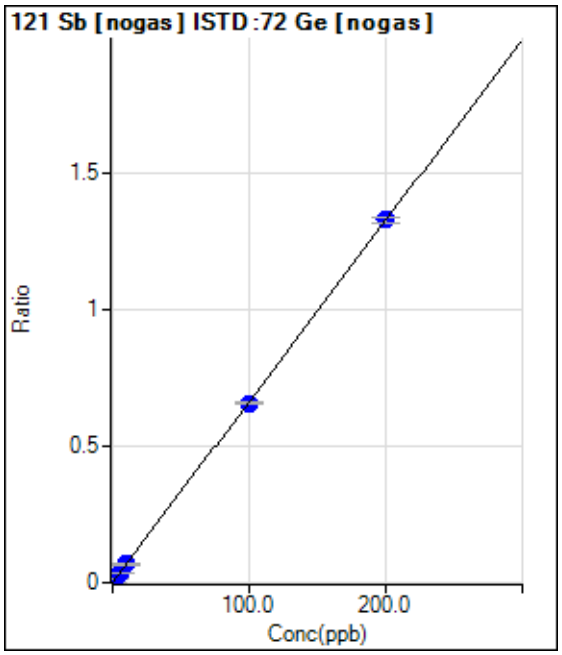


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	66.67	0.0019	P	49.8
2	☐	2.000	2.130	720.03	0.0213	P	20.3
3	☐	5.000	4.370	1380.09	0.0416	P	5.6
4	☐	10.000	10.112	3097.02	0.0937	P	1.8
5	☐	100.000	98.332	27770.55	0.8948	P	2.0
6	☐	200.000	200.843	53794.61	1.8257	P	3.0
7	☐	1.000					

y = 0.0091 * x + 0.0019
R = 0.9999
DL = 0.3152
BEC = 0.2109

Weight: <None>
Min Conc: <None>

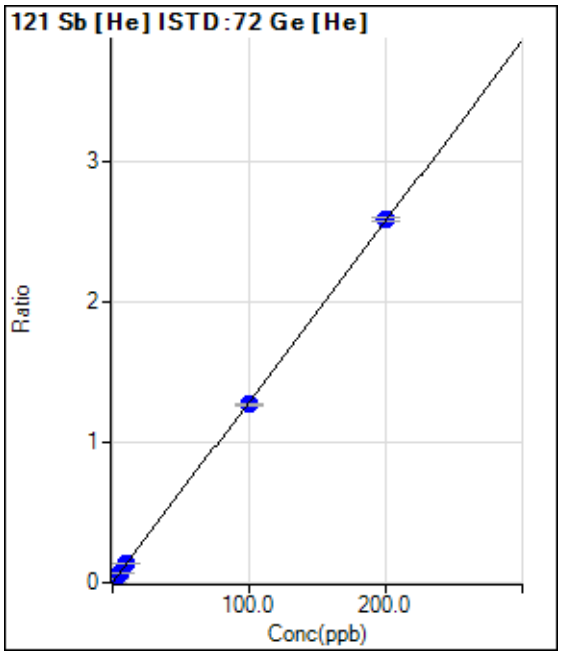
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	433.35	0.0007	P	17.1
2	☐	2.000	1.958	8135.50	0.0137	P	6.7
3	☐	5.000	5.025	19939.10	0.0340	P	1.8
4	☐	10.000	10.036	39086.75	0.0671	P	2.4
5	☐	100.000	99.151	364576.73	0.6566	P	1.4
6	☐	200.000	200.423	710132.70	1.3266	P	1.4
7	☐	1.000					

y = 0.0066 * x + 7.1430E-004
R = 1.0000
DL = 0.05549
BEC = 0.108

Weight: <None>
Min Conc: <None>

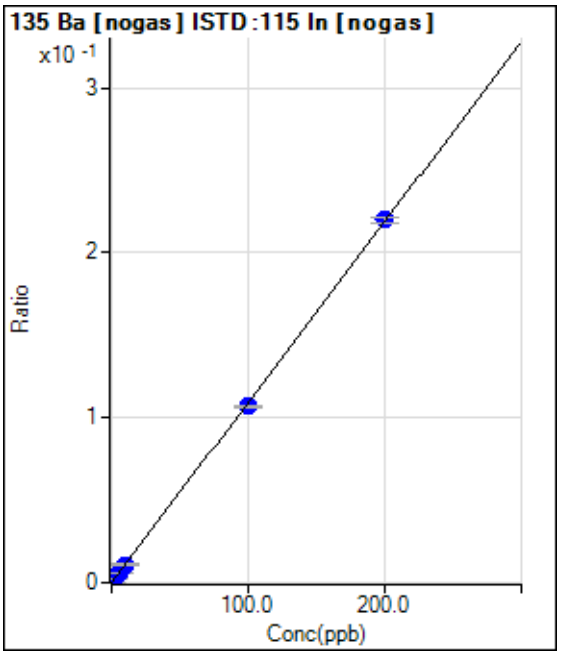


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	70.00	0.0020	P	36.4
2	☐	2.000	1.811	853.38	0.0253	P	14.2
3	☐	5.000	4.823	2126.85	0.0642	P	7.4
4	☐	10.000	10.710	4627.42	0.1401	P	2.0
5	☐	100.000	98.455	39447.79	1.2713	P	1.7
6	☐	200.000	200.743	76329.66	2.5900	P	0.9
7	☐	1.000					

y = 0.0129 * x + 0.0020
R = 0.9999
DL = 0.1681
BEC = 0.1539

Weight: <None>
Min Conc: <None>

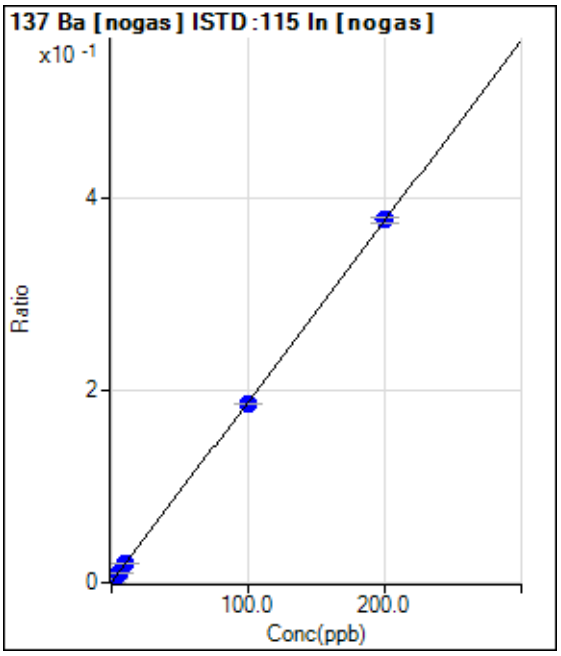
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	130.00	0.0002	P	28.0
2	☐	2.000	2.089	1736.80	0.0025	P	12.9
3	☐	5.000	5.441	4314.00	0.0061	P	3.6
4	☐	10.000	9.900	7648.66	0.0110	P	6.7
5	☐	100.000	97.531	70978.15	0.1067	P	0.1
6	☐	200.000	201.227	141204.42	0.2200	P	1.7
7	☐	1.000					

y = 0.0011 * x + 1.8165E-004
R = 0.9999
DL = 0.1397
BEC = 0.1663

Weight: <None>
Min Conc: <None>

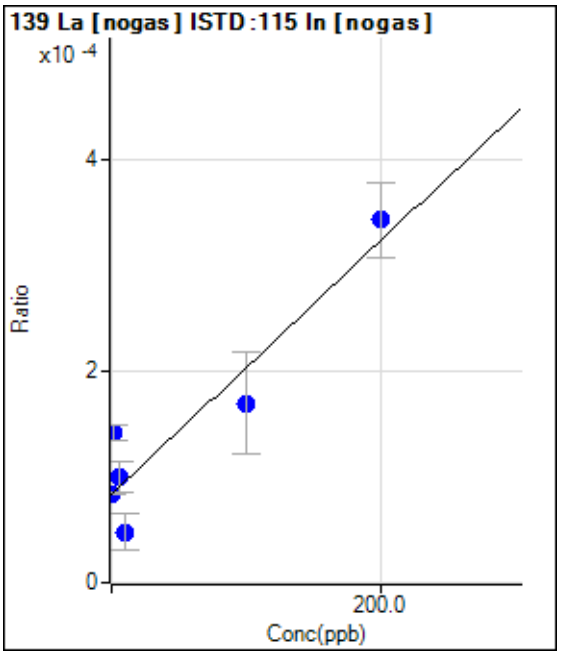


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	233.34	0.0003	P	10.5
2	☐	2.000	2.150	3080.38	0.0044	P	3.6
3	☐	5.000	4.989	6831.60	0.0097	P	4.9
4	☐	10.000	10.184	13545.84	0.0195	P	1.9
5	☐	100.000	98.671	123582.78	0.1858	P	0.5
6	☐	200.000	200.654	242331.36	0.3775	P	1.4
7	☐	1.000					

y = 0.0019 * x + 3.2517E-004
R = 1.0000
DL = 0.05448
BEC = 0.173

Weight: <None>
Min Conc: <None>

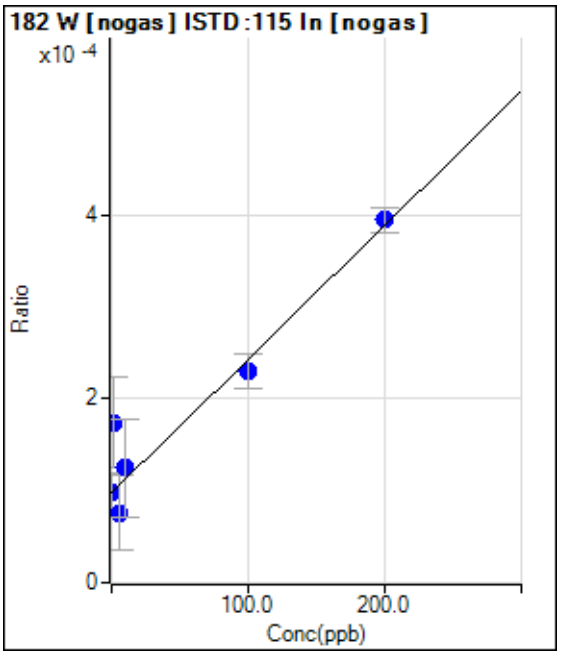
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	60.00	0.0001	P	1.8
2	☐	2.000	48.340	100.00	0.0001	P	10.3
3	☐	5.000	13.306	70.00	0.0001	P	29.6
4	☐	10.000	-29.456	33.33	0.0000	P	70.2
5	☐	100.000	71.549	113.33	0.0002	P	56.2
6	☐	200.000	215.527	220.01	0.0003	P	20.7
7	☐	1.000					

y = 1.2044E-006 * x + 8.3586E-005
R = 0.9343
DL = 3.68
BEC = 69.4

Weight: <None>
Min Conc: <None>

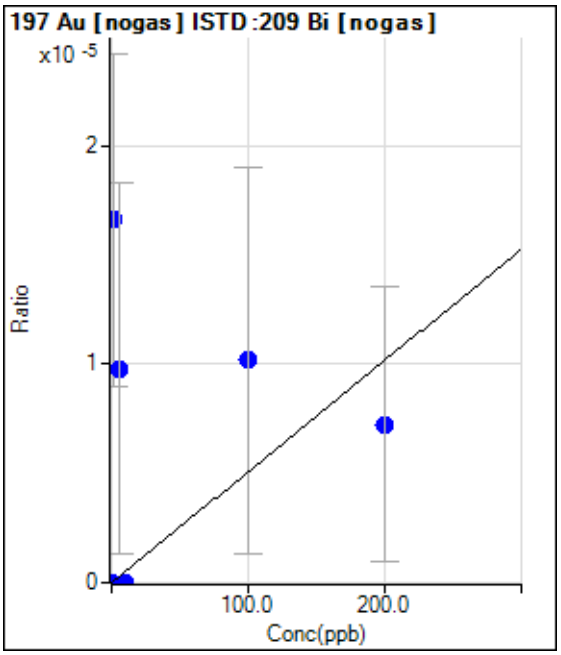


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	70.00	0.0001	P	43.7
2	☐	2.000	52.880	123.34	0.0002	P	56.5
3	☐	5.000	-15.100	53.33	0.0001	P	108.
4	☐	10.000	18.628	86.67	0.0001	P	85.0
5	☐	100.000	91.173	153.34	0.0002	P	15.9
6	☐	200.000	203.976	253.34	0.0004	P	6.6
7	☐	1.000					

y = 1.4566E-006 * x + 9.7645E-005
R = 0.9552
DL = 87.93
BEC = 67.04

Weight: <None>
Min Conc: <None>

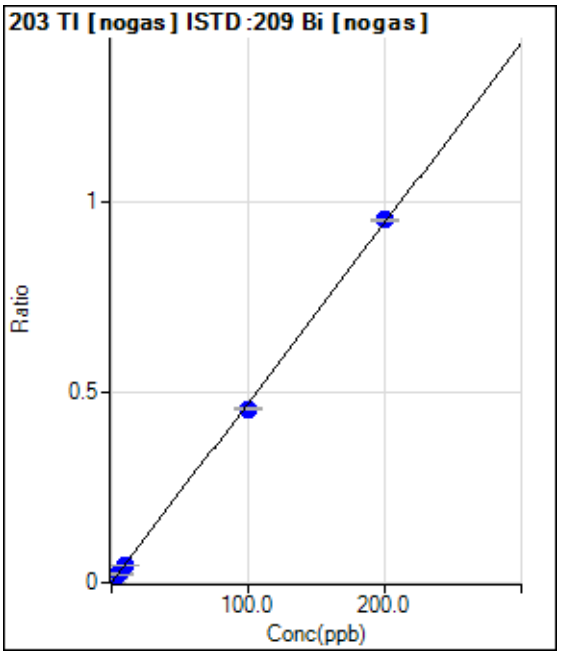
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	0.00	0.0000	P	
2	☐	2.000	326.449	16.67	0.0000	P	91.9
3	☐	5.000	192.683	10.00	0.0000	P	173.
4	☐	10.000	0.000	0.00	0.0000	P	
5	☐	100.000	199.914	10.00	0.0000	P	173.
6	☐	200.000	142.607	6.67	0.0000	P	173.
7	☐	1.000					

y = 5.0885E-008 * x + 0.0000E+000
R = 0.0890
DL = 0
BEC = 0

Weight: <None>
Min Conc: <None>

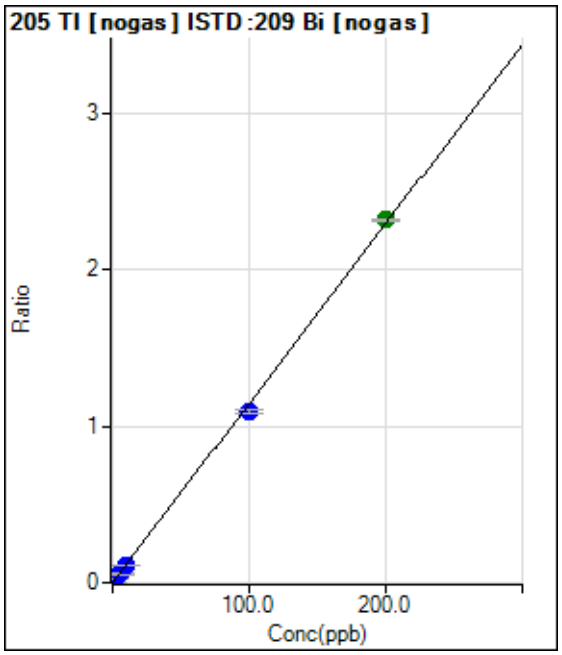


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43.33	0.0000	P	48.5
2	☐	2.000	1.908	9172.90	0.0091	P	6.4
3	☐	5.000	4.808	23047.40	0.0228	P	2.2
4	☐	10.000	9.835	46958.09	0.0465	P	2.0
5	☐	100.000	96.516	440349.67	0.4562	P	1.4
6	☐	200.000	201.756	873131.50	0.9537	P	0.4
7	☐	1.000					

y = 0.0047 * x + 4.2146E-005
R = 0.9998
DL = 0.01298
BEC = 0.008917

Weight: <None>
Min Conc: <None>

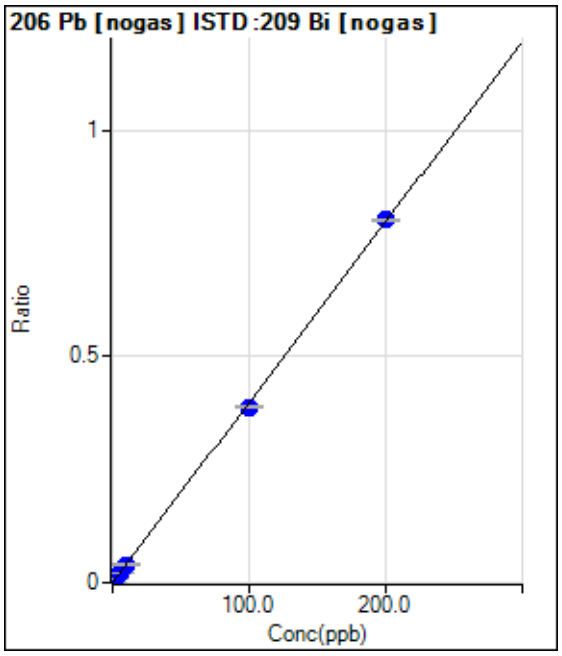
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	63.33	0.0001	P	17.4
2	☐	2.000	1.926	22423.38	0.0221	P	3.4
3	☐	5.000	4.832	56162.25	0.0555	P	1.9
4	☐	10.000	9.894	114578.37	0.1135	P	1.3
5	☐	100.000	95.418	1056258.66	1.0944	P	1.5
6	☐	200.000	202.301	2124261.06	2.3201	A	0.6
7	☐	1.000					

y = 0.0115 * x + 6.1433E-005
R = 0.9996
DL = 0.002797
BEC = 0.005357

Weight: <None>
Min Conc: <None>

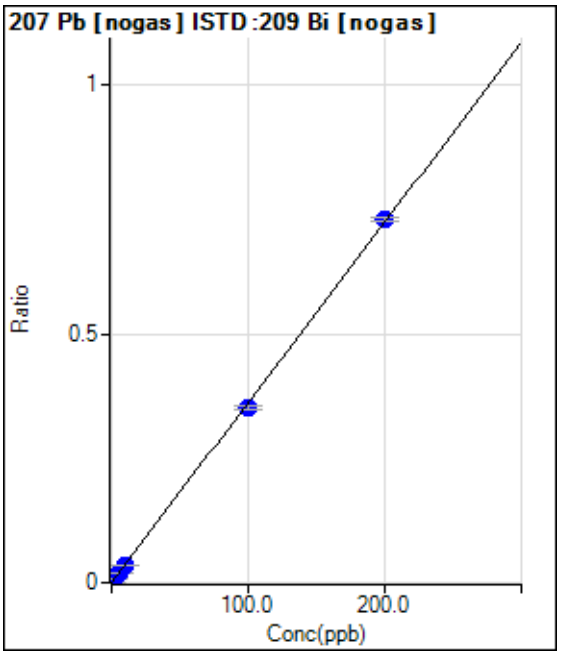


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	130.00	0.0001	P	30.4
2	☐	2.000	2.063	8449.17	0.0083	P	3.7
3	☐	5.000	5.034	20443.76	0.0202	P	0.5
4	☐	10.000	9.953	40172.78	0.0398	P	3.4
5	☐	100.000	97.498	375275.94	0.3888	P	1.4
6	☐	200.000	201.252	734674.02	0.8024	P	0.6
7	☐	1.000					

y = 0.0040 * x + 1.2618E-004
R = 0.9999
DL = 0.02885
BEC = 0.03165

Weight: <None>
Min Conc: <None>

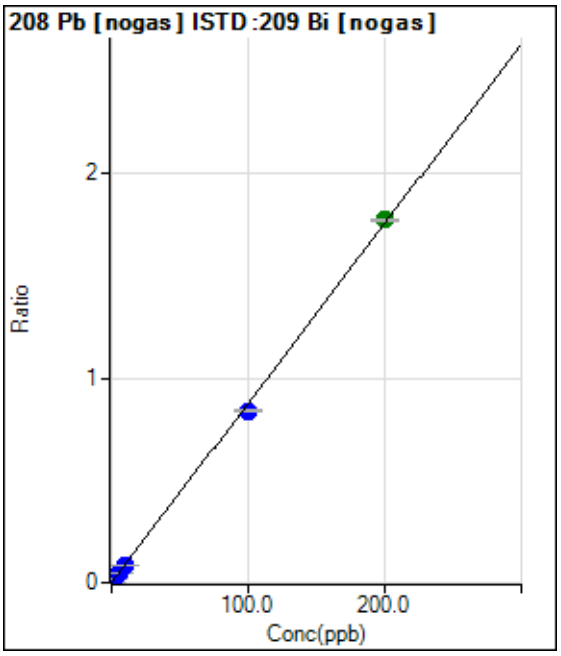
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	146.67	0.0001	P	30.2
2	☐	2.000	1.975	7371.89	0.0073	P	1.8
3	☐	5.000	4.870	17970.75	0.0178	P	2.0
4	☐	10.000	10.021	36713.89	0.0364	P	0.7
5	☐	100.000	97.005	338703.33	0.3509	P	1.5
6	☐	200.000	201.500	667199.94	0.7288	P	1.0
7	☐	1.000					

y = 0.0036 * x + 1.4221E-004
R = 0.9998
DL = 0.03562
BEC = 0.03933

Weight: <None>
Min Conc: <None>

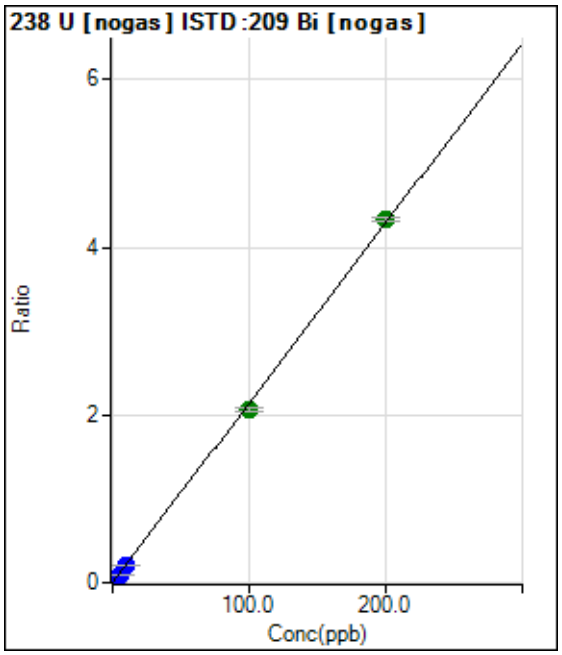


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	230.01	0.0002	P	7.8
2	☐	2.000	1.994	17934.14	0.0177	P	1.5
3	☐	5.000	4.837	43180.98	0.0427	P	1.2
4	☐	10.000	9.799	86974.48	0.0862	P	1.5
5	☐	100.000	95.701	810564.94	0.8397	P	1.1
6	☐	200.000	202.164	1623815.13	1.7736	A	0.7
7	☐	1.000					

y = 0.0088 * x + 2.2339E-004
R = 0.9997
DL = 0.005989
BEC = 0.02547

Weight: <None>
Min Conc: <None>

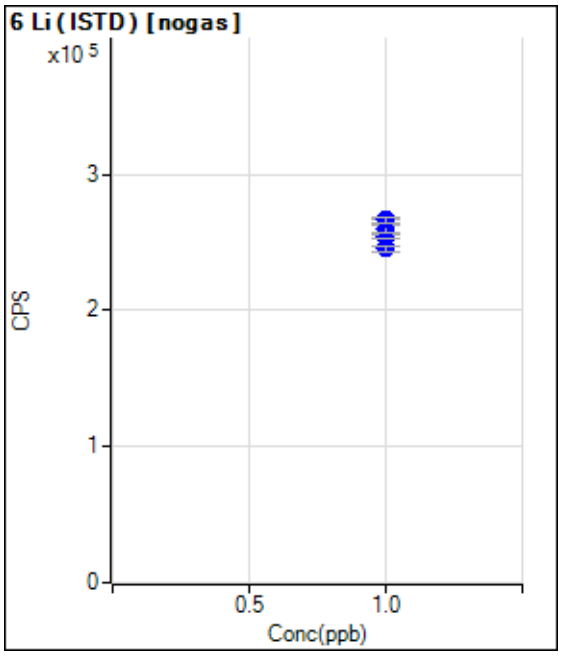
Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	190.01	0.0002	P	8.4
2	☐	2.000	1.835	40009.96	0.0395	P	1.9
3	☐	5.000	4.755	103398.89	0.1021	P	0.9
4	☐	10.000	9.659	209184.48	0.2073	P	2.0
5	☐	100.000	96.258	1991903.56	2.0639	A	2.0
6	☐	200.000	201.896	3963182.75	4.3286	A	1.0
7	☐	1.000					

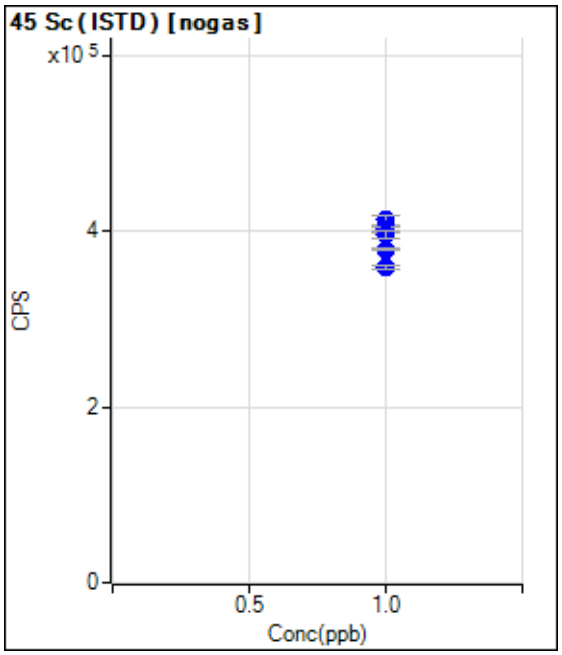
y = 0.0214 * x + 1.8444E-004
R = 0.9998
DL = 0.002173
BEC = 0.008603

Weight: <None>
Min Conc: <None>

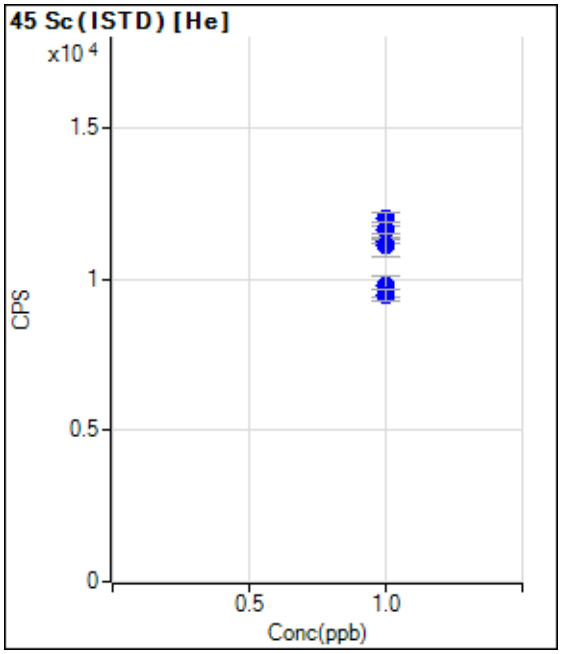


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		264394.01		P	1.7
2	☐	1.000		255390.61		P	0.1
3	☐	1.000		253820.91		P	1.2
4	☐	1.000		245389.53		P	1.6
5	☐	1.000		259926.08		P	2.3
6	☐	1.000		266400.46		P	1.5
7	☐	1.000					

Calibration for 242_ICV.d

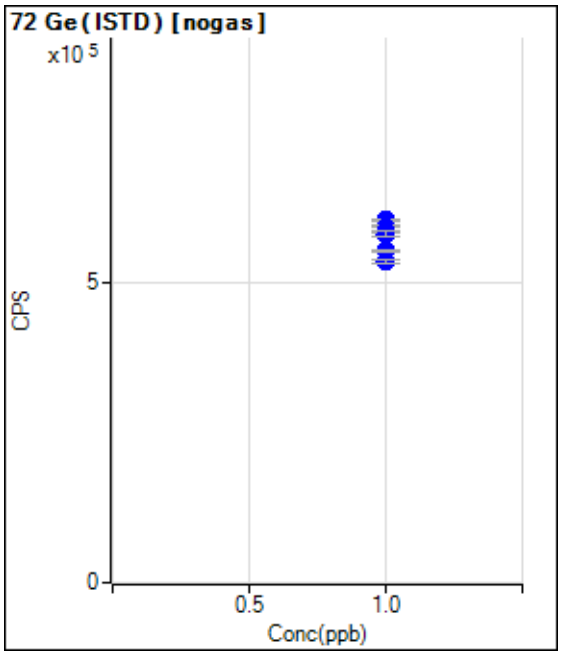


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		412577.66		P	2.5
2	☐	1.000		402409.53		P	1.6
3	☐	1.000		402307.88		P	1.6
4	☐	1.000		395378.36		P	2.0
5	☐	1.000		379213.91		P	0.9
6	☐	1.000		358095.65		P	1.0
7	☐	1.000					

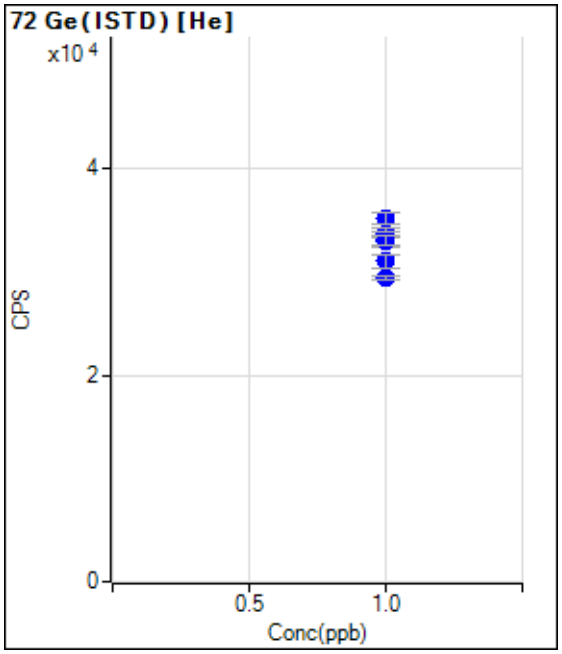


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		12000.99		P	3.4
2	☐	1.000		11277.21		P	1.2
3	☐	1.000		11650.74		P	4.2
4	☐	1.000		11127.11		P	7.3
5	☐	1.000		9773.02		P	6.8
6	☐	1.000		9492.78		P	4.4
7	☐	1.000					

Calibration for 242_ICV.d

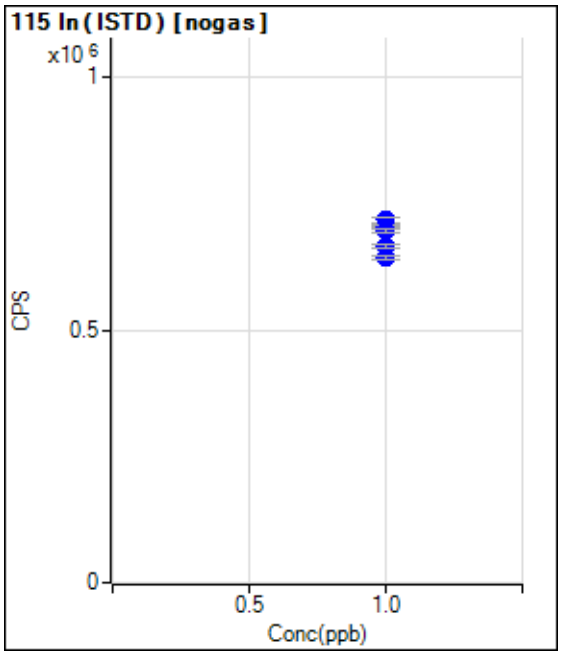


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		606325.55		P	0.6
2	☐	1.000		595420.84		P	0.7
3	☐	1.000		587119.54		P	0.6
4	☐	1.000		582546.33		P	1.6
5	☐	1.000		555223.95		P	0.3
6	☐	1.000		535379.52		P	1.3
7	☐	1.000					

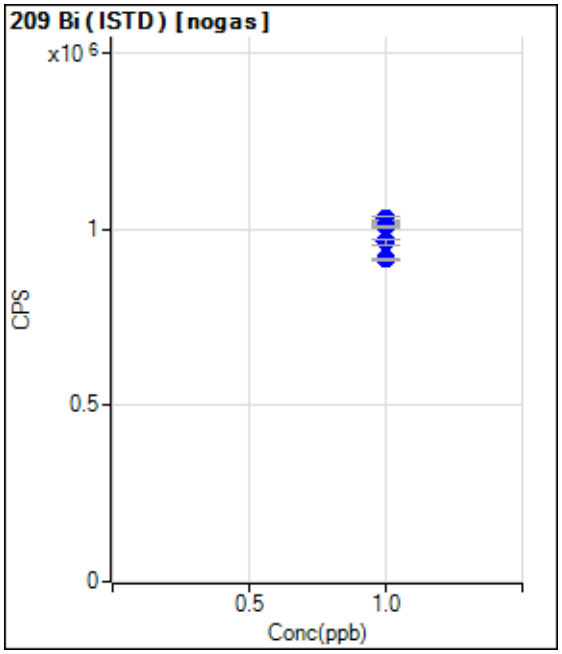


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		35159.85		P	3.0
2	☐	1.000		33757.03		P	2.7
3	☐	1.000		33202.67		P	4.3
4	☐	1.000		33052.44		P	3.0
5	☐	1.000		31041.90		P	3.7
6	☐	1.000		29472.42		P	1.3
7	☐	1.000					

Calibration for 242_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		717977.80		P	1.8
2	☐	1.000		705386.68		P	0.8
3	☐	1.000		704285.62		P	1.1
4	☐	1.000		695680.82		P	1.0
5	☐	1.000		665089.08		P	1.0
6	☐	1.000		641952.97		P	1.4
7	☐	1.000					



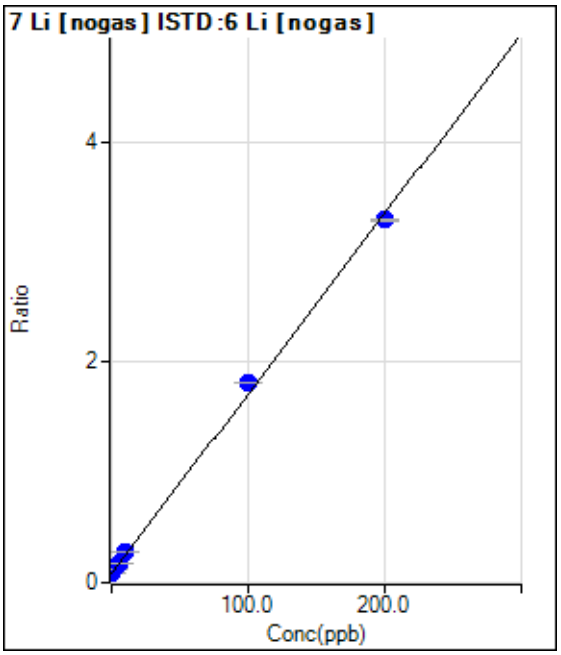
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1029814.13		P	1.0
2	☐	1.000		1012391.50		P	1.5
3	☐	1.000		1012410.24		P	0.7
4	☐	1.000		1009274.67		P	0.6
5	☐	1.000		965320.35		P	1.6
6	☐	1.000		915562.54		P	0.8
7	☐	1.000					

Calibration for 295_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\010518A.b\
Analysis File: 010518A.batch.bin
DA Date-Time: 1/5/2018 10:38:02 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	289CALB.d	CAL BLK	1/5/2018 9:57:44 PM
2	290CALS.d	2/10/200	1/5/2018 9:59:56 PM
3	291CALS.d	5/25/500	1/5/2018 10:02:08 PM
4	292CALS.d	10/50/1000	1/5/2018 10:04:20 PM
5	293CALS.d	100/500/10K	1/5/2018 10:06:32 PM
6	294CALS.d	200/1000/20K	1/5/2018 10:08:42 PM
7			

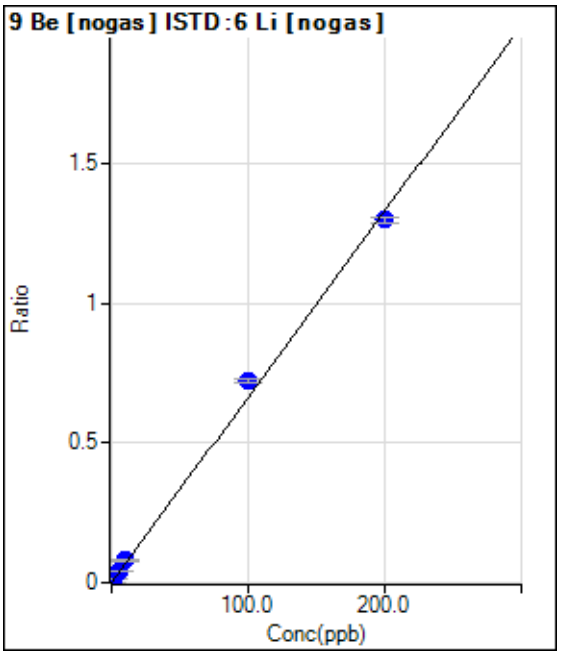
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20915.79	0.0815	P	1.9
2	☐	2.000	2.572	31584.80	0.1235	P	3.8
3	☐	5.000	5.947	44675.69	0.1787	P	1.2
4	☐	10.000	12.265	70005.74	0.2820	P	0.4
5	☐	100.000	106.408	483696.61	1.8205	P	0.4
6	☐	200.000	196.653	953094.60	3.2953	P	0.3
7	☐	1.000					

y = 0.0163 * x + 0.0815
R = 0.9993
DL = 0.2883
BEC = 4.988

Weight: <None>
Min Conc: <None>

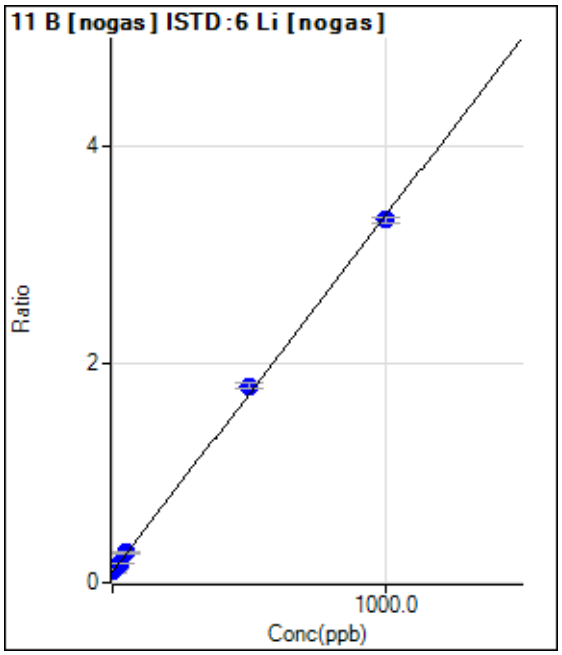


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.
2	☐	2.000	2.263	3850.50	0.0151	P	4.2
3	☐	5.000	6.000	9976.27	0.0399	P	6.1
4	☐	10.000	11.991	19794.57	0.0797	P	1.4
5	☐	100.000	108.729	192051.74	0.7228	P	1.6
6	☐	200.000	195.508	375886.61	1.2998	P	1.5
7	☐	1.000					

y = 0.0066 * x + 1.2777E-005
R = 0.9987
DL = 0.009987
BEC = 0.001922

Weight: <None>
Min Conc: <None>

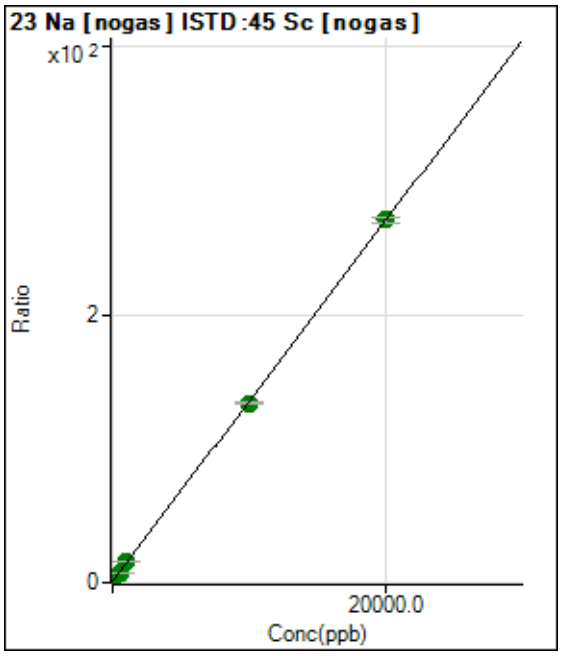
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	25258.19	0.0985	P	4.9
2	☐	10.000	9.461	33057.44	0.1293	P	2.3
3	☐	25.000	23.176	43482.83	0.1739	P	2.3
4	☐	50.000	53.480	67677.52	0.2726	P	1.9
5	☐	500.000	522.756	478365.38	1.8007	P	3.5
6	☐	1000.000	988.499	959344.83	3.3174	P	1.8
7	☐	5.000					

y = 0.0033 * x + 0.0985
R = 0.9996
DL = 4.41
BEC = 30.24

Weight: <None>
Min Conc: <None>

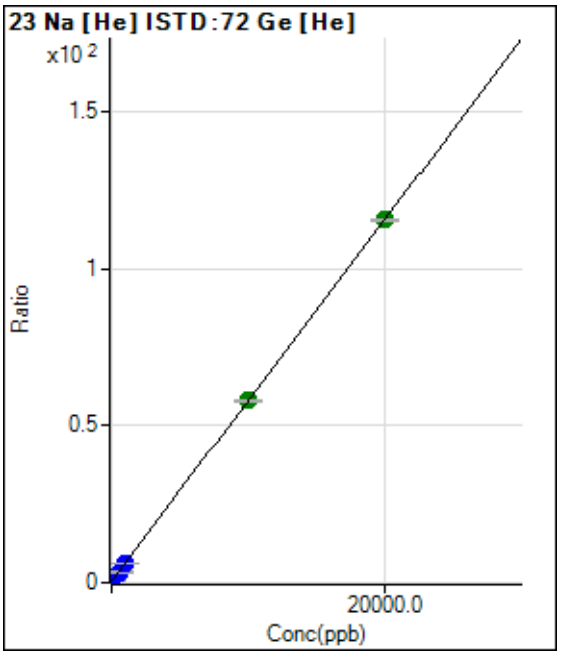


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	372879.77	0.9234	P	1.3
2	☐	200.000	210.289	1517573.44	3.7523	A	1.4
3	☐	500.000	510.761	3092712.51	7.7944	A	0.3
4	☐	1000.000	1077.385	6010891.28	15.4168	A	0.9
5	☐	10000.00	9874.710	52277038.67	133.761	A	1.2
6	☐	20000.00	20058.404	104315639.8	270.755	A	1.8
7	☐	100.000					

y = 0.0135 * x + 0.9234
R = 1.0000
DL = 2.767
BEC = 68.65

Weight: <None>
Min Conc: <None>

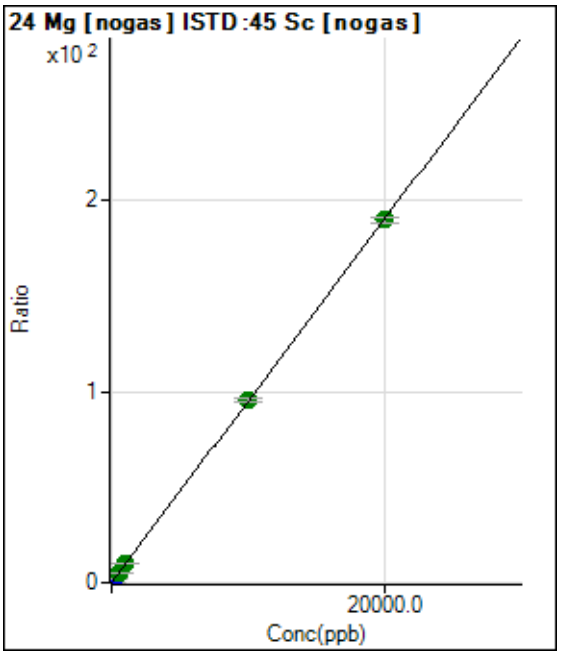
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16030.85	0.4631	P	8.0
2	☐	200.000	198.717	55897.78	1.6053	P	1.7
3	☐	500.000	502.449	113657.98	3.3511	P	3.6
4	☐	1000.000	1028.079	217934.19	6.3723	P	1.3
5	☐	10000.00	9992.363	1905282.89	57.8970	A	1.8
6	☐	20000.00	20002.366	3705892.24	115.432	A	0.6
7	☐	100.000					

y = 0.0057 * x + 0.4631
R = 1.0000
DL = 19.23
BEC = 80.57

Weight: <None>
Min Conc: <None>

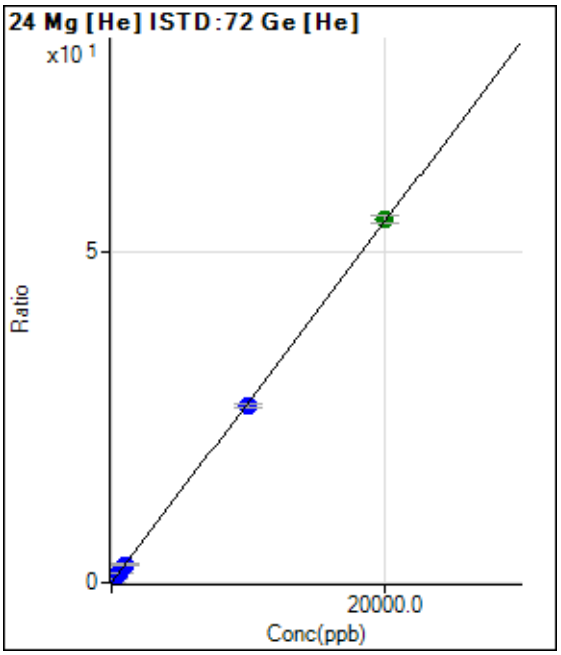


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4334.65	0.0107	P	18.5
2	☐	200.000	211.708	817941.96	2.0224	P	2.0
3	☐	500.000	522.967	1976086.11	4.9801	A	1.5
4	☐	1000.000	1090.617	4044206.73	10.3740	A	1.2
5	☐	10000.00	10060.512	37360443.54	95.6081	A	2.4
6	☐	20000.00	19964.522	73096309.97	189.718	A	1.5
7	☐	100.000					

y = 0.0095 * x + 0.0107
R = 1.0000
DL = 0.6274
BEC = 1.131

Weight: <None>
Min Conc: <None>

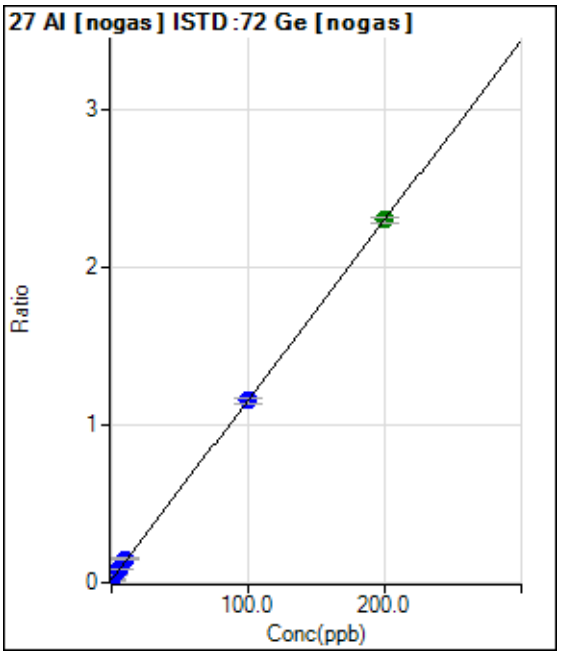
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	93.33	0.0027	P	32.7
2	☐	200.000	197.945	18907.10	0.5431	P	2.4
3	☐	500.000	498.708	46260.46	1.3641	P	4.5
4	☐	1000.000	1005.396	93956.95	2.7474	P	1.9
5	☐	10000.00	9783.137	879076.16	26.7102	P	1.6
6	☐	20000.00	20108.215	1762038.20	54.8971	A	2.2
7	☐	100.000					

y = 0.0027 * x + 0.0027
R = 0.9999
DL = 0.9679
BEC = 0.9875

Weight: <None>
Min Conc: <None>

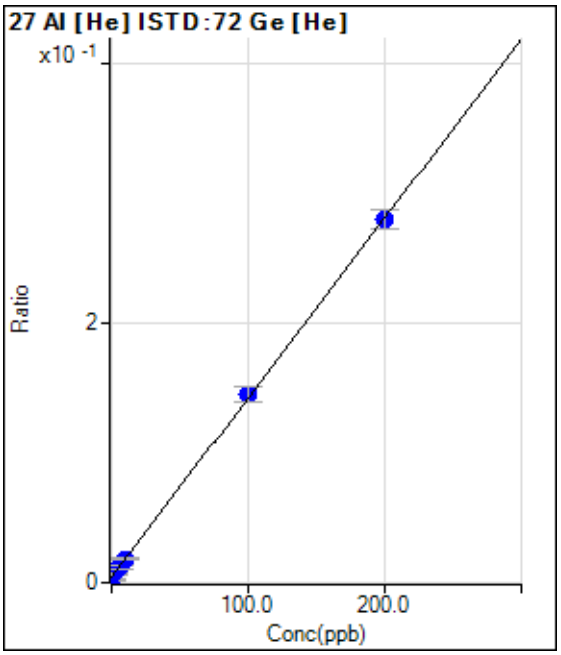


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11240.42	0.0184	P	1.8
2	☐	2.000	2.868	31404.86	0.0512	P	1.7
3	☐	5.000	5.619	49359.22	0.0826	P	1.1
4	☐	10.000	11.641	90118.77	0.1513	P	2.8
5	☐	100.000	99.474	685576.21	1.1539	P	2.5
6	☐	200.000	200.157	1341766.91	2.3032	A	1.9
7	☐	1.000					

y = 0.0114 * x + 0.0184
R = 1.0000
DL = 0.0876
BEC = 1.613

Weight: <None>
Min Conc: <None>

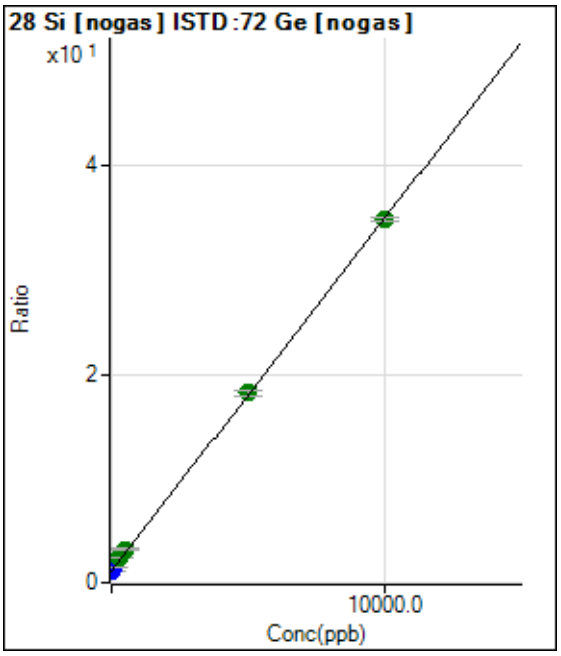
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-1.306	86.67	0.0025	P	51.5
2	☐	2.000	1.790	236.68	0.0068	P	16.2
3	☐	5.000	5.488	403.35	0.0119	P	23.6
4	☐	10.000	10.275	633.36	0.0185	P	7.7
5	☐	100.000	101.554	4764.08	0.1447	P	8.2
6	☐	200.000	199.199	8972.45	0.2797	P	5.3
7	☐	1.000					

y = 0.0014 * x + 0.0043
R = 0.9999
DL = 2.808
BEC = 3.122

Weight: <None>
Min Conc: <None>

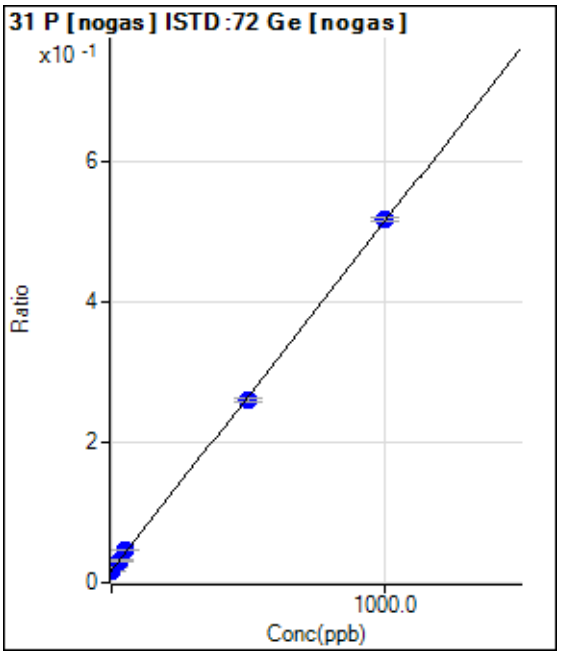


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	686723.50	1.1256	P	2.7
2	☐	100.000	95.865	890153.73	1.4501	P	1.1
3	☐	250.000	363.890	1409246.65	2.3574	A	3.0
4	☐	500.000	617.457	1915602.68	3.2157	A	1.2
5	☐	5000.000	5055.549	10835214.84	18.2389	A	3.1
6	☐	10000.00	9963.547	20304043.03	34.8527	A	1.2
7	☐	50.000					

y = 0.0034 * x + 1.1256
R = 0.9999
DL = 26.65
BEC = 332.5

Weight: <None>
Min Conc: <None>

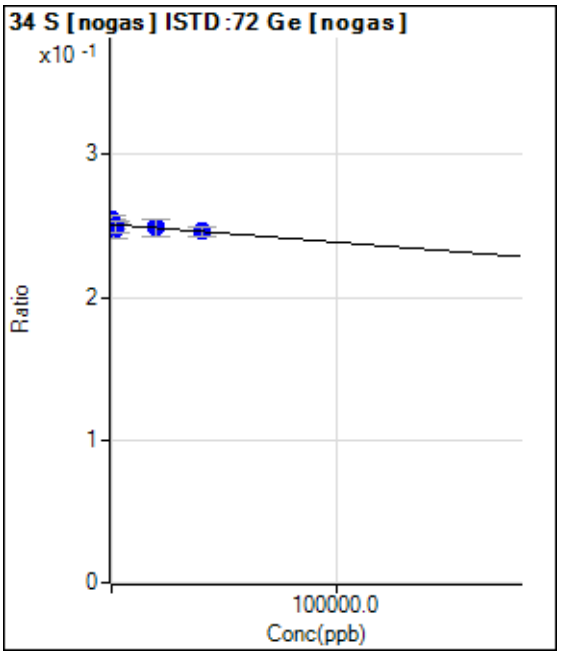
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10566.74	0.0173	P	5.0
2	☐	10.000	12.452	14432.77	0.0235	P	2.4
3	☐	25.000	28.036	18690.20	0.0313	P	3.1
4	☐	50.000	57.243	27278.06	0.0458	P	1.3
5	☐	500.000	487.979	154533.25	0.2600	P	2.5
6	☐	1000.000	1005.548	301457.83	0.5175	P	0.9
7	☐	5.000					

y = 4.9738E-004 * x + 0.0173
R = 0.9999
DL = 5.215
BEC = 34.82

Weight: <None>
Min Conc: <None>

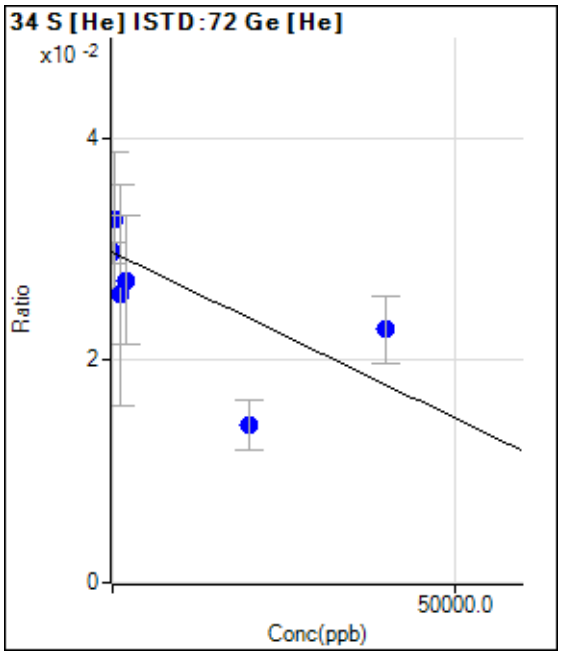


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	153270.51	0.2512	P	2.6
2	☐	400.000	-24921.606	156149.49	0.2544	P	2.5
3	☐	1000.000	37042.950	147413.18	0.2466	P	4.5
4	☐	2000.000	15641.443	148479.04	0.2493	P	3.2
5	☐	20000.00	19302.673	147809.65	0.2488	P	5.2
6	☐	40000.00	39018.734	143513.20	0.2464	P	2.8
7	☐	200.000					

y = -1.2539E-007 * x + 0.2512
R = -0.5569
DL = -1.576E+05
BEC = -2.004E+06

Weight: <None>
Min Conc: <None>

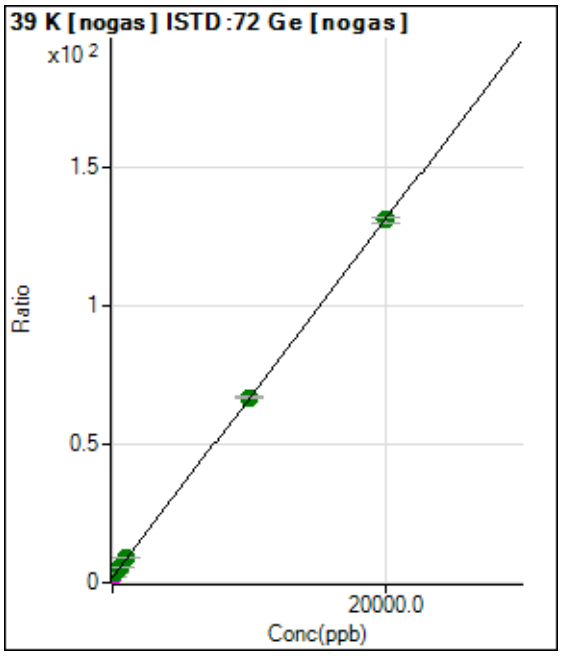
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1033.61	0.0297	P	6.3
2	☐	400.000	-9748.612	1133.67	0.0326	P	37.8
3	☐	1000.000	12806.713	866.92	0.0259	P	76.5
4	☐	2000.000	8403.145	933.56	0.0272	P	42.5
5	☐	20000.00	52265.294	466.78	0.0142	P	32.0
6	☐	40000.00	23353.514	733.53	0.0228	P	26.8
7	☐	200.000					

y = -2.9766E-007 * x + 0.0297
R = -0.6135
DL = -1.901E+04
BEC = -9.983E+04

Weight: <None>
Min Conc: <None>

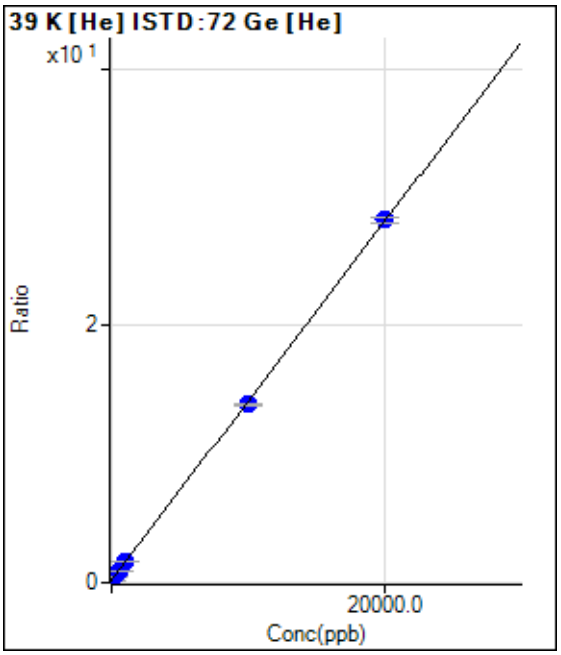


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1205251.13	1.9752	M	2.8
2	☐	200.000	207.393	2035034.03	3.3154	A	2.2
3	☐	500.000	524.963	3209157.69	5.3676	A	0.6
4	☐	1000.000	1050.404	5219796.73	8.7631	A	1.4
5	☐	10000.00	10038.511	39720021.72	66.8458	A	1.4
6	☐	20000.00	19977.526	76357922.54	131.073	A	1.9
7	☐	100.000					

y = 0.0065 * x + 1.9752
R = 1.0000
DL = 25.61
BEC = 305.7

Weight: <None>
Min Conc: <None>

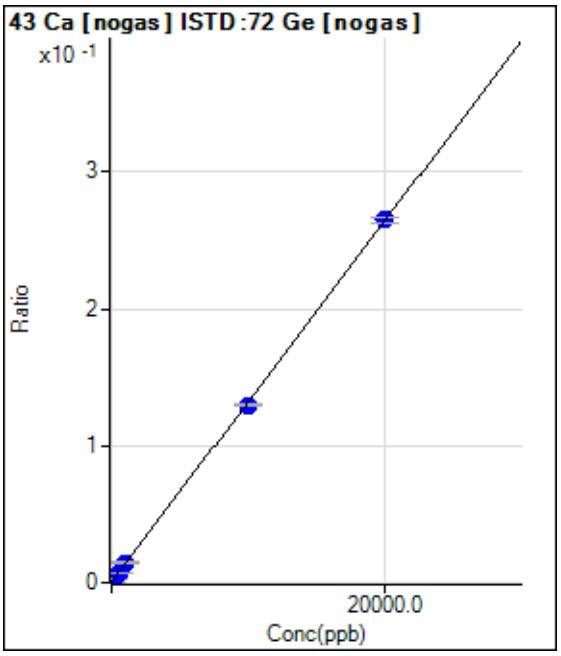
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6654.74	0.1919	P	10.8
2	☐	200.000	195.368	16164.37	0.4645	P	5.0
3	☐	500.000	507.121	30516.85	0.8995	P	1.8
4	☐	1000.000	1008.304	54678.66	1.5988	P	1.3
5	☐	10000.00	9802.684	456472.40	13.8698	P	1.0
6	☐	20000.00	20098.111	906363.89	28.2353	P	1.5
7	☐	100.000					

y = 0.0014 * x + 0.1919
R = 0.9999
DL = 44.36
BEC = 137.5

Weight: <None>
Min Conc: <None>

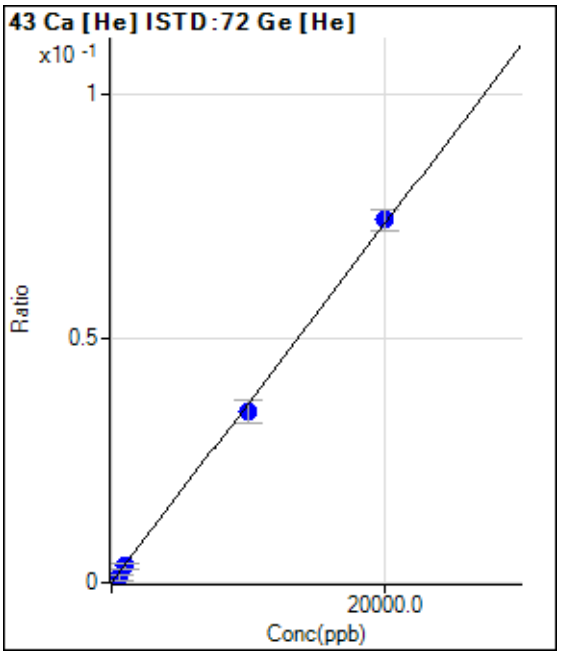


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	276.68	0.0005	P	33.8
2	☐	200.000	203.433	1923.48	0.0031	P	4.0
3	☐	500.000	510.056	4287.30	0.0072	P	2.3
4	☐	1000.000	1077.988	8725.63	0.0146	P	2.7
5	☐	10000.00	9825.834	77166.33	0.1298	P	1.8
6	☐	20000.00	20082.898	154321.19	0.2649	P	1.6
7	☐	100.000					

y = 1.3168E-005 * x + 4.5472E-004
R = 0.9999
DL = 35.05
BEC = 34.53

Weight: <None>
Min Conc: <None>

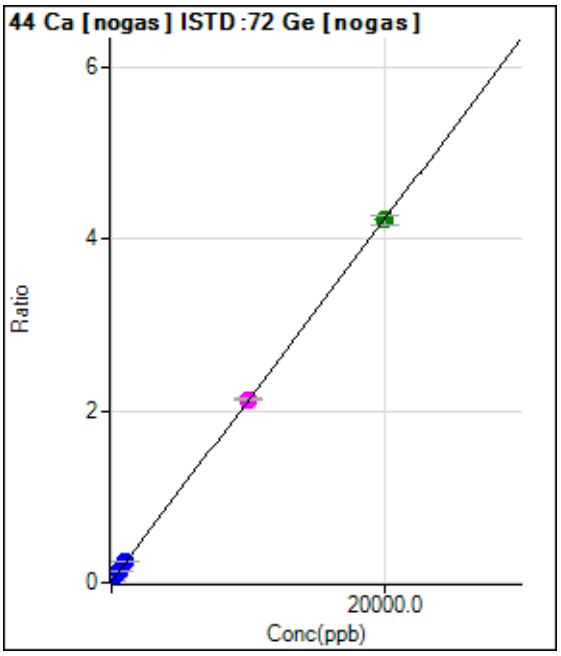
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	0.00	0.0000	P	
2	☐	200.000	157.550	20.00	0.0006	P	87.7
3	☐	500.000	318.904	40.00	0.0012	P	101.
4	☐	1000.000	927.931	116.67	0.0034	P	26.7
5	☐	10000.00	9531.021	1150.06	0.0350	P	13.0
6	☐	20000.00	20243.045	2383.55	0.0743	P	5.9
7	☐	100.000					

y = 3.6696E-006 * x + 0.0000E+000
R = 0.9996
DL = 0
BEC = 0

Weight: <None>
Min Conc: <None>

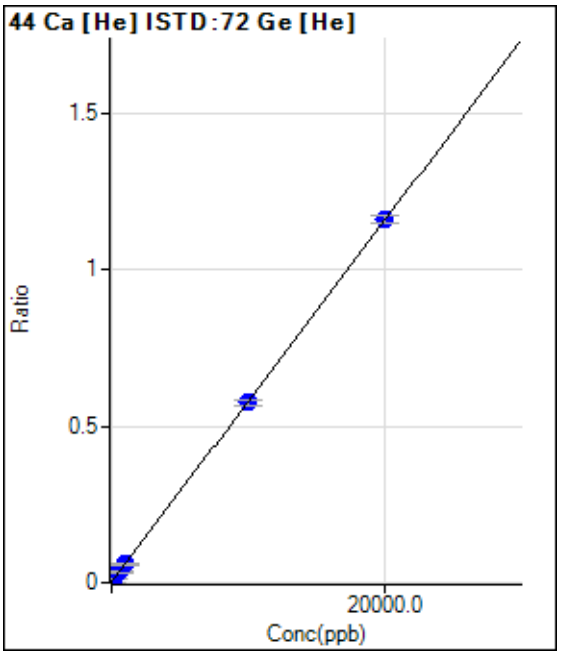


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10556.70	0.0173	P	3.8
2	☐	200.000	212.838	38138.71	0.0621	P	1.3
3	☐	500.000	529.088	76982.55	0.1288	P	0.5
4	☐	1000.000	1071.872	144809.13	0.2431	P	0.4
5	☐	10000.00	10046.736	1268095.76	2.1338	M	1.2
6	☐	20000.00	19972.183	2461116.94	4.2247	A	2.5
7	☐	100.000					

y = 2.1066E-004 * x + 0.0173
R = 1.0000
DL = 9.281
BEC = 82.09

Weight: <None>
Min Conc: <None>

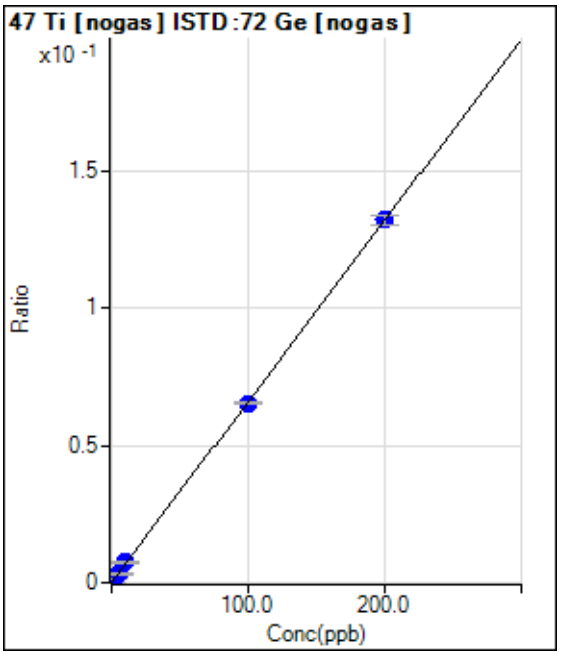
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	70.00	0.0020	P	63.5
2	☐	200.000	179.450	430.01	0.0123	P	3.2
3	☐	500.000	553.949	1153.41	0.0340	P	4.9
4	☐	1000.000	1000.173	2043.50	0.0597	P	10.4
5	☐	10000.00	9914.984	18900.50	0.5742	P	3.2
6	☐	20000.00	20041.356	37190.12	1.1586	P	2.0
7	☐	100.000					

y = 5.7711E-005 * x + 0.0020
R = 1.0000
DL = 65.67
BEC = 34.47

Weight: <None>
Min Conc: <None>

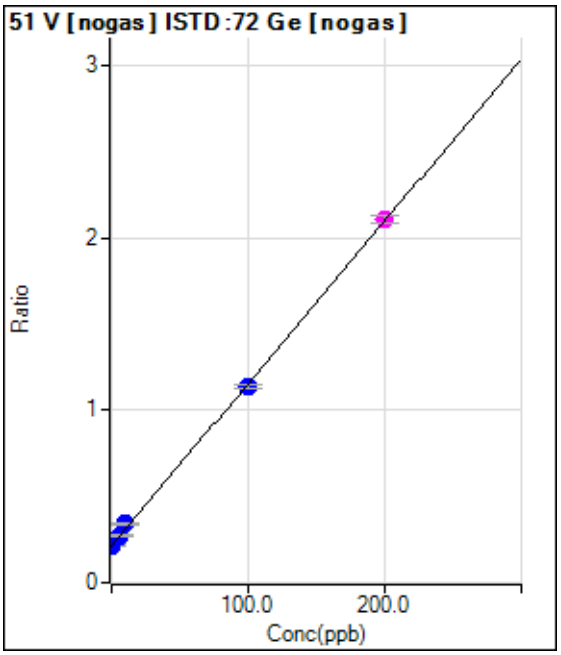


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36.67	0.0001	P	55.0
2	☐	2.000	1.772	753.37	0.0012	P	10.9
3	☐	5.000	4.721	1896.81	0.0032	P	8.5
4	☐	10.000	11.126	4403.99	0.0074	P	1.5
5	☐	100.000	99.147	38863.84	0.0654	P	1.4
6	☐	200.000	200.380	76973.05	0.1321	P	2.4
7	☐	1.000					

y = 6.5909E-004 * x + 5.9714E-005
R = 1.0000
DL = 0.1496
BEC = 0.0906

Weight: <None>
Min Conc: <None>

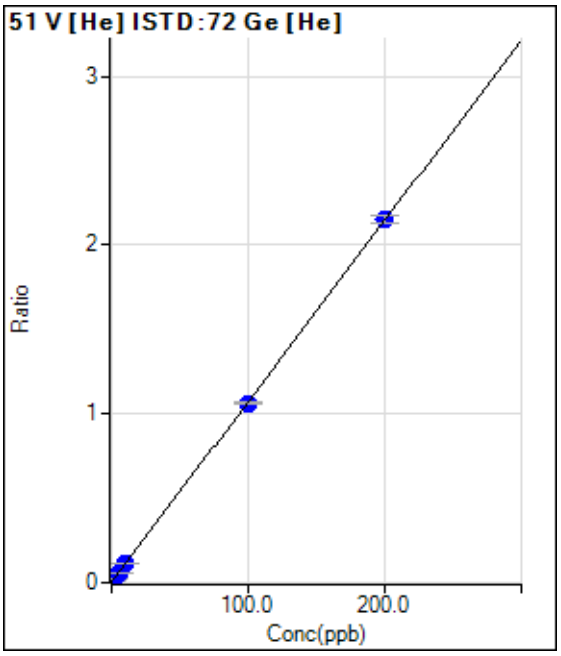
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	130742.90	0.2143	P	3.2
2	☐	2.000	3.301	150641.36	0.2454	P	2.1
3	☐	5.000	6.242	163260.30	0.2731	P	1.9
4	☐	10.000	13.701	204455.42	0.3433	P	2.7
5	☐	100.000	97.924	675005.63	1.1361	P	2.0
6	☐	200.000	200.809	1226033.79	2.1046	M	2.2
7	☐	1.000					

y = 0.0094 * x + 0.2143
R = 0.9998
DL = 2.202
BEC = 22.76

Weight: <None>
Min Conc: <None>

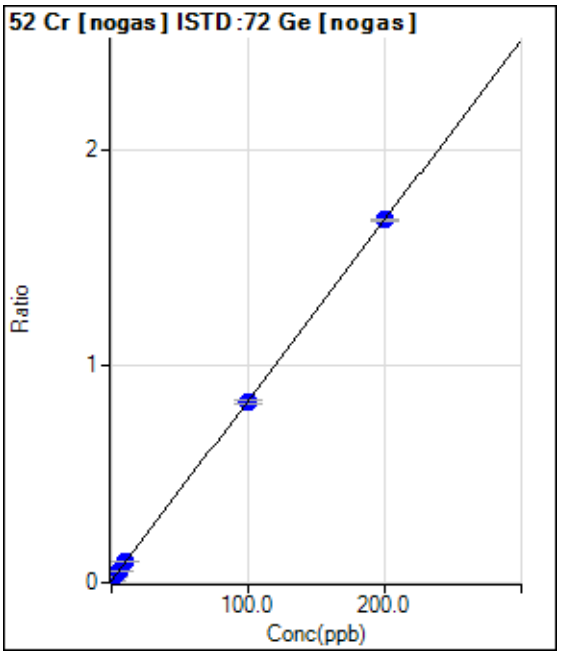


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.203	226.67	0.0065	P	13.3
2	☐	2.000	2.155	952.36	0.0274	P	5.8
3	☐	5.000	5.063	1982.79	0.0585	P	5.3
4	☐	10.000	10.174	3868.44	0.1131	P	2.7
5	☐	100.000	98.833	34916.82	1.0610	P	1.1
6	☐	200.000	200.572	68982.19	2.1486	P	2.2
7	☐	1.000					

y = 0.0107 * x + 0.0043
R = 1.0000
DL = 0.2423
BEC = 0.4054

Weight: <None>
Min Conc: <None>

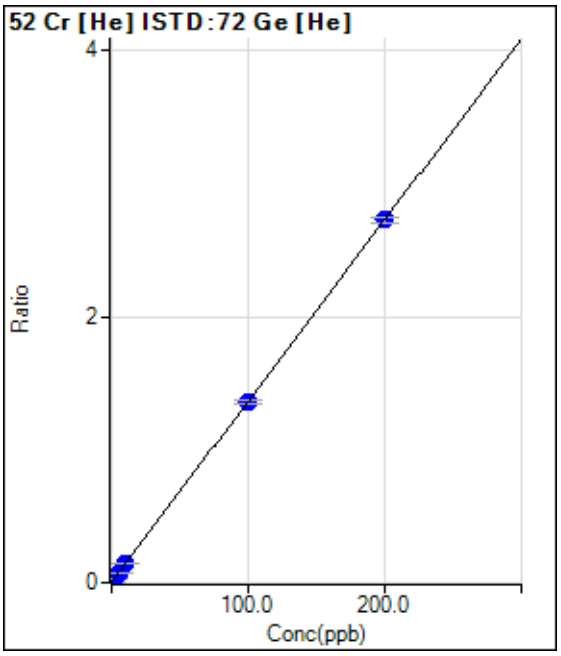
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6231.26	0.0102	P	8.0
2	☐	2.000	2.129	17132.15	0.0279	P	1.8
3	☐	5.000	5.020	31061.50	0.0519	P	1.1
4	☐	10.000	10.490	58043.79	0.0974	P	0.4
5	☐	100.000	99.569	497996.33	0.8382	P	2.1
6	☐	200.000	200.189	975744.85	1.6749	P	0.7
7	☐	1.000					

y = 0.0083 * x + 0.0102
R = 1.0000
DL = 0.2955
BEC = 1.228

Weight: <None>
Min Conc: <None>

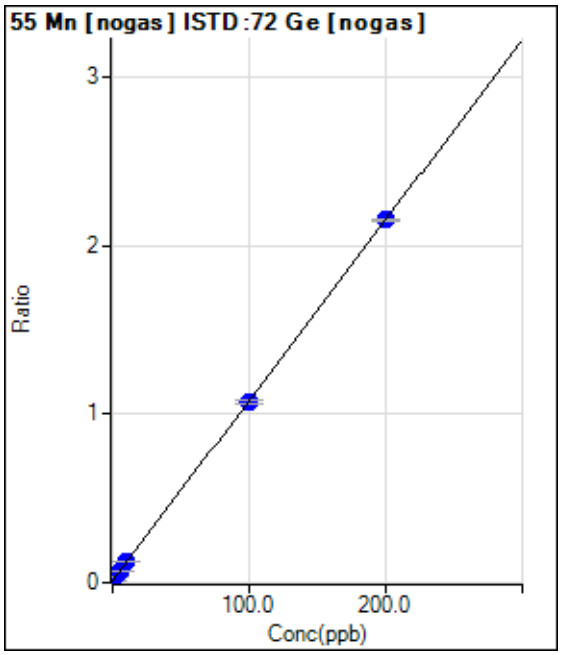


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	136.67	0.0040	P	26.6
2	☐	2.000	2.063	1113.40	0.0320	P	10.0
3	☐	5.000	5.113	2490.22	0.0735	P	9.3
4	☐	10.000	10.559	5044.18	0.1475	P	4.4
5	☐	100.000	99.555	44674.66	1.3575	P	1.3
6	☐	200.000	200.191	87502.66	2.7258	P	1.8
7	☐	1.000					

y = 0.0136 * x + 0.0040
R = 1.0000
DL = 0.2327
BEC = 0.2914

Weight: <None>
Min Conc: <None>

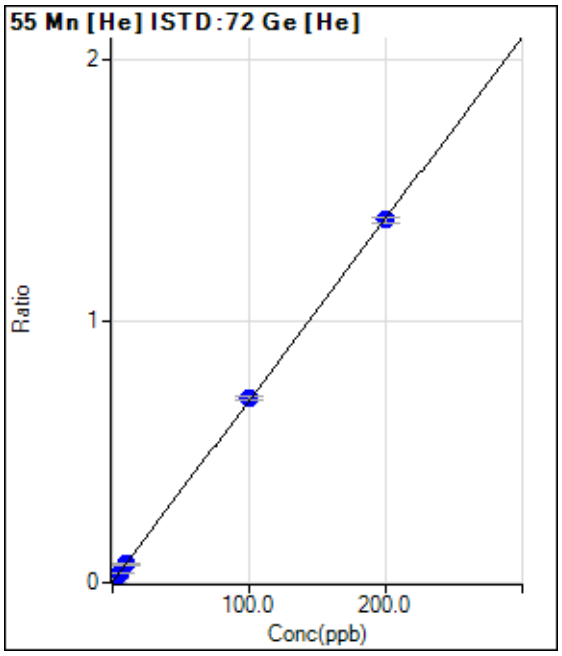
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5921.13	0.0097	P	4.3
2	☐	2.000	1.979	18964.01	0.0309	P	2.7
3	☐	5.000	5.222	39244.89	0.0656	P	1.5
4	☐	10.000	10.666	73840.55	0.1240	P	1.2
5	☐	100.000	99.438	638711.97	1.0750	P	2.4
6	☐	200.000	200.242	1255403.31	2.1549	P	0.5
7	☐	1.000					

y = 0.0107 * x + 0.0097
R = 1.0000
DL = 0.1165
BEC = 0.9054

Weight: <None>
Min Conc: <None>

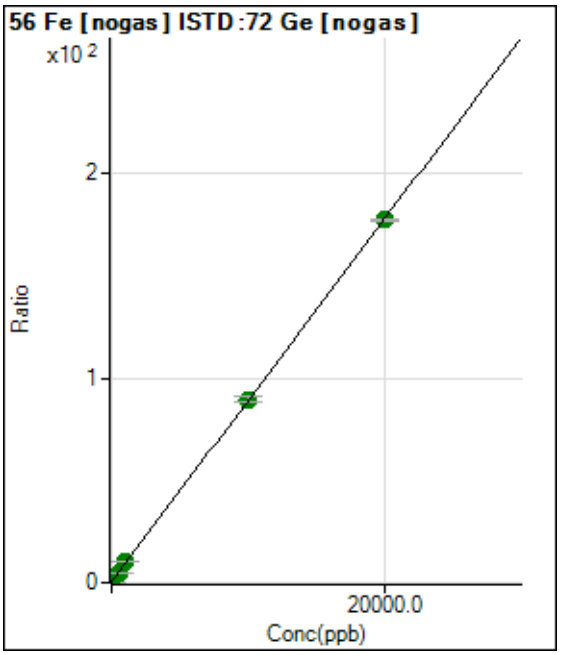


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	63.33	0.0018	P	7.0
2	☐	2.000	1.959	536.69	0.0154	P	18.6
3	☐	5.000	5.088	1263.41	0.0372	P	9.6
4	☐	10.000	10.131	2473.58	0.0723	P	7.7
5	☐	100.000	101.301	23249.36	0.7063	P	1.5
6	☐	200.000	199.341	44561.03	1.3882	P	1.8
7	☐	1.000					

y = 0.0070 * x + 0.0018
R = 1.0000
DL = 0.05506
BEC = 0.2623

Weight: <None>
Min Conc: <None>

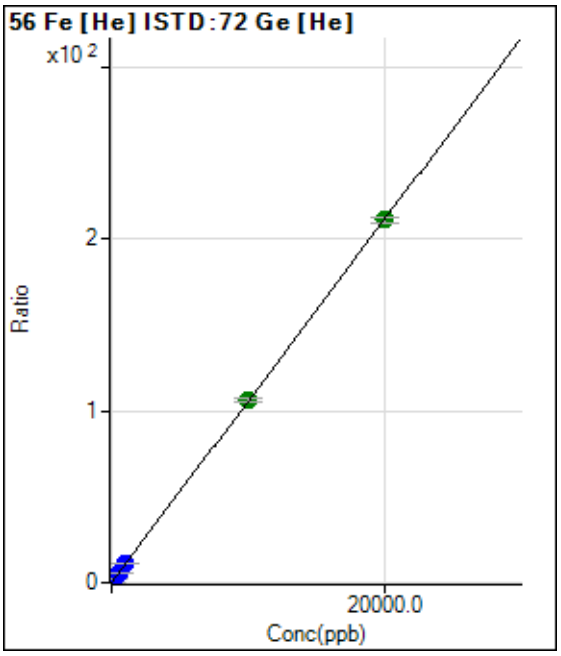
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	273959.23	0.4490	P	1.4
2	☐	200.000	217.455	1458623.01	2.3761	A	0.5
3	☐	500.000	526.841	3059961.72	5.1179	A	0.4
4	☐	1000.000	1082.346	5981100.52	10.0409	A	0.9
5	☐	10000.00	10073.710	53307572.03	89.7233	A	2.3
6	☐	20000.00	19958.182	103302510.6	177.320	A	0.8
7	☐	100.000					

y = 0.0089 * x + 0.4490
R = 1.0000
DL = 2.139
BEC = 50.67

Weight: <None>
Min Conc: <None>

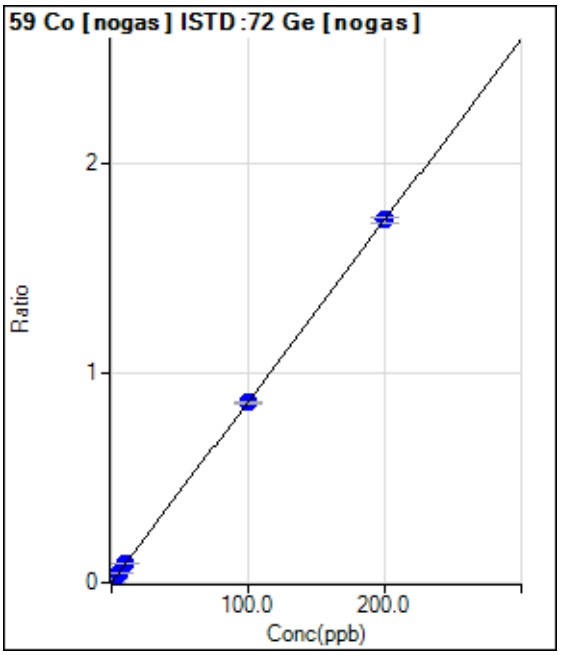


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1243.41	0.0359	P	11.8
2	☐	200.000	202.122	75648.19	2.1728	P	2.7
3	☐	500.000	503.719	181911.70	5.3613	P	1.5
4	☐	1000.000	1028.178	373005.28	10.9060	P	1.4
5	☐	10000.00	10035.870	3492631.92	106.137	A	2.3
6	☐	20000.00	19980.542	6783462.19	211.274	A	1.5
7	☐	100.000					

y = 0.0106 * x + 0.0359
R = 1.0000
DL = 1.197
BEC = 3.394

Weight: <None>
Min Conc: <None>

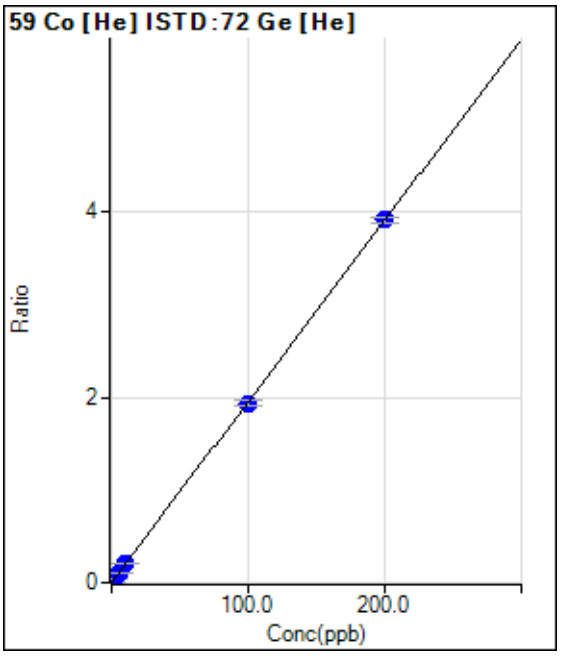
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	86.67	0.0001	P	39.4
2	☐	2.000	2.171	11617.49	0.0189	P	5.6
3	☐	5.000	5.177	26864.68	0.0449	P	2.1
4	☐	10.000	10.567	54550.03	0.0916	P	1.4
5	☐	100.000	99.443	511407.27	0.8606	P	1.2
6	☐	200.000	200.244	1009523.58	1.7329	P	1.3
7	☐	1.000					

y = 0.0087 * x + 1.4168E-004
R = 1.0000
DL = 0.01936
BEC = 0.01637

Weight: <None>
Min Conc: <None>

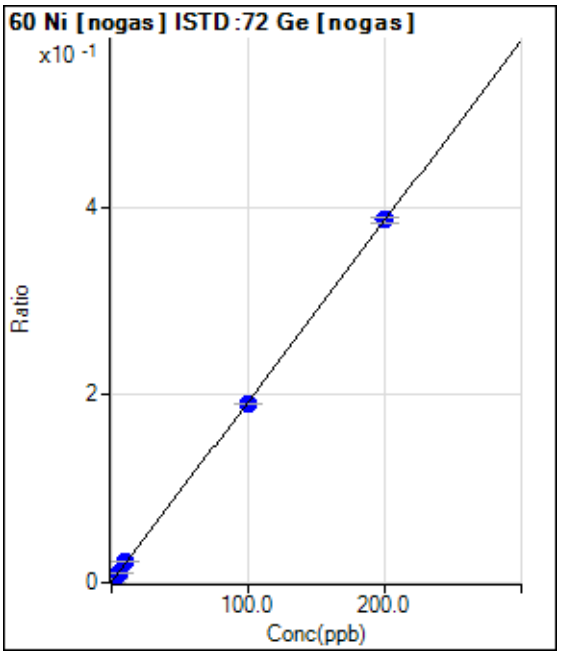


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0005	P	65.8
2	☐	2.000	1.954	1343.42	0.0386	P	12.4
3	☐	5.000	4.993	3327.07	0.0980	P	3.6
4	☐	10.000	10.640	7121.60	0.2083	P	3.3
5	☐	100.000	99.172	63754.64	1.9372	P	2.6
6	☐	200.000	200.382	125650.49	3.9136	P	1.5
7	☐	1.000					

y = 0.0195 * x + 4.7393E-004
R = 1.0000
DL = 0.04792
BEC = 0.02427

Weight: <None>
Min Conc: <None>

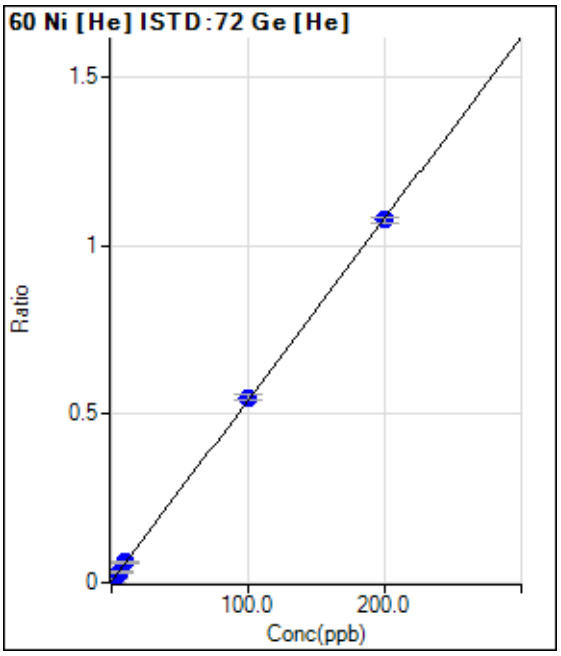
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.016	453.35	0.0007	P	22.6
2	☐	2.000	1.674	2453.57	0.0040	P	10.7
3	☐	5.000	4.824	6014.51	0.0101	P	7.0
4	☐	10.000	11.164	13255.34	0.0223	P	2.4
5	☐	100.000	98.809	113437.04	0.1909	P	0.3
6	☐	200.000	200.545	225225.96	0.3866	P	1.8
7	☐	1.000					

y = 0.0019 * x + 7.7523E-004
R = 1.0000
DL = 0.262
BEC = 0.4029

Weight: <None>
Min Conc: <None>

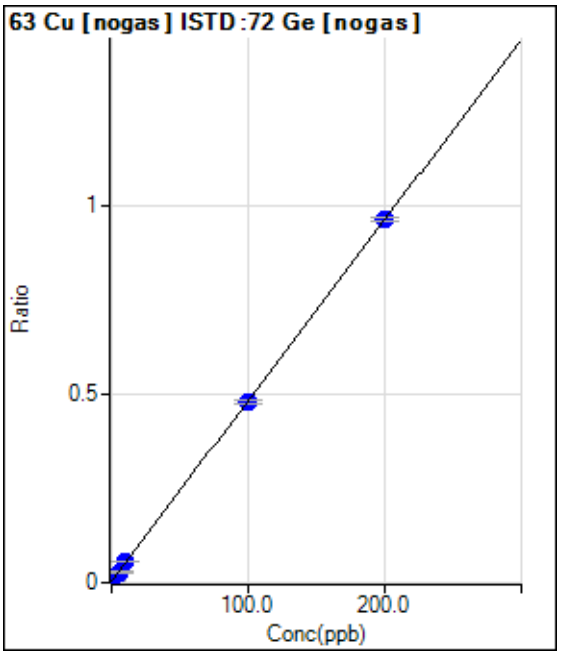


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.546	23.33	0.0007	P	22.9
2	☐	2.000	1.625	430.02	0.0124	P	27.2
3	☐	5.000	4.751	993.38	0.0292	P	20.3
4	☐	10.000	10.500	2056.83	0.0602	P	8.5
5	☐	100.000	101.373	18089.89	0.5497	P	2.8
6	☐	200.000	199.299	34591.83	1.0772	P	1.6
7	☐	1.000					

y = 0.0054 * x + 0.0036
R = 1.0000
DL = 0.08556
BEC = 0.6709

Weight: <None>
Min Conc: <None>

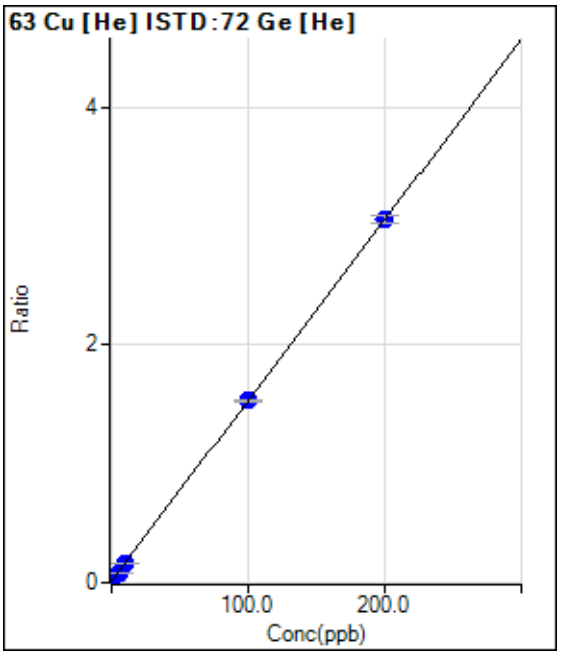
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2456.90	0.0040	P	6.8
2	☐	2.000	2.799	10683.45	0.0174	P	3.5
3	☐	5.000	4.995	16681.72	0.0279	P	3.2
4	☐	10.000	10.700	32861.73	0.0552	P	2.7
5	☐	100.000	99.536	285028.56	0.4797	P	2.2
6	☐	200.000	200.189	559720.55	0.9608	P	0.9
7	☐	1.000					

y = 0.0048 * x + 0.0040
R = 1.0000
DL = 0.173
BEC = 0.8428

Weight: <None>
Min Conc: <None>

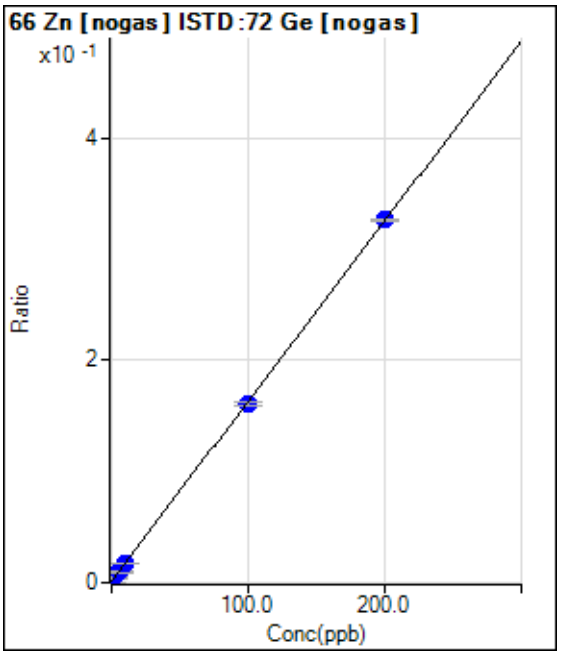


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.014	450.02	0.0129	P	7.6
2	☐	2.000	2.569	1816.80	0.0522	P	2.0
3	☐	5.000	4.573	2803.61	0.0826	P	2.4
4	☐	10.000	9.884	5584.35	0.1633	P	5.0
5	☐	100.000	99.953	50414.20	1.5317	P	1.2
6	☐	200.000	200.034	97971.17	3.0522	P	2.0
7	☐	1.000					

y = 0.0152 * x + 0.0131
R = 1.0000
DL = 0.1937
BEC = 0.8653

Weight: <None>
Min Conc: <None>

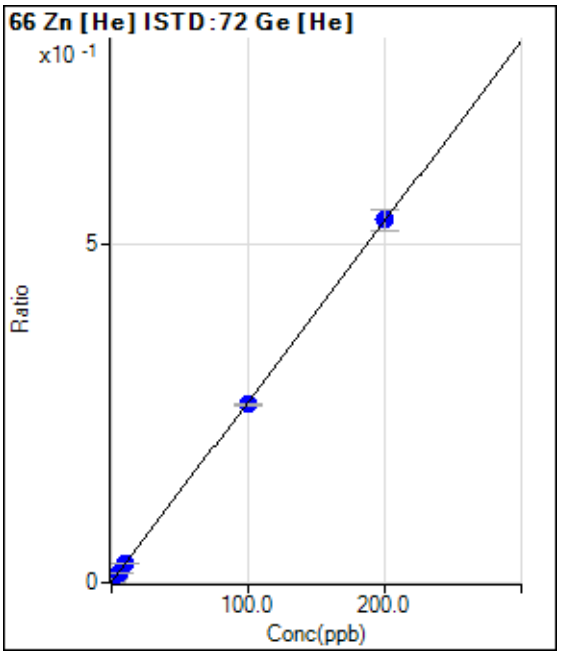
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.113	470.02	0.0008	P	10.5
2	☐	2.000	2.288	2863.65	0.0047	P	16.9
3	☐	5.000	5.324	5731.10	0.0096	P	5.1
4	☐	10.000	10.225	10443.37	0.0175	P	6.5
5	☐	100.000	98.597	95544.82	0.1608	P	1.3
6	☐	200.000	200.679	190086.78	0.3263	P	0.9
7	☐	1.000					

y = 0.0016 * x + 9.5255E-004
R = 1.0000
DL = 0.1499
BEC = 0.5876

Weight: <None>
Min Conc: <None>

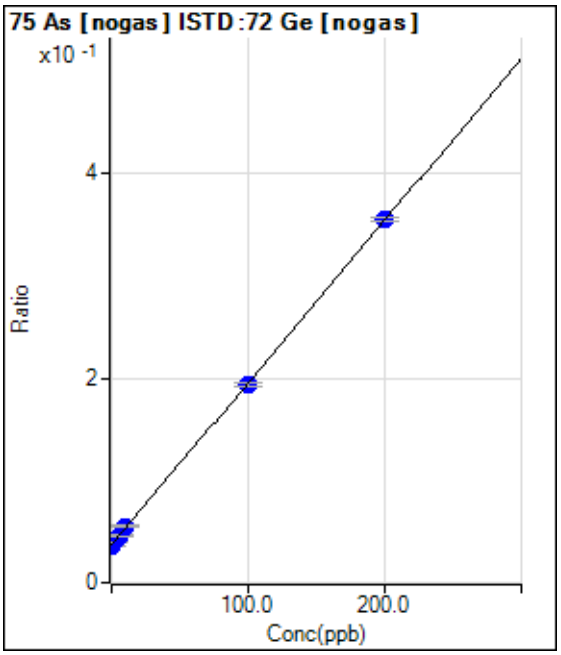


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.218	53.33	0.0016	P	49.1
2	☐	2.000	2.439	260.01	0.0075	P	11.2
3	☐	5.000	5.086	493.35	0.0145	P	10.4
4	☐	10.000	10.029	946.71	0.0277	P	3.4
5	☐	100.000	98.471	8658.99	0.2631	P	1.5
6	☐	200.000	200.756	17175.58	0.5354	P	6.0
7	☐	1.000					

y = 0.0027 * x + 9.8107E-004
R = 1.0000
DL = 0.8647
BEC = 0.3685

Weight: <None>
Min Conc: <None>

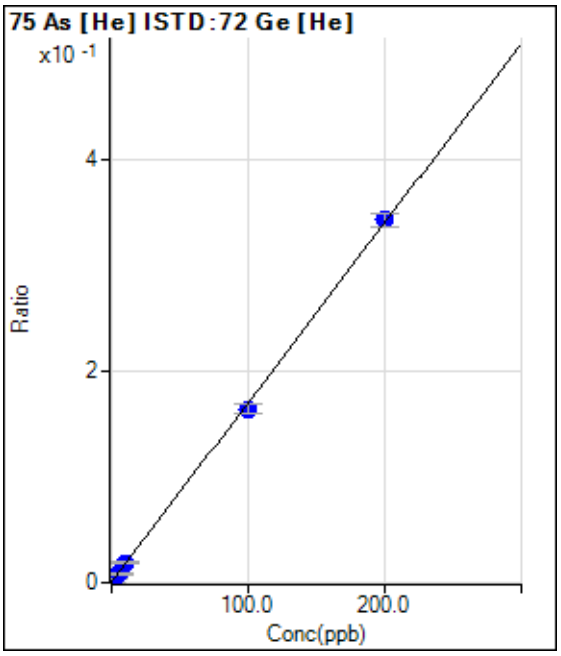
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-1.147	21584.11	0.0354	P	0.6
2	☐	2.000	1.726	24511.23	0.0399	P	2.6
3	☐	5.000	5.550	27499.24	0.0460	P	1.9
4	☐	10.000	11.425	32948.87	0.0553	P	3.4
5	☐	100.000	99.060	115468.91	0.1944	P	2.3
6	☐	200.000	200.388	206881.88	0.3551	P	0.9
7	☐	1.000					

y = 0.0016 * x + 0.0372
R = 0.9999
DL = 0.4189
BEC = 23.44

Weight: <None>
Min Conc: <None>

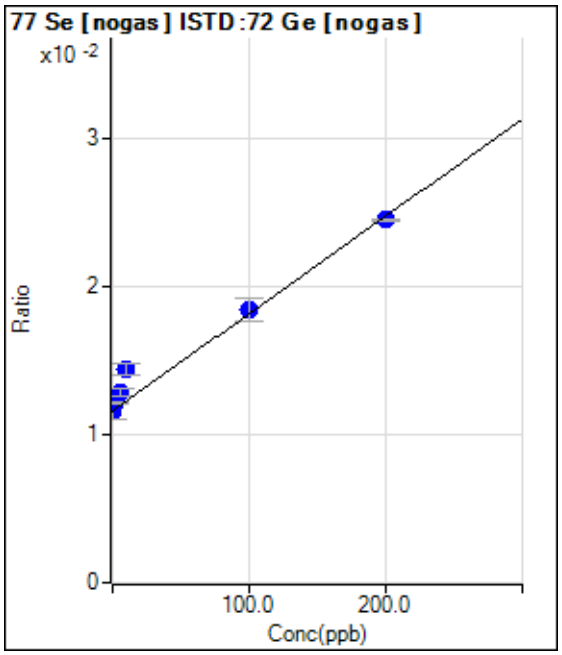


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0005	P	77.2
2	☐	2.000	1.662	115.56	0.0033	P	6.3
3	☐	5.000	4.714	288.89	0.0085	P	16.1
4	☐	10.000	10.893	648.91	0.0190	P	16.1
5	☐	100.000	96.376	5402.00	0.1642	P	5.2
6	☐	200.000	201.778	11015.85	0.3432	P	3.6
7	☐	1.000					

y = 0.0017 * x + 4.9224E-004
R = 0.9998
DL = 0.6712
BEC = 0.2898

Weight: <None>
Min Conc: <None>

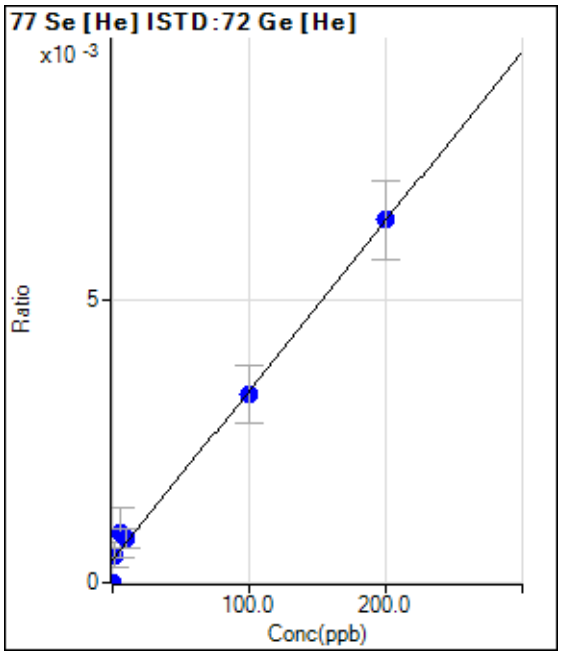
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7068.30	0.0116	P	10.8
2	☐	2.000	7.581	7425.15	0.0121	P	1.5
3	☐	5.000	19.198	7685.23	0.0129	P	4.6
4	☐	10.000	42.782	8579.01	0.0144	P	4.8
5	☐	100.000	103.629	10923.72	0.0184	P	8.1
6	☐	200.000	196.136	14252.82	0.0245	P	0.4
7	☐	1.000					

y = 6.5604E-005 * x + 0.0116
R = 0.9886
DL = 57.39
BEC = 176.8

Weight: <None>
Min Conc: <None>

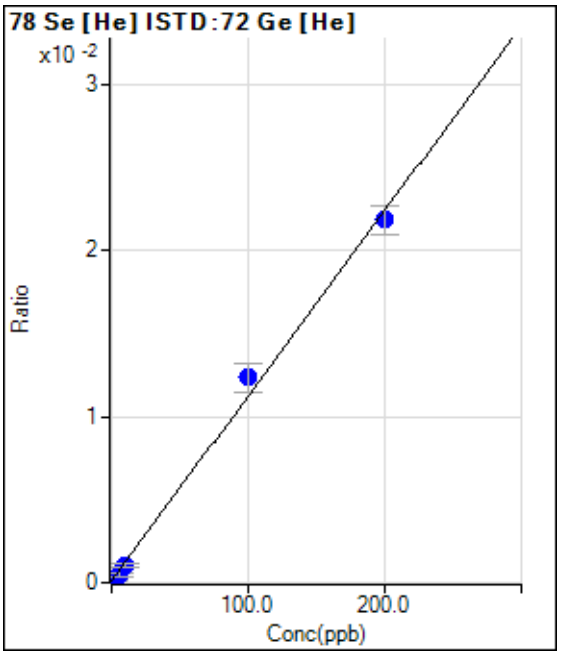


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-13.324	0.00	0.0000	P	
2	☐	2.000	2.797	16.67	0.0005	P	91.7
3	☐	5.000	16.340	30.00	0.0009	P	101.
4	☐	10.000	12.703	26.67	0.0008	P	44.4
5	☐	100.000	97.821	110.00	0.0033	P	31.1
6	☐	200.000	200.663	206.68	0.0064	P	21.6
7	☐	1.000					

y = 3.0040E-005 * x + 4.0026E-004
R = 0.9953
DL = 0
BEC = 13.32

Weight: <None>
Min Conc: <None>

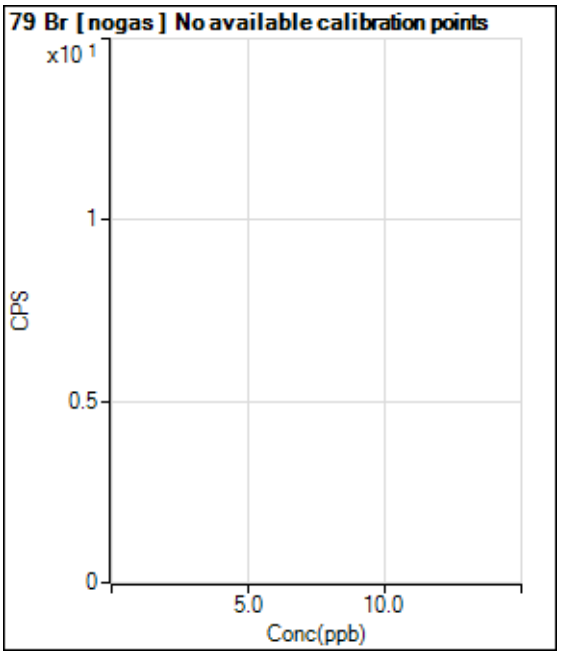
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4.00	0.0001	P	5.3
2	☐	2.000	0.345	5.33	0.0002	P	115.
3	☐	5.000	3.232	16.00	0.0005	P	44.9
4	☐	10.000	8.443	36.00	0.0011	P	28.8
5	☐	100.000	109.947	406.01	0.0123	P	13.7
6	☐	200.000	195.165	700.02	0.0218	P	7.7
7	☐	1.000					

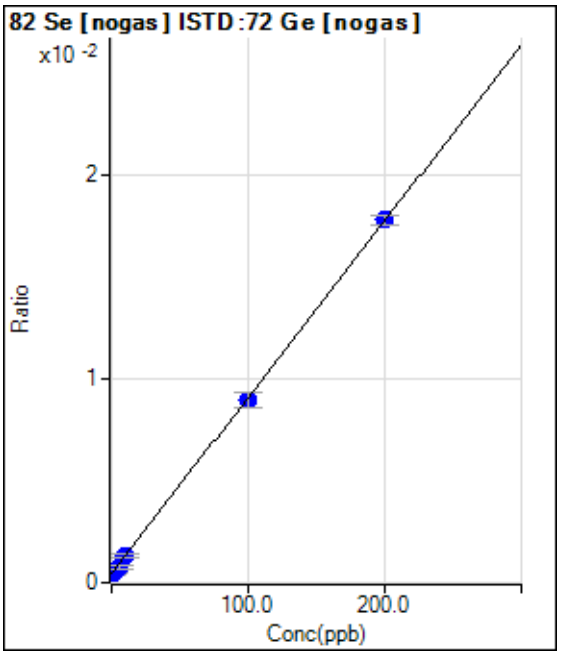
y = 1.1125E-004 * x + 1.1545E-004
R = 0.9980
DL = 0.1643
BEC = 1.038

Weight: <None>
Min Conc: <None>



	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					

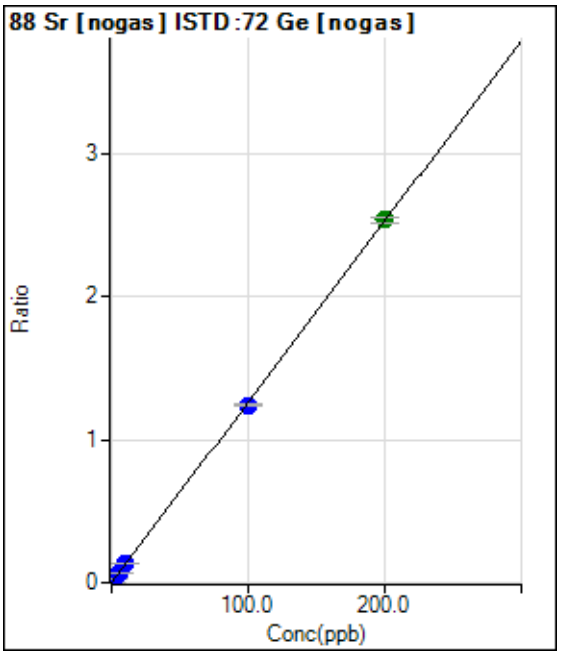
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	276.68	0.0005	P	18.6
2	☐	2.000	0.647	313.34	0.0005	P	14.4
3	☐	5.000	3.376	446.68	0.0007	P	18.3
4	☐	10.000	9.685	770.03	0.0013	P	16.0
5	☐	100.000	98.683	5340.94	0.0090	P	8.6
6	☐	200.000	200.729	10383.35	0.0178	P	2.9
7	☐	1.000					

y = 8.6524E-005 * x + 4.5428E-004
R = 1.0000
DL = 2.937
BEC = 5.25

Weight: <None>
Min Conc: <None>

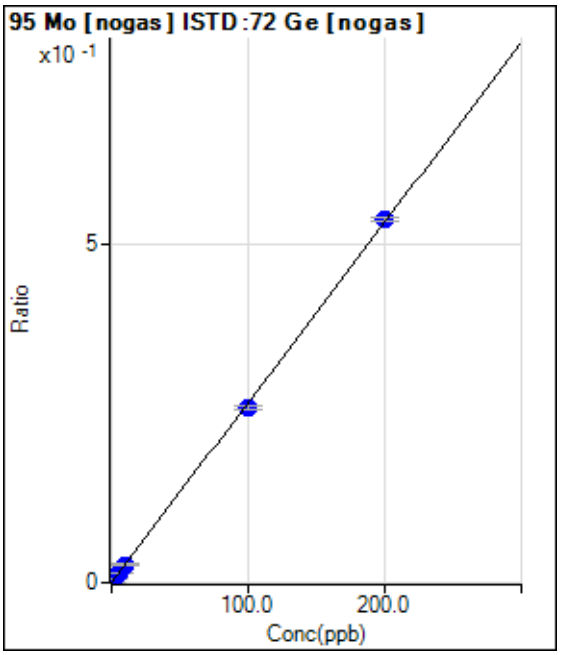


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	386.68	0.0006	P	13.8
2	☐	2.000	2.051	16271.43	0.0265	P	3.7
3	☐	5.000	4.966	37812.89	0.0633	P	3.2
4	☐	10.000	10.241	77307.20	0.1298	P	1.9
5	☐	100.000	98.230	736431.45	1.2392	P	0.8
6	☐	200.000	200.873	1476024.04	2.5335	A	1.8
7	☐	1.000					

y = 0.0126 * x + 6.3298E-004
R = 0.9999
DL = 0.02079
BEC = 0.0502

Weight: <None>
Min Conc: <None>

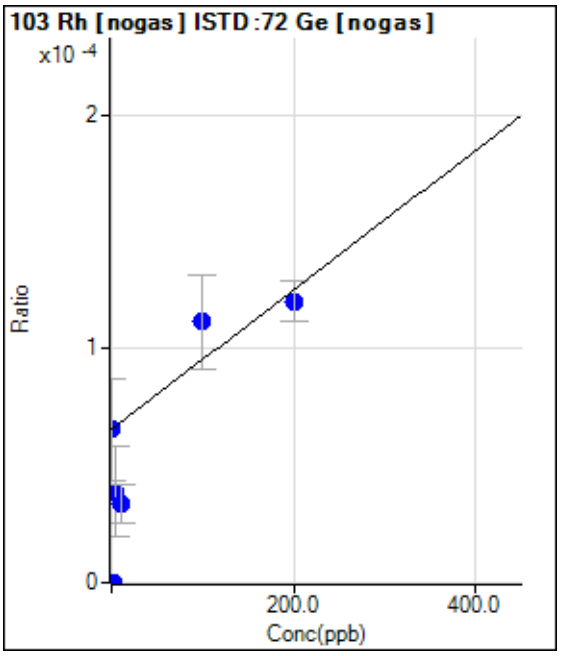
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	66.67	0.0001	P	18.8
2	☐	2.000	1.918	3200.37	0.0052	P	2.0
3	☐	5.000	4.905	7868.66	0.0132	P	2.4
4	☐	10.000	10.004	15924.54	0.0267	P	2.1
5	☐	100.000	96.970	153384.29	0.2582	P	1.8
6	☐	200.000	201.518	312469.25	0.5364	P	1.0
7	☐	1.000					

y = 0.0027 * x + 1.0944E-004
R = 0.9998
DL = 0.02314
BEC = 0.04113

Weight: <None>
Min Conc: <None>

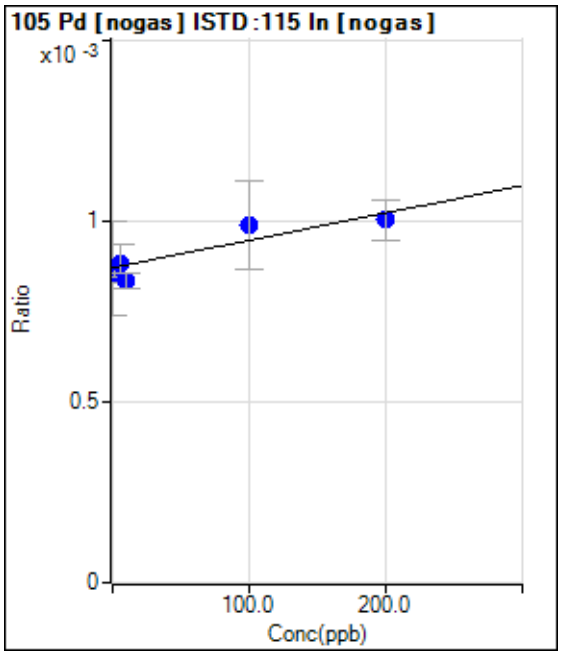


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	40.00	0.0001	P	66.5
2	☐	2.000	-219.860	0.00	0.0000	P	
3	☐	5.000	-89.490	23.33	0.0000	P	98.4
4	☐	10.000	-107.143	20.00	0.0000	P	50.4
5	☐	100.000	154.442	66.67	0.0001	P	36.0
6	☐	200.000	183.217	70.00	0.0001	P	14.6
7	☐	1.000					

y = 2.9818E-007 * x + 6.5558E-005
R = 0.8432
DL = 438.5
BEC = 219.9

Weight: <None>
Min Conc: <None>

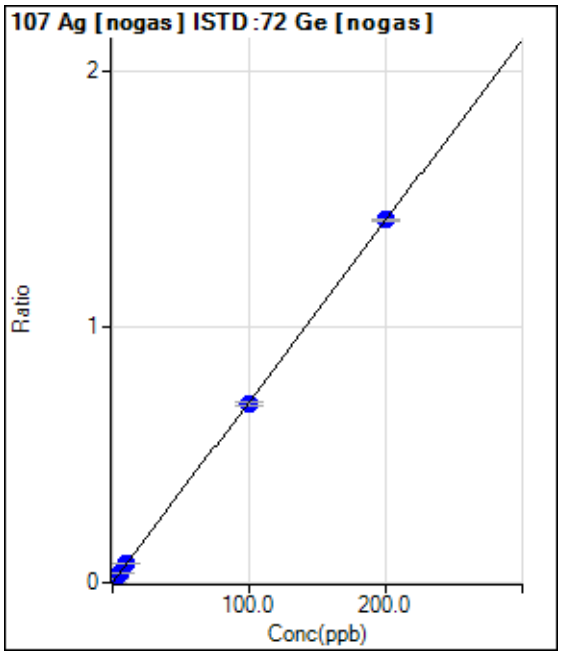
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	646.70	0.0009	P	29.9
2	☐	2.000	-18.466	636.69	0.0009	P	3.0
3	☐	5.000	15.117	640.03	0.0009	P	12.5
4	☐	10.000	-47.938	596.69	0.0008	P	4.8
5	☐	100.000	157.266	703.37	0.0010	P	24.7
6	☐	200.000	174.216	703.37	0.0010	P	11.0
7	☐	1.000					

y = 7.5752E-007 * x + 8.7131E-004
R = 0.9128
DL = 1031
BEC = 1150

Weight: <None>
Min Conc: <None>

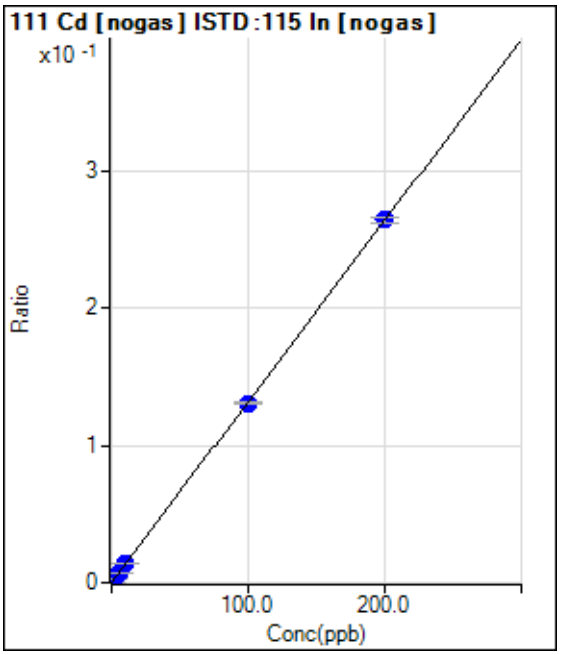


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	53.33	0.0001	P	38.3
2	☐	2.000	2.042	8935.93	0.0146	P	0.9
3	☐	5.000	5.056	21464.27	0.0359	P	4.1
4	☐	10.000	10.404	43954.97	0.0738	P	1.2
5	☐	100.000	99.217	417676.47	0.7030	P	2.1
6	☐	200.000	200.370	827004.28	1.4196	P	0.7
7	☐	1.000					

y = 0.0071 * x + 8.7261E-005
R = 1.0000
DL = 0.01417
BEC = 0.01232

Weight: <None>
Min Conc: <None>

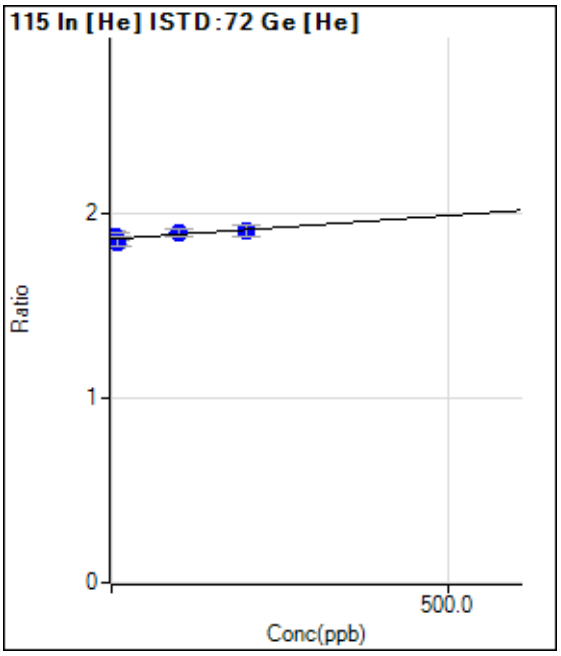
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6.67	0.0000	P	173.
2	☐	2.000	1.854	1823.47	0.0025	P	10.4
3	☐	5.000	5.240	5020.88	0.0069	P	5.0
4	☐	10.000	10.340	9763.13	0.0137	P	3.1
5	☐	100.000	99.004	92956.20	0.1307	P	1.4
6	☐	200.000	200.476	185456.60	0.2647	P	1.5
7	☐	1.000					

y = 0.0013 * x + 8.9476E-006
R = 1.0000
DL = 0.03522
BEC = 0.006777

Weight: <None>
Min Conc: <None>

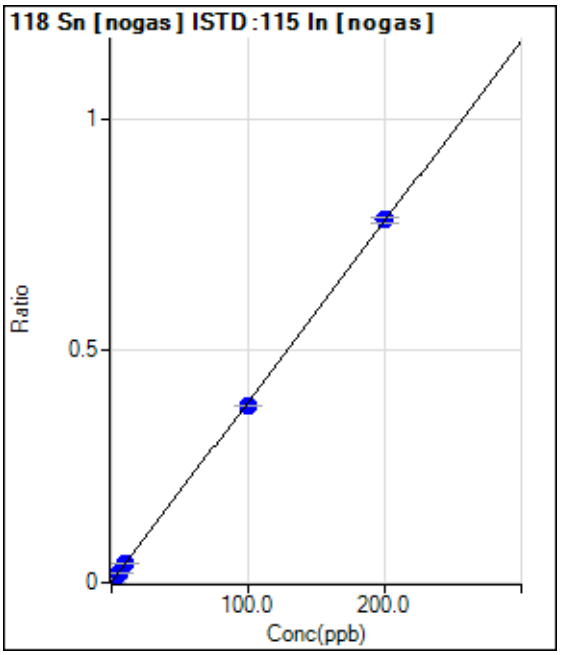


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	64372.25	1.8576	P	5.0
2	☐	2.000	-9.581	64586.17	1.8552	P	2.2
3	☐	5.000	50.654	63455.52	1.8706	P	2.4
4	☐	10.000	-56.072	63030.22	1.8433	P	3.1
5	☐	100.000	144.486	62347.78	1.8946	P	1.9
6	☐	200.000	180.035	61092.94	1.9037	P	3.4
7	☐	1.000					

y = 2.5585E-004 * x + 1.8576
R = 0.8902
DL = 1082
BEC = 7261

Weight: <None>
Min Conc: <None>

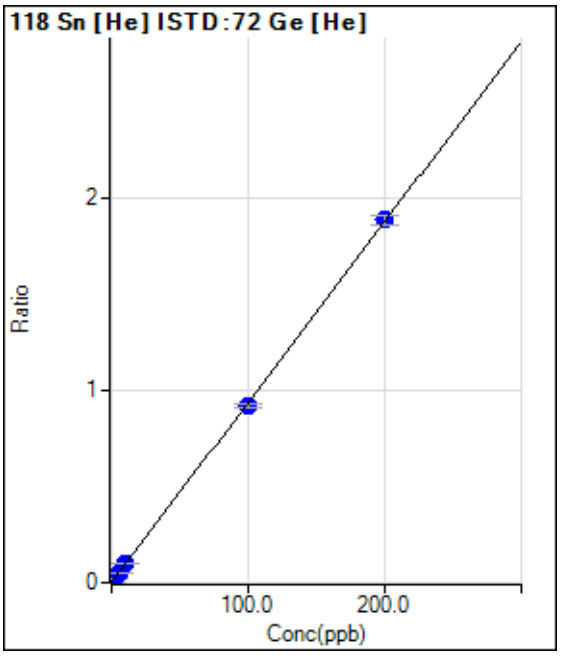
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	766.70	0.0010	P	7.5
2	☐	2.000	1.998	6538.17	0.0088	P	3.9
3	☐	5.000	4.921	14626.73	0.0202	P	3.6
4	☐	10.000	10.457	29810.61	0.0417	P	2.5
5	☐	100.000	98.028	271920.28	0.3824	P	0.5
6	☐	200.000	200.965	548508.47	0.7828	P	1.6
7	☐	1.000					

y = 0.0039 * x + 0.0010
R = 0.9999
DL = 0.0601
BEC = 0.2655

Weight: <None>
Min Conc: <None>

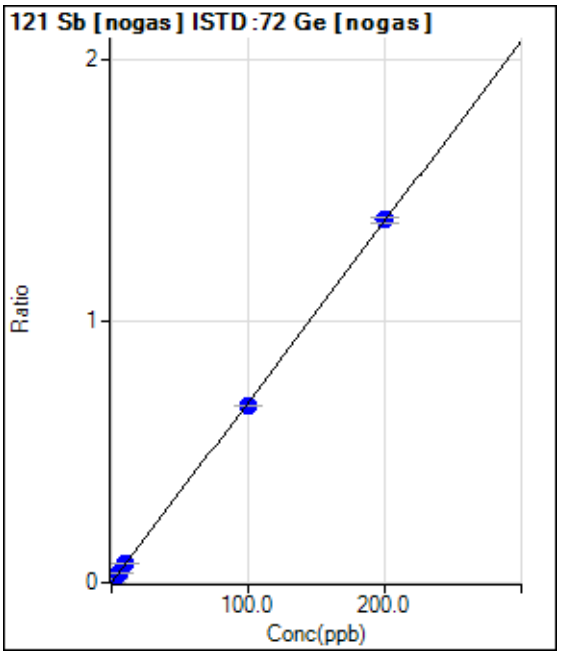


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	60.00	0.0017	P	73.7
2	☐	2.000	1.635	593.35	0.0170	P	7.7
3	☐	5.000	5.446	1793.48	0.0528	P	2.9
4	☐	10.000	10.653	3477.11	0.1017	P	5.5
5	☐	100.000	97.853	30288.19	0.9203	P	1.5
6	☐	200.000	201.033	60628.30	1.8890	P	2.6
7	☐	1.000					

y = 0.0094 * x + 0.0017
R = 0.9999
DL = 0.3985
BEC = 0.1803

Weight: <None>
Min Conc: <None>

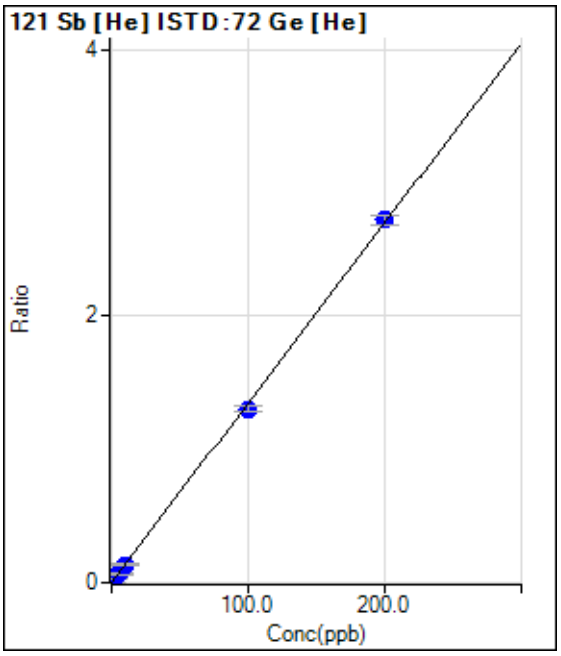
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	573.35	0.0009	P	6.9
2	☐	2.000	1.961	8872.54	0.0145	P	4.0
3	☐	5.000	5.155	21798.15	0.0365	P	1.9
4	☐	10.000	10.238	42575.40	0.0715	P	3.2
5	☐	100.000	98.010	401883.47	0.6763	P	0.7
6	☐	200.000	200.980	807352.10	1.3858	P	1.3
7	☐	1.000					

y = 0.0069 * x + 9.3913E-004
R = 0.9999
DL = 0.02826
BEC = 0.1363

Weight: <None>
Min Conc: <None>

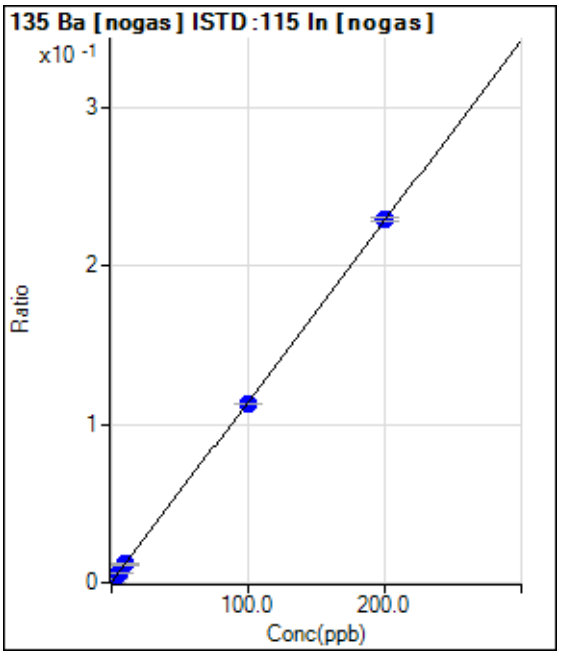


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.67	0.0016	P	43.5
2	☐	2.000	2.030	1010.05	0.0290	P	4.2
3	☐	5.000	4.728	2216.87	0.0654	P	10.1
4	☐	10.000	9.899	4620.76	0.1351	P	4.3
5	☐	100.000	96.369	42822.99	1.3009	P	3.6
6	☐	200.000	201.827	87387.98	2.7227	P	2.3
7	☐	1.000					

y = 0.0135 * x + 0.0016
R = 0.9998
DL = 0.1581
BEC = 0.1213

Weight: <None>
Min Conc: <None>

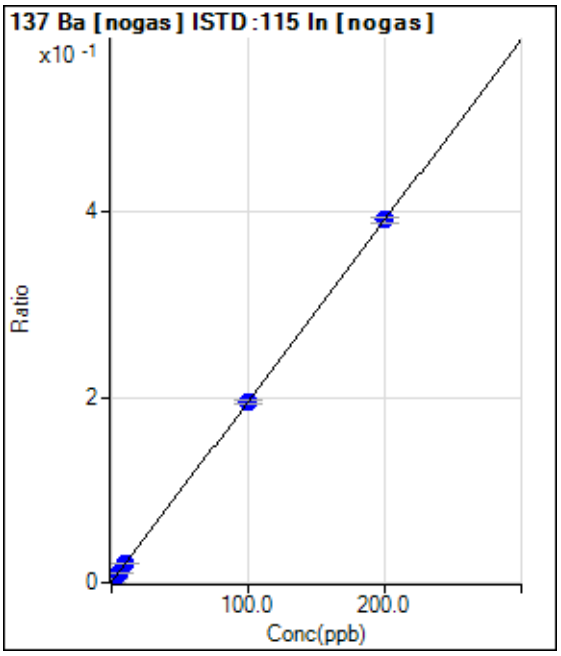
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	143.33	0.0002	P	39.6
2	☐	2.000	2.219	2020.18	0.0027	P	8.5
3	☐	5.000	5.016	4280.66	0.0059	P	6.2
4	☐	10.000	10.159	8405.70	0.0118	P	6.2
5	☐	100.000	98.691	80063.37	0.1126	P	0.5
6	☐	200.000	200.644	160245.87	0.2287	P	1.0
7	☐	1.000					

y = 0.0011 * x + 1.9371E-004
R = 1.0000
DL = 0.2023
BEC = 0.1701

Weight: <None>
Min Conc: <None>

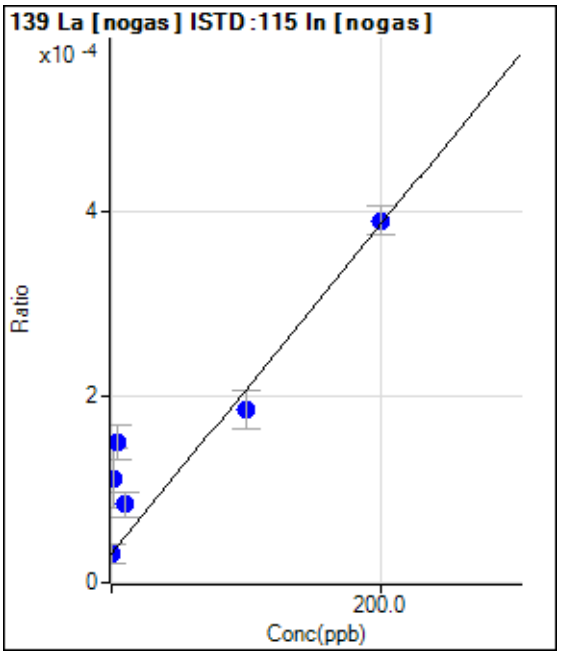


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	283.34	0.0004	P	6.7
2	☐	2.000	1.899	3033.69	0.0041	P	5.1
3	☐	5.000	5.100	7488.56	0.0103	P	5.1
4	☐	10.000	10.251	14566.89	0.0204	P	3.4
5	☐	100.000	99.405	138131.91	0.1943	P	2.2
6	☐	200.000	200.283	273984.87	0.3910	P	1.8
7	☐	1.000					

y = 0.0020 * x + 3.8206E-004
R = 1.0000
DL = 0.03919
BEC = 0.1959

Weight: <None>
Min Conc: <None>

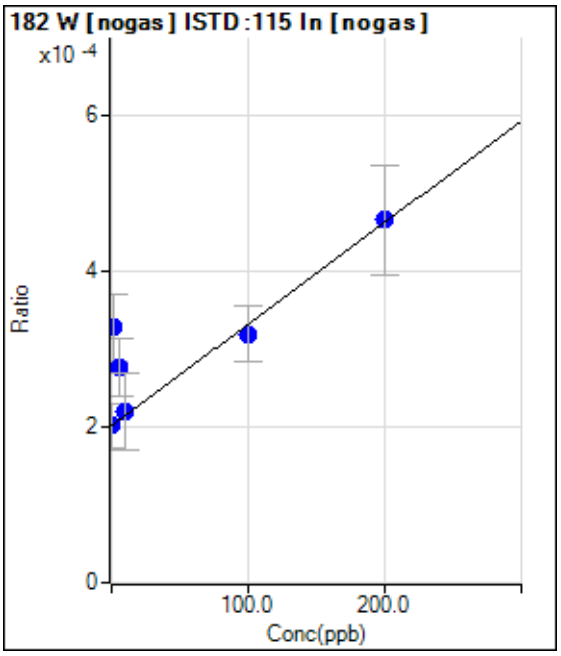
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	23.33	0.0000	P	65.1
2	☐	2.000	45.795	83.33	0.0001	P	56.9
3	☐	5.000	68.118	110.00	0.0002	P	24.4
4	☐	10.000	29.797	60.00	0.0001	P	33.5
5	☐	100.000	88.148	133.34	0.0002	P	22.0
6	☐	200.000	202.920	273.34	0.0004	P	7.9
7	☐	1.000					

y = 1.7683E-006 * x + 3.1339E-005
R = 0.9389
DL = 34.62
BEC = 17.72

Weight: <None>
Min Conc: <None>

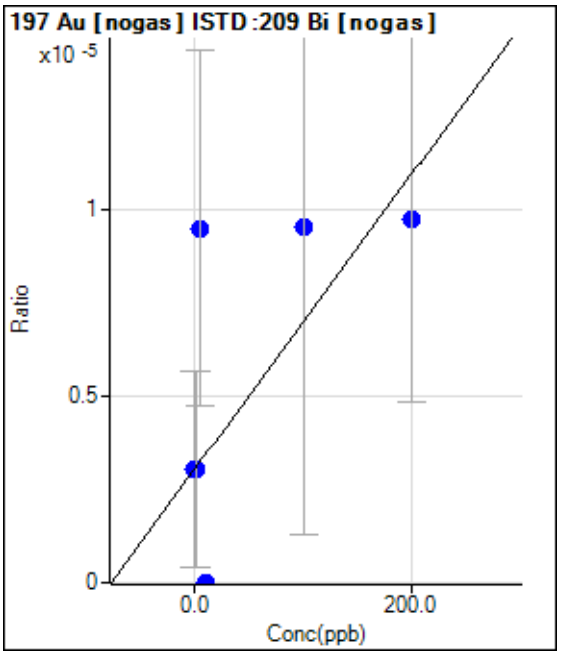


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	150.01	0.0002	P	27.9
2	☐	2.000	96.604	243.34	0.0003	P	26.5
3	☐	5.000	57.182	200.01	0.0003	P	27.0
4	☐	10.000	13.004	156.67	0.0002	P	45.2
5	☐	100.000	90.215	226.68	0.0003	P	22.0
6	☐	200.000	202.492	326.68	0.0005	P	30.4
7	☐	1.000					

y = 1.3039E-006 * x + 2.0163E-004
R = 0.8656
DL = 129.6
BEC = 154.6

Weight: <None>
Min Conc: <None>

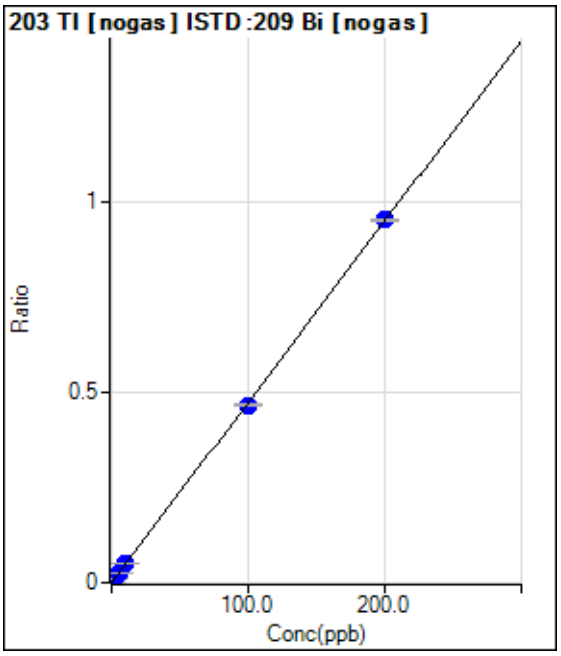
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.
2	☐	2.000	0.050	3.33	0.0000	P	173.
3	☐	5.000	162.770	10.00	0.0000	P	100.
4	☐	10.000	-76.571	0.00	0.0000	P	
5	☐	100.000	163.691	10.00	0.0000	P	173.
6	☐	200.000	168.559	10.00	0.0000	P	100.
7	☐	1.000					

y = 3.9730E-008 * x + 3.0422E-006
R = 0.6347
DL = 397.9
BEC = 76.57

Weight: <None>
Min Conc: <None>

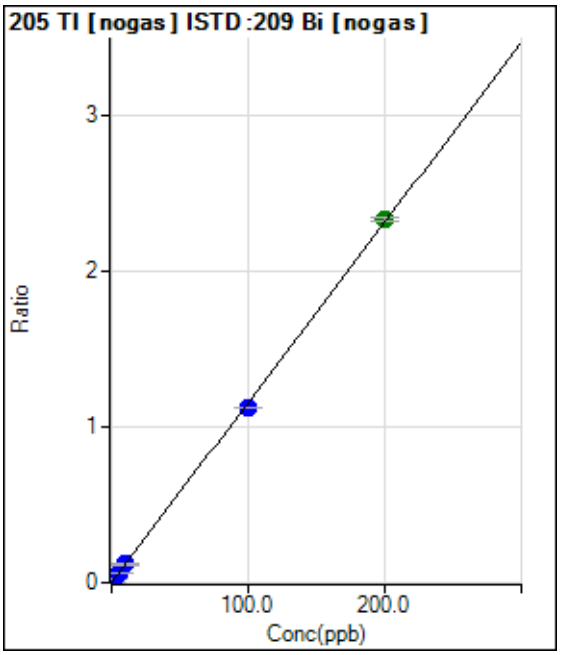


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	73.33	0.0001	P	15.6
2	☐	2.000	1.938	10120.16	0.0093	P	2.9
3	☐	5.000	5.033	25307.64	0.0240	P	4.6
4	☐	10.000	10.179	51054.42	0.0484	P	1.3
5	☐	100.000	98.111	490180.39	0.4659	P	0.8
6	☐	200.000	200.935	981620.46	0.9541	P	0.3
7	☐	1.000					

y = 0.0047 * x + 6.6692E-005
R = 0.9999
DL = 0.006559
BEC = 0.01405

Weight: <None>
Min Conc: <None>

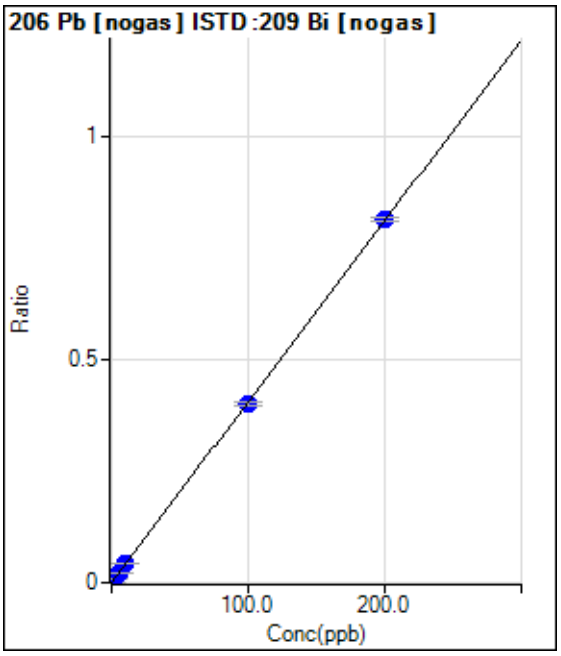
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	130.00	0.0001	P	27.7
2	☐	2.000	1.950	24767.01	0.0227	P	2.4
3	☐	5.000	4.875	59729.17	0.0565	P	2.8
4	☐	10.000	10.175	124376.69	0.1179	P	0.8
5	☐	100.000	97.092	1182631.59	1.1241	P	0.3
6	☐	200.000	201.449	2399284.97	2.3321	A	1.1
7	☐	1.000					

y = 0.0116 * x + 1.1822E-004
R = 0.9998
DL = 0.008474
BEC = 0.01021

Weight: <None>
Min Conc: <None>

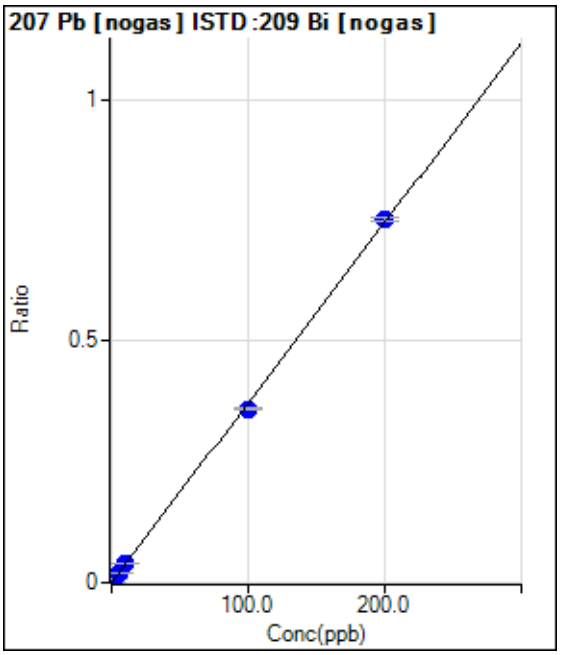


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	116.67	0.0001	P	30.2
2	☐	2.000	2.030	9112.83	0.0083	P	6.3
3	☐	5.000	5.145	22166.35	0.0210	P	2.3
4	☐	10.000	10.545	45260.14	0.0429	P	1.2
5	☐	100.000	98.593	421041.56	0.4002	P	1.7
6	☐	200.000	200.672	837881.24	0.8145	P	1.1
7	☐	1.000					

y = 0.0041 * x + 1.0612E-004
R = 1.0000
DL = 0.02369
BEC = 0.02615

Weight: <None>
Min Conc: <None>

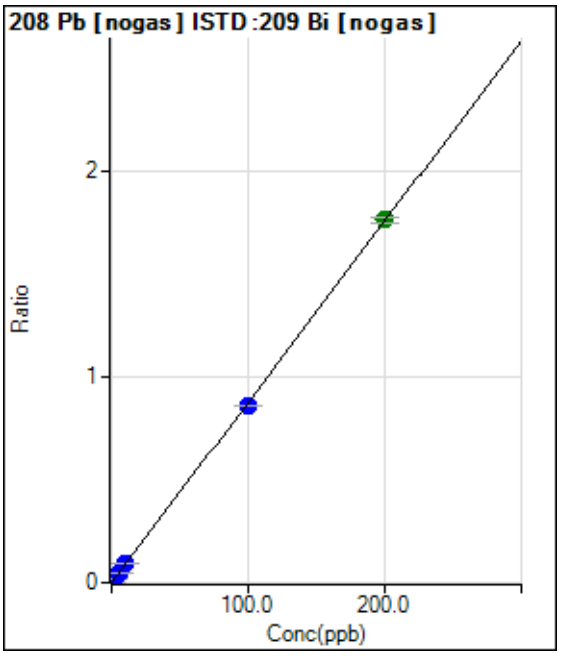
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	60.00	0.0001	P	44.4
2	☐	2.000	1.999	8179.06	0.0075	P	5.6
3	☐	5.000	4.901	19339.07	0.0183	P	3.8
4	☐	10.000	10.462	41148.69	0.0390	P	2.1
5	☐	100.000	96.598	378473.35	0.3597	P	0.5
6	☐	200.000	201.680	772568.82	0.7510	P	1.1
7	☐	1.000					

y = 0.0037 * x + 5.4655E-005
R = 0.9998
DL = 0.01955
BEC = 0.01468

Weight: <None>
Min Conc: <None>

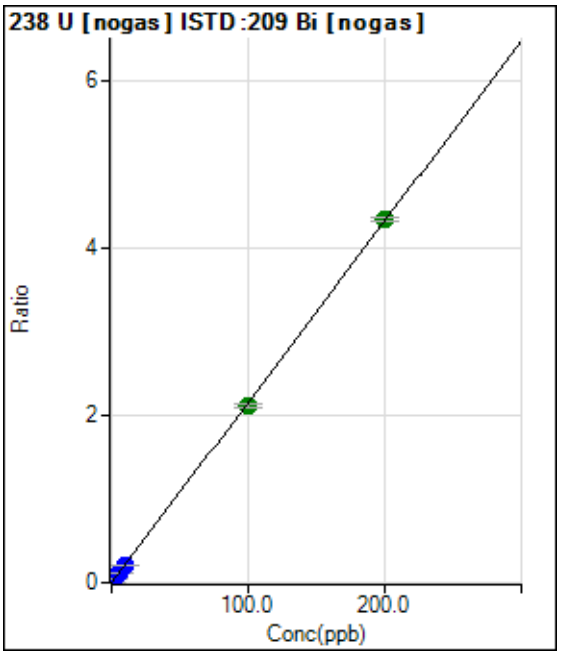


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	263.34	0.0002	P	22.2
2	☐	2.000	2.059	19983.25	0.0183	P	2.1
3	☐	5.000	5.027	46851.82	0.0443	P	2.1
4	☐	10.000	10.253	95155.15	0.0902	P	1.8
5	☐	100.000	98.174	906562.88	0.8617	P	0.5
6	☐	200.000	200.899	1813710.96	1.7630	A	1.4
7	☐	1.000					

y = 0.0088 * x + 2.3962E-004
R = 0.9999
DL = 0.01815
BEC = 0.02731

Weight: <None>
Min Conc: <None>

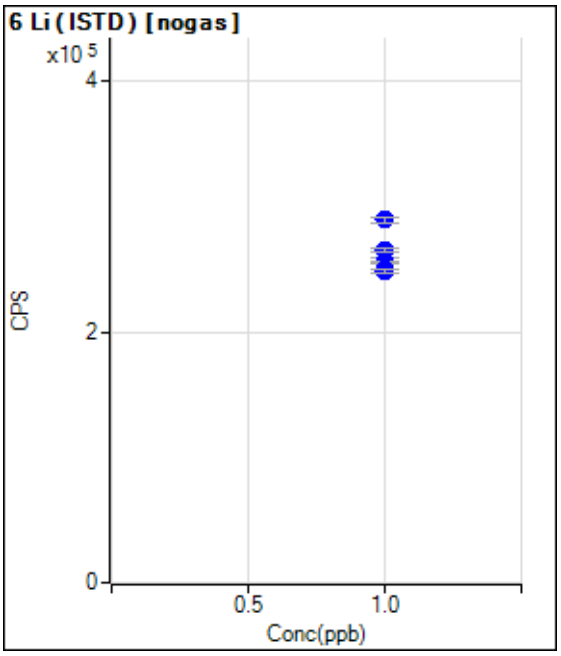
Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	213.34	0.0002	P	26.2
2	☐	2.000	1.962	46481.87	0.0426	P	2.8
3	☐	5.000	4.977	113842.91	0.1078	P	1.2
4	☐	10.000	10.014	228543.04	0.2167	P	0.9
5	☐	100.000	98.059	2229952.52	2.1197	A	2.8
6	☐	200.000	200.971	4469162.02	4.3441	A	1.1
7	☐	1.000					

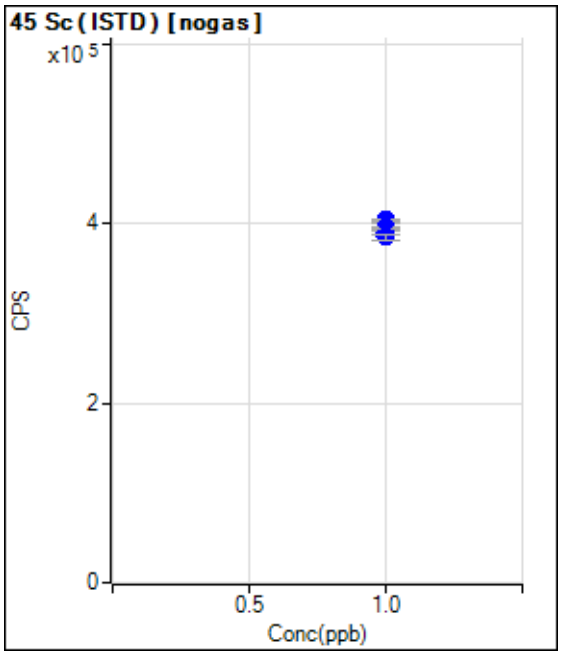
y = 0.0216 * x + 1.9419E-004
R = 0.9999
DL = 0.007051
BEC = 0.008984

Weight: <None>
Min Conc: <None>

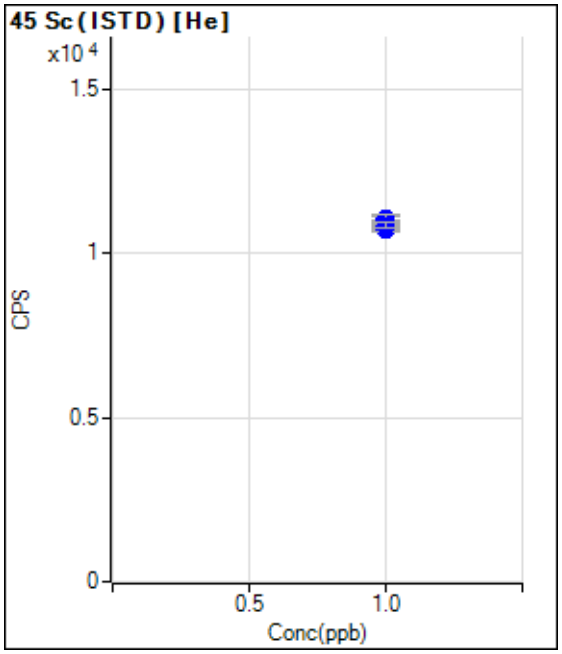


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		256544.27		P	1.5
2	☐	1.000		255710.48		P	0.7
3	☐	1.000		250003.05		P	0.4
4	☐	1.000		248281.58		P	0.9
5	☐	1.000		265704.48		P	1.0
6	☐	1.000		289233.18		P	1.3
7	☐	1.000					

Calibration for 295_ICV.d

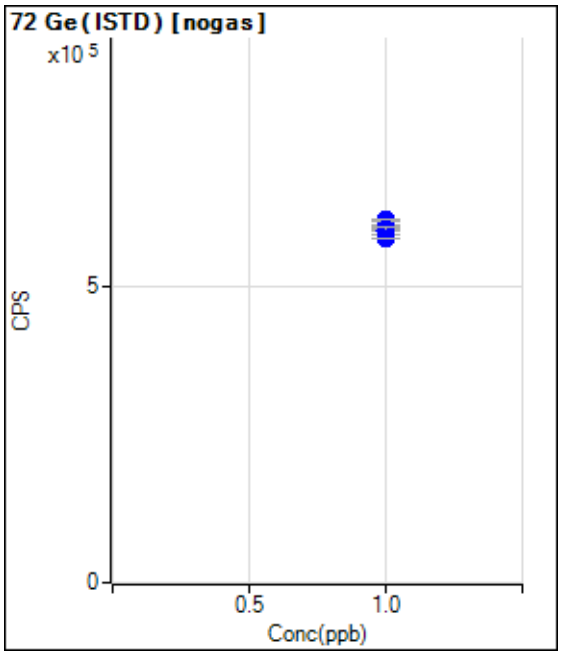


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		403828.52		P	1.0
2	☐	1.000		404447.22		P	0.3
3	☐	1.000		396790.24		P	0.4
4	☐	1.000		389870.03		P	1.0
5	☐	1.000		390860.33		P	1.5
6	☐	1.000		385353.55		P	1.7
7	☐	1.000					

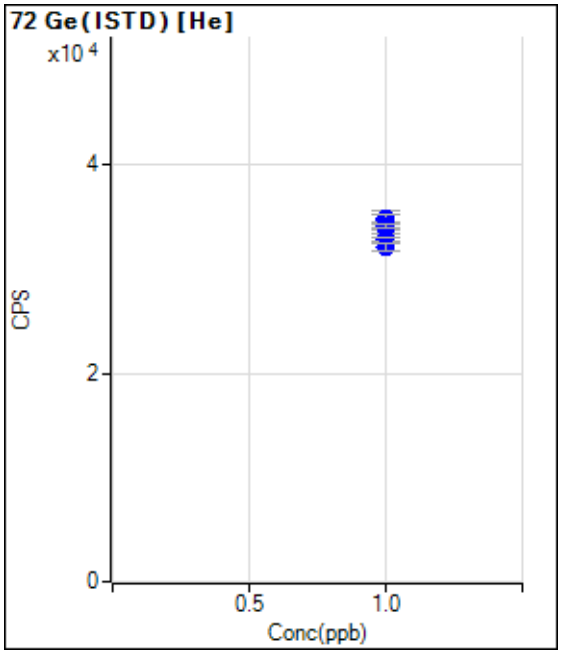


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		11063.74		P	1.2
2	☐	1.000		10960.35		P	4.6
3	☐	1.000		10980.33		P	0.9
4	☐	1.000		10746.86		P	1.4
5	☐	1.000		11013.73		P	3.2
6	☐	1.000		10876.92		P	2.1
7	☐	1.000					

Calibration for 295_ICV.d

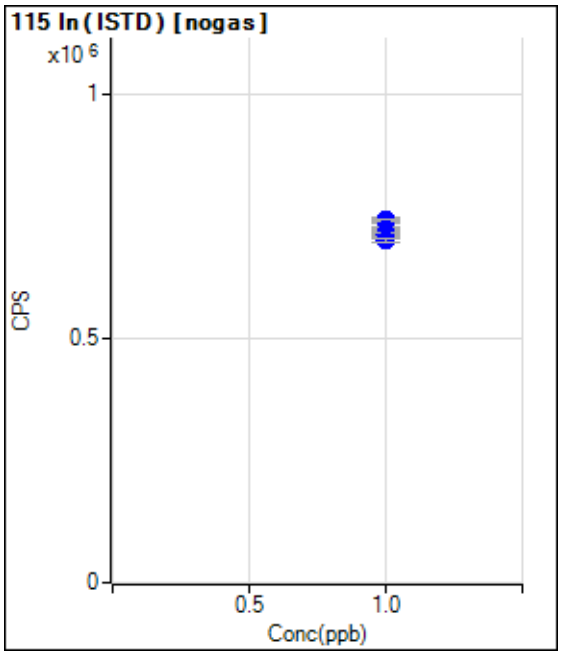


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		610208.71		P	1.7
2	☐	1.000		613880.47		P	0.8
3	☐	1.000		597887.01		P	0.8
4	☐	1.000		595685.58		P	0.6
5	☐	1.000		594314.31		P	2.1
6	☐	1.000		582579.52		P	0.3
7	☐	1.000					

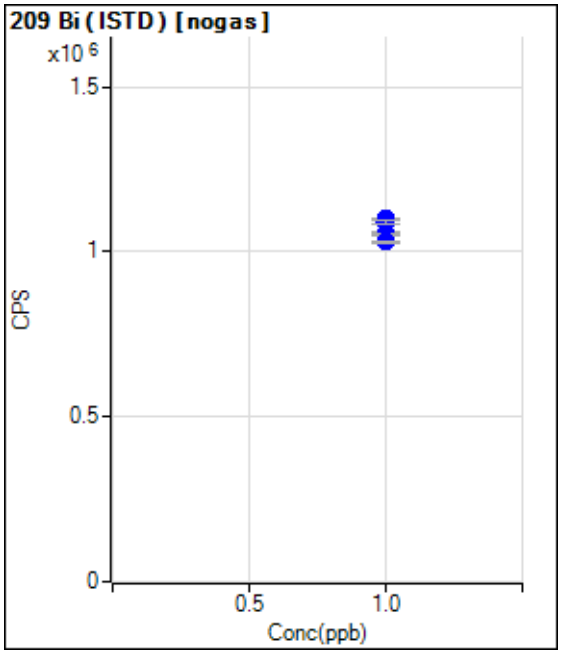


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		34709.15		P	5.1
2	☐	1.000		34822.64		P	2.0
3	☐	1.000		33937.65		P	2.7
4	☐	1.000		34201.21		P	1.1
5	☐	1.000		32912.14		P	1.1
6	☐	1.000		32107.37		P	2.3
7	☐	1.000					

Calibration for 295_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		742038.66		P	1.4
2	☐	1.000		742625.69		P	0.5
3	☐	1.000		725017.46		P	0.7
4	☐	1.000		714768.87		P	1.1
5	☐	1.000		711132.39		P	1.1
6	☐	1.000		700722.00		P	0.7
7	☐	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1099360.56		P	0.5
2	☐	1.000		1091480.38		P	1.1
3	☐	1.000		1056382.51		P	0.8
4	☐	1.000		1054936.34		P	0.9
5	☐	1.000		1052113.50		P	0.5
6	☐	1.000		1028798.97		P	0.6
7	☐	1.000					

Wet Chemistry Raw Data

Bhate Environmental Associates, Inc.
Project: LONGHORN GW TREATMENT PLANT
QUARTERLY INFLUENT SAMPLES
ALS WO# HS17121169

HS17121169

Sequence: 010818
Operator: alshs.nouser

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\01-2018
Timebase: ICS2100
#Samples: 91

Created: 1/8/2018 11:01:32 AM by alshs nouser
Last Update: 1/18/2018 2:34:02 PM by alshs nouser

No	Name	Comment	Type	Pos.	Dil. Factor	Inj. Vol.	*Initial_Vol_Wt	*Final_Volume
1	STD1		Standard	1	1.0000	10.0	1.00	1.00
2	STD2		Standard	2	1.0000	10.0	1.00	1.00
3	STD3		Standard	3	1.0000	10.0	1.00	1.00
4	STD4		Standard	4	1.0000	10.0	1.00	1.00
5	STD5		Standard	5	1.0000	10.0	1.00	1.00
6	STD6		Standard	6	1.0000	10.0	1.00	1.00
7	ICV		Unknown	7	1.0000	10.0	1.00	1.00
8	ICB		Unknown	8	1.0000	10.0	1.00	1.00
9	CCV		Unknown	1	1.0000	10.0	1.00	1.00
10	CCB		Unknown	2	1.0000	10.0	1.00	1.00
11	LCS-124066	9056_S	Unknown	6	1.0000	10.0	1.00	1.00
12	LCSD-124066	9056_S	Unknown	7	1.0000	10.0	1.00	1.00
13	MBLK-124066	9056_S	Unknown	5	1.0000	10.0	1.00	1.00
14	HS18010050-02	9056_S	Unknown	8	1.0000	10.0	1.00	1.00
15	HS18010050-04	9056_S	Unknown	9	1.0000	10.0	1.00	1.00
16	HS17121056-02DF5	RR CL 300_W	Unknown	18	5.0000	10.0	1.00	1.00
17	HS17121071-11DF200	RR CL 9056_W	Unknown	19	200.0000	10.0	1.00	1.00
18	HS17121071-16DF100	RR CL 9056_W	Unknown	20	100.0000	10.0	1.00	1.00
19	HS17121071-06DF20	RR CL 9056_W	Unknown	21	20.0000	10.0	1.00	1.00
20	CCV1		Unknown	3	1.0000	10.0	1.00	1.00
21	CCB		Unknown	4	1.0000	10.0	1.00	1.00
22	HS17121071-04	RR SO4 ONLY	Unknown	22	1.0000	10.0	1.00	1.00
23	HS17121071-08	RR SO4 ONLY	Unknown	23	1.0000	10.0	1.00	1.00
24	CCV		Unknown	1	1.0000	10.0	1.00	1.00
25	CCB		Unknown	2	1.0000	10.0	1.00	1.00
26	CCV		Unknown	1	1.0000	10.0	1.00	1.00
27	CCB		Unknown	2	1.0000	10.0	1.00	1.00
28	HS18010050-01DF20	9056_S	Unknown	10	20.0000	10.0	1.00	1.00
29	HS18010050-03DF50	9056_S	Unknown	11	50.0000	10.0	1.00	1.00
30	HS17121435-03	9056_S	Unknown	13	1.0000	10.0	1.00	1.00
31	HS17121435-03MS	9056_S	Unknown	14	1.0000	10.0	1.00	1.00
32	HS17121435-03MSD	9056_S	Unknown	15	1.0000	10.0	1.00	1.00
33	DI H2O		Unknown	25	1.0000	10.0	1.00	1.00
34	WLCSW1-010818		Unknown	26	1.0000	10.0	1.00	1.00
35	WLCSDW1-010818		Unknown	27	1.0000	10.0	1.00	1.00
36	WBLKW1-010818	RR	Unknown	28	1.0000	10.0	1.00	1.00
37	HS17121168-01DF20	9056_W	Unknown	29	20.0000	10.0	1.00	1.00
38	CCV1		Unknown	3	1.0000	10.0	1.00	1.00
39	CCB		Unknown	4	1.0000	10.0	1.00	1.00
40	HS17121168-01DF5		Unknown	30	5.0000	10.0	1.00	1.00
41	HS17121169-01DF5	9056_W	Unknown	31	5.0000	10.0	1.00	1.00
42	HS17121169-01DF20		Unknown	32	20.0000	10.0	1.00	1.00

Sequence: 010818
Operator: alshs nouser

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\01-2018
Timebase: ICS2100
#Samples: 91

Created: 1/8/2018 11:01:32 AM by alshs nouser
Last Update: 1/18/2018 2:34:02 PM by alshs.nouser

No.	Name	Method	Status	Inj. Date/Time	Program
1	STD1	091117	Finished	9/11/2017 1:39:59 PM	Anions Gradient Program
2	STD2	091117	Finished	9/11/2017 1:54:32 PM	Anions Gradient Program
3	STD3	091117	Finished	9/11/2017 2:09:04 PM	Anions Gradient Program
4	STD4	091117	Finished	9/11/2017 2:23:37 PM	Anions Gradient Program
5	STD5	091117	Finished	9/11/2017 2:38:10 PM	Anions Gradient Program
6	STD6	091117	Finished	9/11/2017 2:52:43 PM	Anions Gradient Program
7	ICV	091117	Finished	9/11/2017 3:07:16 PM	Anions Gradient Program
8	ICB	091117	Finished	9/11/2017 3:21:49 PM	Anions Gradient Program
9	CCV	091117	Finished	1/8/2018 11:35:43 AM	Anions Gradient Program
10	CCB	091117	Finished	1/8/2018 12:01:20 PM	Anions Gradient Program
11	LCS-124066	091117	Finished	1/8/2018 12:30:25 PM	Anions Gradient Program
12	LCSD-124066	091117	Finished	1/8/2018 12:59:15 PM	Anions Gradient Program
13	MBLK-124066	091117	Finished	1/8/2018 1:13:47 PM	Anions Gradient Program
14	HS18010050-02	091117	Finished	1/8/2018 1:28:20 PM	Anions Gradient Program
15	HS18010050-04	091117	Finished	1/8/2018 1:42:53 PM	Anions Gradient Program
16	HS17121056-02DF5	091117	Finished	1/8/2018 2:08:32 PM	Anions Gradient Program
17	HS17121071-11DF200	091117	Finished	1/8/2018 2:23:05 PM	Anions Gradient Program
18	HS17121071-16DF100	091117	Finished	1/8/2018 2:37:37 PM	Anions Gradient Program
19	HS17121071-06DF20	091117	Finished	1/8/2018 2:52:10 PM	Anions Gradient Program
20	CCV1	091117	Finished	1/8/2018 3:06:43 PM	Anions Gradient Program
21	CCB	091117	Finished	1/8/2018 3:21:15 PM	Anions Gradient Program
22	HS17121071-04	091117	Finished	1/8/2018 3:35:48 PM	Anions Gradient Program
23	HS17121071-08	091117	Finished	1/8/2018 4:25:38 PM	Anions Gradient Program
24	CCV	091117	Finished	1/8/2018 4:44:18 PM	Anions Gradient Program
25	CCB	091117	Finished	1/8/2018 4:58:51 PM	Anions Gradient Program
26	CCV	091117	Finished	1/8/2018 7:09:15 PM	Anions Gradient Program
27	CCB	091117	Finished	1/8/2018 7:43:13 PM	Anions Gradient Program
28	HS18010050-01DF20	091117	Finished	1/8/2018 7:57:46 PM	Anions Gradient Program
29	HS18010050-03DF50	091117	Finished	1/8/2018 8:12:19 PM	Anions Gradient Program
30	HS17121435-03	091117	Finished	1/8/2018 8:26:52 PM	Anions Gradient Program
31	HS17121435-03MS	091117	Finished	1/8/2018 8:41:25 PM	Anions Gradient Program
32	HS17121435-03MSD	091117	Finished	1/8/2018 8:55:57 PM	Anions Gradient Program
33	DI H2O	091117	Finished	1/8/2018 9:10:30 PM	Anions Gradient Program
34	WLCSW1-010818	091117	Finished	1/8/2018 9:25:03 PM	Anions Gradient Program
35	WLCSDW1-010818	091117	Finished	1/8/2018 9:39:36 PM	Anions Gradient Program
36	WBLKW1-010818	091117	Finished	1/8/2018 9:54:09 PM	Anions Gradient Program
37	HS17121168-01DF20	091117	Finished	1/8/2018 10:08:42 PM	Anions Gradient Program
38	CCV1	091117	Finished	1/8/2018 10:23:14 PM	Anions Gradient Program
39	CCB	091117	Finished	1/8/2018 10:37:47 PM	Anions Gradient Program
40	HS17121168-01DF5	091117	Finished	1/8/2018 10:52:20 PM	Anions Gradient Program
41	HS17121169-01DF5	091117	Finished	1/8/2018 11:06:52 PM	Anions Gradient Program
42	HS17121169-01DF20	091117	Finished	1/8/2018 11:21:25 PM	Anions Gradient Program

Sequence: 010818
Operator: alshs.nouser

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\01-2018
Timebase: ICS2100
#Samples: 91

Created: 1/8/2018 11:01:32 AM by alshs.nouser
Last Update: 1/18/2018 2:34:02 PM by alshs.nouser

No.	Name	GUID
1	STD1	ff1d63be-971f-11e7-b6d6-dc3e14f594d5
2	STD2	846d1ada-9722-11e7-b6d6-dc3e14f594d5
3	STD3	8c2e4184-9724-11e7-b6d6-dc3e14f594d5
4	STD4	9479af70-9726-11e7-b6d6-dc3e14f594d5
5	STD5	9cd5cdaf-9728-11e7-b6d6-dc3e14f594d5
6	STD6	a51c76f1-972a-11e7-b6d6-dc3e14f594d5
7	ICV	ad54d235-972c-11e7-b6d6-dc3e14f594d5
8	ICB	b59dddcc-972e-11e7-b6d6-dc3e14f594d5
9	CCV	bbc35e6a-f499-11e7-b6d8-a1ac6b506e3a
10	CCB	50390d14-f49d-11e7-b6d8-a1ac6b506e3a
11	LCS-124066	dcccfddc-f4a1-11e7-b6d8-a1ac6b506e3a
12	LCSD-124066	677b53b0-f4a5-11e7-b6d8-a1ac6b506e3a
13	MBLK-124066	ebd534cc-f4a7-11e7-b6d8-a1ac6b506e3a
14	HS18010050-02	f437cc3f-f4a9-11e7-b6d8-a1ac6b506e3a
15	HS18010050-04	fc8029f5-f4ab-11e7-b6d8-a1ac6b506e3a
16	HS17121056-02DF5	14be2fc9-f4af-11e7-b6d8-a1ac6b506e3a
17	HS17121071-11DF200	99d469be-f4b1-11e7-b6d8-a1ac6b506e3a
18	HS17121071-16DF100	a22fda2c-f4b3-11e7-b6d8-a1ac6b506e3a
19	HS17121071-06DF20	aa7837e2-f4b5-11e7-b6d8-a1ac6b506e3a
20	CCV1	b27dd414-f4b7-11e7-b6d8-a1ac6b506e3a
21	CCB	ba6dfb37-f4b9-11e7-b6d8-a1ac6b506e3a
22	HS17121071-04	c26c7064-f4bb-11e7-b6d8-a1ac6b506e3a
23	HS17121071-08	3c897eda-f4c2-11e7-b6d8-a1ac6b506e3a
24	CCV	d771c310-f4c4-11e7-b6d8-a1ac6b506e3a
25	CCB	5cf0e3f9-f4c7-11e7-b6d8-a1ac6b506e3a
26	CCV	170567b7-f4d9-11e7-b6d8-a1ac6b506e3a
27	CCB	d66dfb5d-f4dd-11e7-b6d8-a1ac6b506e3a
28	HS18010050-01DF20	5b8b659f-f4e0-11e7-b6d8-a1ac6b506e3a
29	HS18010050-03DF50	63dddec3-f4e2-11e7-b6d8-a1ac6b506e3a
30	HS17121435-03	6c396b7b-f4e4-11e7-b6d8-a1ac6b506e3a
31	HS17121435-03MS	74226b99-f4e6-11e7-b6d8-a1ac6b506e3a
32	HS17121435-03MSD	7c17576a-f4e8-11e7-b6d8-a1ac6b506e3a
33	DI H2O	84621777-f4ea-11e7-b6d8-a1ac6b506e3a
34	WLCSW1-010818	8cacd784-f4ec-11e7-b6d8-a1ac6b506e3a
35	WLCSDW1-010818	94f79791-f4ee-11e7-b6d8-a1ac6b506e3a
36	WBLKW1-010818	9d5307ff-f4f0-11e7-b6d8-a1ac6b506e3a
37	HS17121168-01DF20	a59dc80c-f4f2-11e7-b6d8-a1ac6b506e3a
38	CCV1	ade88819-f4f4-11e7-b6d8-a1ac6b506e3a
39	CCB	b6334826-f4f6-11e7-b6d8-a1ac6b506e3a
40	HS17121168-01DF5	be8eb894-f4f8-11e7-b6d8-a1ac6b506e3a
41	HS17121169-01DF5	c675565b-f4fa-11e7-b6d8-a1ac6b506e3a
42	HS17121169-01DF20	ce8e0545-f4fc-11e7-b6d8-a1ac6b506e3a

Sequence: 010818
Operator: alshs.nouser

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\01-2018
Timebase: ICS2100
#Samples: 91

Created: 1/8/2018 11:01:32 AM by alshs.nouser
Last Update: 1/18/2018 2:34:02 PM by alshs.nouser

No.	Name	Comment	Type	Pos.	Dil. Factor	Inj. Vol.	*Initial_Vol_Wt	*Final_Volume
43	HS17121169-01MSDF20		Unknown	33	20.0000	10.0	1.00	1.00
44	HS17121169-01MSDDF20		Unknown	34	20.0000	10.0	1.00	1.00
45	DI H2O		Unknown	25	1.0000	10.0	1.00	1.00
46	HS17121151-01DF200	9056_W CL	Unknown	35	100.0000	10.0	1.00	1.00
47	HS17121151-04DF100	9056_W CL	Unknown	36	100.0000	10.0	1.00	1.00
48	HS17121151-06DF100	9056_W CL	Unknown	37	100.0000	10.0	1.00	1.00
49	HS17121151-07DF100	9056_W CL	Unknown	38	100.0000	10.0	1.00	1.00
50	CCV		Unknown	1	1.0000	10.0	1.00	1.00
51	CCB		Unknown	2	1.0000	10.0	1.00	1.00
52	HS17121151-09DF100	9056_W CL	Unknown	39	100.0000	10.0	1.00	1.00
53	HS17121151-10DF10	9056_W CL	Unknown	40	10.0000	10.0	1.00	1.00
54	HS17121151-10MSDF10		Unknown	41	10.0000	10.0	1.00	1.00
55	HS17121151-10MSDDF10		Unknown	42	10.0000	10.0	1.00	1.00
56	DI H2O		Unknown	25	10.0000	10.0	1.00	1.00
57	HS18010227-01	300_W NO3	Unknown	43	1.0000	10.0	1.00	1.00
58	HS18010233-01	300_W NO2/3X2	Unknown	44	1.0000	10.0	1.00	1.00
59	HS18010233-02	300_W NO2/3X2	Unknown	45	1.0000	10.0	1.00	1.00
60	HS18010245-01	300_W NO3 CL SO4 F	Unknown	46	1.0000	10.0	1.00	1.00
61	HS18010253-01DF5	300_W NO3 CL SO4 F	Unknown	47	5.0000	10.0	1.00	1.00
62	CCV1		Unknown	3	1.0000	10.0	1.00	1.00
63	CCB		Unknown	4	1.0000	10.0	1.00	1.00
64	HS18010253-01	300_W NO3 CL SO4 F	Unknown	48	1.0000	10.0	1.00	1.00
65	HS17121132-01DF10	9056_W RR CL	Unknown	49	10.0000	10.0	1.00	1.00
66	HS17121132-03DF10		Unknown	50	10.0000	10.0	1.00	1.00
67	HS17121132-12		Unknown	51	1.0000	10.0	1.00	1.00
68	HS17121132-13DF20		Unknown	52	20.0000	10.0	1.00	1.00
69	HS17121132-14DF10		Unknown	53	10.0000	10.0	1.00	1.00
70	HS17121150-01		Unknown	54	1.0000	10.0	1.00	1.00
71	HS17121150-02DF20		Unknown	55	20.0000	10.0	1.00	1.00
72	HS17121150-03		Unknown	56	1.0000	10.0	1.00	1.00
73	DI H2O		Unknown	25	1.0000	10.0	1.00	1.00
74	CCV		Unknown	1	1.0000	10.0	1.00	1.00
75	CCB		Unknown	2	1.0000	10.0	1.00	1.00
76	HS17121150-04	9056_W CL RR	Unknown	57	1.0000	10.0	1.00	1.00
77	HS17121150-05	OFF	Unknown	58	1.0000	10.0	1.00	1.00
78	HS17121150-05DF5	KEEP	Unknown	59	5.0000	10.0	1.00	1.00
79	HS17121151-02DF200		Unknown	60	200.0000	10.0	1.00	1.00
80	HS17121151-03DF200		Unknown	61	200.0000	10.0	1.00	1.00
81	HS17121151-05DF200		Unknown	62	200.0000	10.0	1.00	1.00
82	DI H2O		Unknown	25	1.0000	10.0	1.00	1.00
83	CCV1		Unknown	3	1.0000	10.0	1.00	1.00
84	CCB		Unknown	4	1.0000	10.0	1.00	1.00

Sequence: 010818
Operator: alshs nouser

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\01-2018
Timebase: ICS2100
#Samples: 91

Created: 1/8/2018 11:01:32 AM by alshs nouser
Last Update: 1/18/2018 2:34:02 PM by alshs nouser

No.	Name	Method	Status	Inj. Date/Time	Program
43	HS17121169-01MSDF20	091117	Finished	1/8/2018 11:35:58 PM	Anions Gradient Program
44	HS17121169-01MSDDF20	091117	Finished	1/8/2018 11:50:30 PM	Anions Gradient Program
45	DI H2O	091117	Finished	1/9/2018 12:05:03 AM	Anions Gradient Program
46	HS17121151-01DF200	091117	Finished	1/9/2018 12:19:36 AM	Anions Gradient Program
47	HS17121151-04DF100	091117	Finished	1/9/2018 12:34:09 AM	Anions Gradient Program
48	HS17121151-06DF100	091117	Finished	1/9/2018 12:48:42 AM	Anions Gradient Program
49	HS17121151-07DF100	091117	Finished	1/9/2018 1:03:14 AM	Anions Gradient Program
50	CCV	091117	Finished	1/9/2018 1:17:47 AM	Anions Gradient Program
51	CCB	091117	Finished	1/9/2018 1:32:20 AM	Anions Gradient Program
52	HS17121151-09DF100	091117	Finished	1/9/2018 1:46:53 AM	Anions Gradient Program
53	HS17121151-10DF10	091117	Finished	1/9/2018 2:01:25 AM	Anions Gradient Program
54	HS17121151-10MSDF10	091117	Finished	1/9/2018 2:15:58 AM	Anions Gradient Program
55	HS17121151-10MSDDF10	091117	Finished	1/9/2018 2:30:31 AM	Anions Gradient Program
56	DI H2O	091117	Finished	1/9/2018 2:45:03 AM	Anions Gradient Program
57	HS18010227-01	091117	Finished	1/9/2018 2:59:36 AM	Anions Gradient Program
58	HS18010233-01	091117	Finished	1/9/2018 3:14:09 AM	Anions Gradient Program
59	HS18010233-02	091117	Finished	1/9/2018 3:28:42 AM	Anions Gradient Program
60	HS18010245-01	091117	Finished	1/9/2018 3:43:15 AM	Anions Gradient Program
61	HS18010253-01DF5	091117	Finished	1/9/2018 3:57:47 AM	Anions Gradient Program
62	CCV1	091117	Finished	1/9/2018 4:12:20 AM	Anions Gradient Program
63	CCB	091117	Finished	1/9/2018 4:26:53 AM	Anions Gradient Program
64	HS18010253-01	091117	Finished	1/9/2018 4:41:26 AM	Anions Gradient Program
65	HS17121132-01DF10	091117	Finished	1/9/2018 4:55:59 AM	Anions Gradient Program
66	HS17121132-03DF10	091117	Finished	1/9/2018 5:10:32 AM	Anions Gradient Program
67	HS17121132-12	091117	Finished	1/9/2018 5:25:04 AM	Anions Gradient Program
68	HS17121132-13DF20	091117	Finished	1/9/2018 5:39:37 AM	Anions Gradient Program
69	HS17121132-14DF10	091117	Finished	1/9/2018 5:54:10 AM	Anions Gradient Program
70	HS17121150-01	091117	Finished	1/9/2018 6:08:42 AM	Anions Gradient Program
71	HS17121150-02DF20	091117	Finished	1/9/2018 6:23:15 AM	Anions Gradient Program
72	HS17121150-03	091117	Finished	1/9/2018 6:37:48 AM	Anions Gradient Program
73	DI H2O	091117	Finished	1/9/2018 6:52:21 AM	Anions Gradient Program
74	CCV	091117	Finished	1/9/2018 7:06:54 AM	Anions Gradient Program
75	CCB	091117	Finished	1/9/2018 7:21:27 AM	Anions Gradient Program
76	HS17121150-04	091117	Finished	1/9/2018 7:36:00 AM	Anions Gradient Program
77	HS17121150-05	091117	Finished	1/9/2018 7:50:32 AM	Anions Gradient Program
78	HS17121150-05DF5	091117	Finished	1/9/2018 8:05:05 AM	Anions Gradient Program
79	HS17121151-02DF200	091117	Finished	1/9/2018 8:19:38 AM	Anions Gradient Program
80	HS17121151-03DF200	091117	Finished	1/9/2018 8:34:11 AM	Anions Gradient Program
81	HS17121151-05DF200	091117	Finished	1/9/2018 8:48:42 AM	Anions Gradient Program
82	DI H2O	091117	Finished	1/9/2018 9:03:15 AM	Anions Gradient Program
83	CCV1	091117	Finished	1/9/2018 9:17:48 AM	Anions Gradient Program
84	CCB	091117	Finished	1/9/2018 9:32:21 AM	Anions Gradient Program

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\01-2018
Timebase: ICS2100
#Samples: 91
Created: 1/8/2018 11:01:32 AM by alshs.nouser
Last Update: 1/18/2018 2:34:02 PM by alshs.nouser

No.	Name	GUID
43	HS17121169-01MSDF20	d6e975b3-f4fe-11e7-b6d8-a1ac6b506e3a
44	HS17121169-01MSDDF20	deea4d37-f500-11e7-b6d8-a1ac6b506e3a
45	DI H2O	e6d5afac-f502-11e7-b6d8-a1ac6b506e3a
46	HS17121151-01DF200	ef1221af-f504-11e7-b6d8-a1ac6b506e3a
47	HS17121151-04DF100	f75ce1bc-f506-11e7-b6d8-a1ac6b506e3a
48	HS17121151-06DF100	ffaa0420-f508-11e7-b6d8-a1ac6b506e3a
49	HS17121151-07DF100	07f72684-f50b-11e7-b6d8-a1ac6b506e3a
50	CCV	104448e8-f50d-11e7-b6d8-a1ac6b506e3a
51	CCB	1880baeb-f50f-11e7-b6d8-a1ac6b506e3a
52	HS17121151-09DF100	207a6b6a-f511-11e7-b6d8-a1ac6b506e3a
53	HS17121151-10DF10	2871b992-f513-11e7-b6d8-a1ac6b506e3a
54	HS17121151-10MSDF10	30bc799f-f515-11e7-b6d8-a1ac6b506e3a
55	HS17121151-10MSDDF10	38f6894b-f517-11e7-b6d8-a1ac6b506e3a
56	DI H2O	40edd773-f519-11e7-b6d8-a1ac6b506e3a
57	HS18010227-01	49389780-f51b-11e7-b6d8-a1ac6b506e3a
58	HS18010233-01	5172a72c-f51d-11e7-b6d8-a1ac6b506e3a
59	HS18010233-02	59ce179a-f51f-11e7-b6d8-a1ac6b506e3a
60	HS18010245-01	6218d7a7-f521-11e7-b6d8-a1ac6b506e3a
61	HS18010253-01DF5	6a6397b4-f523-11e7-b6d8-a1ac6b506e3a
62	CCV1	72ae57c1-f525-11e7-b6d8-a1ac6b506e3a
63	CCB	7af917ce-f527-11e7-b6d8-a1ac6b506e3a
64	HS18010253-01	8333277a-f529-11e7-b6d8-a1ac6b506e3a
65	HS17121132-01DF10	8b3b2603-f52b-11e7-b6d8-a1ac6b506e3a
66	HS17121132-03DF10	93ea9e56-f52d-11e7-b6d8-a1ac6b506e3a
67	HS17121132-12	9bc08bbc-f52f-11e7-b6d8-a1ac6b506e3a
68	HS17121132-13DF20	a3d93aa6-f531-11e7-b6d8-a1ac6b506e3a
69	HS17121132-14DF10	ac23fab3-f533-11e7-b6d8-a1ac6b506e3a
70	HS17121150-01	b41b48db-f535-11e7-b6d8-a1ac6b506e3a
71	HS17121150-02DF20	bc6608e8-f537-11e7-b6d8-a1ac6b506e3a
72	HS17121150-03	c4b0c8f5-f539-11e7-b6d8-a1ac6b506e3a
73	DI H2O	ccfb8902-f53b-11e7-b6d8-a1ac6b506e3a
74	CCV	d546490f-f53d-11e7-b6d8-a1ac6b506e3a
75	CCB	dd82bb12-f53f-11e7-b6d8-a1ac6b506e3a
76	HS17121150-04	e5dbc929-f541-11e7-b6d8-a1ac6b506e3a
77	HS17121150-05	ee268936-f543-11e7-b6d8-a1ac6b506e3a
78	HS17121150-05DF5	f66098e2-f545-11e7-b6d8-a1ac6b506e3a
79	HS17121151-02DF200	fe499900-f547-11e7-b6d8-a1ac6b506e3a
80	HS17121151-03DF200	06b5b9cf-f54a-11e7-b6d8-a1ac6b506e3a
81	HS17121151-05DF200	0e848030-f54c-11e7-b6d8-a1ac6b506e3a
82	DI H2O	169d2f1a-f54e-11e7-b6d8-a1ac6b506e3a
83	CCV1	1edc0374-f550-11e7-b6d8-a1ac6b506e3a
84	CCB	273e9ae7-f552-11e7-b6d8-a1ac6b506e3a

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Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\01-2018
Timebase: ICS2100
#Samples: 91
Created: 1/8/2018 11:01:32 AM by alshs.nouser
Last Update: 1/18/2018 2:34:02 PM by alshs.nouser

No.	Name	Comment	Type	Pos.	Dil. Factor	Inj. Vol.	*Initial_Vol_Wt	*Final_Volume
85	CCV		Unknown	1	1.0000	10.0	1.00	1.00
86	CCB		Unknown	2	1.0000	10.0	1.00	1.00
87	WBLKW1-010818		Unknown	28	1.0000	10.0	1.00	1.00
88	HS18010245-01DF5		Unknown	7	5.0000	10.0	1.00	1.00
89	DI H2O		Unknown	25	1.0000	10.0	1.00	1.00
90	CCV		Unknown	1	1.0000	10.0	1.00	1.00
91	CCB		Unknown	2	1.0000	10.0	1.00	1.00

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\01-2018
Timebase: ICS2100 Created: 1/8/2018 11:01:32 AM by alshs.nouser
#Samples: 91 Last Update: 1/18/2018 2:34:02 PM by alshs.nouser

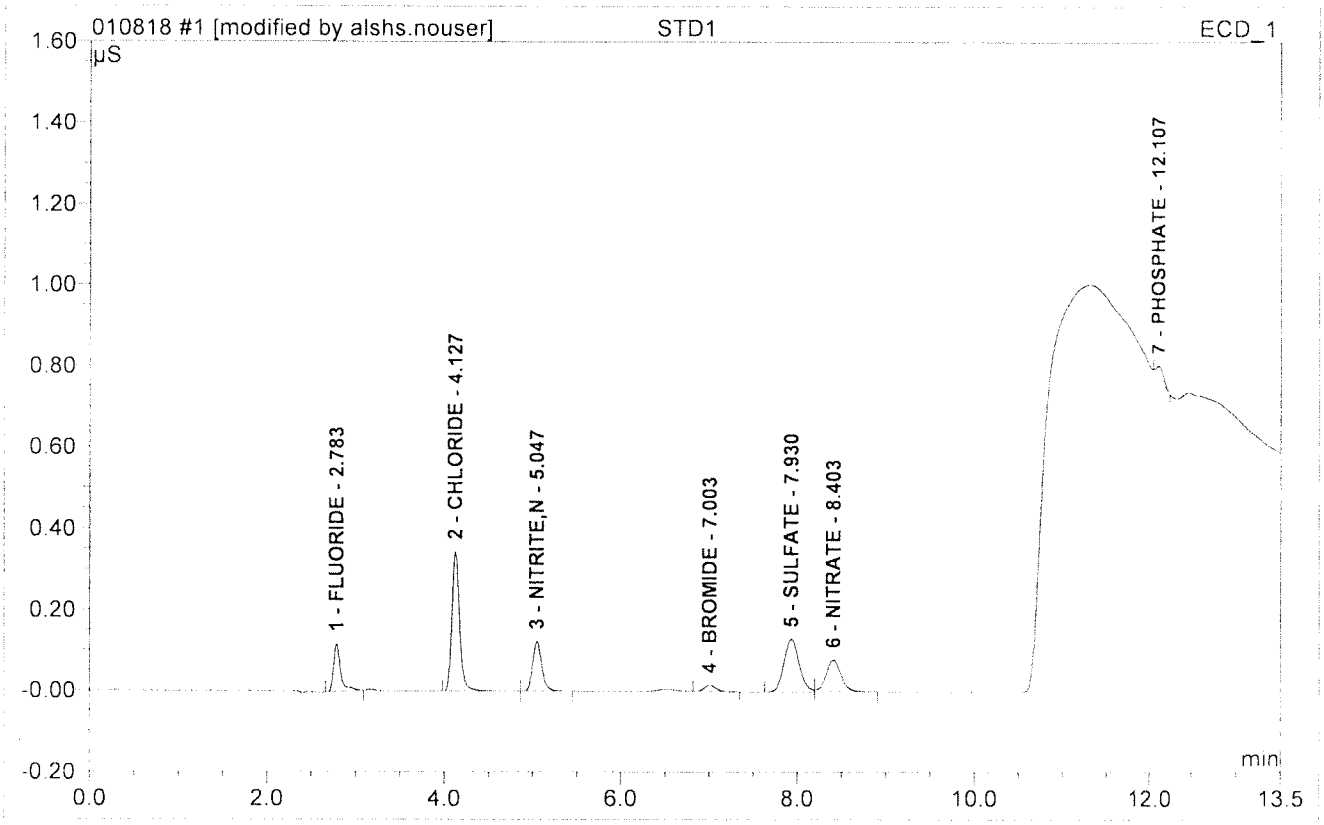
No.	Name	Method	Status	Inj. Date/Time	Program
85	CCV	091117	Finished	1/9/2018 11:28:00 AM	Anions Gradient Program
86	CCB	091117	Finished	1/9/2018 11:42:33 AM	Anions Gradient Program
87	WBLKW1-010818	091117	Finished	1/9/2018 12:00:35 PM	Anions Gradient Program
88	HS18010245-01DF5	091117	Finished	1/9/2018 12:15:08 PM	Anions Gradient Program
89	DI H2O	091117	Finished	1/9/2018 12:29:40 PM	Anions Gradient Program
90	CCV	091117	Finished	1/9/2018 12:44:13 PM	Anions Gradient Program
91	CCB	091117	Finished	1/9/2018 12:58:45 PM	Anions Gradient Program

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\01-2018
Timebase: ICS2100 Created: 1/8/2018 11:01:32 AM by alshs.nouser
#Samples: 91 Last Update: 1/18/2018 2:34:02 PM by alshs.nouser

No.	Name	GUID
85	CCV	4f40a492-f562-11e7-b6d8-a1ac6b506e3a
86	CCB	578b649f-f564-11e7-b6d8-a1ac6b506e3a
87	WBLKW1-010818	5f720266-f566-11e7-b6d8-a1ac6b506e3a
88	HS18010245-01DF5	e4883c5b-f568-11e7-b6d8-a1ac6b506e3a
89	DI H2O	ec81ecda-f56a-11e7-b6d8-a1ac6b506e3a
90	CCV	f4ca4a90-f56c-11e7-b6d8-a1ac6b506e3a
91	CCB	fcc198b8-f56e-11e7-b6d8-a1ac6b506e3a

1 STD1

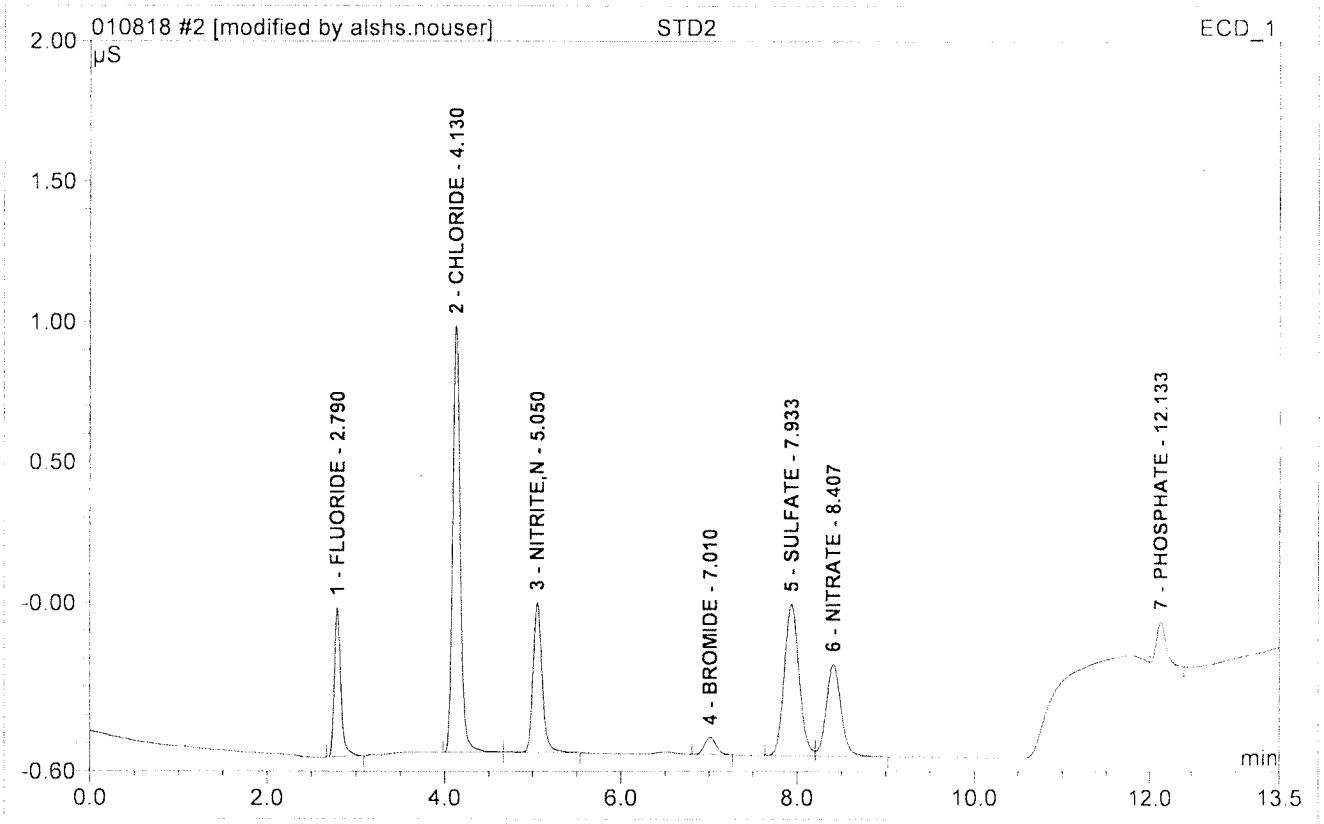
Sample Name:	**STD1**	*Injection Volume:*	**10.0**
Vial Number:	**1**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 13:39**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.78	FLUORIDE	0.118	0.011	10.04	0.105	1.
2	4.13	CHLORIDE	0.344	0.035	32.38	0.538	1.
3	5.05	NITRITE,N	0.123	0.015	13.85	0.095	1.
4	7.00	BROMIDE	0.016	0.002	2.28	0.131	1.
5	7.93	SULFATE	0.131	0.026	24.31	0.559	1.
6	8.40	NITRATE	0.079	0.015	14.45	0.119	1.
7	12.11	PHOSPHATE	0.028	0.003	2.70	0.119	1.
Total:			0.838	0.107	100.00	1.668	

2 STD2

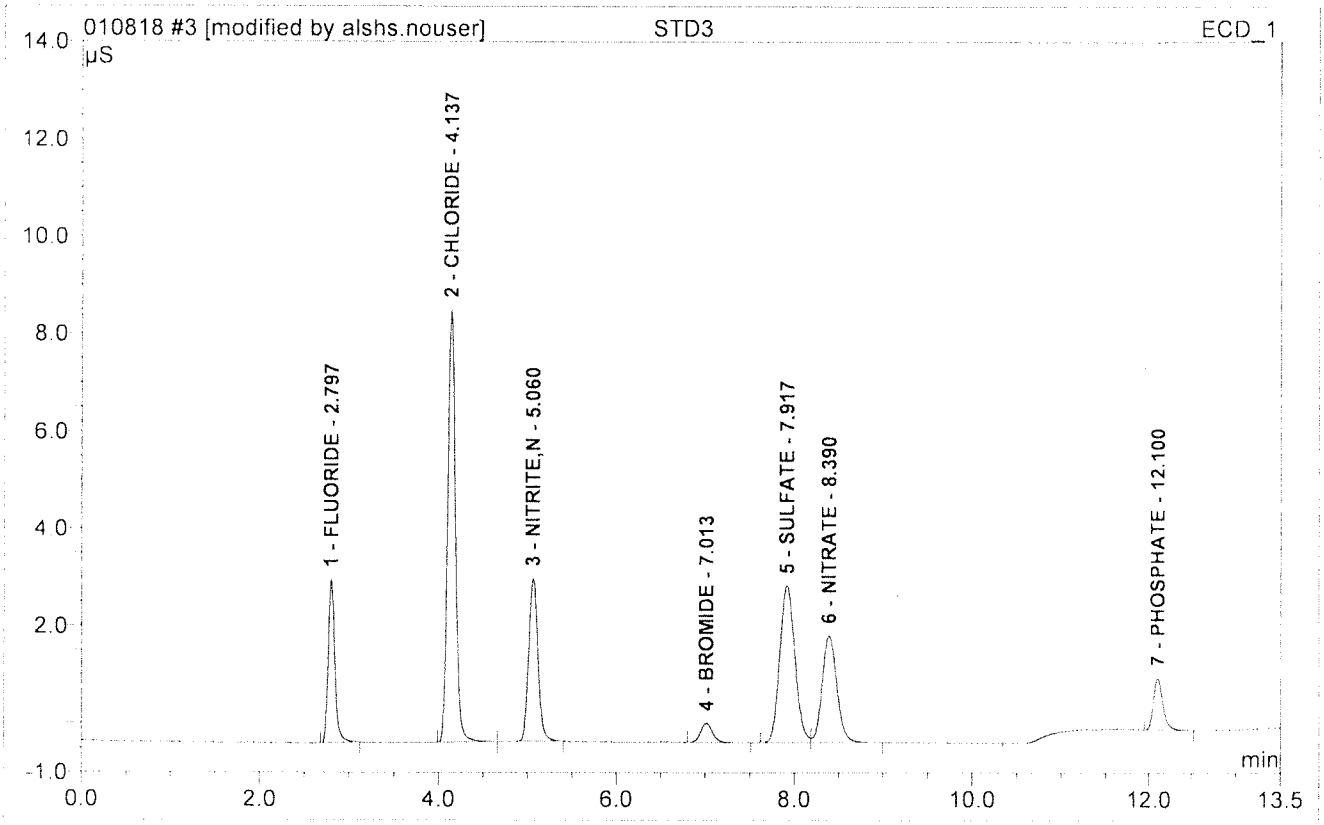
Sample Name:	**STD2**	*Injection Volume:*	**10.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 13:54**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.79	FLUORIDE	0.533	0.045	9.82	0.348	1.
2	4.13	CHLORIDE	1.518	0.150	32.84	1.806	1
3	5.05	NITRITE,N	0.535	0.065	14.17	0.361	1.
4	7.01	BROMIDE	0.063	0.010	2.13	0.329	1.
5	7.93	SULFATE	0.542	0.106	23.09	1.776	1.
6	8.41	NITRATE	0.329	0.063	13.84	0.332	1.
7	12.13	PHOSPHATE	0.150	0.019	4.11	0.313	1.
Total:			3.669	0.457	100.00	5.266	

3 STD3

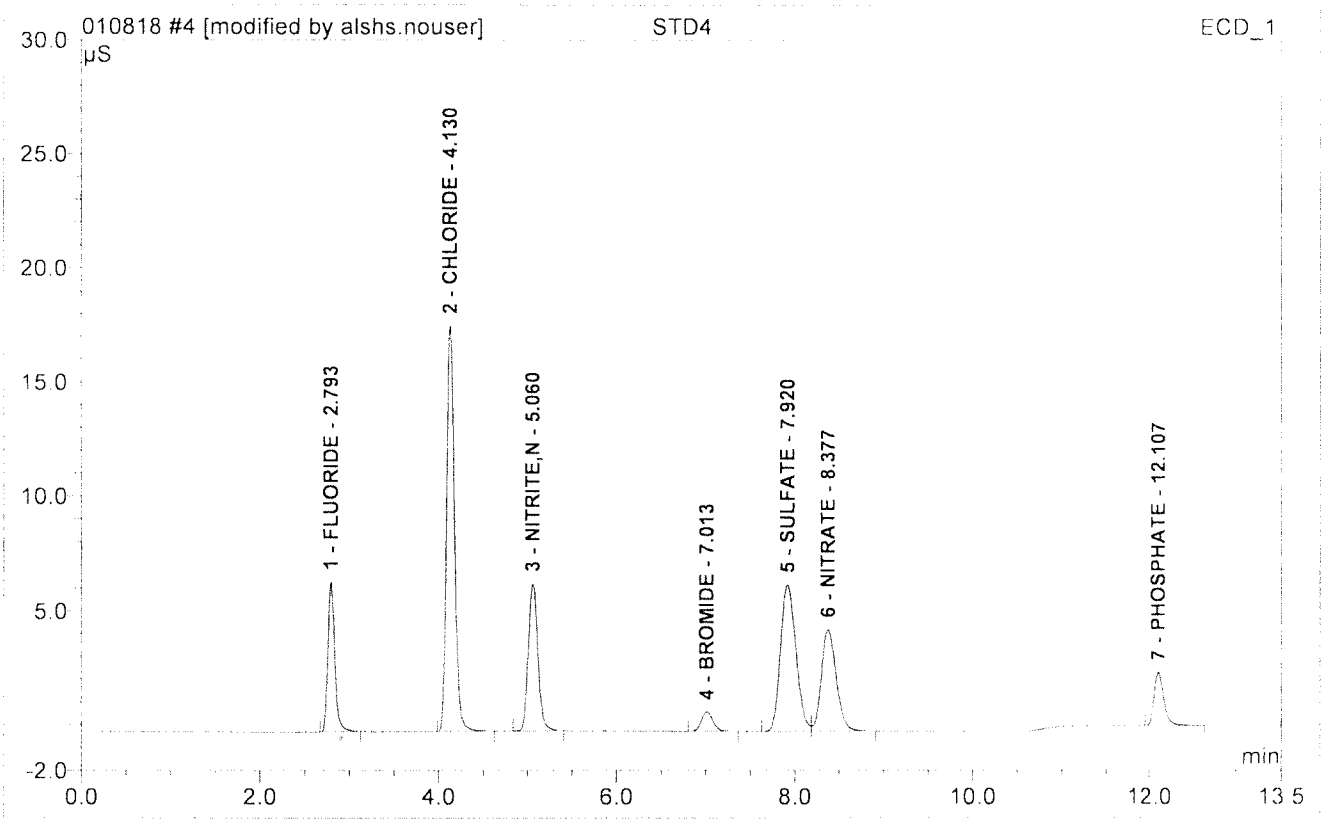
Sample Name:	**STD3**	*Injection Volume:*	**10.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 14:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.80	FLUORIDE	3.353	0.289	10.17	2.084	1
2	4.14	CHLORIDE	8.874	0.897	31.62	10.008	1
3	5.06	NITRITE,N	3.346	0.405	14.27	2.172	1
4	7.01	BROMIDE	0.398	0.062	2.17	1.740	1
5	7.92	SULFATE	3.221	0.631	22.23	9.819	1
6	8.39	NITRATE	2.198	0.417	14.71	1.910	1
7	12.10	PHOSPHATE	1.068	0.137	4.83	1.752	1
Total:			22.459	2.838	100.00	29.485	

4 STD4

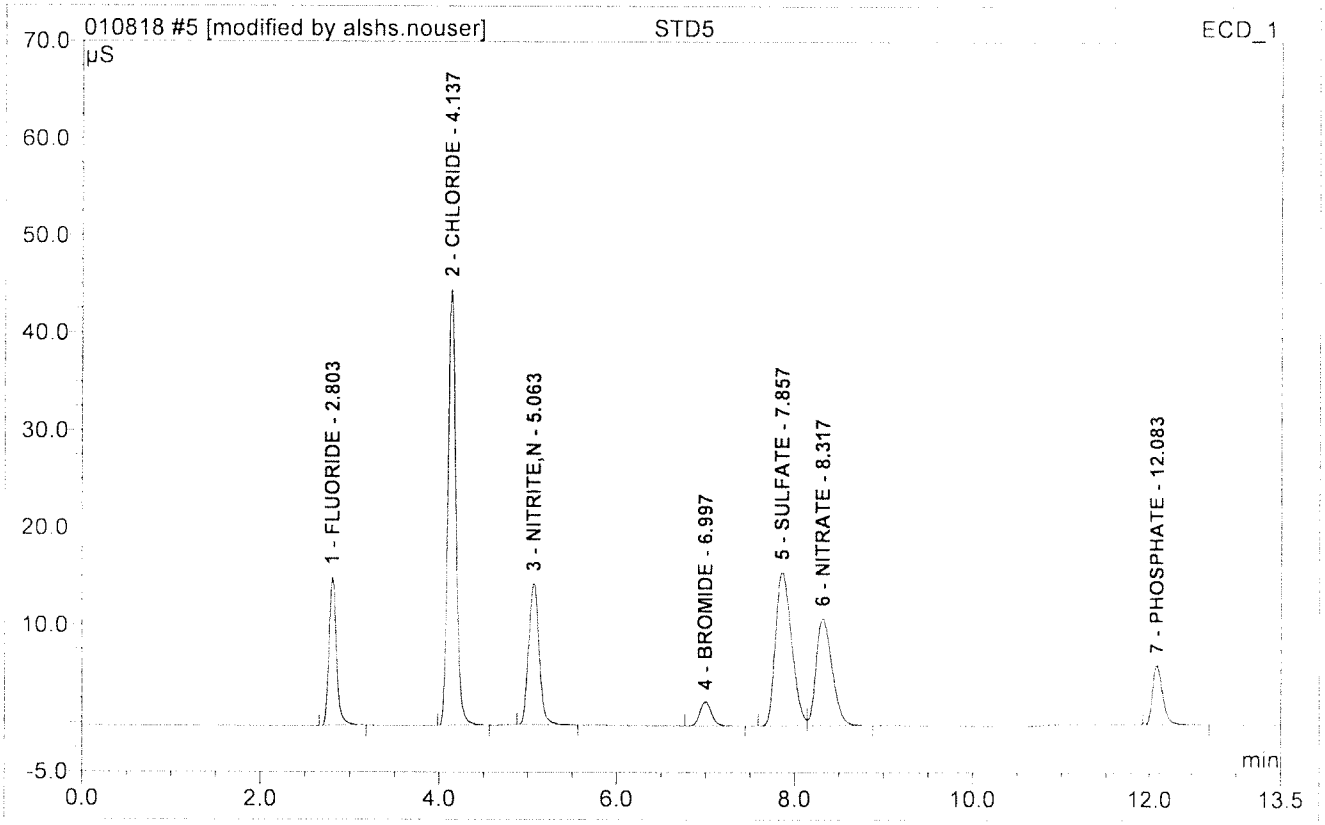
Sample Name:	**STD4**	*Injection Volume:*	**10.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 14:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.79	FLUORIDE	6.572	0.584	10.01	4.191	1.
2	4.13	CHLORIDE	17.759	1.824	31.24	20.180	1
3	5.06	NITRITE,N	6.464	0.821	14.07	4.386	1
4	7.01	BROMIDE	0.876	0.132	2.27	3.659	1.
5	7.92	SULFATE	6.451	1.295	22.20	19.997	1.
6	8.38	NITRATE	4.490	0.876	15.00	3.951	1.
7	12.11	PHOSPHATE	2.350	0.304	5.21	3.785	1.
Total:			44.963	5.836	100.00	60.149	

5 STD5

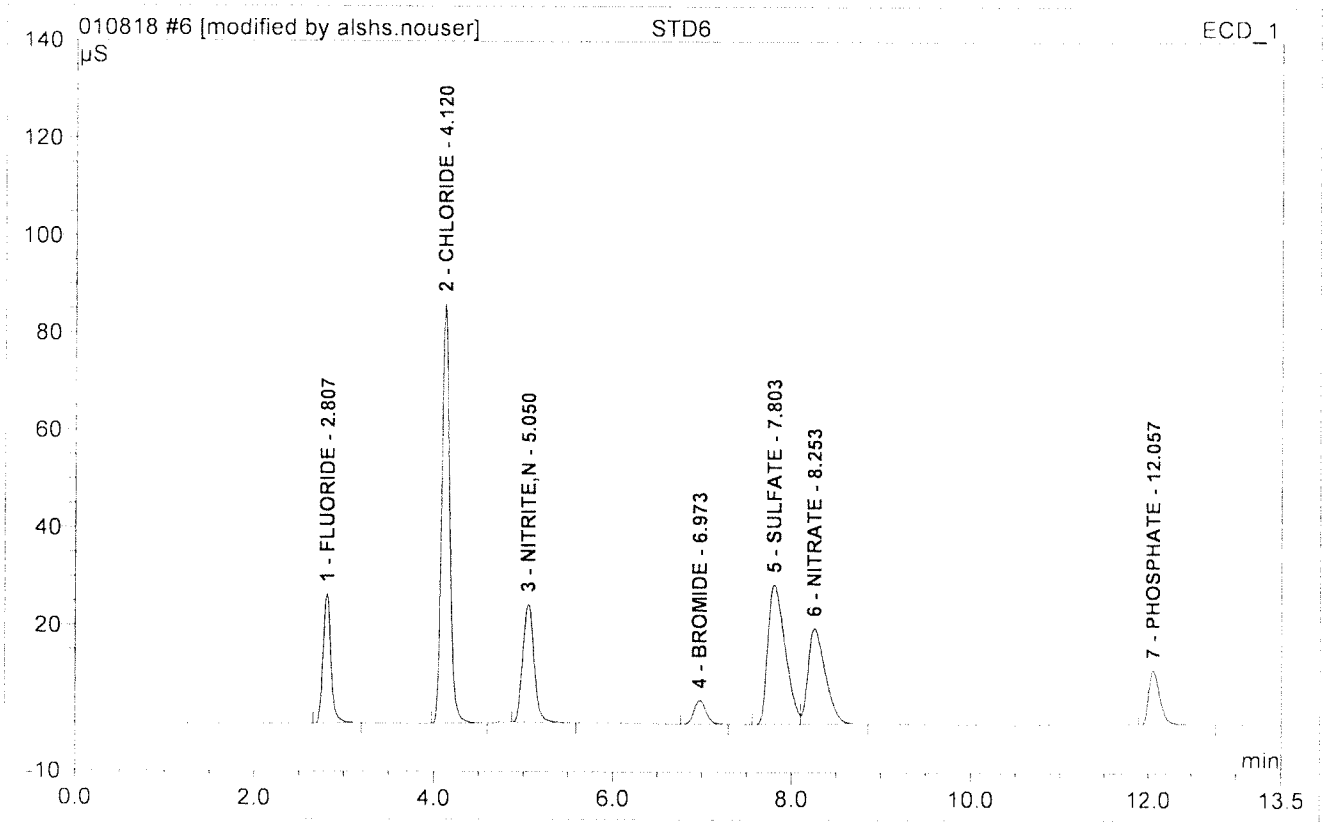
Sample Name:	**STD5**	*Injection Volume:*	**10.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 14:38**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.80	FLUORIDE	15.211	1.455	9.79	10.397	1.
2	4.14	CHLORIDE	44.753	4.639	31.21	51.091	1.
3	5.06	NITRITE,N	14.440	1.975	13.29	10.529	1
4	7.00	BROMIDE	2.444	0.371	2.50	10.147	1.
5	7.86	SULFATE	15.763	3.315	22.31	50.927	1.
6	8.32	NITRATE	11.013	2.275	15.31	10.183	1.
7	12.08	PHOSPHATE	5.998	0.830	5.58	10.184	1.
Total:			109.621	14.861	100.00	153.458	

6 STD6

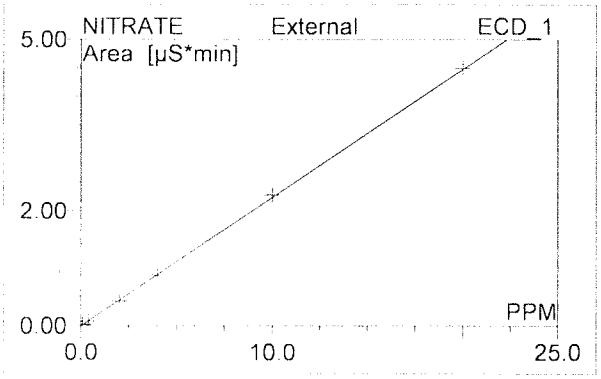
Sample Name:	**STD6**	*Injection Volume:*	**10.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 14:52**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**

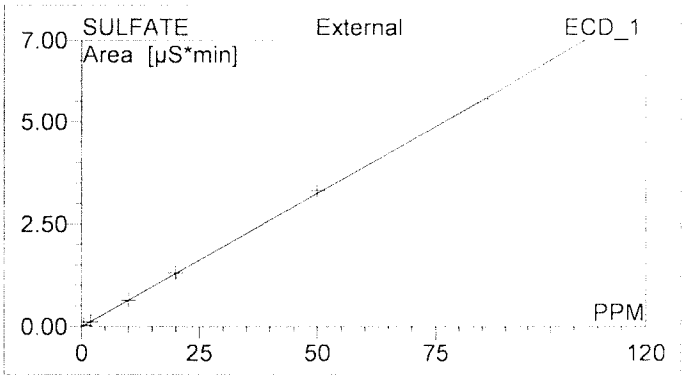


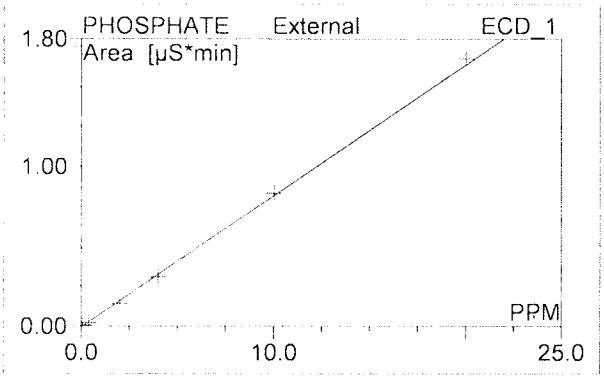
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.81	FLUORIDE	26.654	2.723	9.49	19.427	1.
2	4.12	CHLORIDE	86.222	8.991	31.33	98.877	1.
3	5.05	NITRITE,N	24.345	3.582	12.48	19.080	1.
4	6.97	BROMIDE	4.937	0.757	2.64	20.621	1.
5	7.80	SULFATE	28.773	6.482	22.59	99.422	1.
6	8.25	NITRATE	19.743	4.487	15.64	20.035	1.
7	12.06	PHOSPHATE	11.105	1.673	5.83	20.454	1.
Total:			201.778	28.695	100.00	297.916	

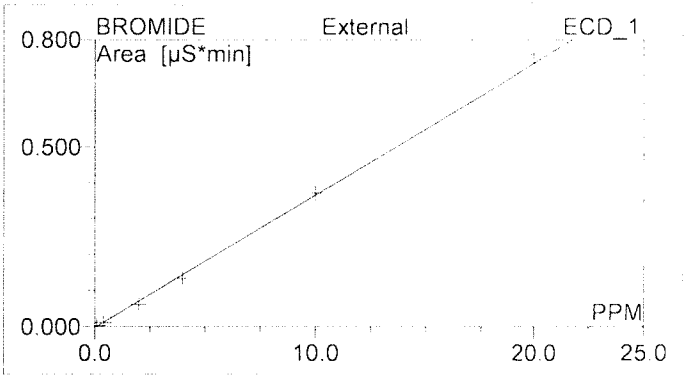
6 STD6

Sample Name:	**STD6**	*Injection Volume:*	**10.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 14:52**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**









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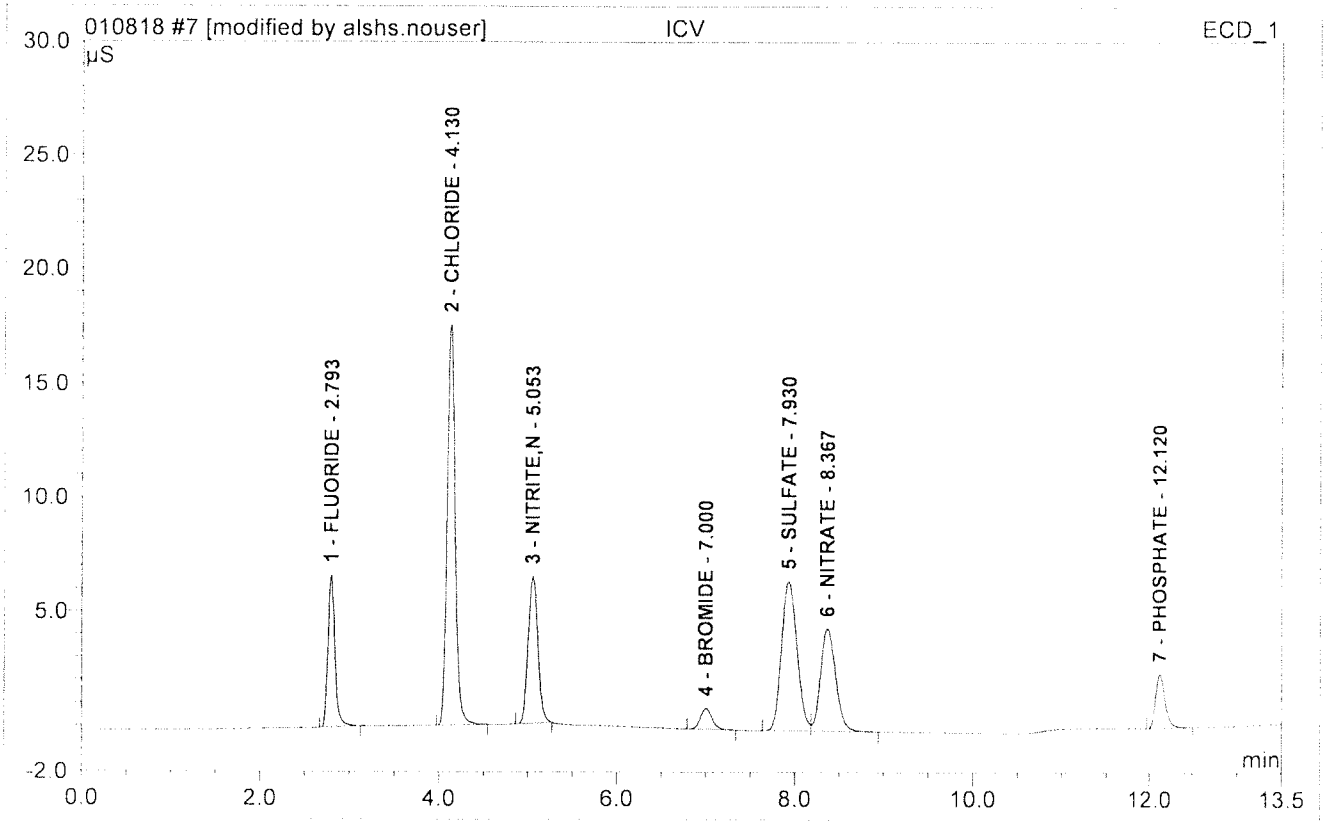
No.	Ret.Time min	Peak Name	Cal.Type	Points	Coeff.Det. %	Offset	Slope	Curve
1	2.81	FLUORIDE	YLOff	6	99.845	-0.0040	0.1404	0.000
2	4.12	CHLORIDE	XLOff	6	99.965	-0.0143	0.0911	0.000
3	5.05	NITRITE,N	YLOff	6	99.641	-0.0031	0.1879	0.000
4	6.97	BROMIDE	YLOff	6	99.630	-0.0024	0.0368	0.000
5	7.80	SULFATE	XLOff	6	99.967	-0.0104	0.0653	0.000
6	8.25	NITRATE	YLOff	6	99.912	-0.0113	0.2245	0.000
7	12.06	PHOSPHATE	YLOff	6	99.696	-0.0069	0.0822	0.000
Average:					99.8080	-0.0075	0.1183	0.0000

No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	RF-Value	Std.Dev.	RSD %
1	2.81	FLUORIDE	YLOff	6	99.923	7.124	0.010	19.409
2	4.12	CHLORIDE	XLOff	6	99.982	10.980	0.017	8.793
3	5.05	NITRITE,N	YLOff	6	99.820	5.322	0.020	29.041
4	6.97	BROMIDE	YLOff	6	99.815	27.159	0.004	32.461
5	7.80	SULFATE	XLOff	6	99.984	15.313	0.012	8.499
6	8.25	NITRATE	YLOff	6	99.956	4.454	0.011	15.438
7	12.06	PHOSPHATE	YLOff	6	99.848	12.172	0.006	38.765
Average:					99.9039	11.7892	0.0111	21.7721

7 ICV

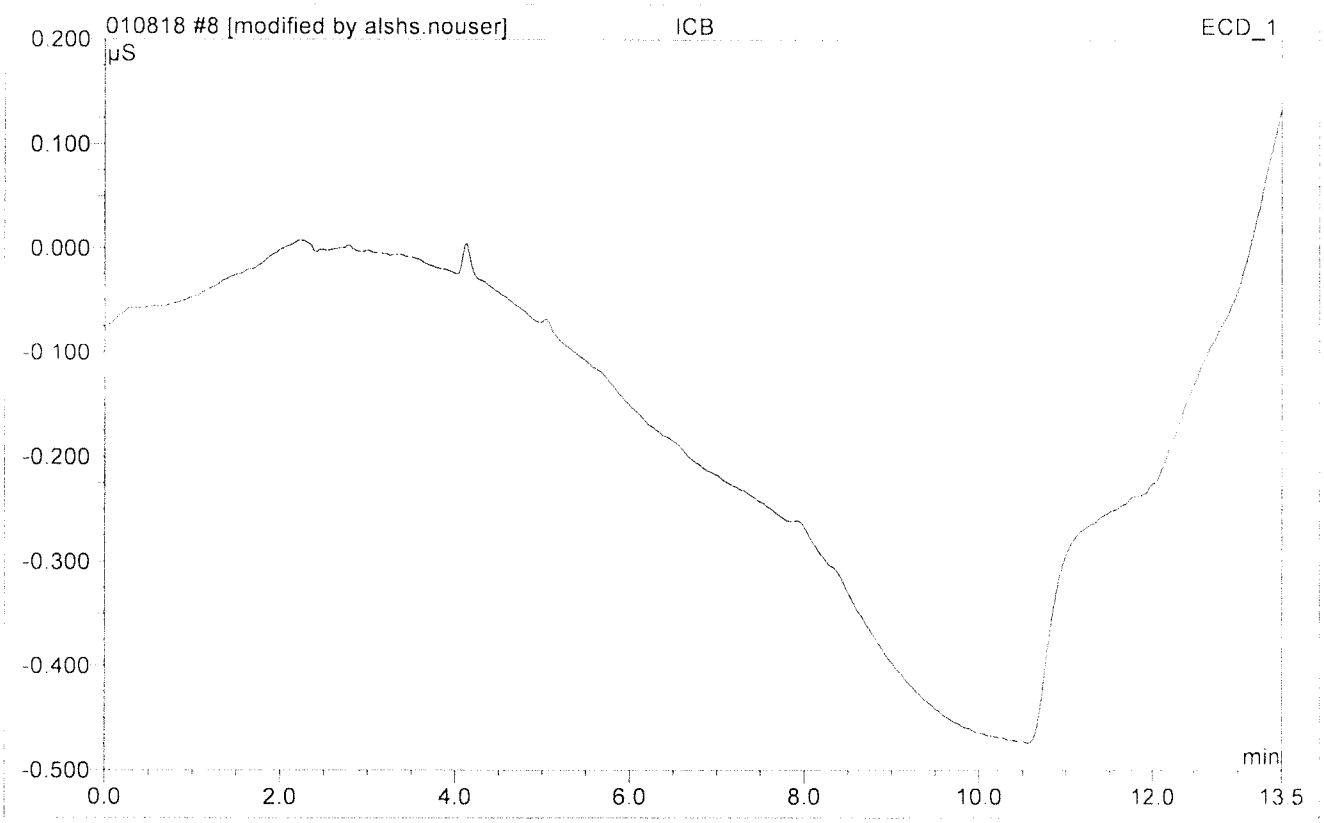
Sample Name:	**ICV**	*Injection Volume:*	**10.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 15:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.79	FLUORIDE	6.648	0.598	10.20	4.289	1
2	4.13	CHLORIDE	17.521	1.811	30.87	20.037	1.
3	5.05	NITRITE,N	6.425	0.810	13.81	4.326	1.
4	7.00	BROMIDE	0.916	0.140	2.39	3.868	1
5	7.93	SULFATE	6.535	1.315	22.42	20.290	1.
6	8.37	NITRATE	4.485	0.887	15.12	3.999	1.
7	12.12	PHOSPHATE	2.362	0.305	5.20	3.797	1.
Total:			44.893	5.865	100.00	60.607	

8 ICB

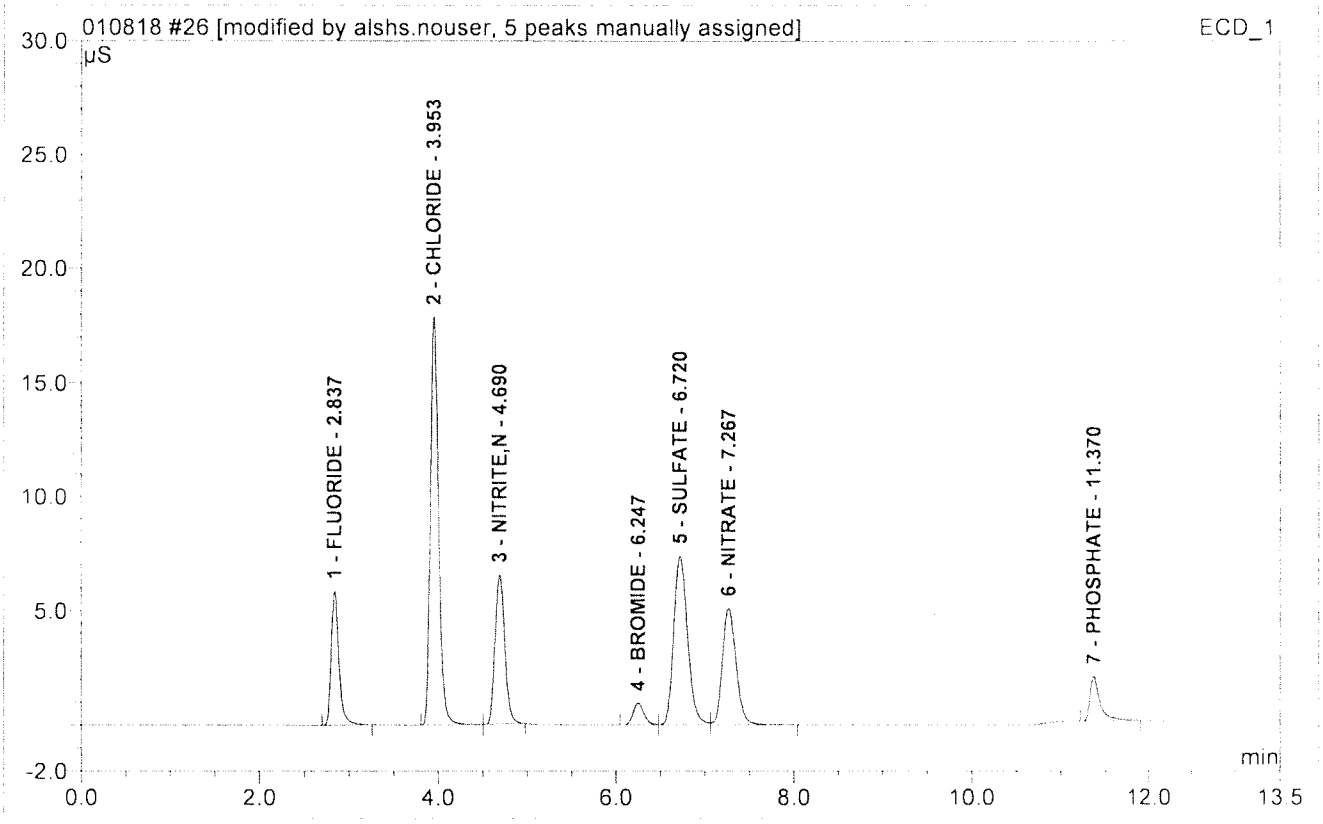
Sample Name:	**ICB**	*Injection Volume:*	**10.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 15:21**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
Total:			0.000	0.000	0.00	0.000	

26 CCV

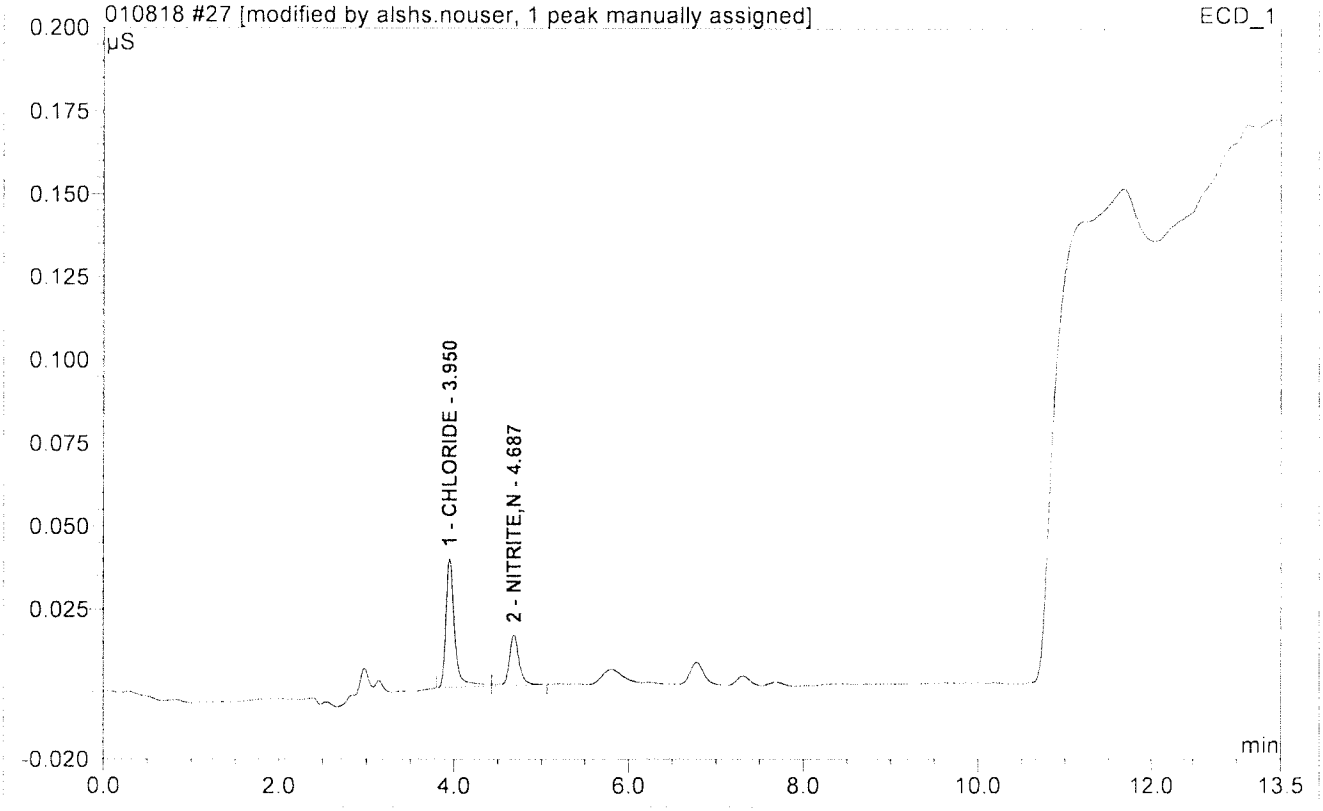
Sample Name:	**CCV**	*Injection Volume:*	**10.0**
Vial Number:	**1**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/8/2018 19:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.84	FLUORIDE	5.841	0.590	9.95	4.235	1.
2	3.95	CHLORIDE	17.848	1.891	31.85	20.918	1.
3	4.69	NITRITE,N	6.519	0.817	13.76	4.363	1
4	6.25	BROMIDE	0.959	0.136	2.29	3.762	1
5	6.72	SULFATE	7.379	1.336	22.51	20.622	1.
6	7.27	NITRATE	5.087	0.909	15.31	4.100	1.
7	11.37	PHOSPHATE	1.955	0.257	4.34	3.218	1.
Total:			45.588	5.937	100.00	61.219	

27 CCB

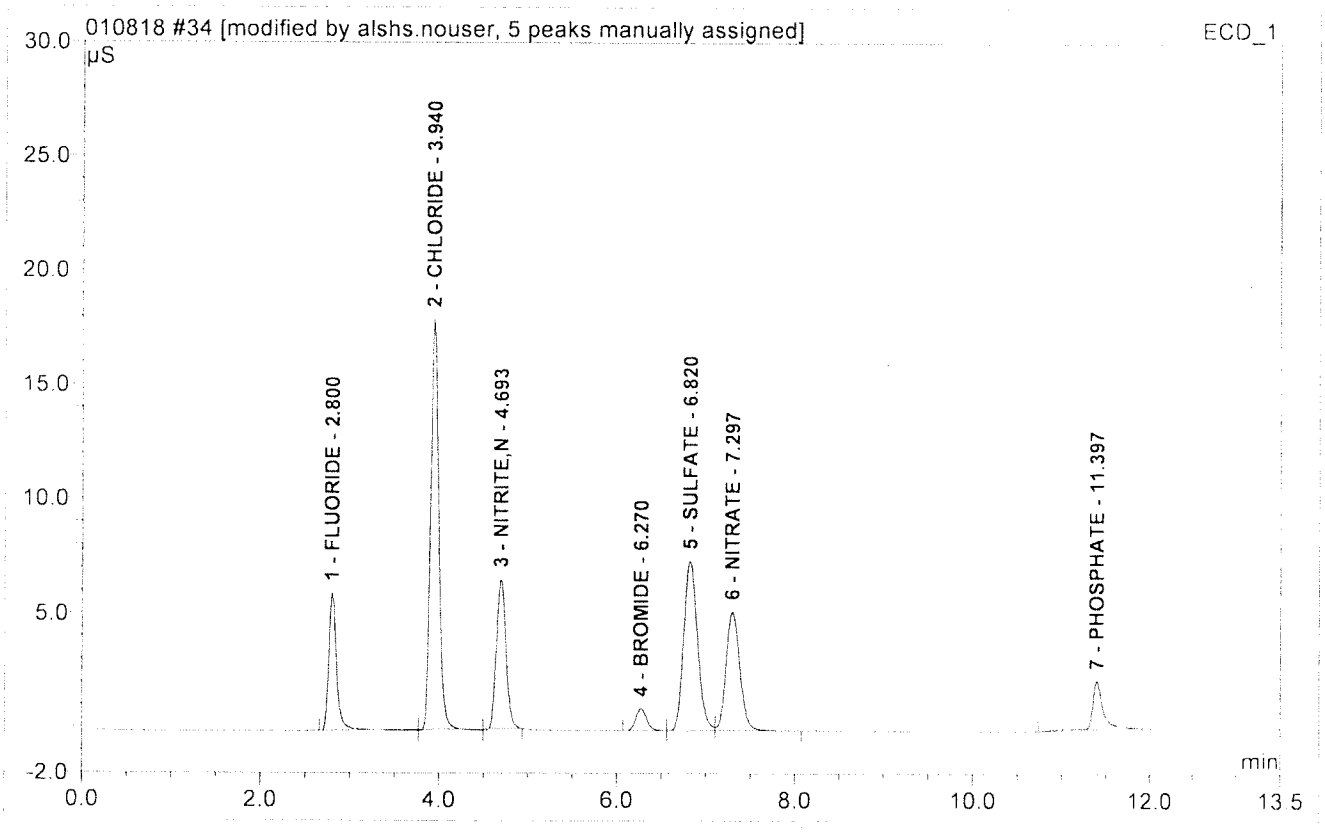
Sample Name:	**CCB**	*Injection Volume:*	**10.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/8/2018 19:43**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	3.95	CHLORIDE	0.039	0.005	69.36	0.207	1
2	4.69	NITRITE,N	0.015	0.002	30.64	0.027	1
Total:			0.054	0.007	100.00	0.234	

34 WLCSW1-010818

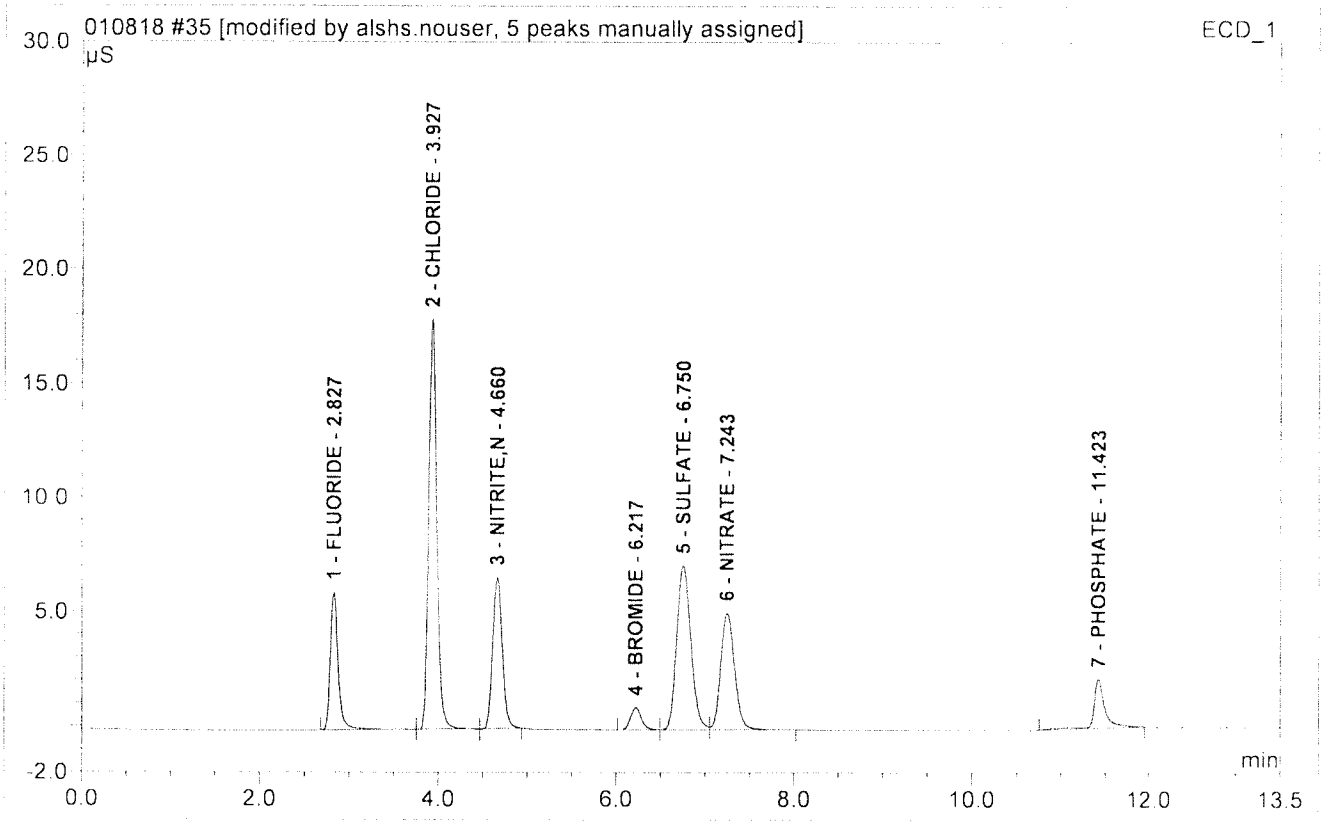
Sample Name:	**WLCSW1-010818**	*Injection Volume:*	**10.0**
Vial Number:	**26**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/8/2018 21:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.80	FLUORIDE	6.025	0.601	9.92	4.313	1.
2	3.94	CHLORIDE	17.955	1.894	31.24	20.954	1
3	4.69	NITRITE,N	6.543	0.819	13.51	4.374	1
4	6.27	BROMIDE	0.977	0.139	2.29	3.833	1.
5	6.82	SULFATE	7.428	1.360	22.44	20.990	1.
6	7.30	NITRATE	5.233	0.936	15.44	4.221	1
7	11.40	PHOSPHATE	2.144	0.313	5.17	3.900	1.
Total:			46.304	6.063	100.00	62.585	

35 WLCSDW1-010818

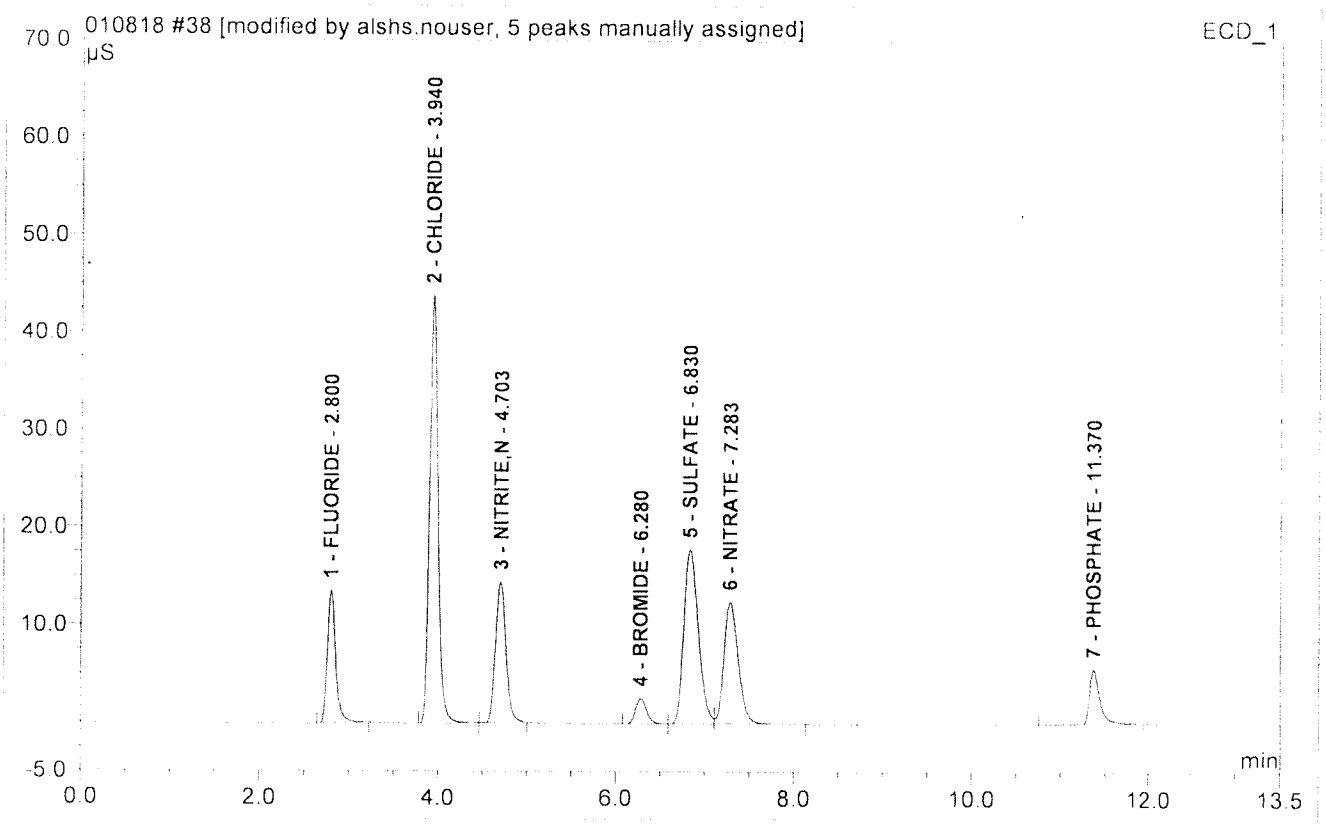
Sample Name:	**WLCSDW1-010818**	*Injection Volume:*	**10.0**
Vial Number:	**27**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/8/2018 21:39**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.83	FLUORIDE	5.995	0.596	10.00	4.276	1.
2	3.93	CHLORIDE	17.908	1.860	31.19	20.583	1.
3	4.66	NITRITE,N	6.584	0.816	13.68	4.357	1.
4	6.22	BROMIDE	0.950	0.135	2.26	3.725	1
5	6.75	SULFATE	7.161	1.329	22.28	20.507	1.
6	7.24	NITRATE	5.096	0.917	15.38	4.135	1.
7	11.42	PHOSPHATE	2.120	0.311	5.22	3.874	1.
Total:			45.814	5.964	100.00	61.458	

38 CCV1

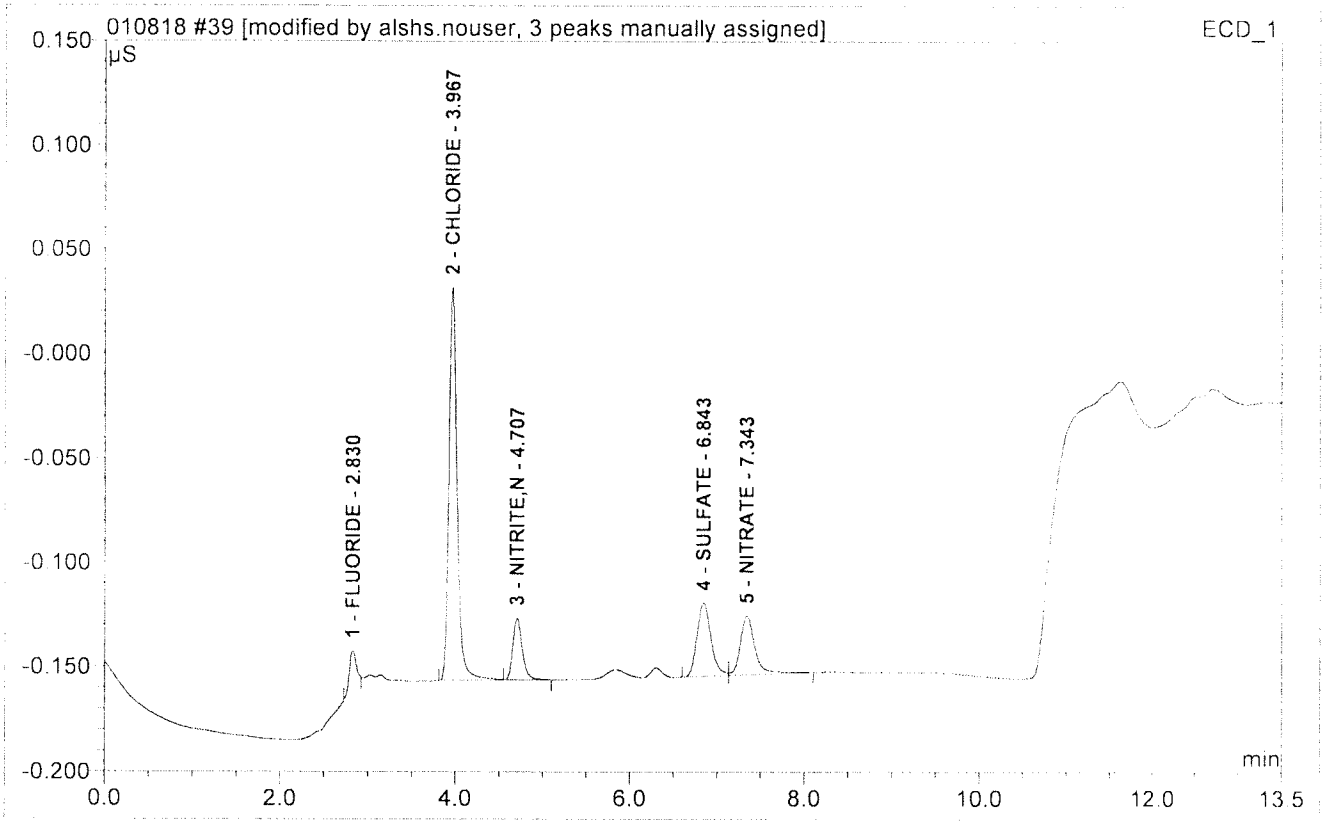
Sample Name:	**CCV1**	*Injection Volume:*	**10.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/8/2018 22:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.80	FLUORIDE	13.637	1.475	9.76	10.535	1
2	3.94	CHLORIDE	43.925	4.745	31.41	52.256	1
3	4.70	NITRITE,N	14.449	1.979	13.10	10.549	1
4	6.28	BROMIDE	2.635	0.377	2.50	10.314	1
5	6.83	SULFATE	17.876	3.404	22.54	52.287	1
6	7.28	NITRATE	12.557	2.352	15.57	10.525	1
7	11.37	PHOSPHATE	5.632	0.773	5.12	9.498	1
Total:			110.711	15.105	100.00	155.966	

39 CCB

Sample Name:	**CCB**	*Injection Volume:*	**10.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/8/2018 22:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**

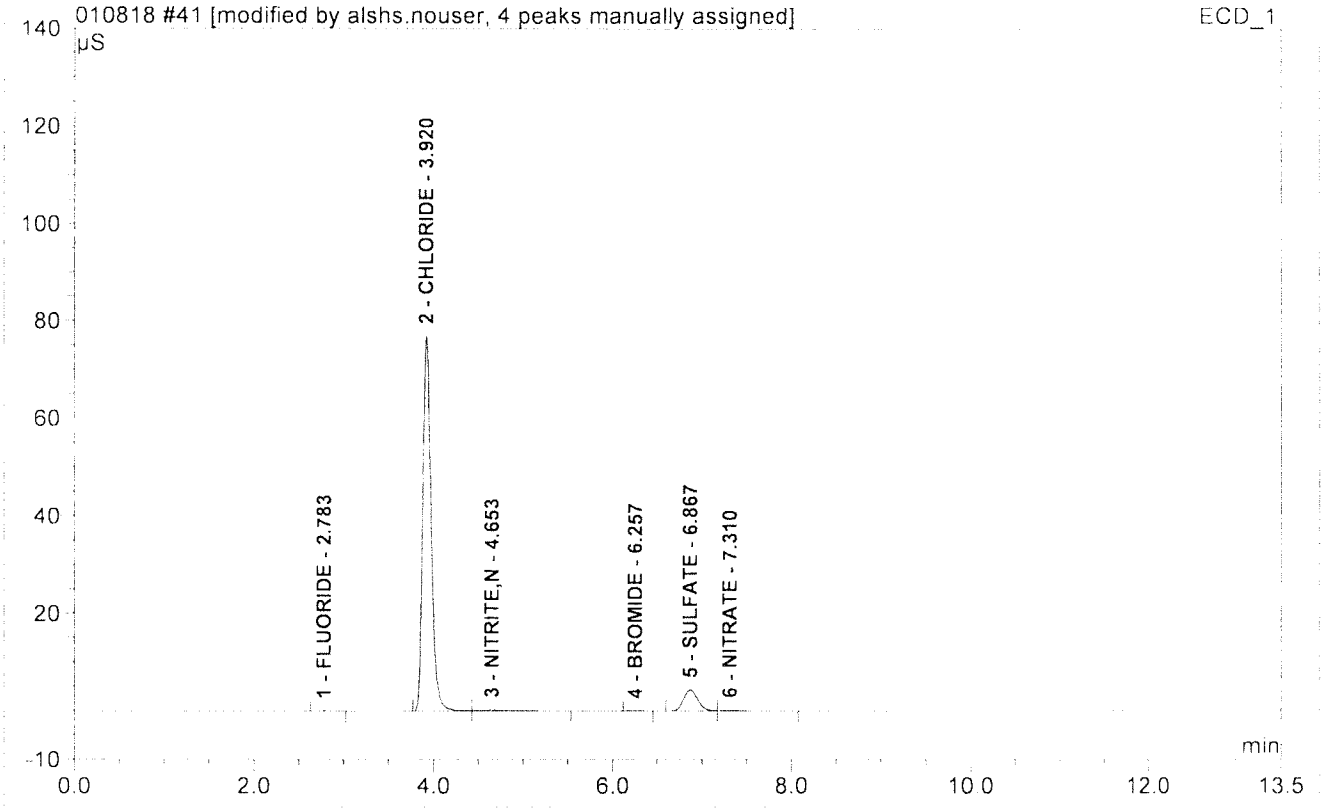


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.83	FLUORIDE	0.018	0.002	4.12	0.040	1
2	3.97	CHLORIDE	0.188	0.021	54.16	0.383	1
3	4.71	NITRITE,N	0.030	0.004	9.60	0.036	1
4	6.84	SULFATE	0.036	0.007	17.40	0.261	1
5	7.34	NITRATE	0.028	0.006	14.71	0.075	1
Total:			0.300	0.038	100.00	0.795	

41 HS17121169-01DF5

9056_W

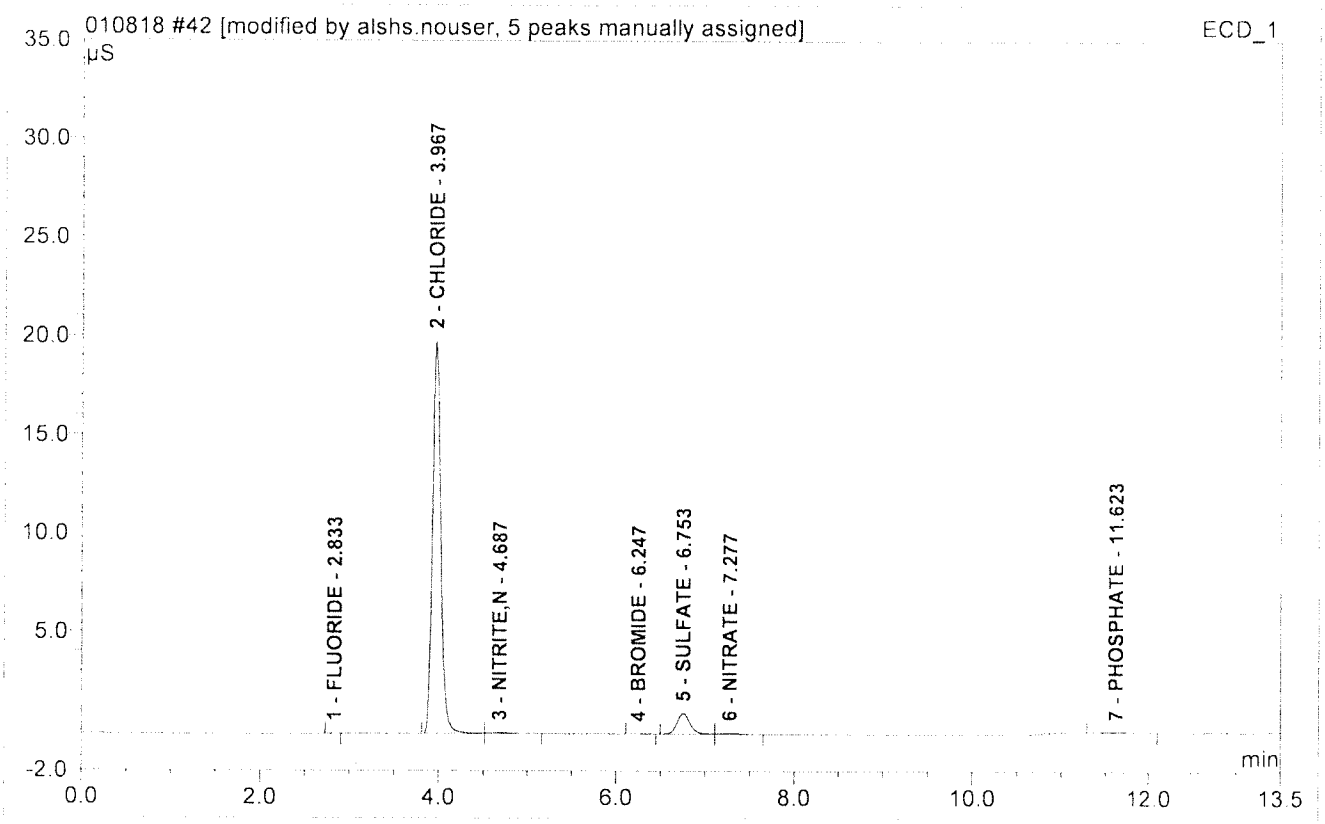
Sample Name:	**HS17121169-01DF5**	*Injection Volume:*	**10.0**
Vial Number:	**31**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**5.**
Recording Time:	**1/8/2018 23:06**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.78	FLUORIDE	0.046	0.005	0.06	0.334	5
2	3.92	CHLORIDE	76.957	8.338	90.04	458.585	5
3	4.65	NITRITE,N	0.230	0.078	0.85	2.168	5
4	6.26	BROMIDE	0.048	0.006	0.07	1.207	5
5	6.87	SULFATE	4.313	0.794	8.57	61.593	5
6	7.31	NITRATE	0.187	0.038	0.41	1.107	5
Total:			81.781	9.261	100.00	524.994	

42 HS17121169-01DF20

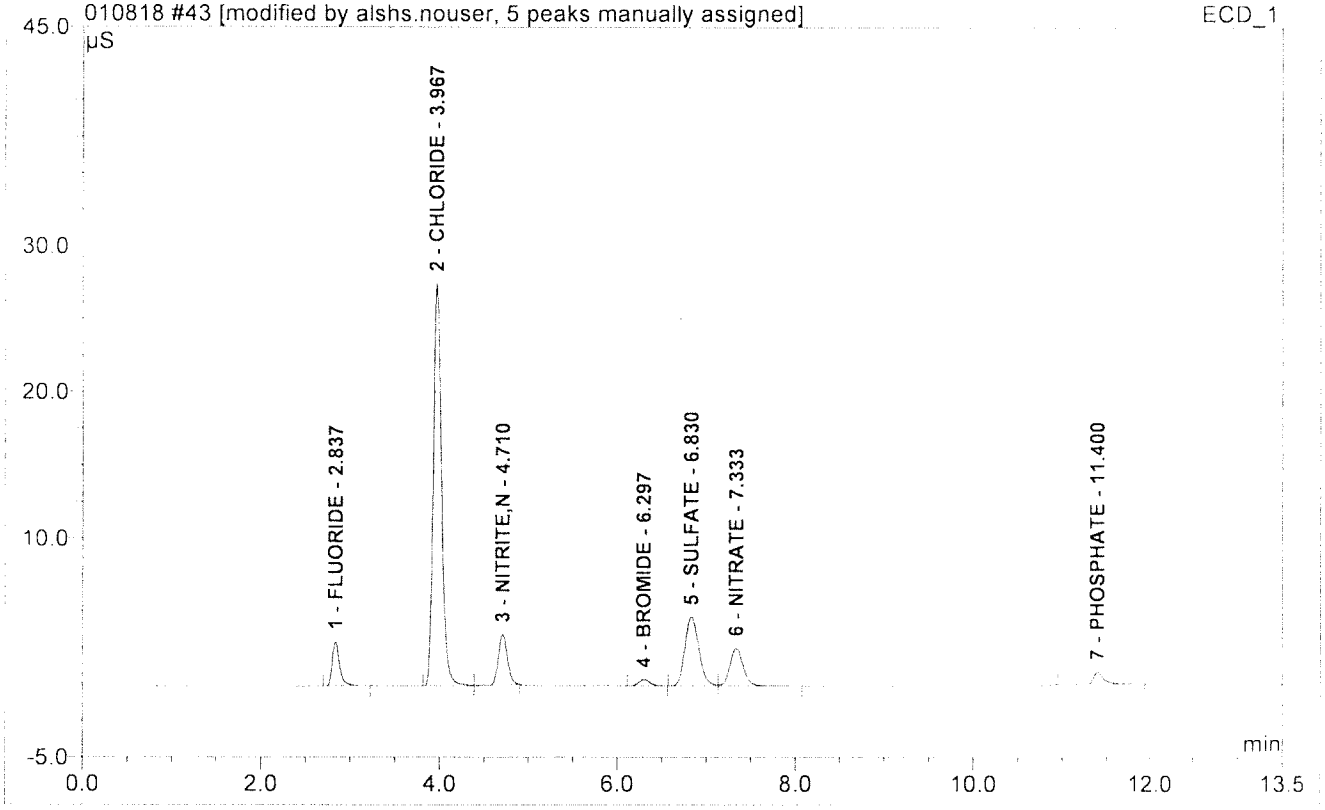
Sample Name:	**HS17121169-01DF20**	*Injection Volume:*	**10.0**
Vial Number:	**32**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**20.**
Recording Time:	**1/8/2018 23:21**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.83	FLUORIDE	0.010	0.001	0.03	0.680	20.
2	3.97	CHLORIDE	19.875	2.126	91.11	470.118	20.
3	4.69	NITRITE,N	0.052	0.013	0.55	1.701	20.
4	6.25	BROMIDE	0.014	0.002	0.08	2.306	20.
5	6.75	SULFATE	1.035	0.178	7.64	57.801	20.
6	7.28	NITRATE	0.052	0.010	0.42	1.884	20.
7	11.62	PHOSPHATE	0.014	0.004	0.16	2.604	20.
Total:			21.053	2.334	100.00	537.094	

43 HS17121169-01MSDF20

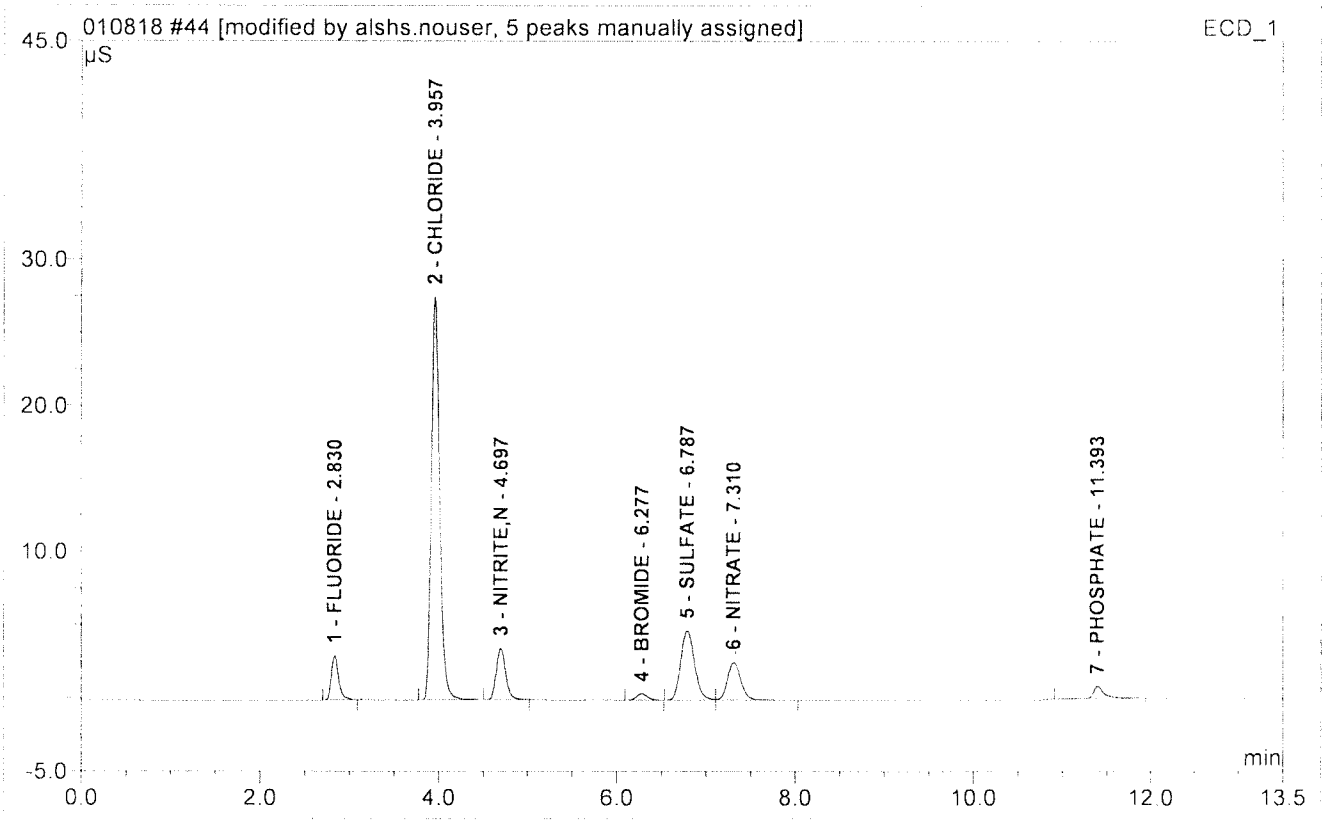
Sample Name:	**HS17121169-01MSDF20**	*Injection Volume:*	**10.0**
Vial Number:	**33**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**20.**
Recording Time:	**1/8/2018 23:35**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.84	FLUORIDE	3.026	0.292	5.68	42.231	20.
2	3.97	CHLORIDE	27.536	2.948	57.22	650.502	20.
3	4.71	NITRITE,N	3.454	0.416	8.08	44.652	20.
4	6.30	BROMIDE	0.443	0.063	1.22	35.468	20.
5	6.83	SULFATE	4.723	0.856	16.62	265.484	20.
6	7.33	NITRATE	2.574	0.450	8.74	41.102	20.
7	11.40	PHOSPHATE	0.859	0.126	2.44	32.306	20.
Total:			42.614	5.152	100.00	1111.746	

44 HS17121169-01MSDDF20

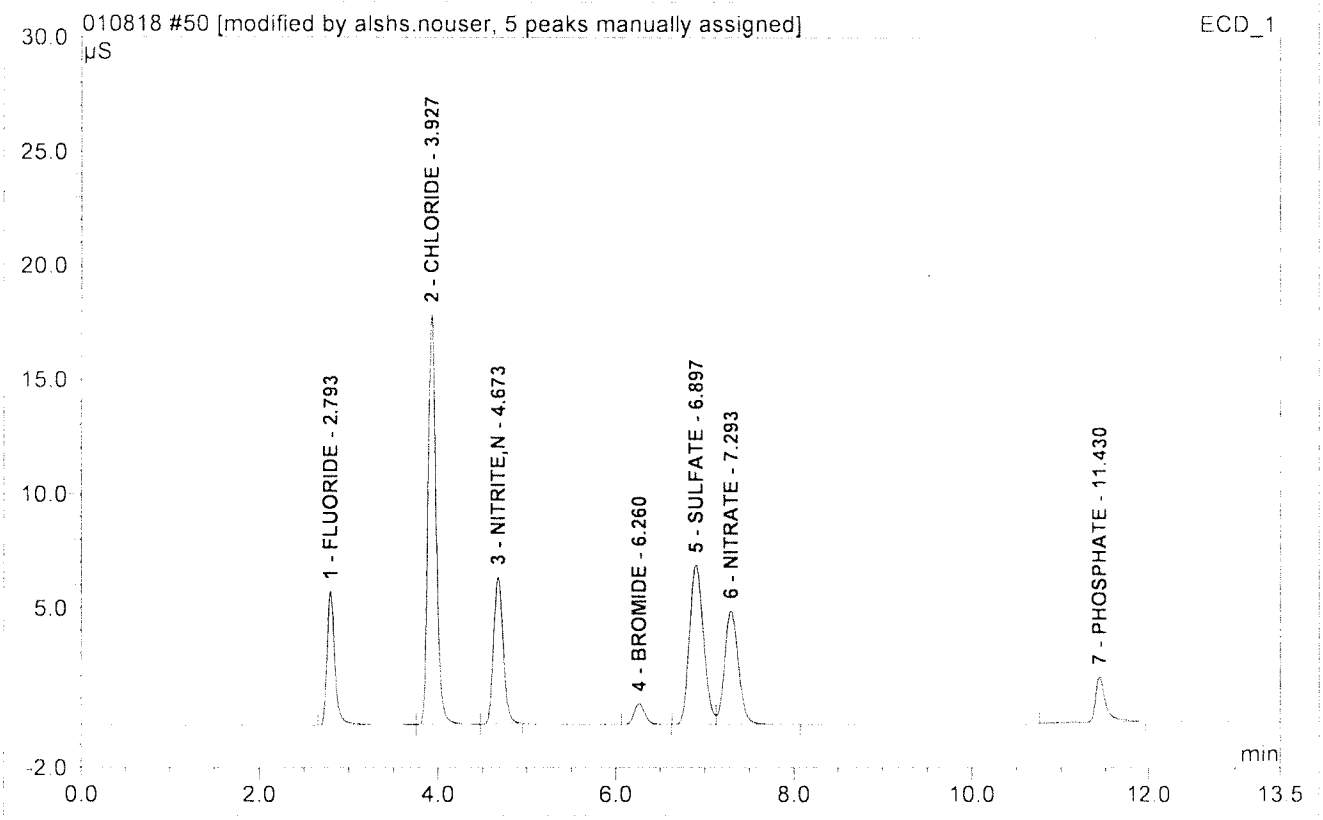
Sample Name:	**HS17121169-01MSDDF20**	*Injection Volume:*	**10.0**
Vial Number:	**34**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**20.**
Recording Time:	**1/8/2018 23:50**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.83	FLUORIDE	3.015	0.284	5.51	41.043	20.
2	3.96	CHLORIDE	27.559	2.951	57.25	651.251	20.
3	4.70	NITRITE,N	3.480	0.426	8.26	45.652	20.
4	6.28	BROMIDE	0.443	0.063	1.21	35.300	20.
5	6.79	SULFATE	4.729	0.853	16.55	264.499	20.
6	7.31	NITRATE	2.576	0.448	8.69	40.903	20.
7	11.39	PHOSPHATE	0.852	0.130	2.53	33.444	20.
Total:			42.653	5.155	100.00	1112.093	

50 CCV

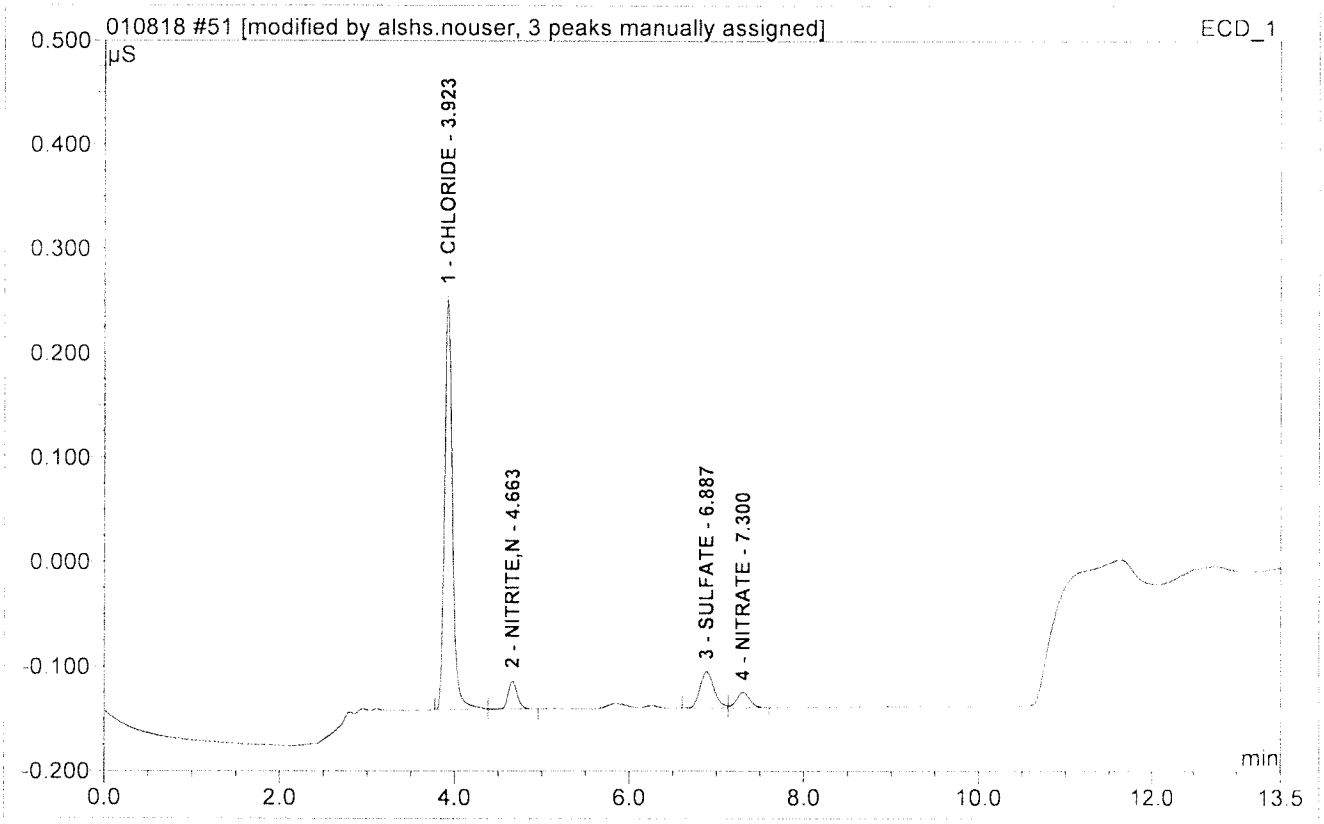
Sample Name:	**CCV**	*Injection Volume:*	**10.0**
Vial Number:	**1**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/9/2018 1:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.79	FLUORIDE	5.869	0.587	9.98	4.207	1.
2	3.93	CHLORIDE	17.946	1.876	31.90	20.752	1
3	4.67	NITRITE,N	6.437	0.800	13.61	4.273	1.
4	6.26	BROMIDE	0.919	0.131	2.22	3.610	1.
5	6.90	SULFATE	7.004	1.293	22.00	19.963	1.
6	7.29	NITRATE	5.001	0.902	15.34	4.067	1.
7	11.43	PHOSPHATE	2.007	0.291	4.95	3.627	1.
Total:			45.183	5.879	100.00	60.500	

51 CCB

Sample Name:	**CCB**	*Injection Volume:*	**10.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/9/2018 1:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**

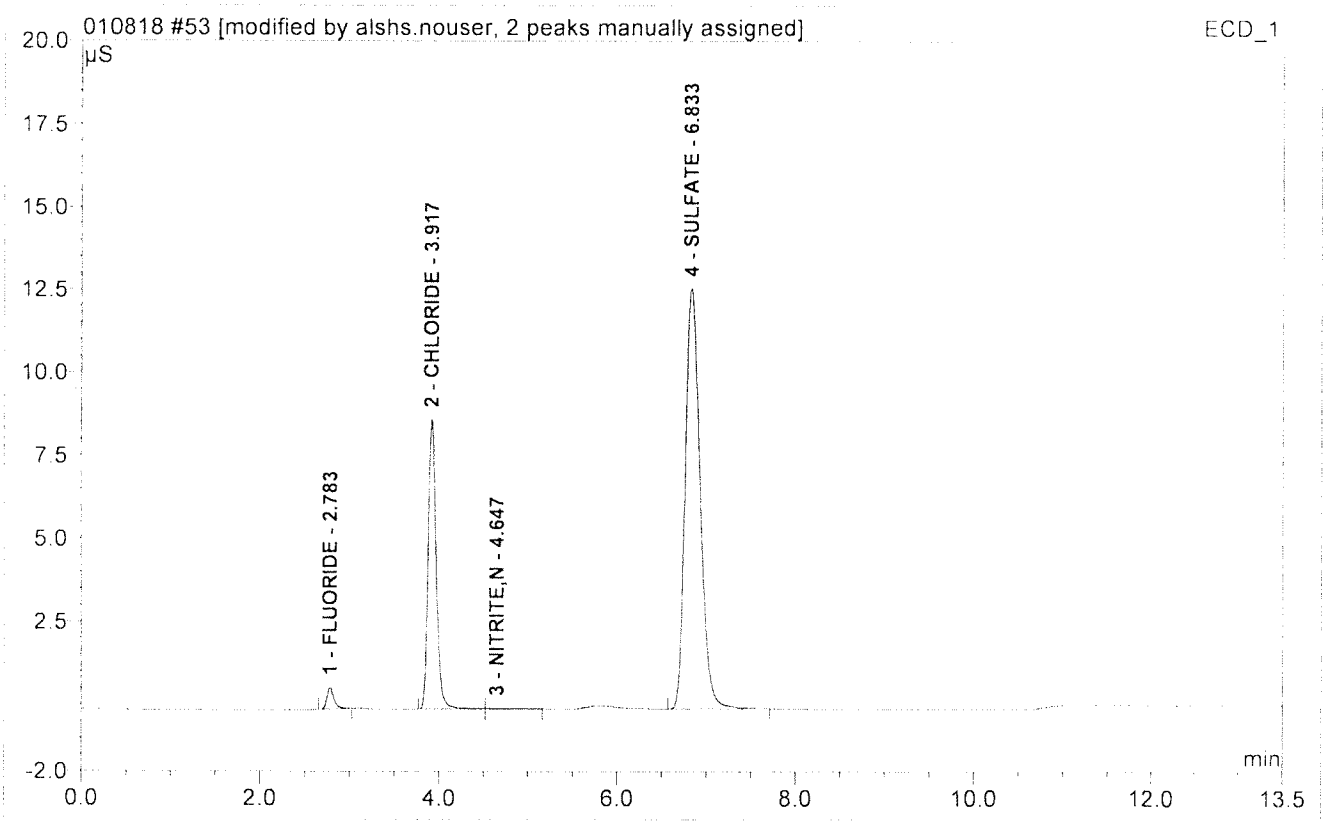


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	3.92	CHLORIDE	0.396	0.041	76.56	0.609	1.
2	4.66	NITRITE,N	0.027	0.003	6.36	0.035	1.
3	6.89	SULFATE	0.035	0.007	12.17	0.260	1.
4	7.30	NITRATE	0.015	0.003	4.91	0.062	1.
Total:			0.473	0.054	100.00	0.965	

53 HS17121151-10DF10

9056_W CL

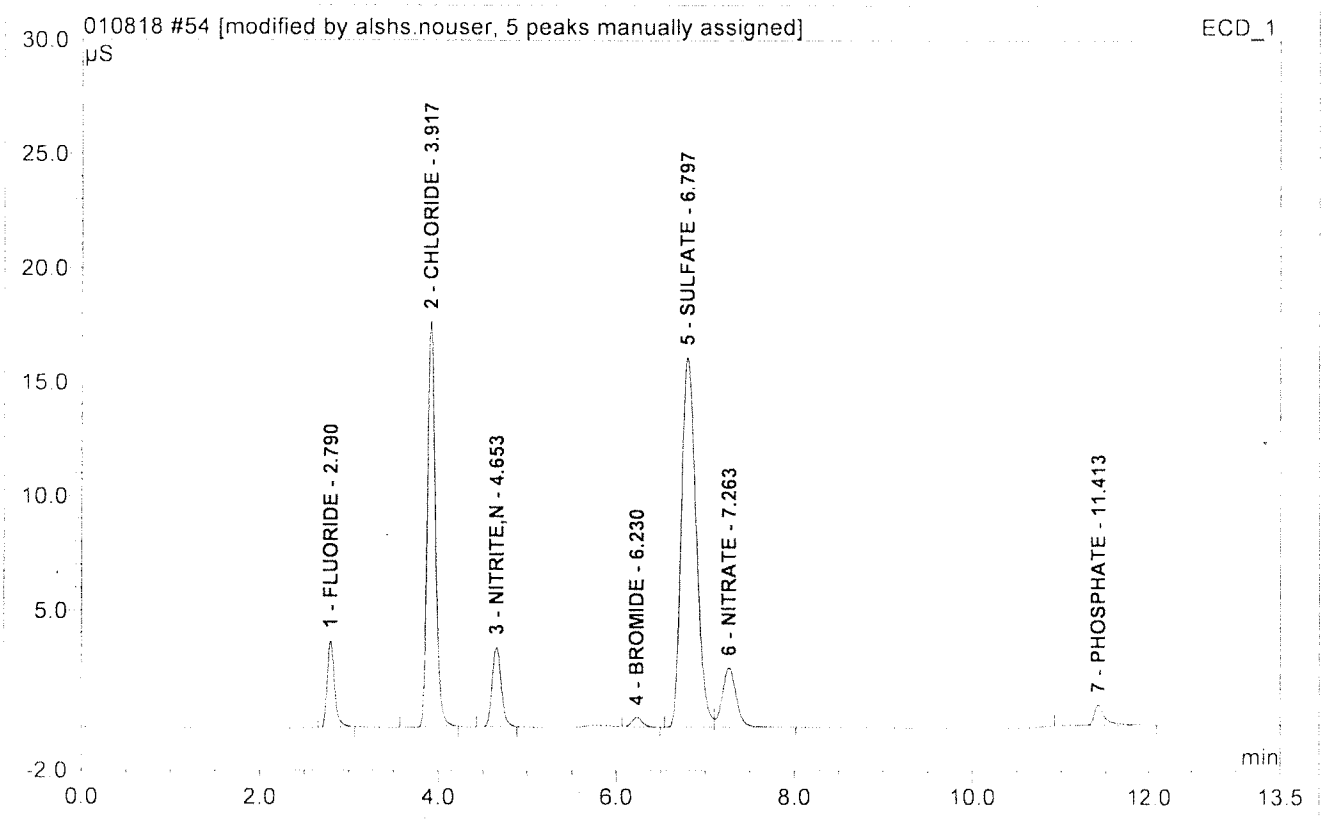
Sample Name:	**HS17121151-10DF10**	*Injection Volume:*	**10.0**
Vial Number:	**40**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**10.**
Recording Time:	**1/9/2018 2:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.78	FLUORIDE	0.649	0.059	1.71	4.475	10.
2	3.92	CHLORIDE	8.711	0.908	26.44	101.283	10.
3	4.65	NITRITE,N	0.027	0.006	0.16	0.465	10.
4	6.83	SULFATE	12.664	2.461	71.68	378.505	10.
Total:			22.051	3.434	100.00	484.729	

54 HS17121151-10MSDF10

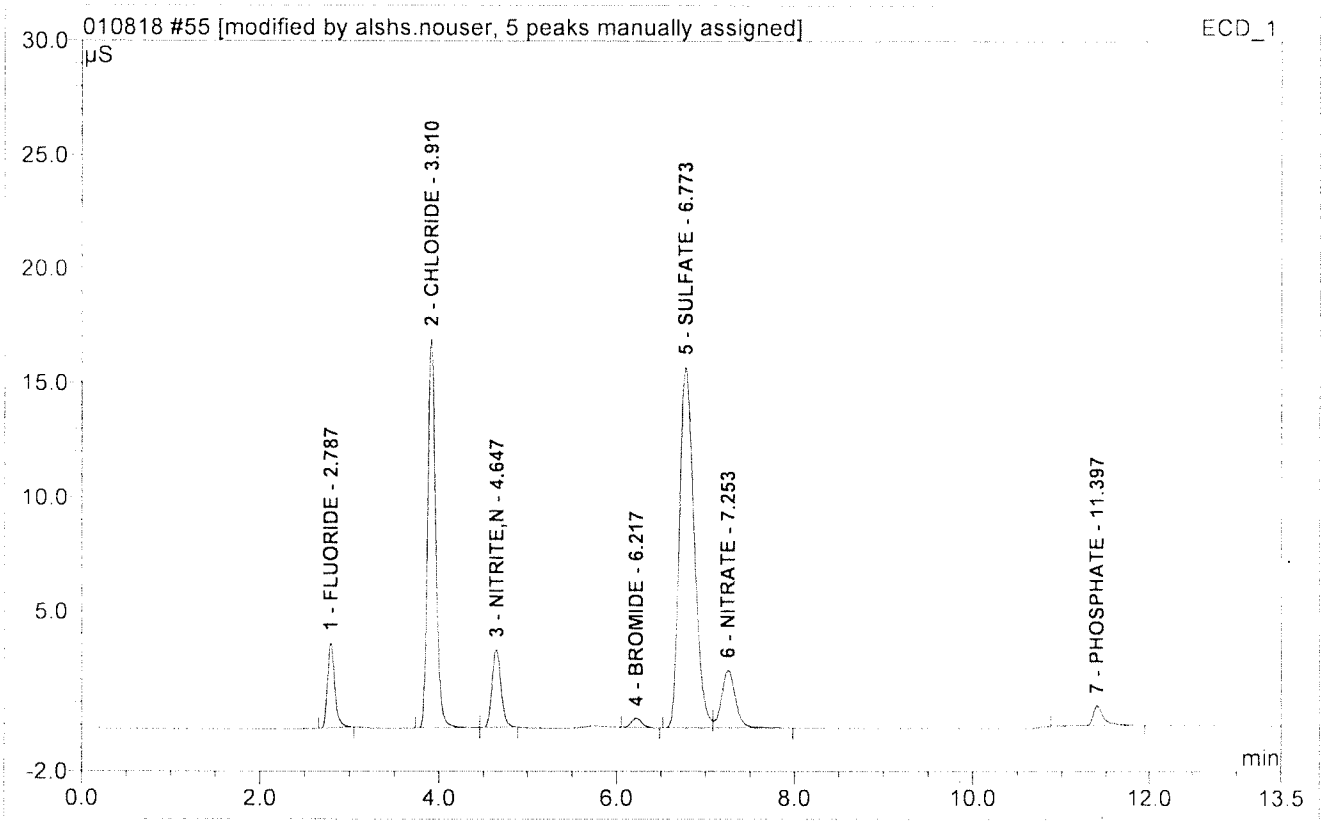
Sample Name:	**HS17121151-10MSDF10**	*Injection Volume:*	**10.0**
Vial Number:	**41**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**10.**
Recording Time:	**1/9/2018 2:15**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.79	FLUORIDE	3.815	0.360	5.61	25.935	10.
2	3.92	CHLORIDE	17.781	1.847	28.75	204.327	10.
3	4.65	NITRITE,N	3.500	0.414	6.44	22.173	10.
4	6.23	BROMIDE	0.431	0.060	0.93	16.811	10.
5	6.80	SULFATE	16.234	3.127	48.69	480.443	10.
6	7.26	NITRATE	2.611	0.476	7.42	21.729	10.
7	11.41	PHOSPHATE	0.921	0.139	2.17	17.814	10.
Total:			45.294	6.423	100.00	789.233	

55 HS17121151-10MSDDF10

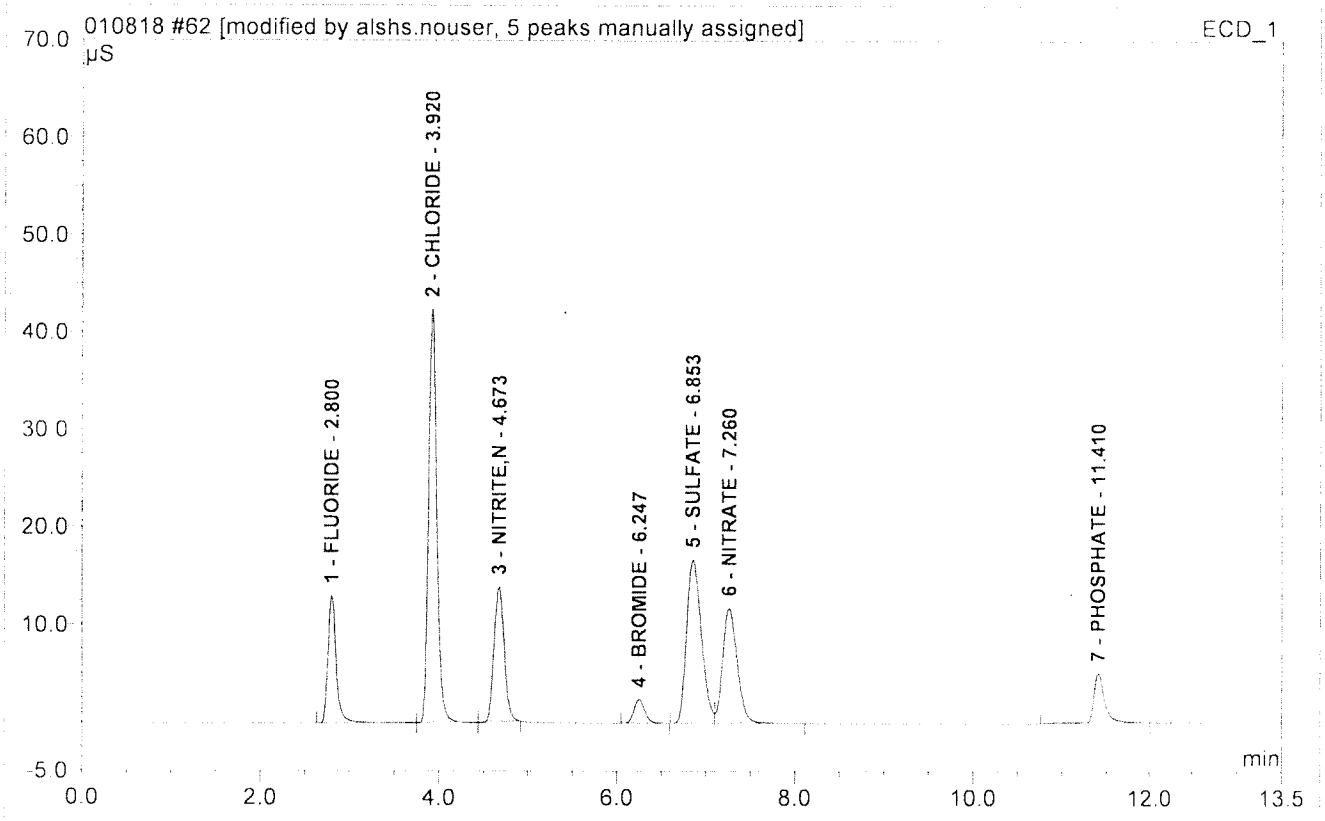
Sample Name:	**HS17121151-10MSDDF10**	*Injection Volume:*	**10.0**
Vial Number:	**42**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif Method:	**091117**	*Dilution Factor:*	**10.**
Recording Time:	**1/9/2018 2:30**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.79	FLUORIDE	3.723	0.349	5.61	25.178	10
2	3.91	CHLORIDE	17.066	1.782	28.63	197.291	10.
3	4.65	NITRITE,N	3.400	0.401	6.45	21.518	10.
4	6.22	BROMIDE	0.418	0.058	0.92	16.275	10
5	6.77	SULFATE	15.822	3.042	48.86	467.362	10.
6	7.25	NITRATE	2.527	0.459	7.37	20.939	10.
7	11.40	PHOSPHATE	0.886	0.134	2.16	17.186	10.
Total:			43.840	6.225	100.00	765.749	

62 CCV1

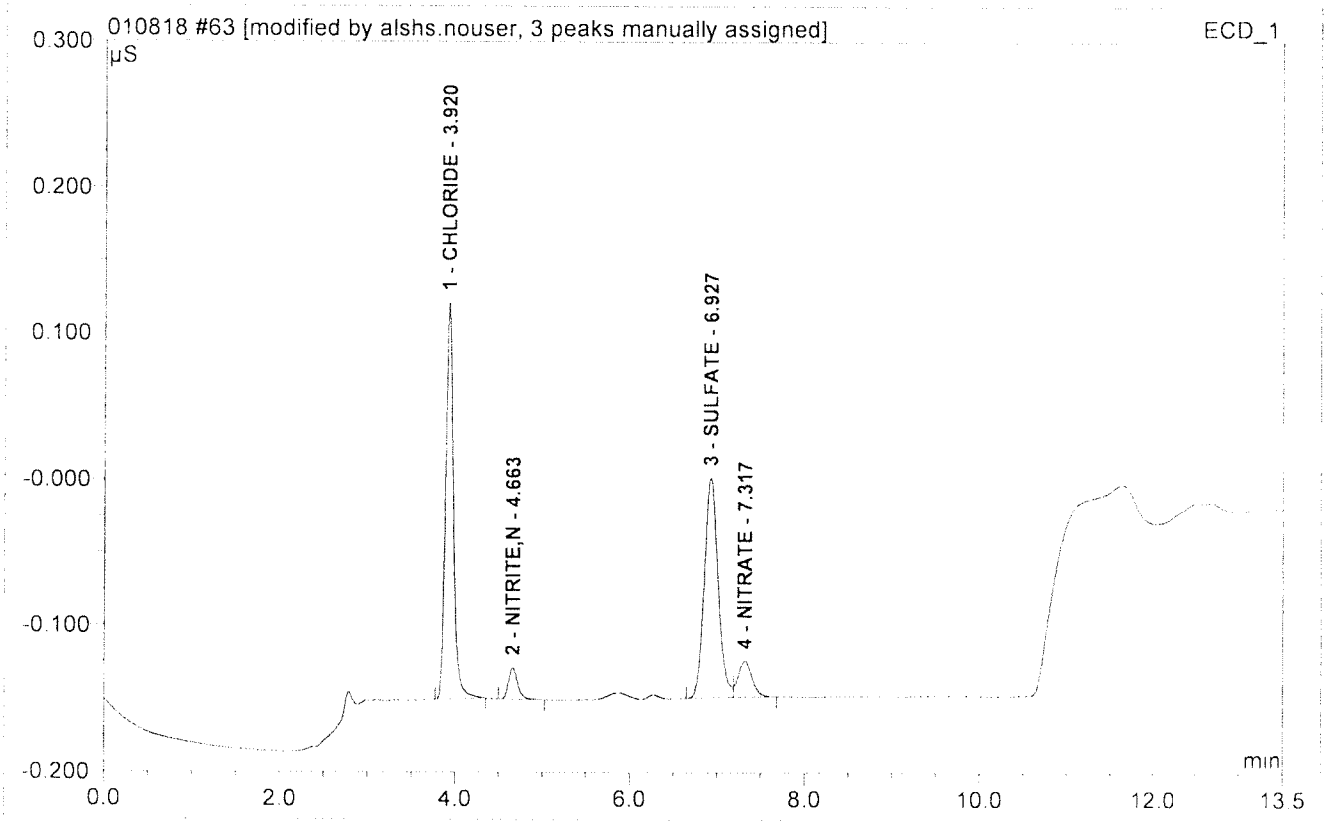
Sample Name:	**CCV1**	*Injection Volume:*	**10.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/9/2018 4:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.80	FLUORIDE	13.120	1.378	9.67	9.848	1.
2	3.92	CHLORIDE	42.400	4.462	31.30	49.147	1.
3	4.67	NITRITE,N	13.865	1.835	12.87	9.779	1.
4	6.25	BROMIDE	2.450	0.351	2.46	9.596	1
5	6.85	SULFATE	16.803	3.243	22.75	49.824	1
6	7.26	NITRATE	11.857	2.253	15.81	10.087	1.
7	11.41	PHOSPHATE	5.086	0.734	5.15	9.017	1.
Total:			105.582	14.256	100.00	147.298	

63 CCB

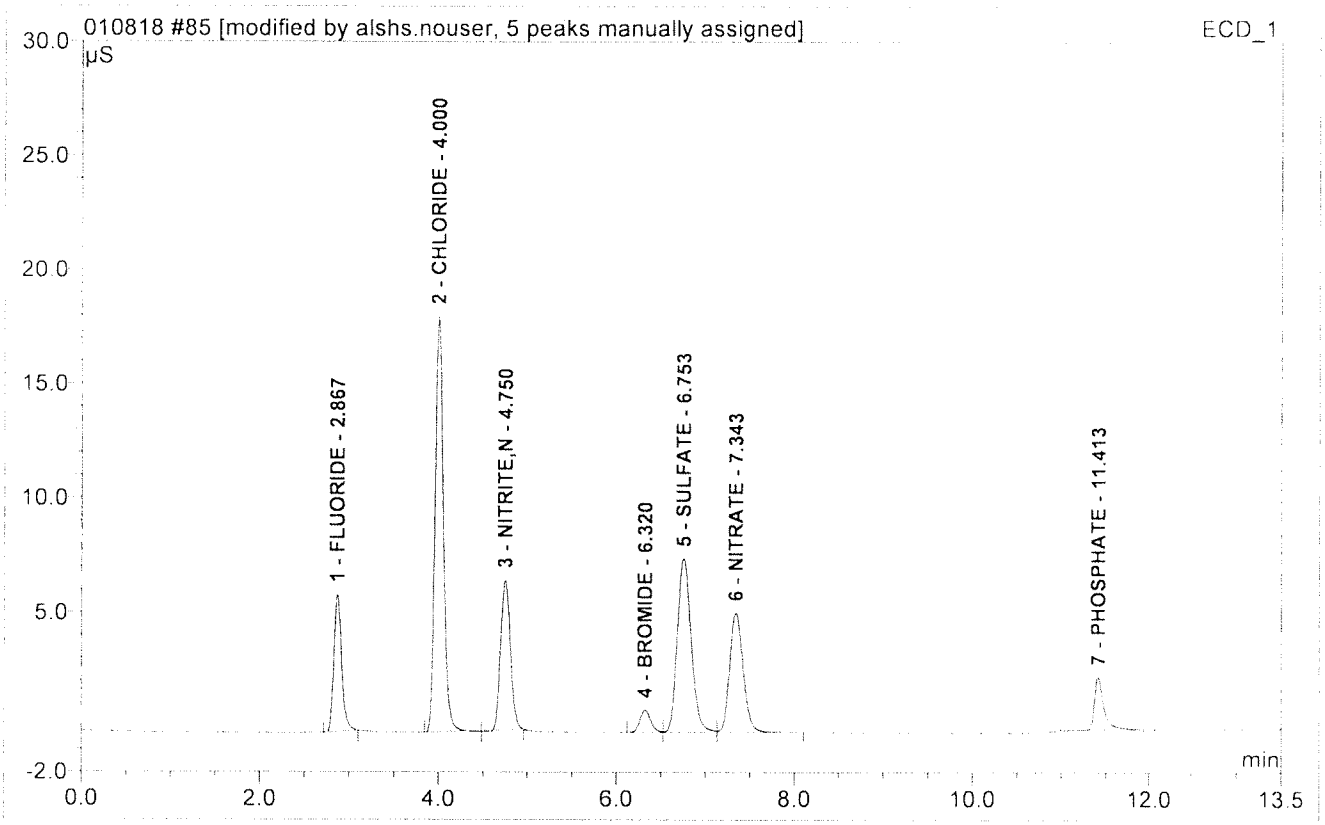
Sample Name:	**CCB**	*Injection Volume:*	**10.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/9/2018 4:26**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	3.92	CHLORIDE	0.271	0.028	44.82	0.469	1
2	4.66	NITRITE,N	0.021	0.003	4.15	0.030	1
3	6.93	SULFATE	0.151	0.028	43.88	0.585	1
4	7.32	NITRATE	0.025	0.005	7.16	0.071	1
Total:			0.468	0.063	100.00	1.155	

85 CCV

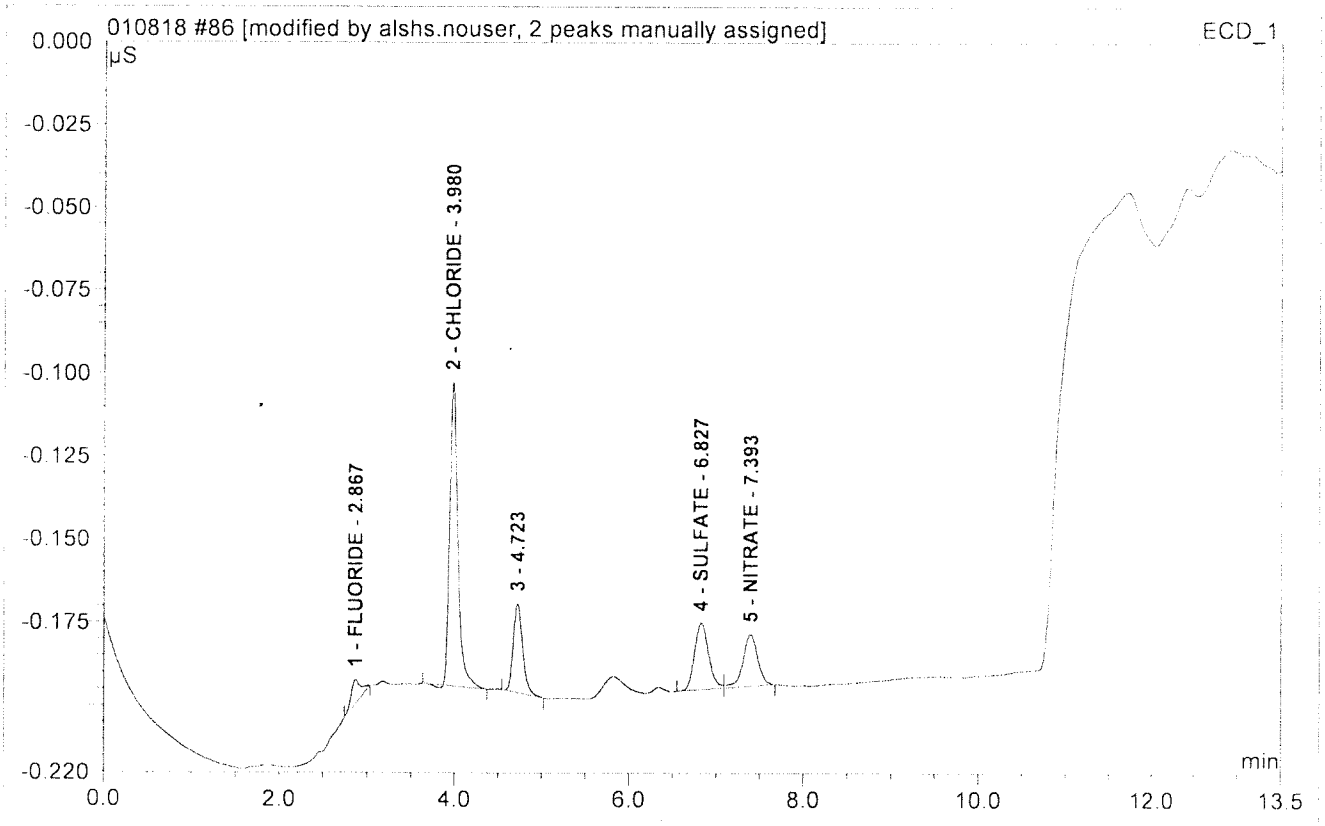
Sample Name:	**CCV**	*Injection Volume:*	**10.0**
Vial Number:	**1**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/9/2018 11:28**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.87	FLUORIDE	6.030	0.602	9.81	4.319	1.
2	4.00	CHLORIDE	18.197	1.952	31.78	21.590	1.
3	4.75	NITRITE,N	6.588	0.822	13.38	4.389	1
4	6.32	BROMIDE	0.989	0.141	2.29	3.881	1.
5	6.75	SULFATE	7.634	1.395	22.72	21.523	1.
6	7.34	NITRATE	5.258	0.933	15.19	4.207	1.
7	11.41	PHOSPHATE	2.331	0.297	4.83	3.697	1.
Total:			47.026	6.141	100.00	63.606	

86 CCB

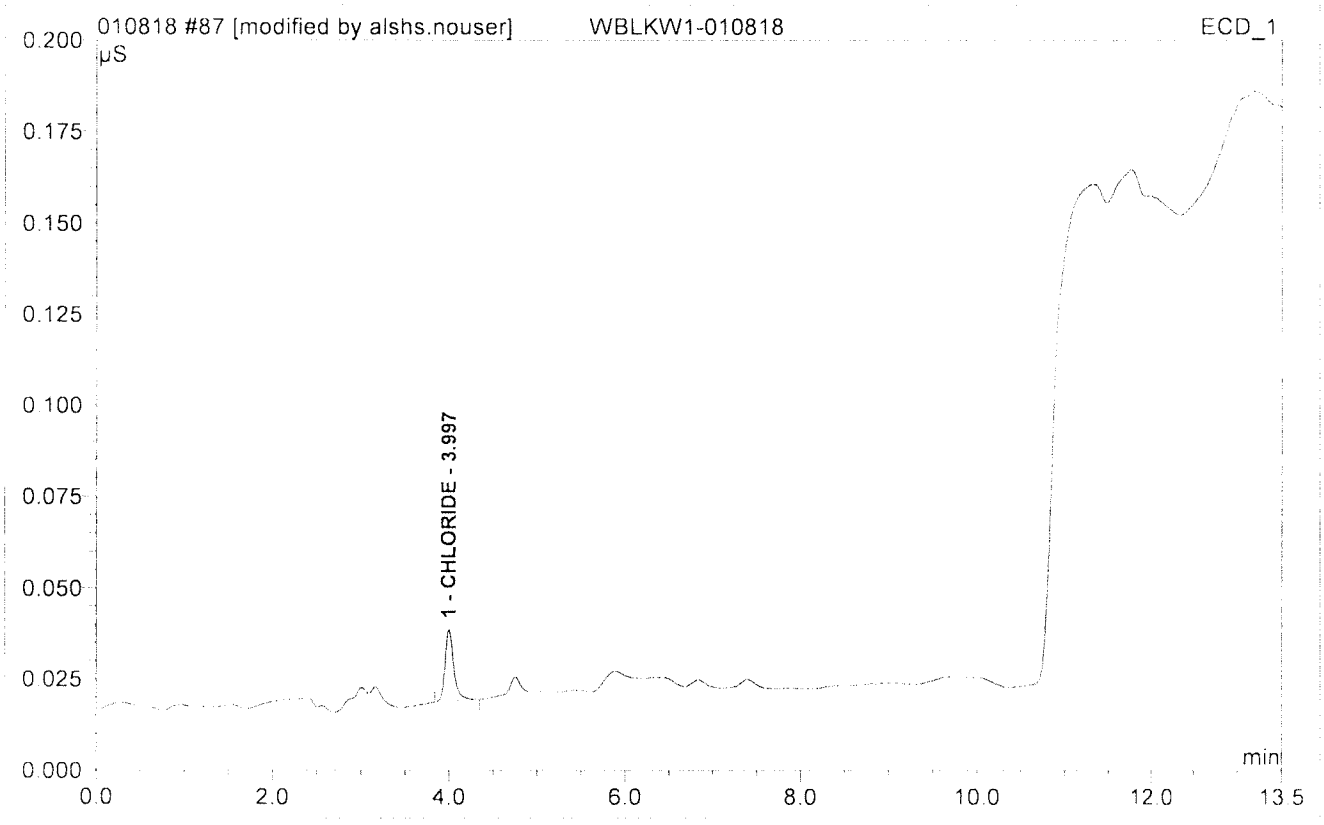
Sample Name:	**CCB**	*Injection Volume:*	**10.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/9/2018 11:42**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.87	FLUORIDE	0.007	0.001	4.16	0.035	1
2	3.98	CHLORIDE	0.091	0.010	47.51	0.266	1
4	6.83	SULFATE	0.020	0.004	17.74	0.217	1
5	7.39	NITRATE	0.016	0.003	14.59	0.064	1
Total:			0.134	0.018	83.99	0.582	

87 WBLKW1-010818

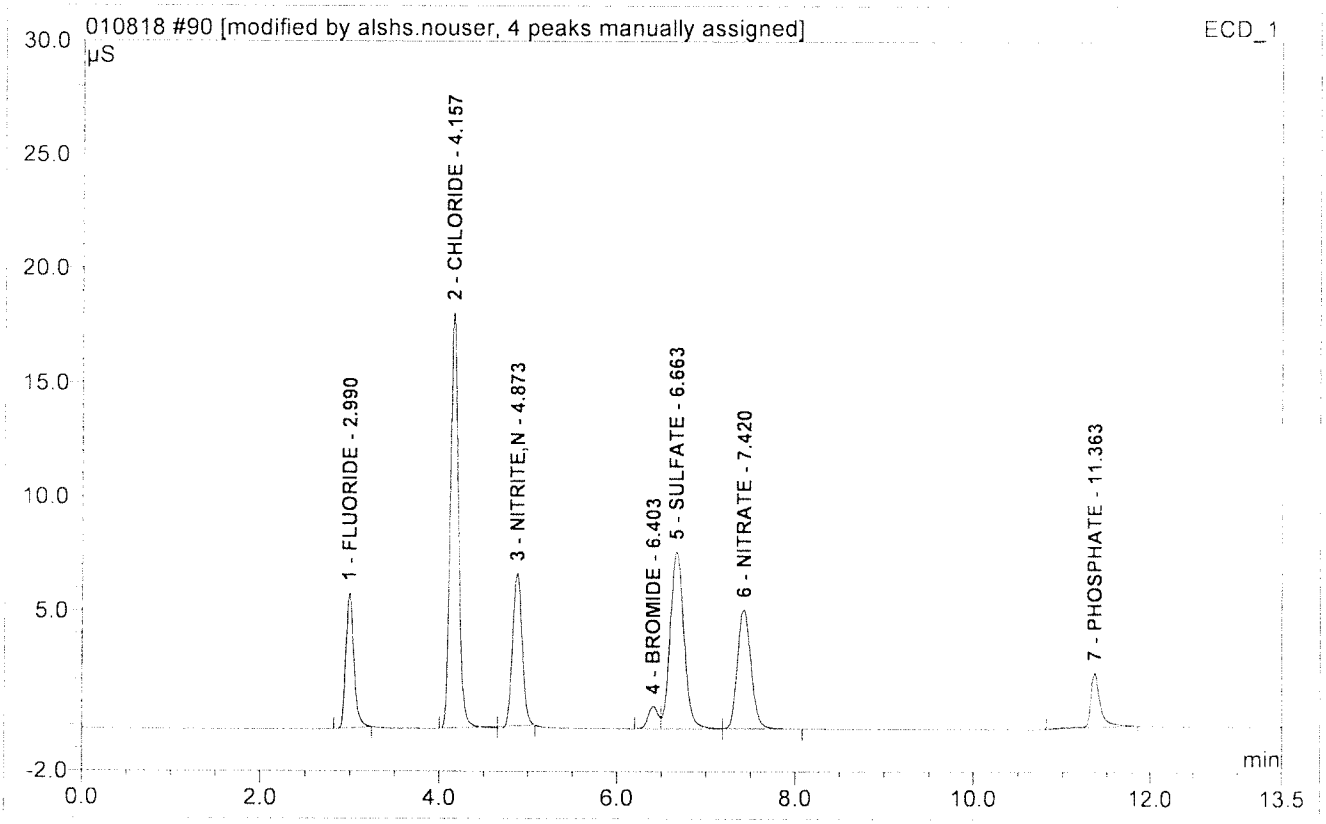
Sample Name:	**WBLKW1-010818**	*Injection Volume:*	**10.0**
Vial Number:	**28**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/9/2018 12:00**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	4.00	CHLORIDE	0.020	0.002	100.00	0.182	1.
Total:			0.020	0.002	100.00	0.182	

90 CCV

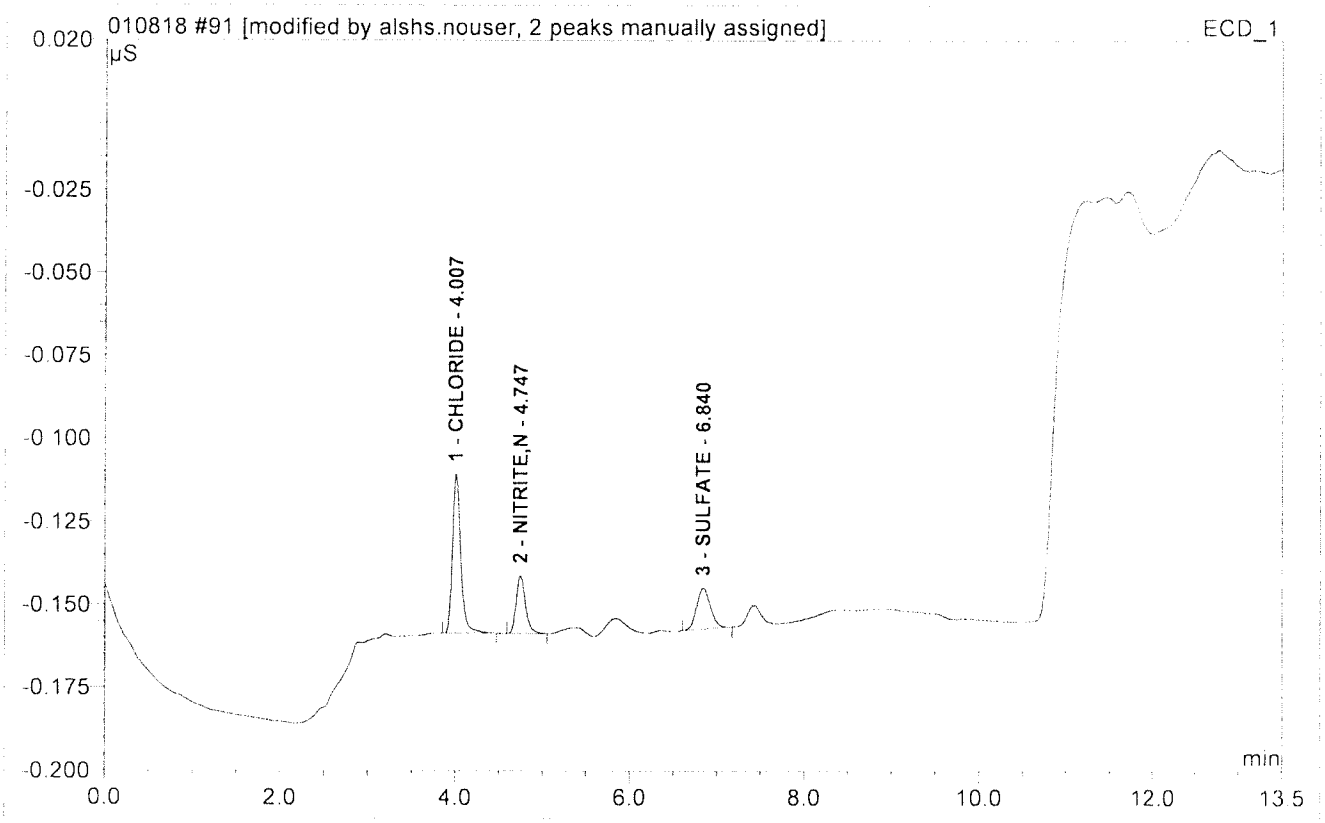
Sample Name:	**CCV**	*Injection Volume:*	**10.0**
Vial Number:	**1**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/9/2018 12:44**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.99	FLUORIDE	5.889	0.611	9.98	4.384	1.
2	4.16	CHLORIDE	18.188	1.925	31.43	21.295	1.
3	4.87	NITRITE,N	6.670	0.821	13.41	4.386	1.
4	6.40	BROMIDE	0.985	0.129	2.10	3.561	1.
5	6.66	SULFATE	7.742	1.391	22.71	21.456	1.
6	7.42	NITRATE	5.213	0.931	15.21	4.199	1.
7	11.36	PHOSPHATE	2.381	0.316	5.16	3.931	1.
Total:			47.067	6.124	100.00	63.212	

91 CCB

Sample Name:	**CCB**	*Injection Volume:*	**10.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**1/9/2018 12:58**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	4.01	CHLORIDE	0.048	0.005	53.98	0.215	1.
2	4.75	NITRITE,N	0.018	0.002	22.38	0.028	1.
3	6.84	SULFATE	0.012	0.002	23.64	0.195	1.
Total:			0.078	0.010	100.00	0.438	

HS17121169

ALS Laboratory Group Confidential

010818O&GWA

Method: O&G, HEM by EPA 1664A (SOP HS-WC036, Current Revision)

Analyst:	KAH
Review By:	
Batch ID:	
LCS/MS Spike ID:	2970203910
Hexane ID:	2970205417
Filter ID:	2970205422
Silica Gel:	

Methanol ID:	2970203606
1:1 H2SO4 ID:	304146707
Na2SO4 Cartridge ID:	2970205306
Thermo HotBlock Setting (°C):	41
pH Paper ID:	

Temp Ranges (°C)	
Pan Drying: 105-115	
Hex Evap: 68-72	
HotBlock: 35-50	

Pan	Temp Deg C	Actual Deg C	Date	Time
Pan 1st In:	105-115	105	01/05/2018	8:30AM
Pan 1st Out:	105-115	105	01/08/2018	9:00AM
Pan 2nd In:	105-115	105	01/08/2018	9:20AM
Pan 2nd Out:	105-115	105	01/08/2018	10:20AM
Pan 3rd In:	105-115			
Pan 3rd Out:	105-115			
Oven ID:				
Balance ID:				

O&G	Temp Deg C	Actual Deg C	Date	Time
O&G 1st In:	68-72	68	01/08/2018	11:00AM
O&G 1st Out:	68-72	68	01/08/2018	11:10AM
O&G 2nd In:	68-72	68	01/08/2018	11:40AM
O&G 2nd Out:	68-72	68	01/08/2018	11:50AM
O&G 3rd In:	68-72			
O&G 3rd Out:	68-72			
Oven ID:				
Balance ID:				

	grams	mg	Accept.
Init 2.0 mg wt (1.8mg to 2.2mg required):	0.0020	2.0	Yes
Init 1000 mg wt (995mg to 1005mg required):	1.0000	1000	Yes
Final 2.0 mg wt (1.8mg to 2.2mg required):	0.0020	2.0	Yes
Final 1000 mg wt (995mg to 1005mg required):	1.0000	1000	Yes

$$\text{O \& G (HEM), mg/L} = \frac{\text{Weight (HEM, mg)}}{\text{Volume (Sample Extracted, L)}}$$

Dish ID	Work Order #	Bottle Number	SGT	Sample Type	pH Check	1st Dry Pan Wt (g)	2nd Dry Pan Wt (g)	3rd Dry Pan Wt (g)	Passes Difference Criteria (Change is <0.0005 g)	Passes % Weight Criteria (Change is <4%)	Pan Weight (g)	Sample Vol (mL)	70 deg C O&G 1st dry Wt (g)	70 deg C O&G 2nd dry Wt (g)	70 deg C O&G 3rd dry Wt (g)	Passes Difference Criteria (Change is <0.0005 g)	Passes % Weight Criteria (Change is <4%)	O&G Weight (g)	O&G (mg/L)
1	HS17121405-01MS	2 of 2		MS	<2	6.4410	6.4409		Yes	Yes	6.4409	250	6.4498	6.4499		Yes	Yes	0.0090	36.0
2	WLCSW-010818	1 of 1		LCS	<2	6.4348	6.4345		Yes	Yes	6.4345	250	6.4451	6.4447		Yes	Yes	0.0102	40.8
3	WLCSDW-010818	1 of 1		LCSD	<2	6.4540	6.4541		Yes	Yes	6.4541	250	6.4639	6.4639		Yes	Yes	0.0098	39.2
4	WBLKW-010818	1 of 1		MBLK	<2	6.4627	6.4628		Yes	Yes	6.4628	250	6.4626	6.4627		Yes	Yes	-0.0001	-0.4
5	HS17121405-01	1 of 2		Sample	<2	6.3782	6.3783		Yes	Yes	6.3783	250	6.3785	6.3786		Yes	Yes	0.0003	1.2
6	HS17121423-01	1 of 2		Sample	<2	6.4638	6.4640		Yes	Yes	6.4640	250	6.4638	6.4639		Yes	Yes	-0.0001	-0.4
7	HS18010069-01	1 of 2		Sample	<2	6.4828	6.4828		Yes	Yes	6.4828	960	6.4825	6.4827		Yes	Yes	-0.0001	-0.1
8	HS18010073-01	1 of 2		Sample	<2	6.4425	6.4423		Yes	Yes	6.4423	960	6.4421	6.4422		Yes	Yes	-0.0001	-0.1
9	HS18010080-01	1 of 1		Sample	<2	6.4344	6.4344		Yes	Yes	6.4344	860	6.4340	6.4343		Yes	Yes	-0.0001	-0.1
10	HS17121143-02	1 of 2		Sample	<2	6.3264	6.3264		Yes	Yes	6.3264	250	6.3269	6.3265		Yes	Yes	0.0001	0.4
11	HS17121156-01	1 of 2		Sample	<2	6.4445	6.4444		Yes	Yes	6.4444	250	6.4444	6.4444		Yes	Yes	0.0000	0.0
12	HS17121156-02	1 of 2		Sample	<2	6.4103	6.4104		Yes	Yes	6.4104	250	6.4101	6.4104		Yes	Yes	0.0000	0.0
13	HS17121157-01	1 of 2		Sample	<2	6.5005	6.5002		Yes	Yes	6.5002	250	6.5020	6.5018		Yes	Yes	0.0016	6.4
14	HS17121163-02	1 of 1		Sample	<2	6.4682	6.4682		Yes	Yes	6.4682	250	6.4680	6.4681		Yes	Yes	-0.0001	-0.4
15	HS17121168-01	1 of 1		Sample	<2	6.3957	6.3959		Yes	Yes	6.3959	1000	6.3960	6.3959		Yes	Yes	0.0000	0.0
16	HS17121169-01	1 of 1		Sample	<2	6.4828	6.4828		Yes	Yes	6.4828	1000	6.4828	6.4827		Yes	Yes	-0.0001	-0.1
17	HS18010013-01	1 of 2		Sample	<2	6.4274	6.4275		Yes	Yes	6.4275	250	6.4271	6.4274		Yes	Yes	-0.0001	-0.4
18	HS18010014-01	1 of 2		Sample	<2	6.4205	6.4206		Yes	Yes	6.4206	250	6.4206	6.4206		Yes	Yes	0.0000	0.0
19	HS18010028-02	1 of 2		Sample	<2	6.4115	6.4114		Yes	Yes	6.4114	250	6.4116	6.4115		Yes	Yes	0.0001	0.4
20	HS17121206-02	1 of 2		Sample	<2	6.4632	6.4632		Yes	Yes	6.4632	250	6.4629	6.4631		Yes	Yes	-0.0001	-0.4
21	HS17121214-01	1 of 2		Sample	<2	6.4402	6.4402		Yes	Yes	6.4402	250	6.4422	6.4423		Yes	Yes	0.0021	8.4
22	HS17121411-02	1 of 2		Sample	<2	6.4515	6.4514		Yes	Yes	6.4514	250	6.4521	6.4521		Yes	Yes	0.0007	2.8
23	HS17121414-01	1 of 2		Sample	<2	6.4565	6.4566		Yes	Yes	6.4566	250	6.4570	6.4571		Yes	Yes	0.0005	2.0
24	HS18010055-01	1 of 2		Sample	<2	6.4436	6.4438		Yes	Yes	6.4438	250	6.4436	6.4437		Yes	Yes	-0.0001	-0.4

00880979

HS17121169

ALS Laboratory Group **COD Analysis** **Logbook# 30513**

Method: HACH 8000 / EPA 410.4	Date: 01/03/18	Low COD–420nm	Analyst:
SOP #: HS-WC-025	Time: 4:55 pm	High COD–620nm	AJA

WO # / SX #	Bottle #	Init Sample Vol (mL)	Prep Final Volume (mL)	Dilution Factor	Init Conc. (mg/L)	Final Conc. (mg/L)	Comments
CCV-50	—	2	2	1	51		
BLK	—				2		
LCS	—				102		
HS18010054-02	1/1		10	5x	12		High Cl-
55-02				5x ~~1~~ NJA	15		High Cl-
62-02				5x	65		High ~~Cl~~ COD
71-01			2	1	-1		
72-01			2		3		
108-01			4	2x	46		High Cl-
HS17121168-01			10	5x	21		
X 1169-01			10	5x	7		
CCV-100	—		2	1	106		
HS18010119-02	1/1		10	5x	66		High COD
HS17121286-01			4	2x	64 ~~[illegible]~~	128	High Cl-
1287-01				2x	78		High Cl-
1318-01			10	5x	25		QC Below HiCl-
1321-01			2	1	9		
1333-02			2		14		
1367-02		1	10	10x ~~X~~	26		High COD
1376-~~02~~ 01		2	4	2x	~~21~~ 24 ~~24~~		High Cl- OFF
1378-01			10	~~1~~ 5x	24		High Cl-
1318-01 DUP			10	5x	28		QC
CCV-50	—		2	1	51		
HS17121318-01 MS	1/1		10	5x	80		QC
HS18010056-08			10	5x	46		~~[illegible]~~
0056-11			2	1	19 ~~0~~		
0080-01				1	-2		
CCV-100	—			1	102		

LCS ID #	CCV1 ID#	CCV2 ID#	Vial Lot#:	Reviewed By:
304-146-803	304-181-307	301-781-308	297-020-5018	[illegible]
LCS Prep Date:	**Prep Date:**	**Prep Date:**	**MS ID:**	**Pipette ID:**
10/31/17	12/13/17	12/13/17	297-020-5222	WC9/UV3

Digestor ID:	Digestor Temp (°C):	Date/Time In Digestor:	Date/Time Off Digestor:	Batch ID:
DRB 200	150°	01/08/18 @ 1:00 pm	01/08/18 @ 3:00 pm	R#308618 R#308617

Sub Contract Data

Bhate Environmental Associates, Inc.
Project: LONGHORN GW TREATMENT PLANT
QUARTERLY INFLUENT SAMPLES
ALS WO# HS17121169

Case Narrative

Method: 6850
Analysis: Perchlorate
Analysis SOP: LC-MS-CLO4
ALS WO ID(s): 1735679; 1735681; 1735685; 1735689

Client: ALS Laboratories (Houston, TX)
Matrix: Water
ELMS Batch (HBN): 2023 (205839)

General Set Information: There were eleven 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 1735679001 was analyzed and reported at a 1:1,000 dilution. Samples 1735685001/02/03/08 were analyzed and reported at the following dilutions: 1:10,000/10,000/1,000/1,000. The reporting limits have been adjusted accordingly.

Method QC data: The method blank (LMB 581172) was less than 1/2 the CRDL. The recovery for the LCS (581173) was within acceptable parameters.

MS/MSD Analysis: The matrix spike and matrix spike duplicate (MS/MSD) was performed on sample 1735681001 (Client ID: LH18/24SP140_122017). The Matrix Spike (MS - 581367) failed QC acceptance criteria for percent recovery. The Relative Percent Difference (RPD) also failed QC criteria. The Matrix Spike and Matrix Spike duplicate is reported for the clients' information only. The sample matrix may be inappropriate for the

method selected.

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 28DECP03/11/12/17-19.

Thomas Bosch January 9, 2017
Date

ANALYTICAL REPORT

Report Date: January 10, 2018

Sonia West
ALS Environmental
10450 Stancliff Rd.
Suite 210
Houston, TX 77099

Phone: (281) 530-5656

E-mail: Sonia.West@alsglobal.com

Workorder: **34-1735679**
Project ID: HS17121169 122017
Purchase Order: HS17121169
Project Manager Kevin W. Griffiths

Client Sample ID	Lab ID	Collect Date	Receive Date	Sampling Site
LH18/24-SP140_122017	1735679001	12/20/17	12/22/17	

ANALYTICAL REPORT

Workorder: 34-1735679
Client: ALS Environmental (Houston)
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **LH18/24-SP140_122017**	Sampling Site: NA	Collected: 12/20/2017
Lab ID: 1735679001	Media: 125 mL Nalgene	Received: 12/22/2017
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/2023 (HBN: 205839)	**Percent Solid:** NA
	Analyzed: 12/28/2017 12:32	**Report Basis:** Wet

Analyte	Result (ug/L)	DL (ug/L)	LOD (ug/L)	LOQ (ug/L)	Dilution	Qual
Perchlorate	**8100**	1000	2000	4000	1000	

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 01/08/2018 14:25	/S/ Stephen Brose 01/10/2018 12:00

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: 34-1735679
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: 34-1735679
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: 1735679

Limits:	Client SOW/Contract Specified	**Preparation:**	NA	**Analysis:**	EPA 6850
Basis:	DoD QSM	**Batch:**	NA	**Batch:**	ELMS/2023 (HBN: 205839)
		Prepared By:	NA	**Analyzed By:**	Thomas Bosch

Blank

LMB: 581172
Analyzed: 12/28/2017 11:50
Units: ug/L

Analyte	Result	MDL	RL
Perchlorate	ND	1	2.00

Laboratory Control Sample

LCS: 581173
Analyzed: 12/28/2017 12:09
Dilution: 1
Units: ug/L

Analyte	Result	Target	% Rec	QC Limits	
Perchlorate	5.27	5.00	105	78.8	123.8

Matrix Spike - Matrix Spike Duplicate

Sample:	1735681001	**MS:**	581367					**MSD:**	581368				
Analyzed:	12/28/2017 12:51	**Analyzed:**	12/28/2017 16:47					**Analyzed:**	12/28/2017 17:06				
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	6.42	5	#	128	78.8	123.8	4.97	99.4	#	25.4	0.0	20.0

Surrogate Recoveries

Surrogate	Perchlorate 89		
QC Limits			
Units			
Lab ID	**Result**	**Target**	**% Recovery**
581169-CCV	160000	0.100	* 160000000
581171-ICS	126000	0.100	* 126000000
581172-LMB	142000	0.100	* 142000000
1735679001	173000	0.100	* 173000000
1735681001	170000	0.100	* 170000000
1735685006	177000	0.100	* 177000000
1735685007	180000	0.100	* 180000000
1735685008	176000	0.100	* 176000000
581176-CCV	165000	0.100	* 165000000
1735689001	175000	0.100	* 175000000
1735685004	159000	0.100	* 159000000
1735685005	179000	0.100	* 179000000
581178-CCV	170000	0.100	* 170000000

Quality Control Sample Batch Report

Analysis Information

Workorder: 1735679

Limits:	Client SOW/Contract Specified	**Preparation:**	NA
Basis:	DoD QSM	**Batch:**	NA
		Prepared By:	NA
Analysis:	EPA 6850		
Batch:	ELMS/2023 (HBN: 205839)		
Analyzed By:	Thomas Bosch		

Continuing Calibration Verification

CCV:	581169			**CCV:**	581176			**CCV:**	581178		
Analyzed:	12/28/2017 10:52			**Analyzed:**	12/28/2017 15:44			**Analyzed:**	12/28/2017 18:04		
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	26.0	25.0	104	25.6	25.0	102		26.6	25.0	106

Interference Check Sample

ICSA:	581171		
Analyzed:	12/28/2017 11:30		
Units:	ug/L		
Criteria:	± 30%		
Analyte	**Result**	**Target**	**% Rec.**
Perchlorate	0.891	1.00	89.1

Limit of Detection Verification

LODV:	581170			**LODV:**	581177			**LODV:**	581179		
Analyzed:	12/28/2017 11:11			**Analyzed:**	12/28/2017 16:03			**Analyzed:**	12/28/2017 18:23		
Units:	ug/L			**Units:**	ug/L			**Units:**	ug/L		
Criteria:	± 50%			**Criteria:**	± 50%			**Criteria:**	± 50%		
Analyte	**Result**	**Target**	**% Rec.**	**Result**	**Target**	**% Rec.**		**Result**	**Target**	**% Rec.**
Perchlorate	1.16	0.100	*1160	1.14	0.100	* 1140		1.23	1.00	123

QC Report Authorization (/S/ is an electronic signature that complies with 21 CFR Part 11)

Analyst	Peer Review
/S/ Thomas Bosch	/S/ Stephen Brose
01/08/2018 14:25	01/10/2018 12:00

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

W 1735679

18698/2

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

Subcontract Chain of Custody

COC ID: 8286

1735679

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:	HS17121169
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS17121169-01**	**LH18/24-SP140_122017**	**Water**	**20 Dec 2017 14:00**
	SUB_Perch-6850			09 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 21, 2017 1800

Received By: _____ Date/Time: 12.22.17 11:37

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: 1735679

Date/Time of Receipt: 12-22-17 11:37

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	C17-8133	5 °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: Jessica Davies (Signature) Jessica Davies (Printed Name) 12-22-17 (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: 21DEC17
ACTWGT: 18.15 LB
CAD: 300130/CAFE3108
DIMS: 19x16x13 IN

BILL SENDER

TO KEVIN GRIFFITHS
ALS ENVIRONMENTAL
960 W. LEVOY DRIVE

SALT LAKE CITY UT 84123
(801) 266-7700
REF: HS17121169/1168/1135/1113-SW

546C1/574C/53C1

FedEx Express

E

J171016102001uv

FRI - 22 DEC 3:00P
STANDARD OVERNIGHT

TRK# 0201 7376 9751 3250

XH BTFA

84123
UT-US SLC

ALS Environmental
CHAIN-OF-CUSTODY

Project / Job / Task: HS17121169	*Split:*	**Workorder ID:** 1735679	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
1	12/20/2017 14:00	LH18/24-SP140_122017	1735679001		Water	A	1	A
2								
3								
4								
5								
6								
7								
8								
9								
10								

COOL

692 of 774

ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Reason for Transfer / Storage Location
Warath, Julie	12/22/2017 11:37	ALS Sample Receiving	Sample Login
Julie Warath 12/22/17 1500		14C	storage
R.33.1	12.27.17/17.00	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

00880993

Batch Worklist

Batch: ELMS/ 2023 **Created:** 12/27/2017 16:48 **Instrument:** **HBN:** 205839

Rule: EPA 6850, DoD QSM Water **Analyst:** T. Bosch **Status:** WP

Workorder: 1735679 [ENV_LVL4]
Workorder: 1735681 [ENV_LVL4]
Workorder: 1735685 [ENV_LVL4]
Workorder: 1735689 [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	581169	CCV for HBN 205839 [ELMS/2023]				CCV	3		E685041C3Q	5311		1/10/2018	
2	581170	LODV for HBN 205839 [ELMS/2023				LODV	3		E6850..D3Q	5311		1/10/2018	
3	581171	ICS for HBN 205839 [ELMS/2023]				ICS	3		E6850..D3Q	5311		1/10/2018	
4	581172	LMB for HBN 205839 [ELMS/2023]				LMB	3		E6850Q413Q	5311		1/10/2018	
5	581173	LCS for HBN 205839 [ELMS/2023]				LCS	3		E6850Q413Q	5311		1/10/2018	
6	1735679001	LH18/24-SP140_122017				SAMPLE	3	1735679001-A	E6850Q41.3	5480	1/17/2018	1/10/2018	
7	1735681001	LH18/24-SP650_122017				SAMPLE	3	1735681001-A	E6850Q41.3	5480	1/17/2018	1/10/2018	
8	581367	LH18/24-SP650...(1735681001MS)				MS	3		E6850Q413Q	5311		1/10/2018	
9	581368	LH18/24-SP65...(1735681001MSD)				MSD	3		E6850Q413Q	5311		1/10/2018	
10	1735685001	MW14_121817				SAMPLE	3	1735685001-A	E6850Q41.3	5480	1/15/2018	1/10/2018	
11	1735685002	MW14_121817_a				SAMPLE	3	1735685002-A	E6850Q41.3	5480	1/15/2018	1/10/2018	
12	1735685003	MW21_121817				SAMPLE	3	1735685003-A	E6850Q41.3	5480	1/15/2018	1/10/2018	
13	1735685004	MW22_121817				SAMPLE	3	1735685004-A	E6850Q41.3	5480	1/15/2018	1/10/2018	
14	1735685005	18CPTMW06_121817				SAMPLE	3	1735685005-A	E6850Q41.3	5480	1/15/2018	1/10/2018	
15	1735685006	18CPTMW06_121817_a				SAMPLE	3	1735685006-A	E6850Q41.3	5480	1/15/2018	1/10/2018	
16	1735685007	18CPTMW16_121817				SAMPLE	3	1735685007-A	E6850Q41.3	5480	1/15/2018	1/10/2018	
17	1735685008	AWD3_121817				SAMPLE	3	1735685008-A	E6850Q41.3	5480	1/15/2018	1/10/2018	
18	581176	CCV for HBN 205839 [ELMS/2023]				CCV	3		E685041C3Q	5311		1/10/2018	
19	581177	LODV for HBN 205839 [ELMS/2023				LODV	3		E6850..D3Q	5311		1/10/2018	
20	1735689001	LH18/24-SP650_122017				SAMPLE	3	1735689001-A	E6850Q41.3	5480	1/17/2018	1/10/2018	
21	581178	CCV for HBN 205839 [ELMS/2023]				CCV	3		E685041C3Q	5311		1/10/2018	
22	581179	LODV for HBN 205839 [ELMS/2023				LODV	3		E6850..D3Q	5311		1/10/2018	

00880994



ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Analytical Documentation



ALS Work Order #'s & Sample #( )'s: 1735679 (001); 1735681 (001); 1735685 (00108); 1735689 (001)
ELMS Batch/HBN ID: 2023 (205839)
Prep Date: 12/28/2017 Analysis Date: 12/28/2017 Analyst: T. Bosch
Analyte: **Perchlorate** Matrix: **Water** Method: **6850**
Sequence:\\HPCHEM\1\SEQUENCE\CLO4\2017\DEC\28DEC17P. 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 581173; Target = 5.0µg/L. ASTM type II water was used for LMB 581172.

MS/MSD: MS/MSD was performed on sample 1735681001 (Client ID: LH18/24SP140_122017). 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 1735679001 was analyzed and reported at a 1:1,000 dilution. Samples 1735685001/02/03/08 were analyzed and reported at the following dilutions: 1:10,000/10,000/1,000/1,000. The reporting limits have been adjusted accordingly.
2) All QC, Blank, CCV, and MS/MSD results were within method parameters, except for the following. The Matrix Spike (MS - 581367) failed QC acceptance criteria for percent recovery. The Relative Percent Difference (RPD) also failed QC criteria. The Matrix Spike and Matrix Spike duplicate is reported for the clients' information only. The sample matrix may be inappropriate for the method selected.
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 28DECP03/11/12/17/18.
5) Notebook: \\alsltws013\ORGANIC\BOSCH\LCMS\Perchlorates\Waters\2017\CLO4-205839-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	Created By: T. Bosch	Amount: 100 mL
MFG: AccuStandard	Create Date: 5/10/2017	Expires: 10/4/2018
MFG Lot: 216095148	Lab Lot: CLO4 STOCK	Usable: Yes
Part ID: IC-PER-10X-1		

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 | Created By: T. Bosch | Amount: 10 mL
MFG: ALS/SLC | Create Date: 05/11/2017 | Expires: 05/11/2018
MFG Lot: TNB: 05/11/2017 | Lab Lot: CLO4 QC INT 10.ug/mL | Usable: Yes
Part ID:

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	Created By:	T. Bosch	Amount:	100 mL
MFG:	Ultra Scientific	Create Date:	5/11/2017	Expires:	3/31/2020
MFG Lot:	CP-0860	Lab Lot:	CLO4 QC STOCK	Usable:	Yes
Part ID:	ICC-013				

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**	Created By:	Thomas Bosch	Amount:	10 mL
MFG:	ALS/SLC	Create Date:	10/09/2017 01:10PM	Expires:	10/09/2018
MFG Lot:	TNB: 10/09/17	Verified By:	Thomas Bosch	Usable:	Yes
Pipette ID:	Not Provided	Verify Date:		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 17025 • ISO GUIDE 34 • ISO 9001

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 REFERENCE MATERIAL PRODUCER
ANAB ACCREDITED TESTING LABORATORY

ALS

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

TRIPLE ISO CERTIFICATION ULTRA ISO 9001 • ISO GUIDE 34 • ISO/IEC 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

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

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ALS

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

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\28DEC17D\28DEC17D.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
	*	581169	CCV@25	Vial 71	1	Control	1	1.01859e6	12.182	25.96141
	*	581170	LODV@1.	Vial 72	1	Control	2	4.43782e4	12.318	1.16307
	*	581171	ICS@1.	Vial 73	1	Control	3	2.36682e4	11.986	8.90663e-1
	*	581172	LMB	Vial 74	1	Control	4	0.00000	0.000	0.00000
	*	581173	LCS@5.	Vial 75	1	Control	5	1.94810e5	12.377	5.27149
	*	1735679001	1K	Vial 76	1	Sample	6	3.15673e5	12.413	8119.23601
	*	1735681001		Vial 77	1	Sample	7	0.00000	0.000	0.00000
	*	1735685001	10K	Vial 78	1	Sample	8	6.12244e5	12.412	1.52642e5
	*	1735685002	10K	Vial 79	1	Sample	9	5.86286e5	12.424	1.45162e5
	*	1735685003	1K	Vial 80	1	Sample	10	8.58552e5	12.416	2.14594e4
	*	1735685004	100	Vial 81	1	Sample	11	2.15054e4	12.400	58.09091
	*	1735685005	100	Vial 82	1	Sample	12	4777.41943	12.440	15.63459
	*	1735685006		Vial 83	1	Sample	13	3.50391e4	11.899	9.39453e-1
	*	1735685007		Vial 84	1	Sample	14	0.00000	0.000	0.00000
	*	1735685008	1K	Vial 85	1	Sample	15	3.50228e5	12.396	8838.83797
	*	581176	CCV@25	Vial 71	1	Control	16	1.03216e6	12.243	25.58790
	*	581177	LODV@1.	Vial 72	1	Control	17	4.46104e4	12.365	1.14067
	*	1735689001		Vial 86	1	Sample	18	2.43839e4	11.970	6.69783e-1
	*	581367	356811S	Vial 87	1	Sample	19	1.86974e5	12.011	6.41601
	*	581368	356811D	Vial 88	1	Sample	20	1.82162e5	12.009	4.96862
	*	1735685004		Vial 89	1	Sample	21	1.65326e6	11.810	39.73792
	*	1735685005		Vial 90	1	Sample	22	6.82111e4	12.029	1.77732
	*	581178	CCV@25	Vial 71	1	Control	23	1.10850e6	12.340	26.55255
	*	581179	LODV@1.	Vial 72	1	Control	24	5.07547e4	12.522	1.22551

#	*	Sample	Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
	*	581169	CCV@25	Vial 71	1	Control	1	3.15397e5	12.200	25.52114
	*	581170	LODV@1.	Vial 72	1	Control	2	1.58993e4	12.318	1.06485
	*	581171	ICS@1.	Vial 73	1	Control	3	7909.42334	11.994	6.95976e-1
	*	581172	LMB	Vial 74	1	Control	4	0.00000	0.000	0.00000
	*	581173	LCS@5.	Vial 75	1	Control	5	6.43923e4	12.394	5.22105
	*	1735679001	1K	Vial 76	1	Sample	6	1.05967e5	12.424	8316.16801
	*	1735681001		Vial 77	1	Sample	7	0.00000	0.000	0.00000
	*	1735685001	10K	Vial 78	1	Sample	8	2.00772e5	12.423	1.55841e5
	*	1735685002	10K	Vial 79	1	Sample	9	1.93899e5	12.438	1.49200e5
	*	1735685003	1K	Vial 80	1	Sample	10	2.70354e5	12.429	2.12978e4
	*	1735685004	100	Vial 81	1	Sample	11	7779.59229	12.397	42.10595
	*	1735685005	100	Vial 82	1	Sample	12	1968.70264	12.453	0.00000
	*	1735685006		Vial 83	1	Sample	13	1.48166e4	11.927	9.98323e-1
	*	1735685007		Vial 84	1	Sample	14	0.00000	0.000	0.00000
	*	1735685008	1K	Vial 85	1	Sample	15	1.15251e5	12.413	8903.21632
	*	581176	CCV@25	Vial 71	1	Control	16	3.24643e5	12.259	25.50704
	*	581177	LODV@1.	Vial 72	1	Control	17	1.30513e4	12.396	8.12346e-1
	*	1735689001		Vial 86	1	Sample	18	8719.61621	12.011	5.12863e-1
	*	581367	356811S	Vial 87	1	Sample	19	6.47928e4	12.018	6.72389
	*	581368	356811D	Vial 88	1	Sample	20	6.39179e4	12.026	5.21417
	*	1735685004		Vial 89	1	Sample	21	5.33653e5	11.825	41.11392
	*	1735685005		Vial 90	1	Sample	22	2.47354e4	12.040	1.77469
	*	581178	CCV@25	Vial 71	1	Control	23	3.53710e5	12.359	26.85149
	*	581179	LODV@1.	Vial 72	1	Control	24	1.76874e4	12.520	1.09818

#	*	Sample	Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
	*	581169	CCV@25	Vial 71	1	Control	1	1.60075e5	12.205	5.00000
	*	581170	LODV@1.	Vial 72	1	Control	2	1.79761e5	12.329	5.00000
	*	581171	ICS@1.	Vial 73	1	Control	3	1.26200e5	12.010	5.00000
	*	581172	LMB	Vial 74	1	Control	4	1.41507e5	12.370	5.00000

Batch Report: C:\HPCHEM\1\DATA\28DEC17D\28DEC17D.B

#*	Sample	Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
*	581173	LCS@5.	Vial 75	1	Control	5	1.67600e5	12.393	5.00000
*	1735679001	1K	Vial 76	1	Sample	6	1.73474e5	12.435	5000.00000
*	1735681001		Vial 77	1	Sample	7	1.69952e5	12.021	5.00000
*	1735685001	10K	Vial 78	1	Sample	8	1.72405e5	12.435	5.00000e4
*	1735685002	10K	Vial 79	1	Sample	9	1.74260e5	12.443	5.00000e4
*	1735685003	1K	Vial 80	1	Sample	10	1.66785e5	12.435	5000.00000
*	1735685004	100	Vial 81	1	Sample	11	1.78776e5	12.412	500.00000
*	1735685005	100	Vial 82	1	Sample	12	1.67796e5	12.419	500.00000
*	1735685006		Vial 83	1	Sample	13	1.76823e5	11.925	5.00000
*	1735685007		Vial 84	1	Sample	14	1.79543e5	12.105	5.00000
*	1735685008	1K	Vial 85	1	Sample	15	1.76102e5	12.410	5000.00000
*	581176	CCV@25	Vial 71	1	Control	16	1.64866e5	12.271	5.00000
*	581177	LODV@1.	Vial 72	1	Control	17	1.84350e5	12.394	5.00000
*	1735689001		Vial 86	1	Sample	18	1.74712e5	12.004	5.00000
*	581367	356811S	Vial 87	1	Sample	19	1.31274e5	12.027	5.00000
*	581368	356811D	Vial 88	1	Sample	20	1.66581e5	12.035	5.00000
*	1735685004		Vial 89	1	Sample	21	1.59385e5	11.831	5.00000
*	1735685005		Vial 90	1	Sample	22	1.78902e5	12.046	5.00000
*	581178	CCV@25	Vial 71	1	Control	23	1.69852e5	12.361	5.00000
*	581179	LODV@1.	Vial 72	1	Control	24	1.94839e5	12.543	5.00000

*** End of Report ***

Sequence: C:\HPCHEM\1\SEQUENCE\CLO4\2017\DEC\28DEC17D.S

Sequence Table:

Method and Injection Info Part:

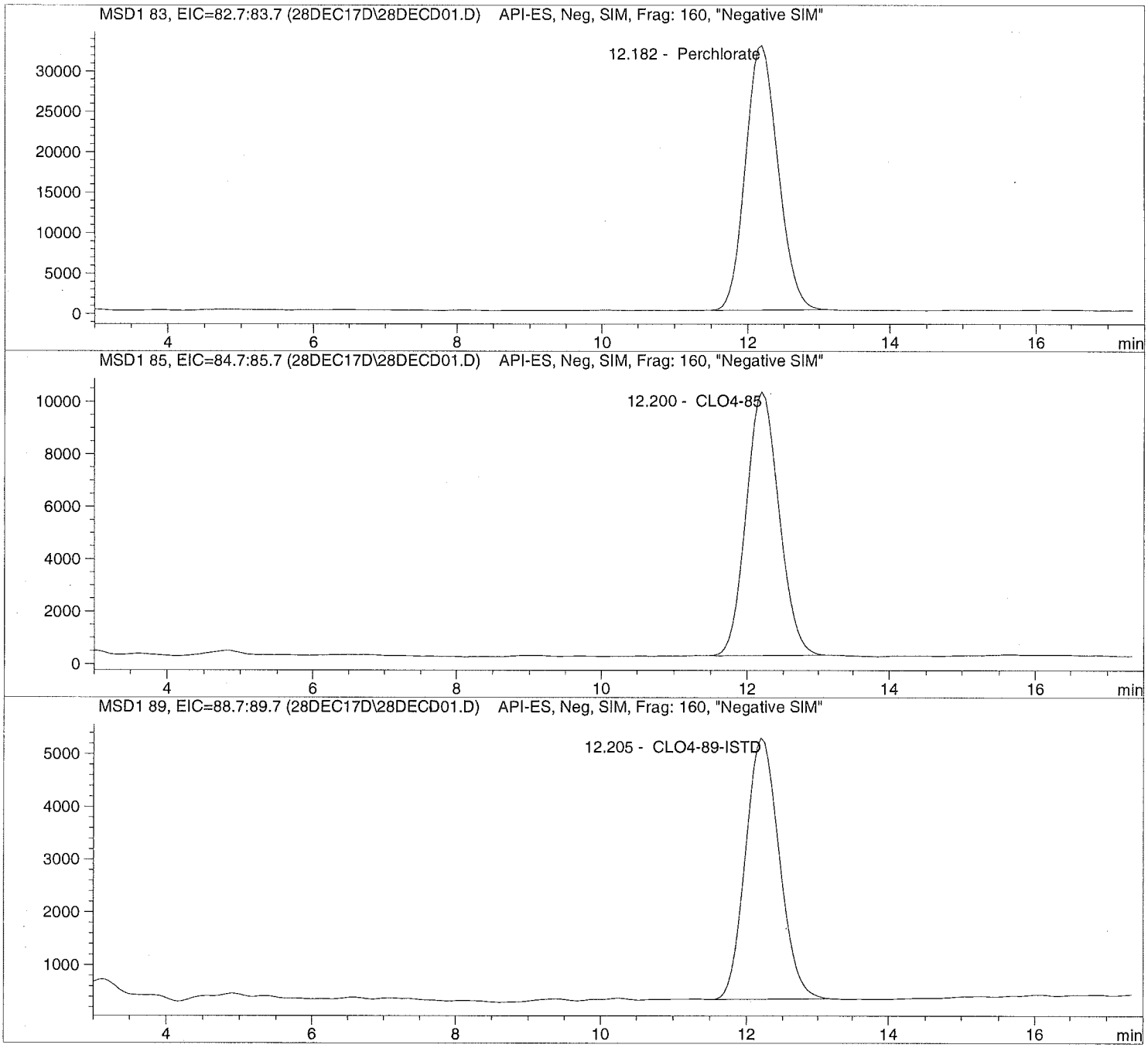
Line	Location	SampleName		Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	581169	CCV@25	CLO4-DOD	1	Ctrl Samp		
2	Vial 72	581170	LODV@1.	CLO4-DOD	1	Ctrl Samp		
3	Vial 73	581171	ICS@1.	CLO4-DOD	1	Ctrl Samp		
4	Vial 74	581172	LMB	CLO4-DOD	1	Ctrl Samp		
5	Vial 75	581173	LCS@5.	CLO4-DOD	1	Ctrl Samp		
6	Vial 76	1735679001	1K	CLO4-DOD	1	Sample		
7	Vial 77	1735681001		CLO4-DOD	1	Sample		
8	Vial 78	1735685001	10K	CLO4-DOD	1	Sample		
9	Vial 79	1735685002	10K	CLO4-DOD	1	Sample		
10	Vial 80	1735685003	1K	CLO4-DOD	1	Sample		
11	Vial 81	1735685004	100	CLO4-DOD	1	Sample		
12	Vial 82	1735685005	100	CLO4-DOD	1	Sample		
13	Vial 83	1735685006		CLO4-DOD	1	Sample		
14	Vial 84	1735685007		CLO4-DOD	1	Sample		
15	Vial 85	1735685008	1K	CLO4-DOD	1	Sample		
16	Vial 71	581176	CCV@25	CLO4-DOD	1	Ctrl Samp		
17	Vial 72	581177	LODV@1.	CLO4-DOD	1	Ctrl Samp		
18	Vial 86	1735689001		CLO4-DOD	1	Sample		
19	Vial 87	581367	356811S	CLO4-DOD	1	Sample		
20	Vial 88	581368	356811D	CLO4-DOD	1	Sample		
21	Vial 89	1735685004		CLO4-DOD	1	Sample		
22	Vial 90	1735685005		CLO4-DOD	1	Sample		
23	Vial 71	581178	CCV@25	CLO4-DOD	1	Ctrl Samp		
24	Vial 72	581179	LODV@1.	CLO4-DOD	1	Ctrl Samp		

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD01.D Sample Name: 581169 CCV@25

Injection Date:	12/28/2017 10:52:30	Seq Line:	1
Sample Name:	581169 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\28DEC17D\28DECD01.D Sample Name: 581169 CCV@25

Injection Date:	12/28/2017 10:52:30	Seq Line:	1
Sample Name:	581169 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
12.182	BBA	1018588.3	25.9614	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.200	BBA	315397.3	25.5211	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.205	PBA	160074.8	5.0000	CLO4-89-ISTD

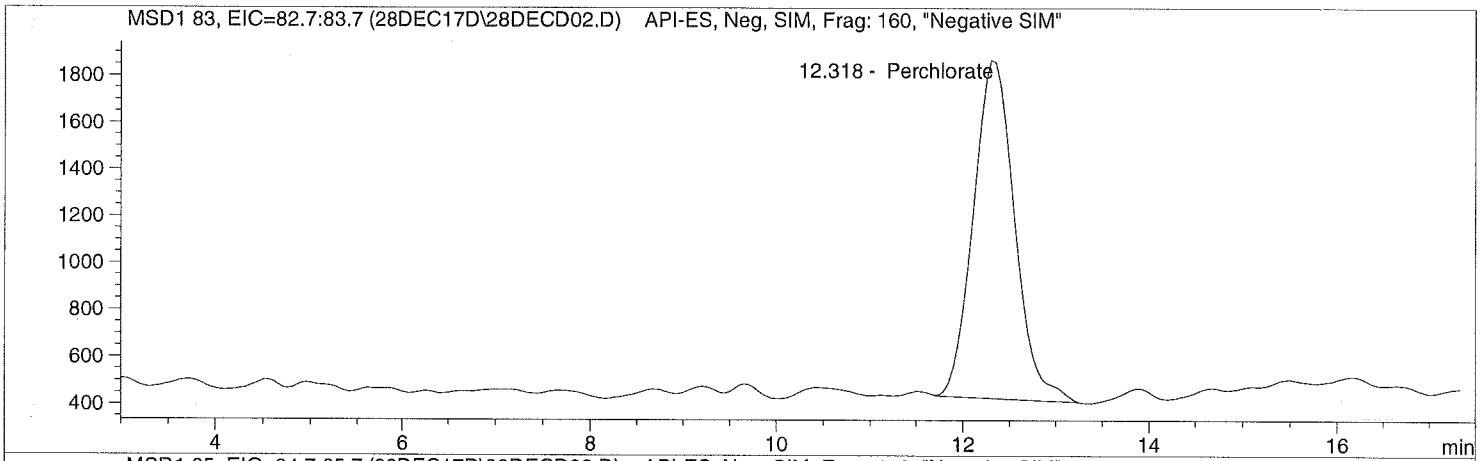
*** End of Report ***

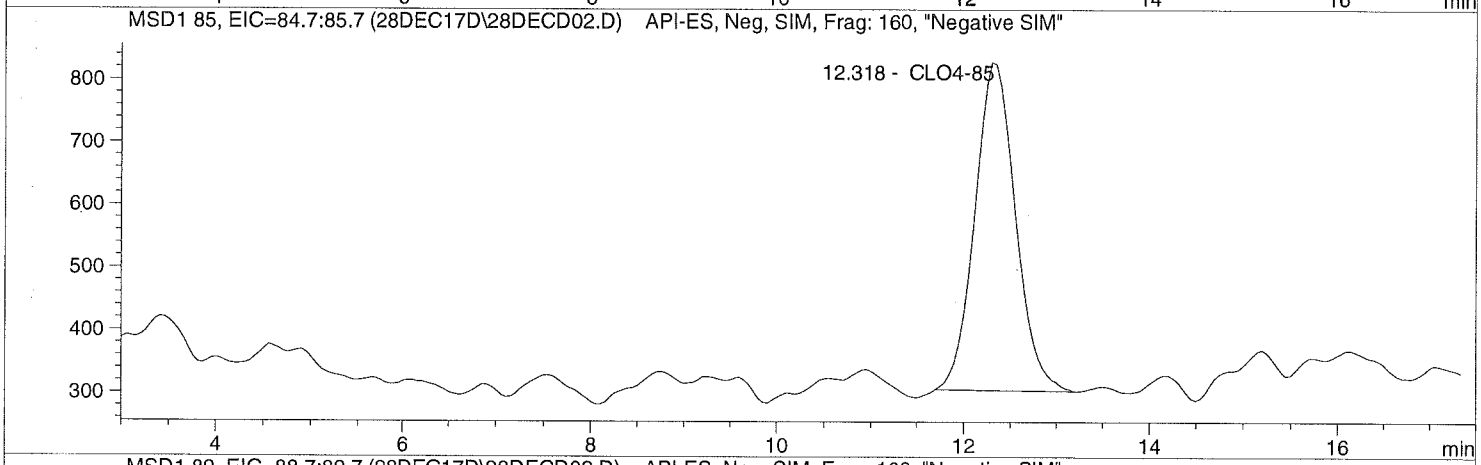
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD02.D Sample Name: 581170 LODV@1.

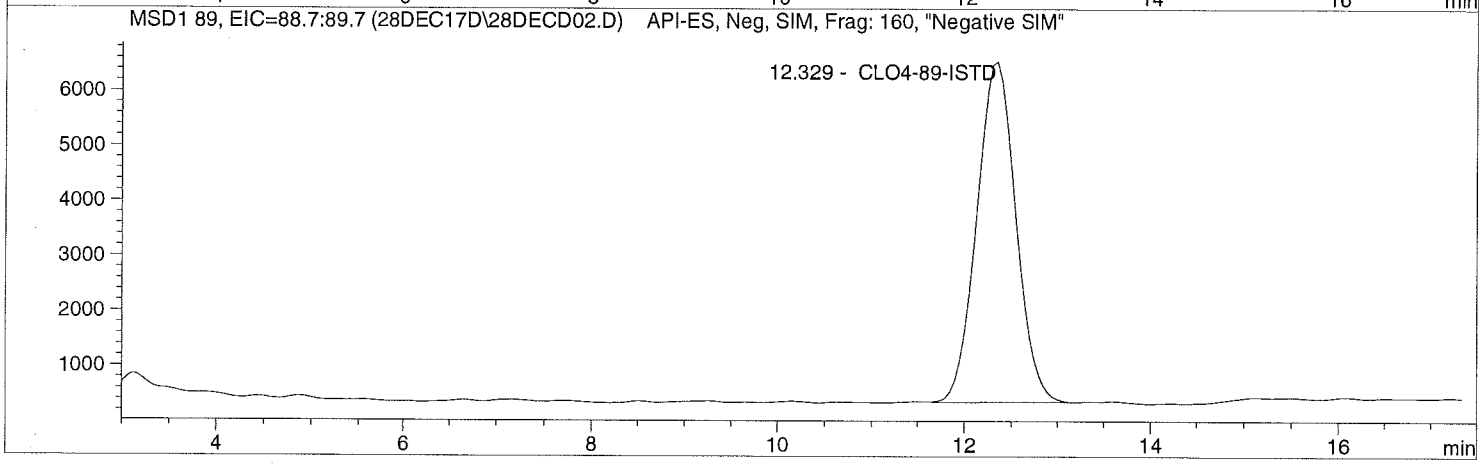
Injection Date:	12/28/2017 11:11:38	Seq Line:	2
Sample Name:	581170 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD02.D Sample Name: 581170 LODV@1.

Injection Date:	12/28/2017 11:11:38	Seq Line:	2
Sample Name:	581170 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
12.318	BBA	44378.2	1.1631	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.318	PBA	15899.3	1.0648	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.329	BBA	179761.5	5.0000	CLO4-89-ISTD

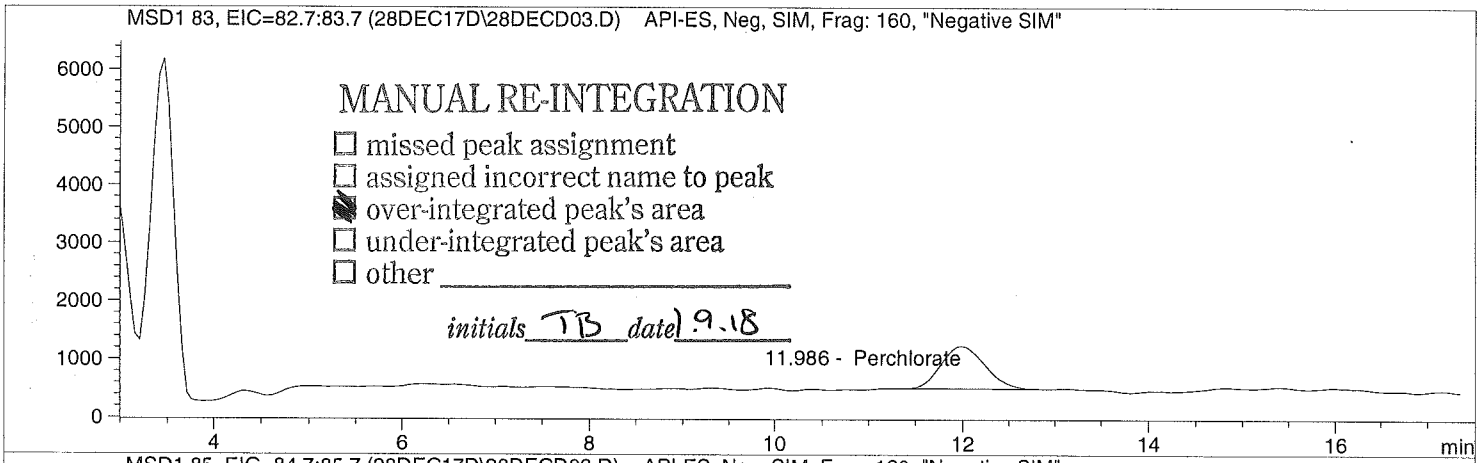
*** End of Report ***

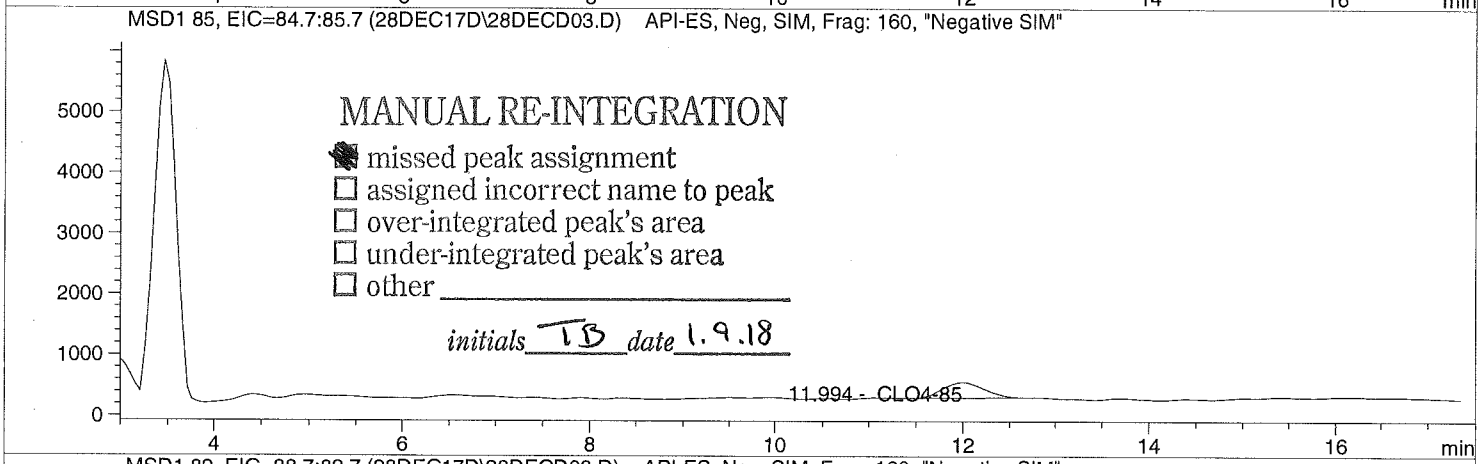
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD03.D Sample Name: 581171 ICS@1.

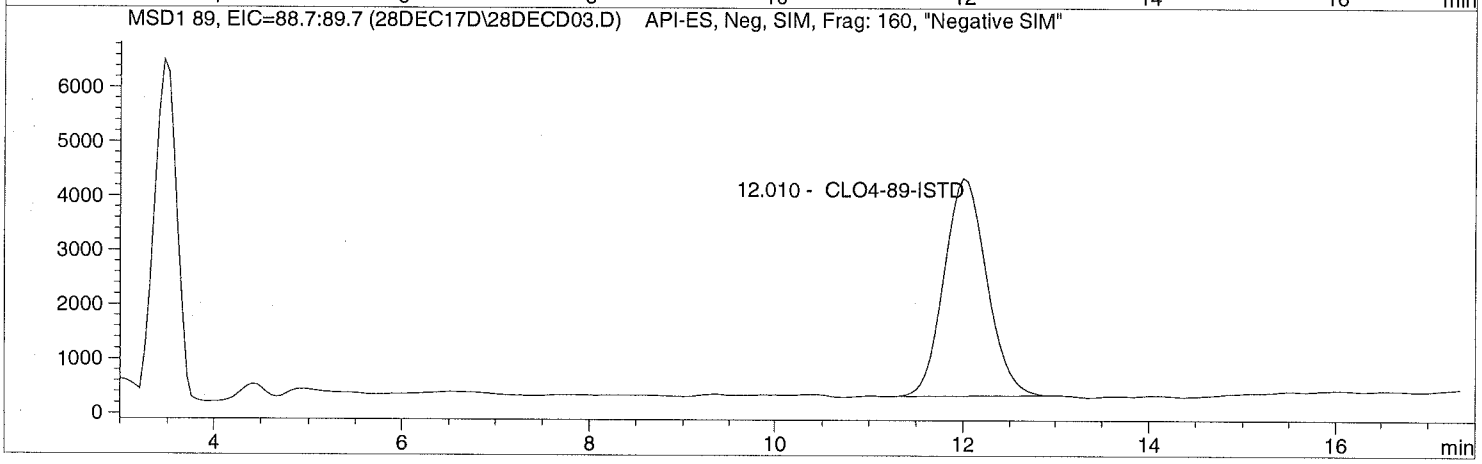
Injection Date:	12/28/2017 11:30:49	Seq Line:	3
Sample Name:	581171 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD03.D Sample Name: 581171 ICS@1.

Injection Date:	12/28/2017 11:30:49	Seq Line:	3
Sample Name:	581171 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
11.986	MM	23668.2	0.8907	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.994	MM	7909.4	0.6960	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.010	PBA	126199.8	5.0000	CLO4-89-ISTD

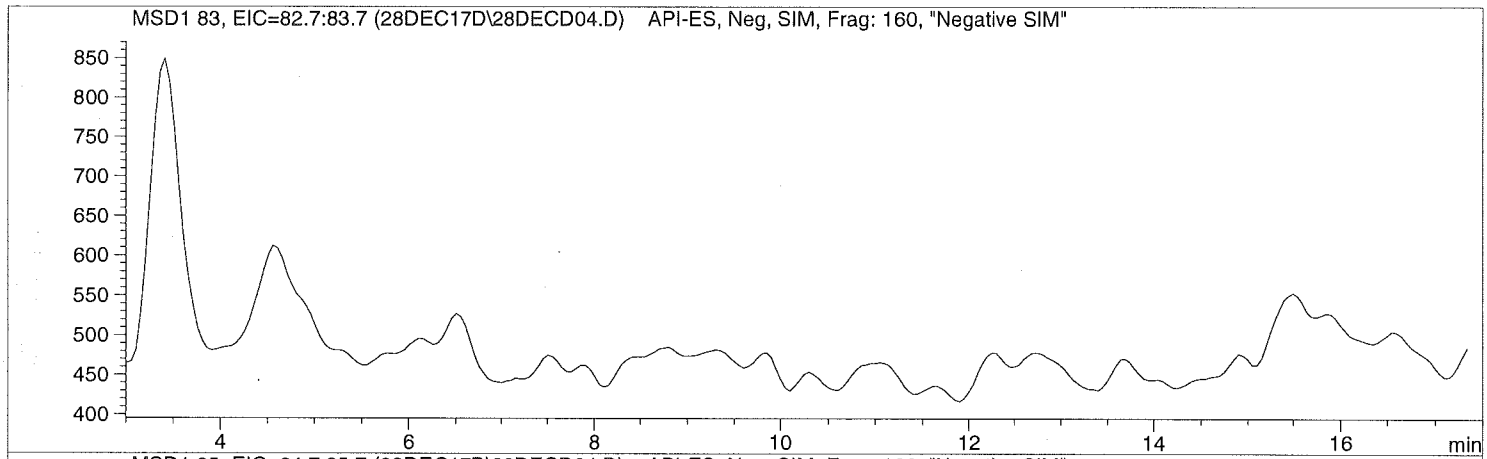
*** End of Report ***

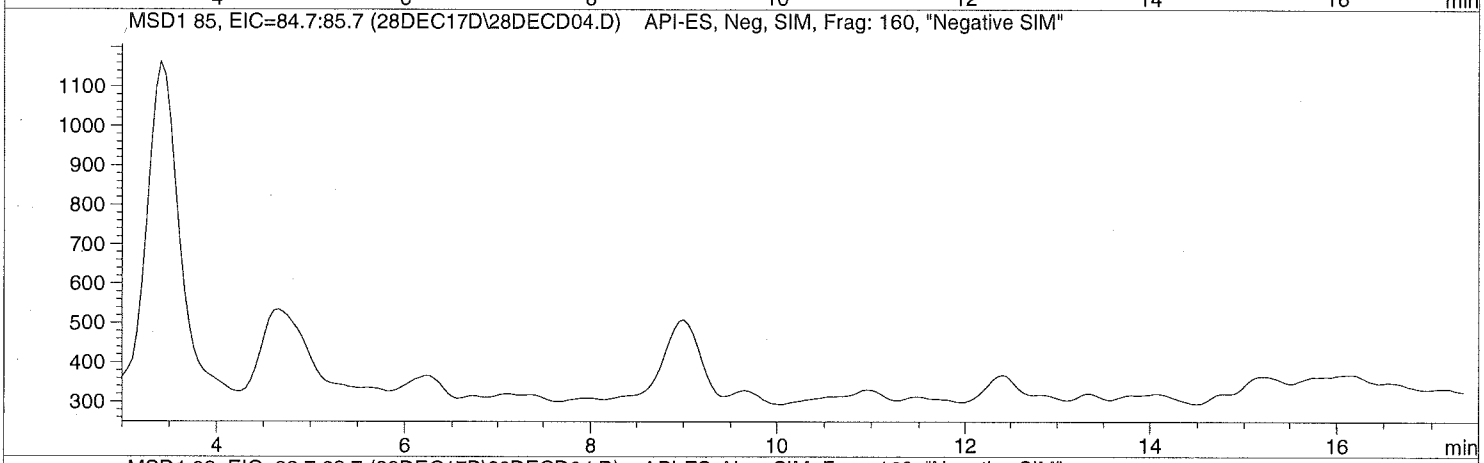
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD04.D Sample Name: 581172 LMB

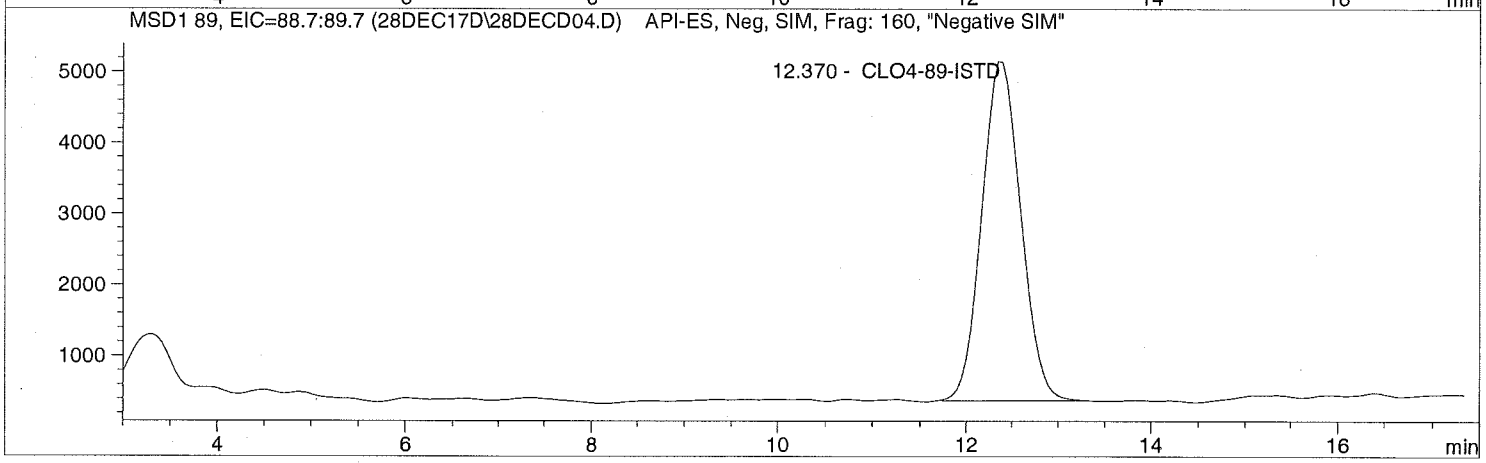
Injection Date:	12/28/2017 11:50:02	Seq Line:	4
Sample Name:	581172 LMB	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD04.D Sample Name: 581172 LMB

Injection Date:	12/28/2017 11:50:02	Seq Line:	4
Sample Name:	581172 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
12.370	BBA	141506.7	5.0000	CLO4-89-ISTD

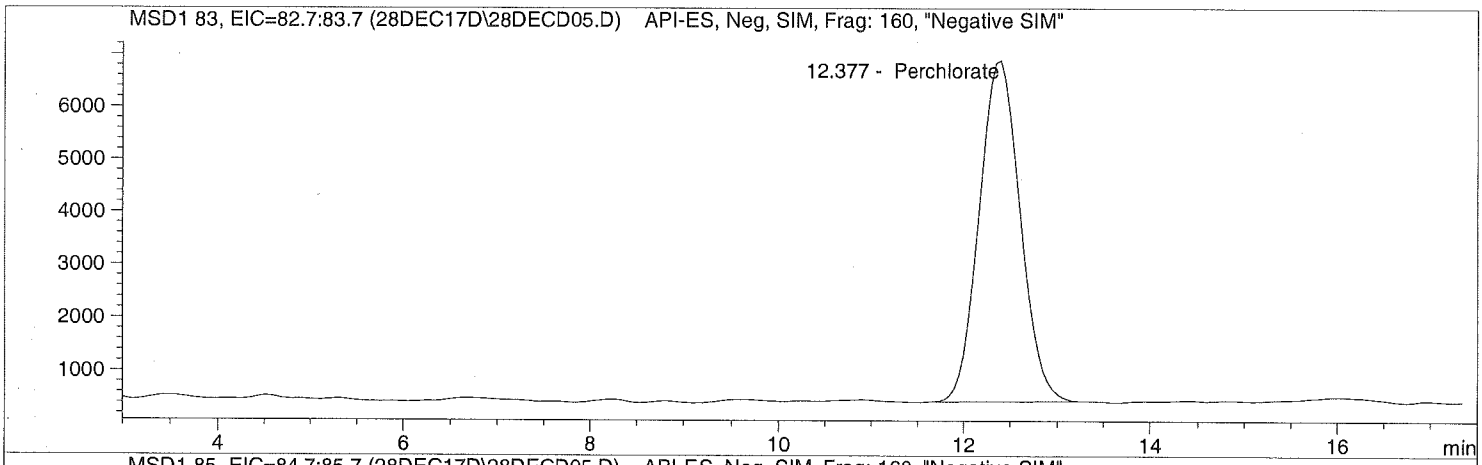
*** End of Report ***

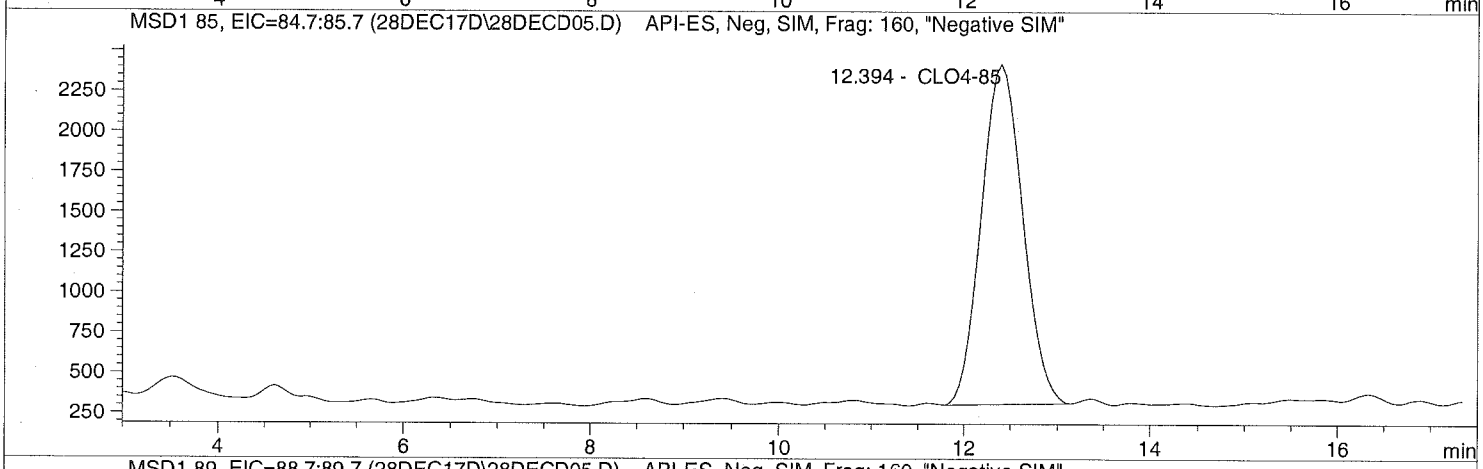
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD05.D Sample Name: 581173 LCS@5.

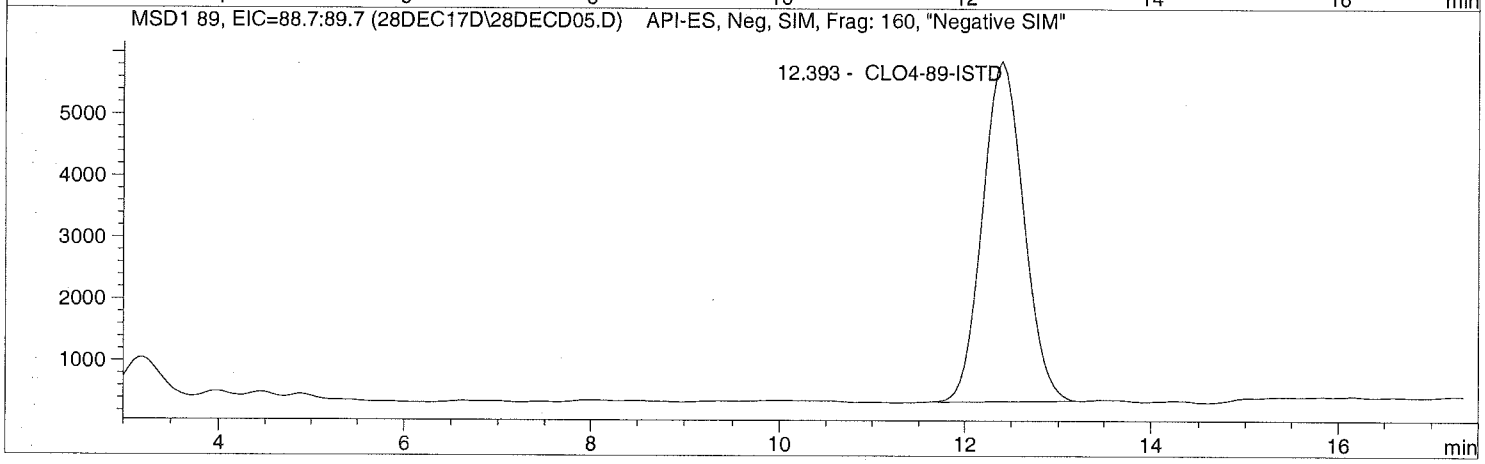
Injection Date:	12/28/2017 12:09:10	Seq Line:	5
Sample Name:	581173 LCS@5.	Location:	Vial 75
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD05.D Sample Name: 581173 LCS@5.

Injection Date:	12/28/2017 12:09:10	Seq Line:	5
Sample Name:	581173 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
12.377	PBA	194809.6	5.2715	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.394	PBA	64392.3	5.2210	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.393	BBA	167599.8	5.0000	CLO4-89-ISTD

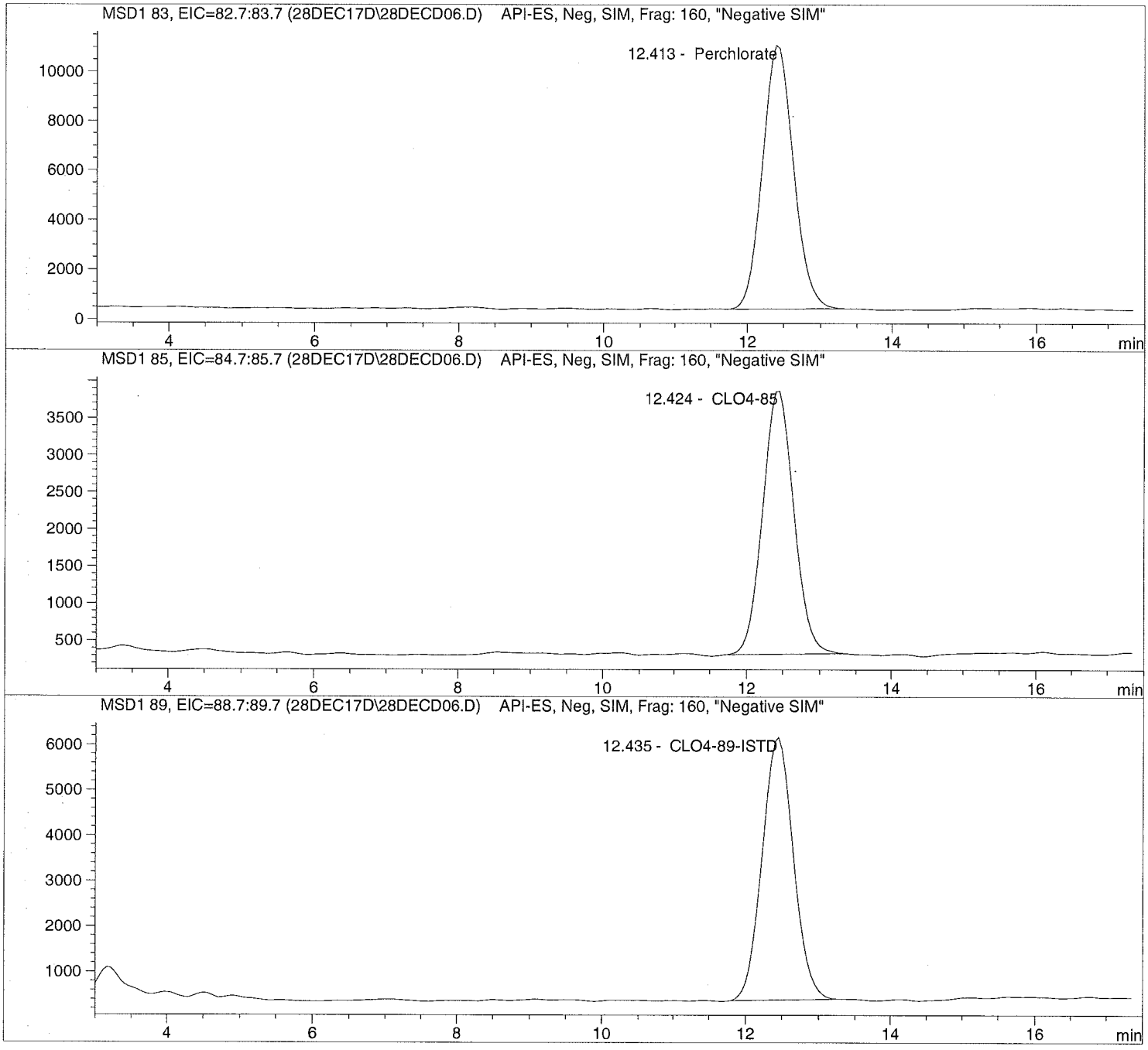
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD06.D Sample Name: 1735679001 1K

Injection Date:	12/28/2017 12:32:48	Seq Line:	6
Sample Name:	1735679001 1K	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\28DEC17D\28DECD06.D Sample Name: 1735679001 1K

Injection Date:	12/28/2017 12:32:48	Seq Line:	6
Sample Name:	1735679001 1K	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:	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
12.413	PBA	315672.6	8119.2360	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.424	BBA	105966.7	8316.1680	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.435	PBA	173474.0	5000.0000	CLO4-89-ISTD

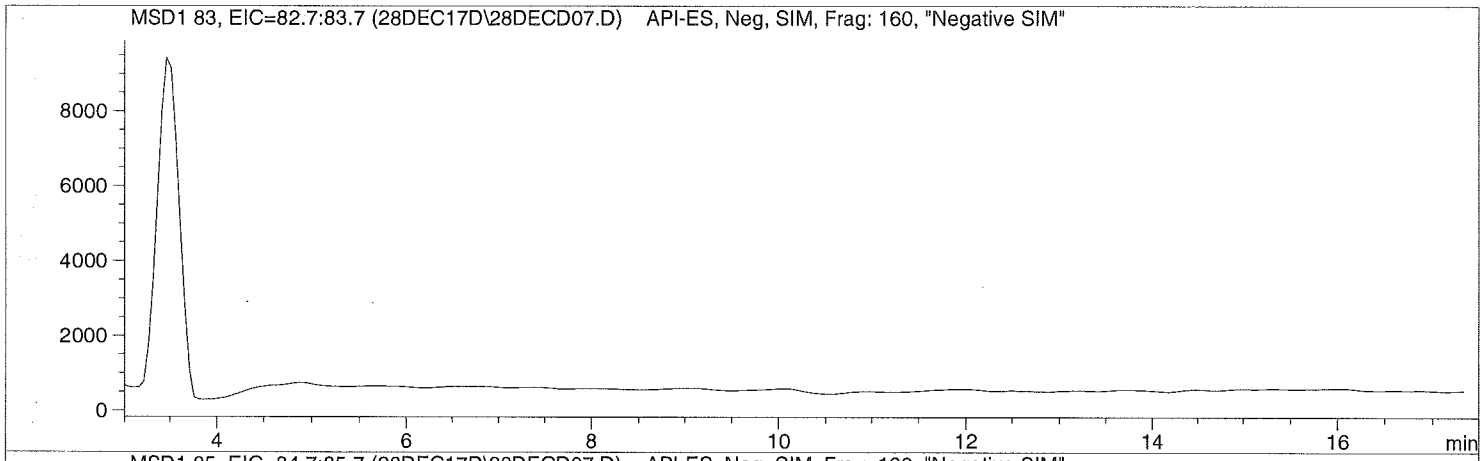
*** End of Report ***

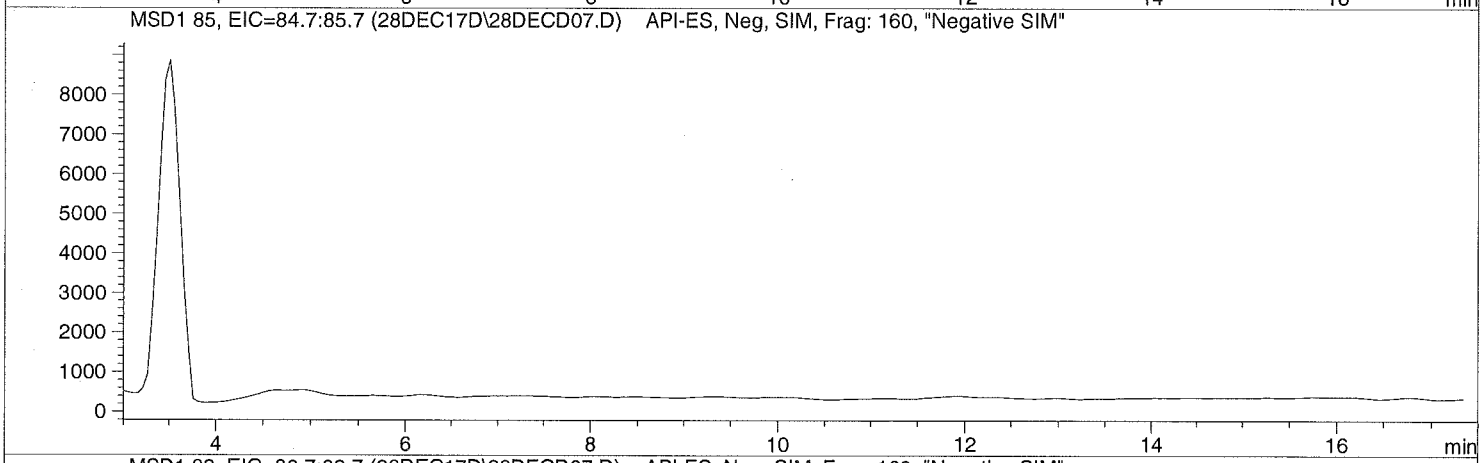
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD07.D Sample Name: 1735681001

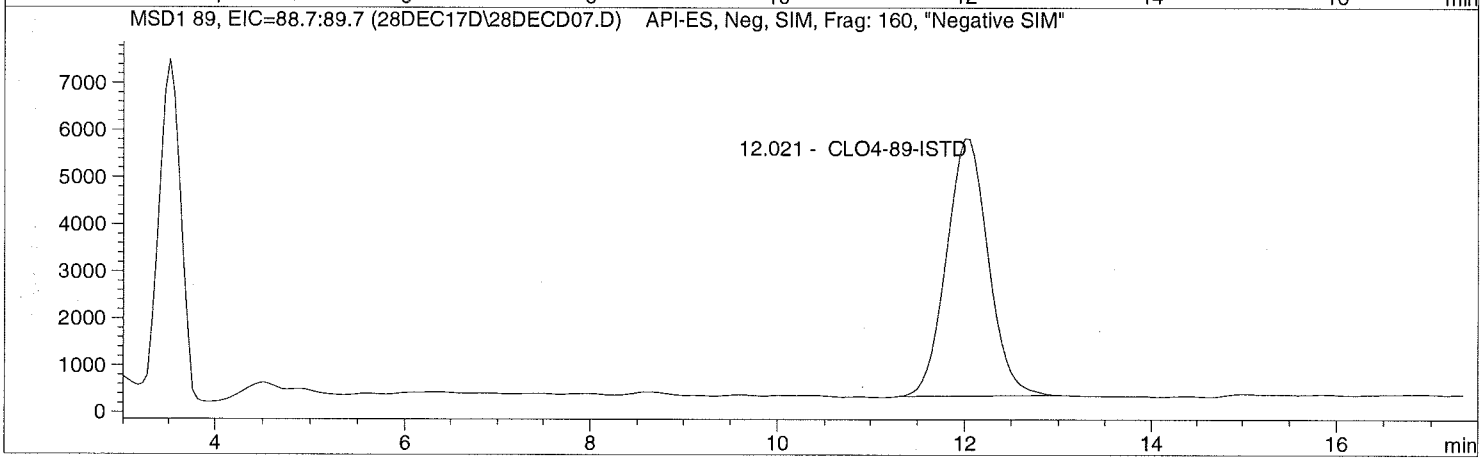
Injection Date:	12/28/2017 12:51:58	Seq Line:	7
Sample Name:	1735681001	Location:	Vial 77
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD07.D Sample Name: 1735681001

Injection Date:	12/28/2017 12:51:58	Seq Line:	7
Sample Name:	1735681001	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
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
12.021	PBA	169952.1	5.0000	CLO4-89-ISTD

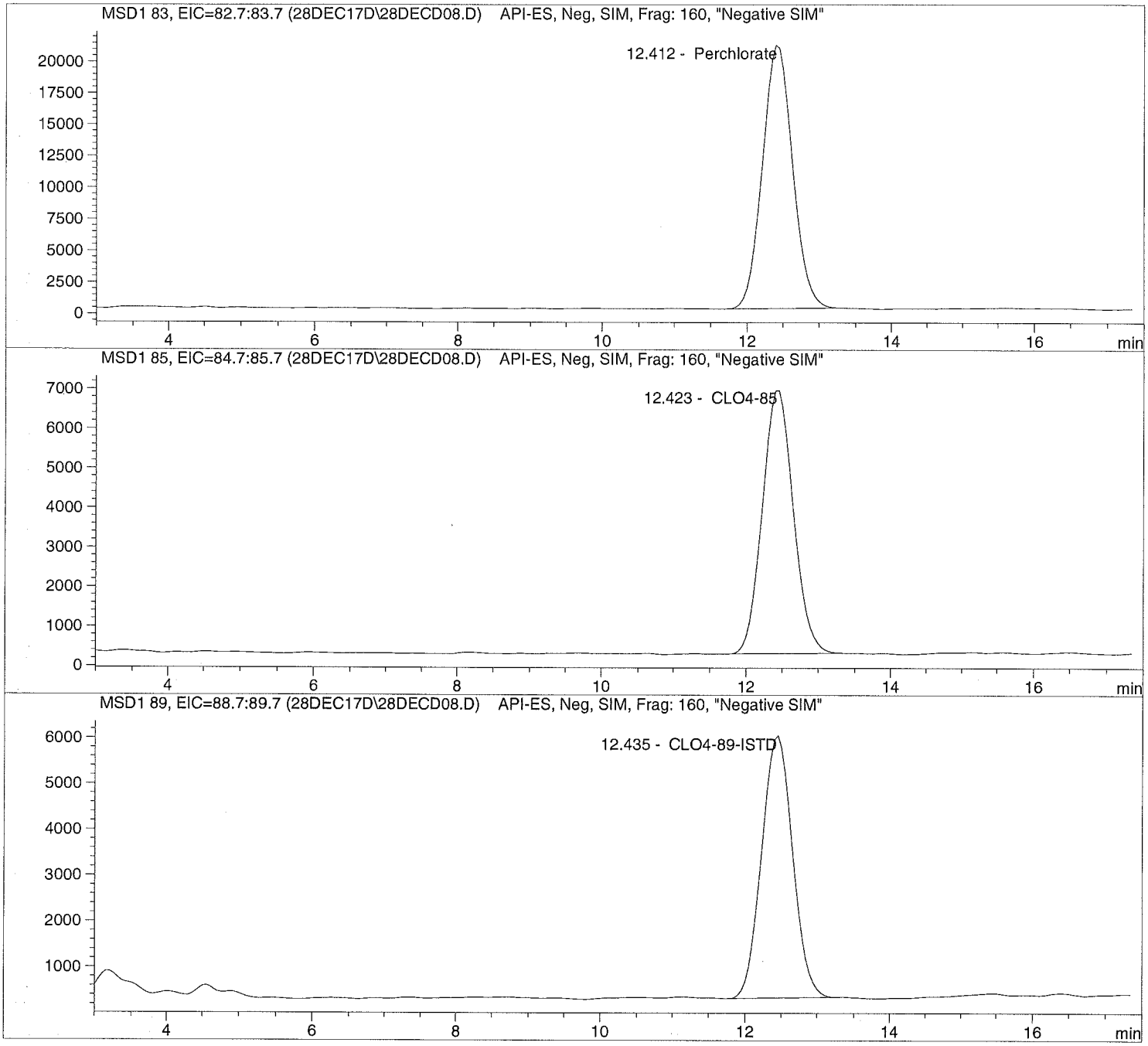
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD08.D Sample Name: 1735685001 10K

Injection Date:	12/28/2017 13:11:08	Seq Line:	8
Sample Name:	1735685001 10K	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\28DEC17D\28DECD08.D Sample Name: 1735685001 10K

Injection Date:	12/28/2017 13:11:08	Seq Line:	8
Sample Name:	1735685001 10K	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:	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
12.412	PBA	612244.4	152642.1371	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.423	BBA	200772.5	155841.2669	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.435	PBA	172404.8	50000.0000	CLO4-89-ISTD

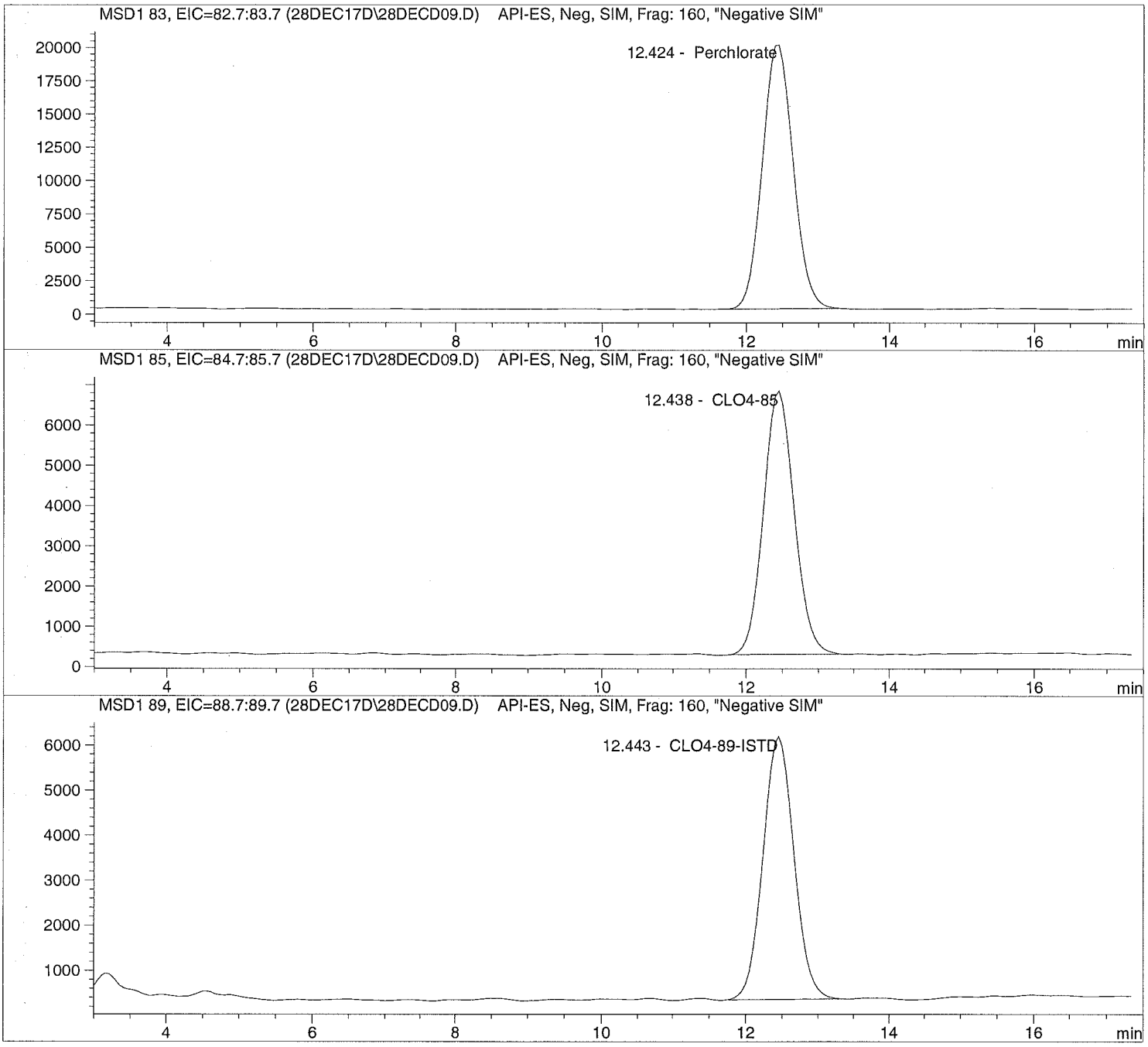
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD09.D Sample Name: 1735685002 10K

Injection Date:	12/28/2017 13:30:16	Seq Line:	9
Sample Name:	1735685002 10K	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\28DEC17D\28DECD09.D Sample Name: 1735685002 10K

Injection Date:	12/28/2017 13:30:16	Seq Line:	9
Sample Name:	1735685002 10K	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:	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
12.424	BBA	586285.9	145162.1164	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.438	PBA	193898.5	149199.8923	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.443	PBA	174260.2	50000.0000	CLO4-89-ISTD

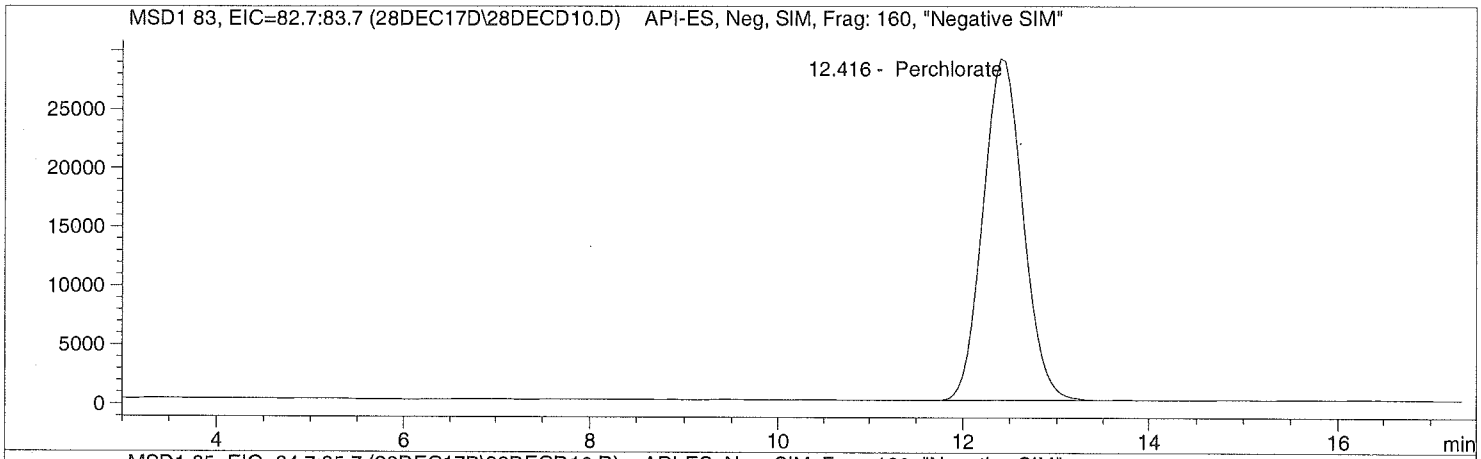
*** End of Report ***

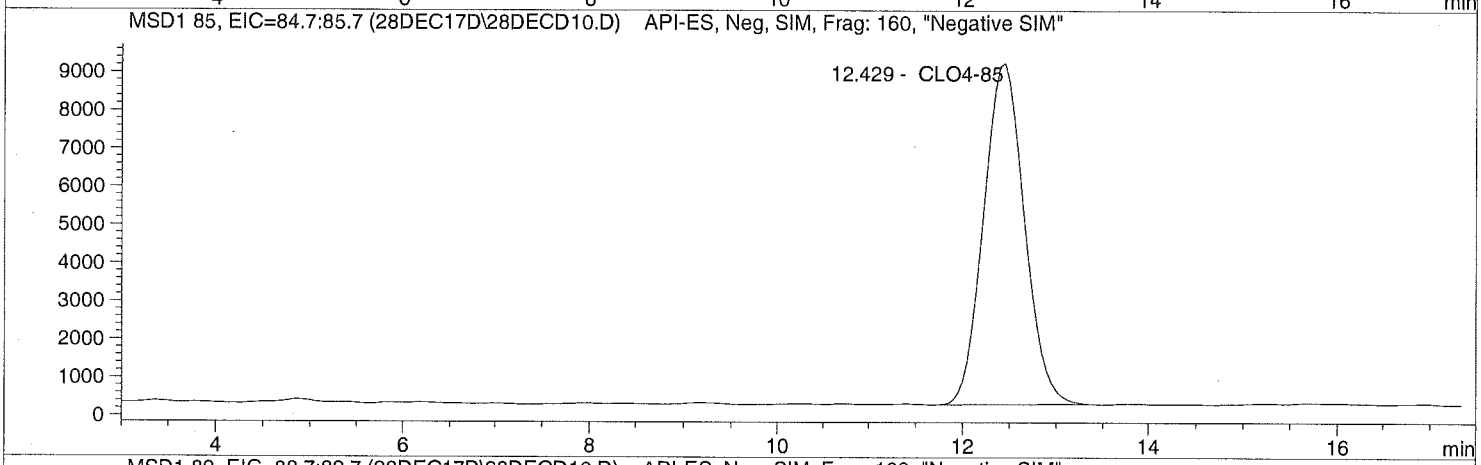
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD10.D Sample Name: 1735685003 1K

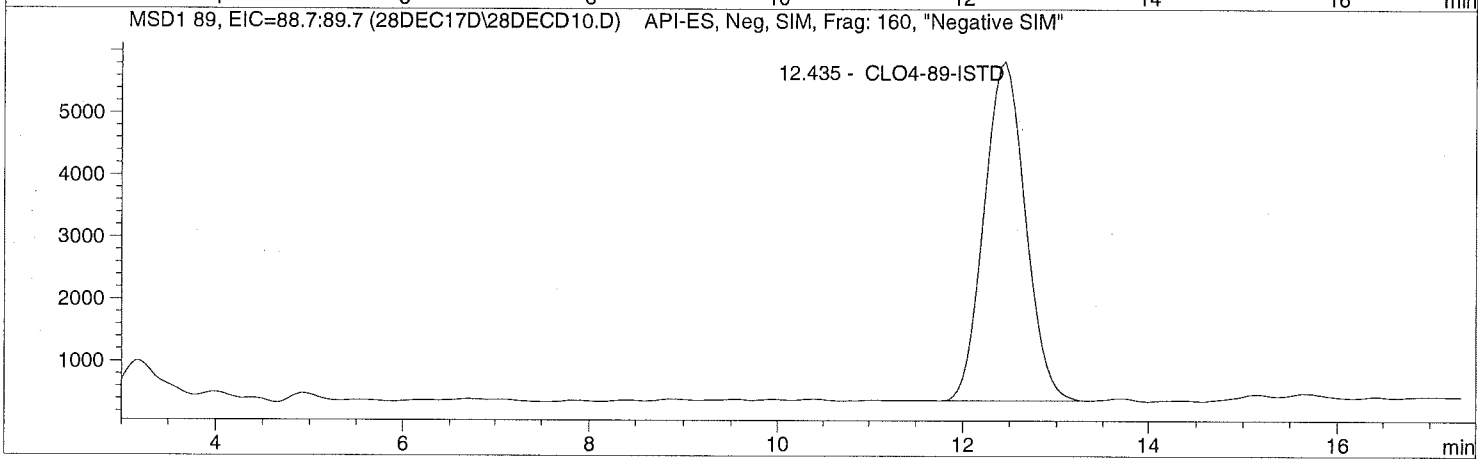
Injection Date:	12/28/2017 13:49:26	Seq Line:	10
Sample Name:	1735685003 1K	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD10.D Sample Name: 1735685003 1K

Injection Date:	12/28/2017 13:49:26	Seq Line:	10
Sample Name:	1735685003 1K	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:	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
12.416	PBA	858551.9	21459.4019	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.429	PBA	270354.0	21297.7935	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.435	PBA	166785.3	5000.0000	CLO4-89-ISTD

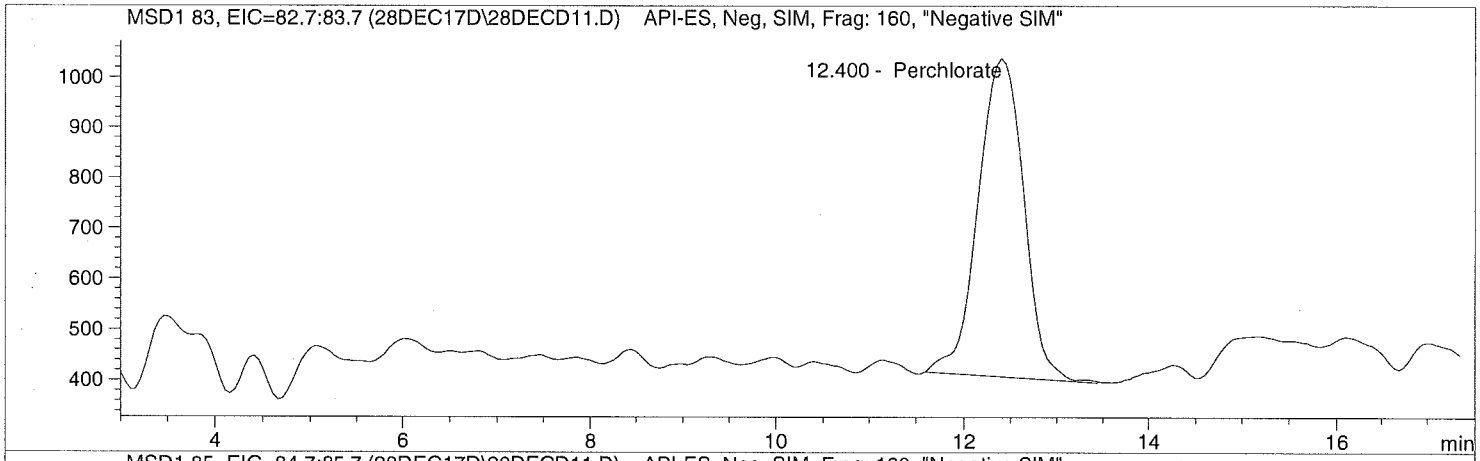
*** End of Report ***

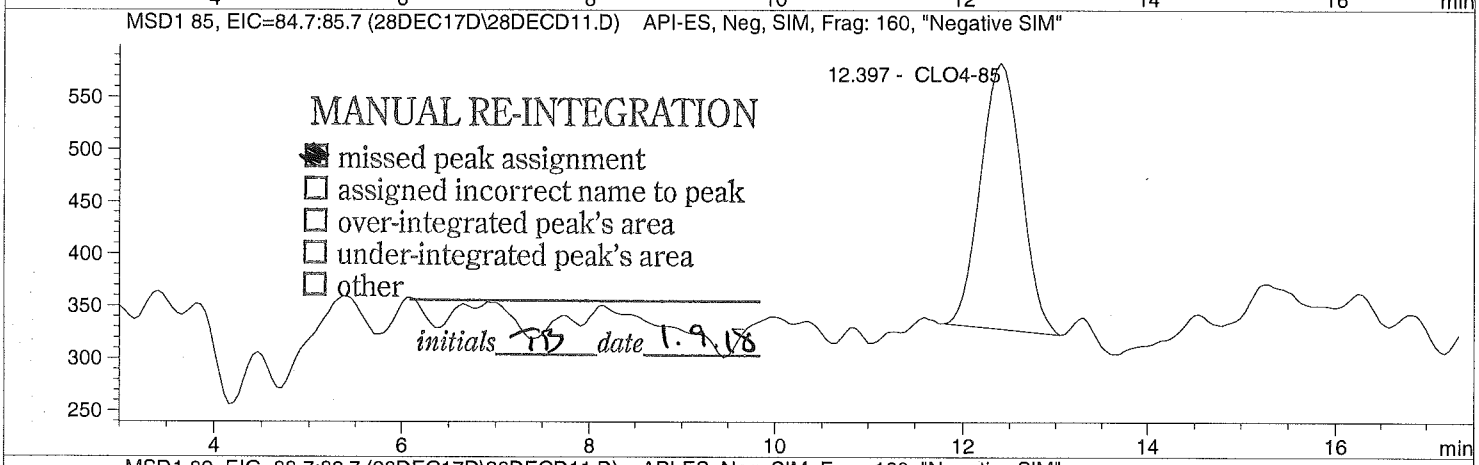
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD11.D Sample Name: 1735685004 100

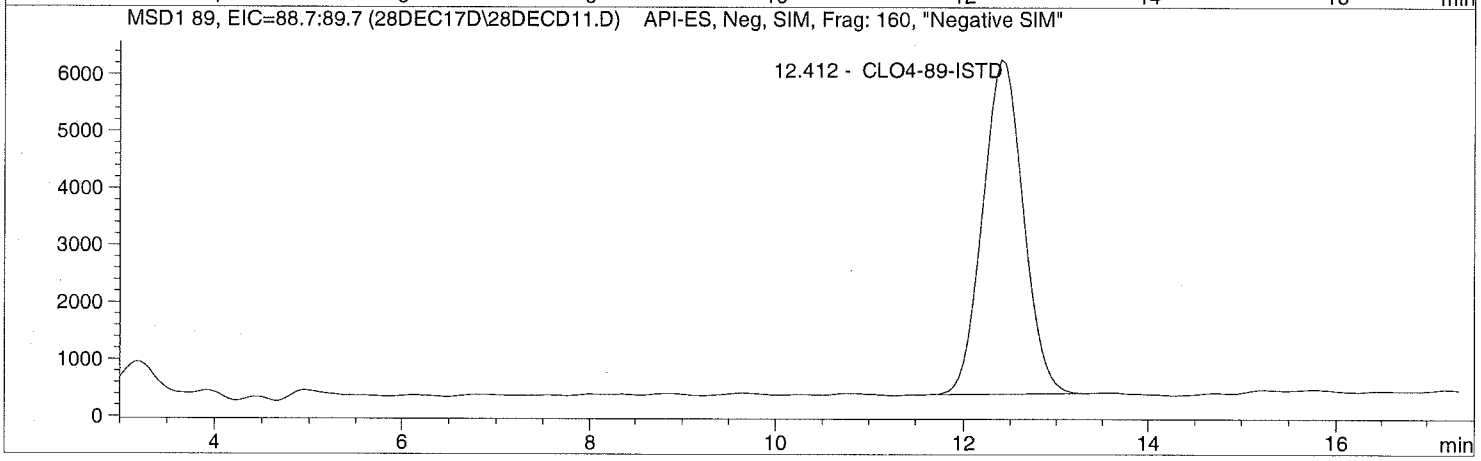
Injection Date:	12/28/2017 14:08:36	Seq Line:	11
Sample Name:	1735685004 100	Location:	Vial 81
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD11.D Sample Name: 1735685004 100

Injection Date:	12/28/2017 14:08:36	Seq Line:	11
Sample Name:	1735685004 100	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:	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
12.400	PBA	21505.4	58.0909	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.397	MM	7779.6	42.1059	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.412	BBA	178775.9	500.0000	CLO4-89-ISTD

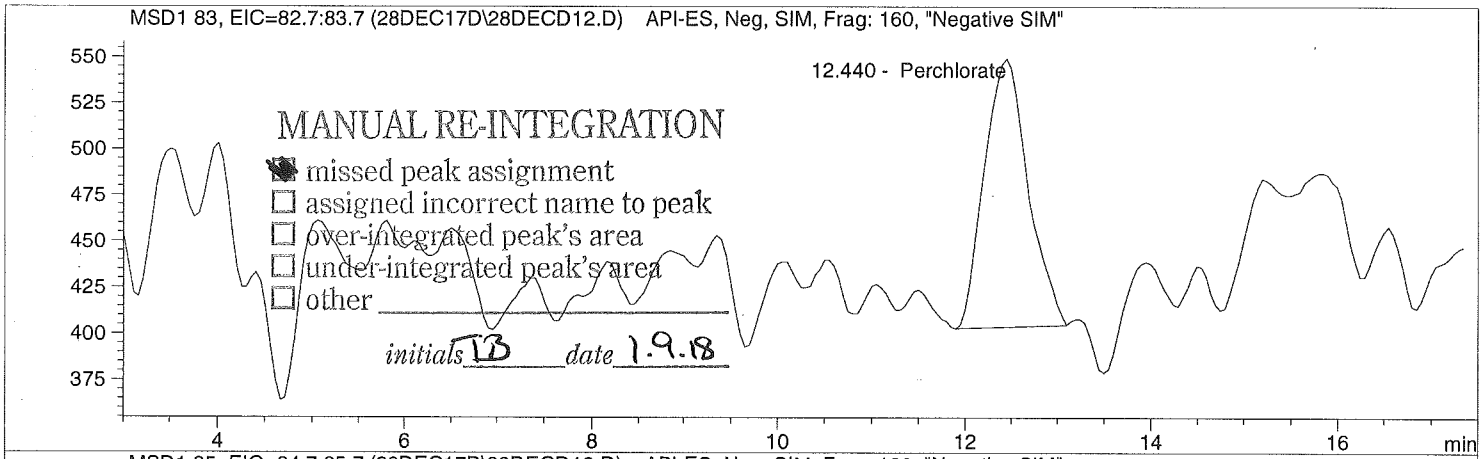
*** End of Report ***

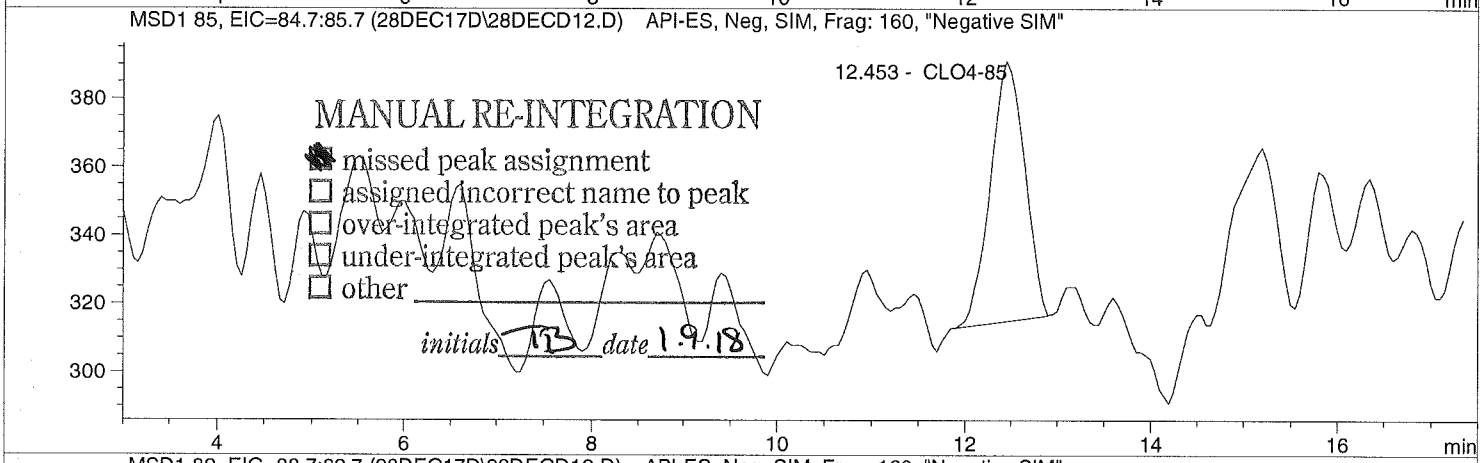
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD12.D Sample Name: 1735685005 100

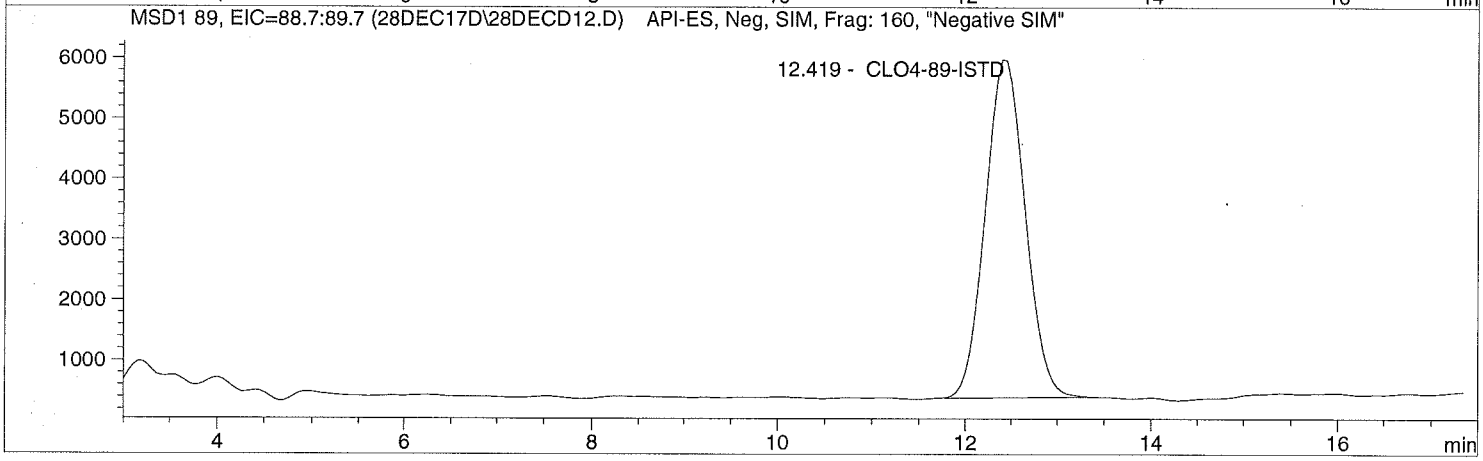
Injection Date:	12/28/2017 14:27:43	Seq Line:	12
Sample Name:	1735685005 100	Location:	Vial 82
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD12.D Sample Name: 1735685005 100

Injection Date:	12/28/2017 14:27:43	Seq Line:	12
Sample Name:	1735685005 100	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:	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
12.440	MM	4777.4	15.6346	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.453	MM	1968.7	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.419	BBA	167796.2	500.0000	CLO4-89-ISTD

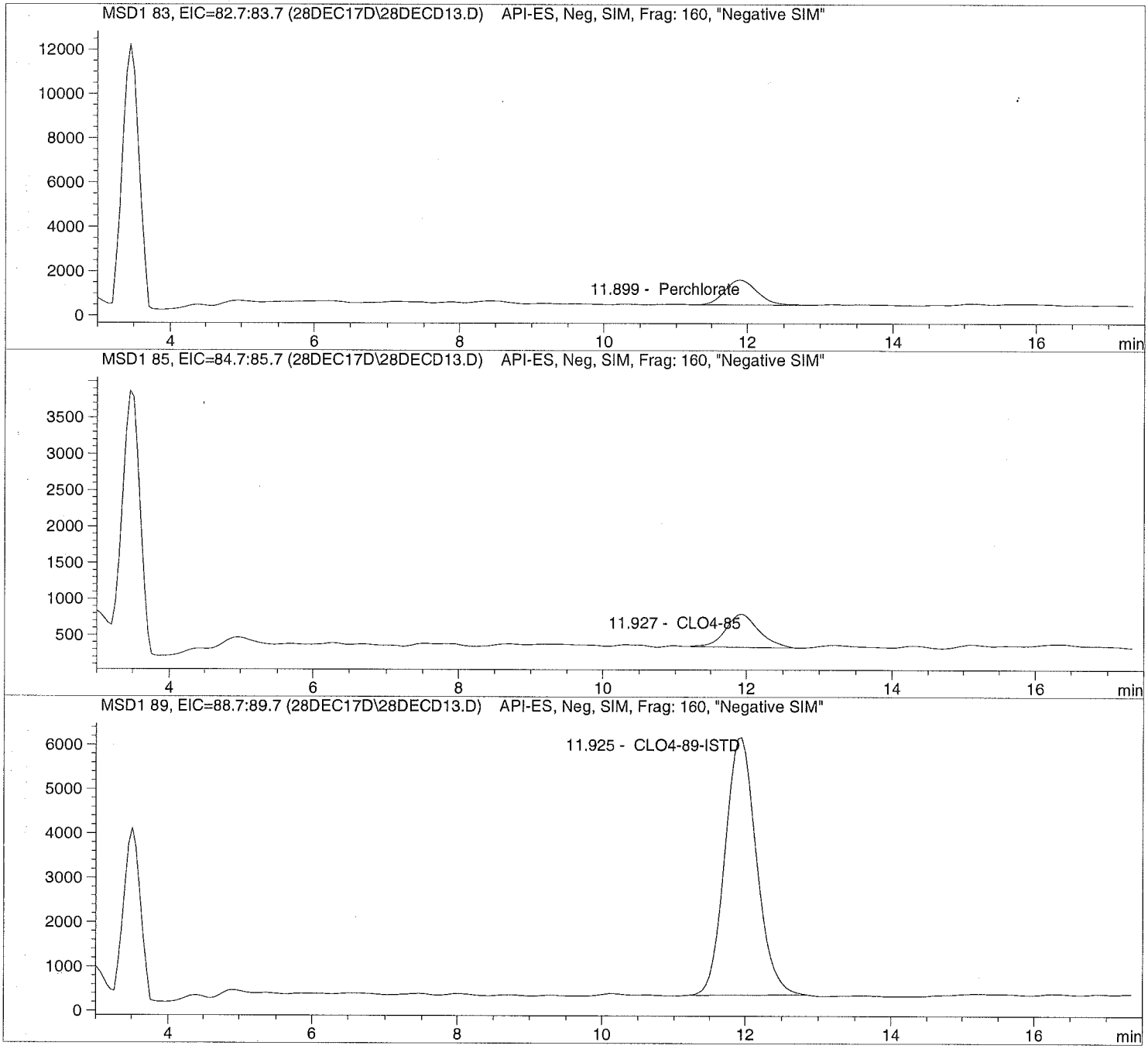
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD13.D Sample Name: 1735685006

Injection Date:	12/28/2017 14:46:51	Seq Line:	13
Sample Name:	1735685006	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\28DEC17D\28DECD13.D Sample Name: 1735685006

Injection Date:	12/28/2017 14:46:51	Seq Line:	13
Sample Name:	1735685006	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
11.899	PBA	35039.1	0.9395	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.927	BBA	14816.6	0.9983	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.925	BBA	176823.1	5.0000	CLO4-89-ISTD

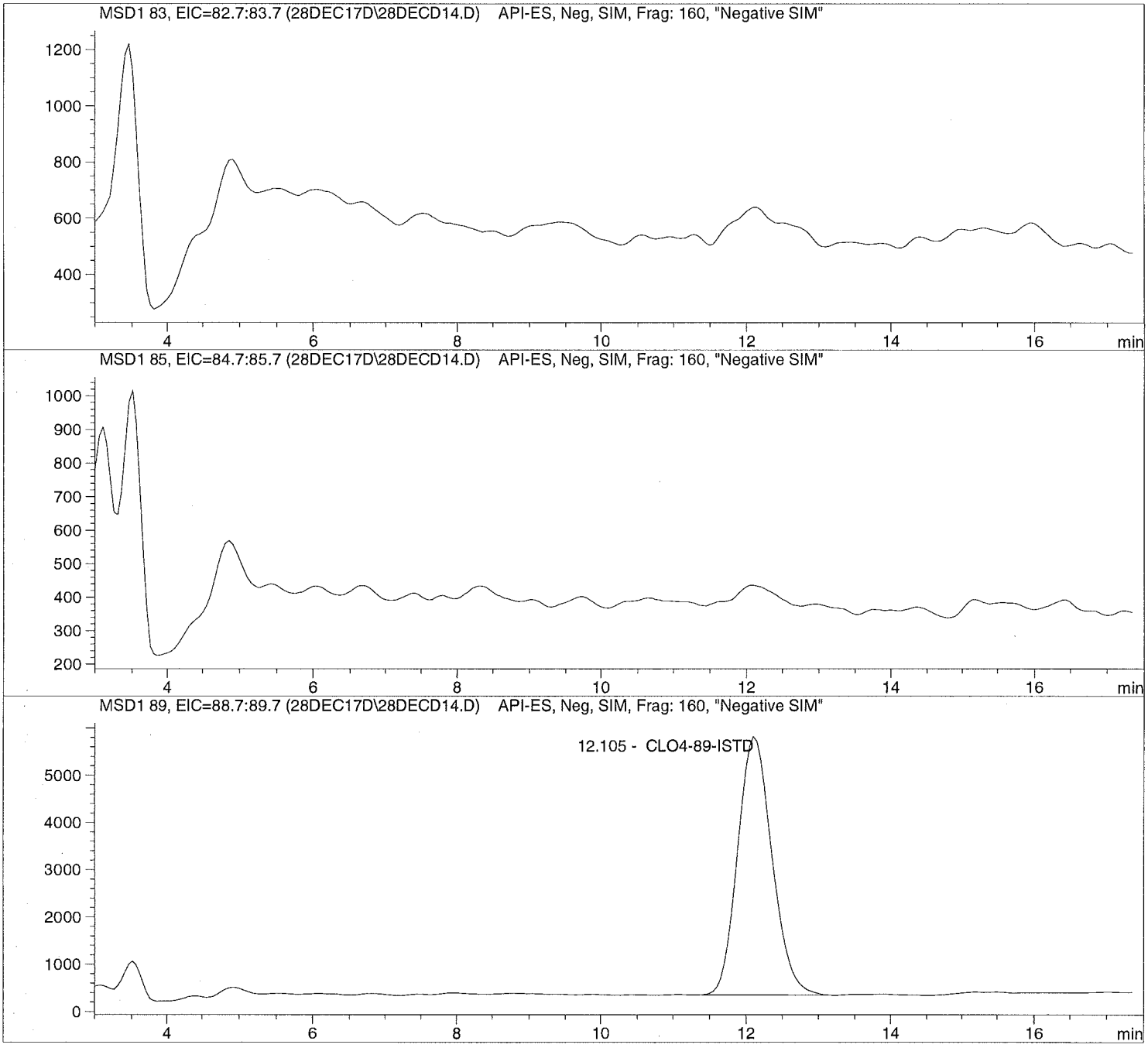
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD14.D Sample Name: 1735685007

Injection Date:	12/28/2017 15:05:59	Seq Line:	14
Sample Name:	1735685007	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\28DEC17D\28DECD14.D Sample Name: 1735685007

Injection Date:	12/28/2017 15:05:59	Seq Line:	14
Sample Name:	1735685007	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
12.105	BBA	179543.0	5.0000	CLO4-89-ISTD

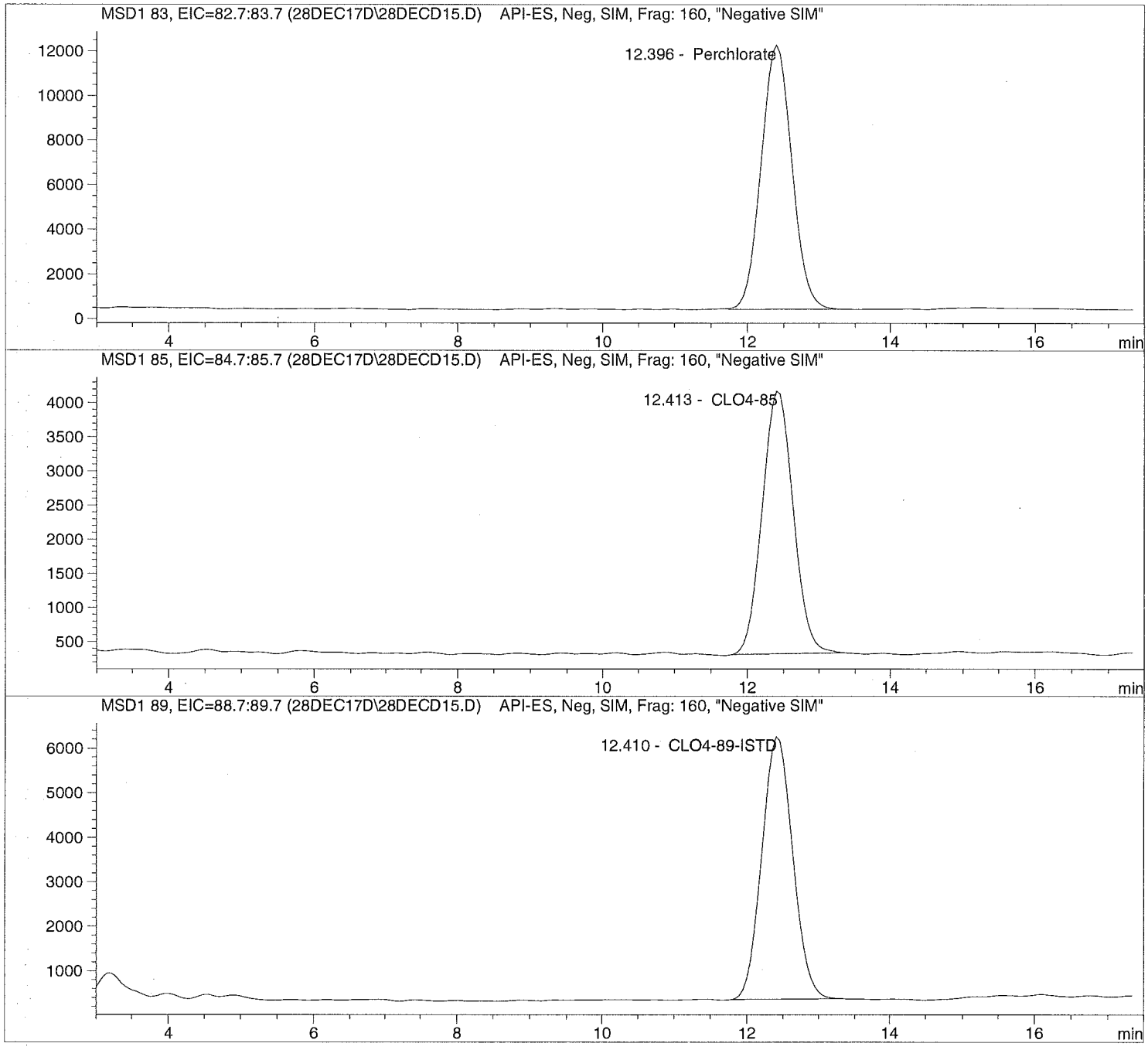
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD15.D Sample Name: 1735685008 1K

Injection Date:	12/28/2017 15:25:07	Seq Line:	15
Sample Name:	1735685008 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\28DEC17D\28DECD15.D Sample Name: 1735685008 1K

Injection Date:	12/28/2017 15:25:07	Seq Line:	15
Sample Name:	1735685008 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
12.396	BBA	350227.7	8838.8380	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.413	PBA	115251.0	8903.2163	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.410	BBA	176102.2	5000.0000	CLO4-89-ISTD

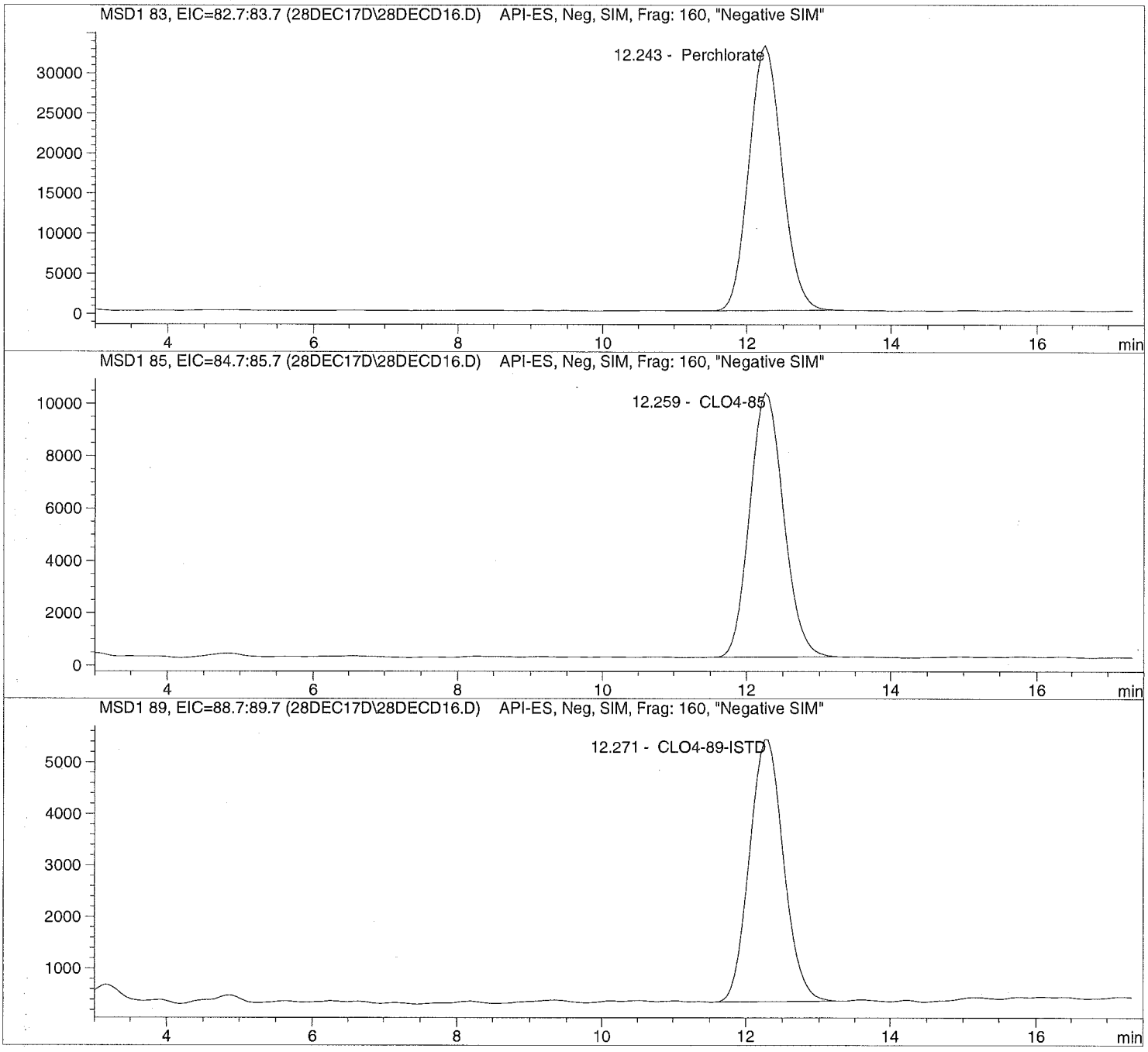
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD16.D Sample Name: 581176 CCV@25

Injection Date:	12/28/2017 15:44:20	Seq Line:	16
Sample Name:	581176 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\28DEC17D\28DECD16.D Sample Name: 581176 CCV@25

Injection Date:	12/28/2017 15:44:20	Seq Line:	16
Sample Name:	581176 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
12.243	PBA	1032158.7	25.5879	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.259	PBA	324643.2	25.5070	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.271	PBA	164866.4	5.0000	CLO4-89-ISTD

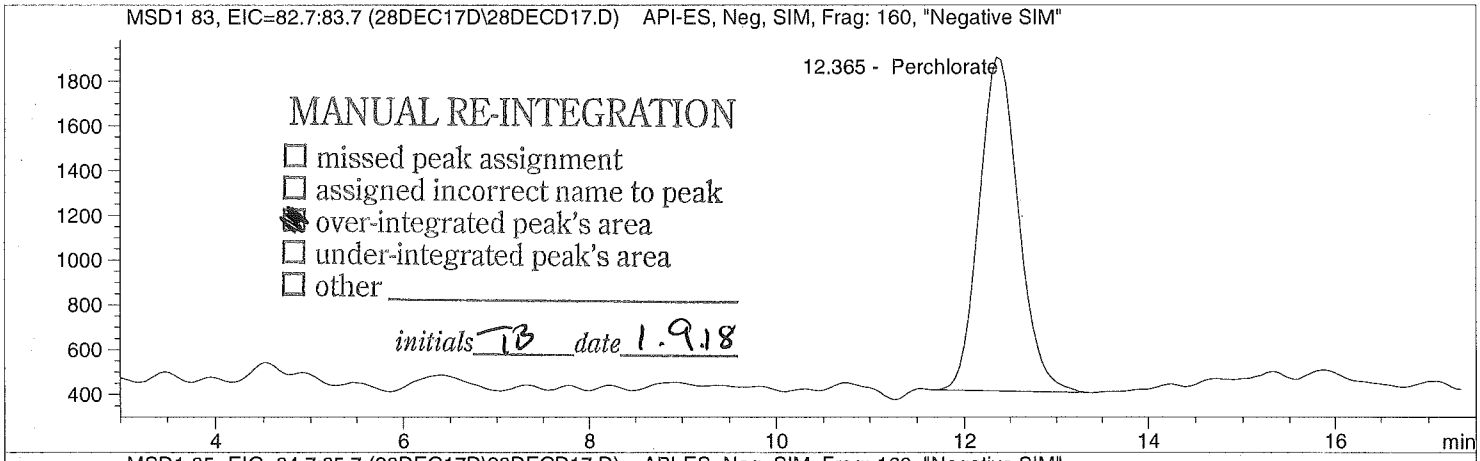
*** End of Report ***

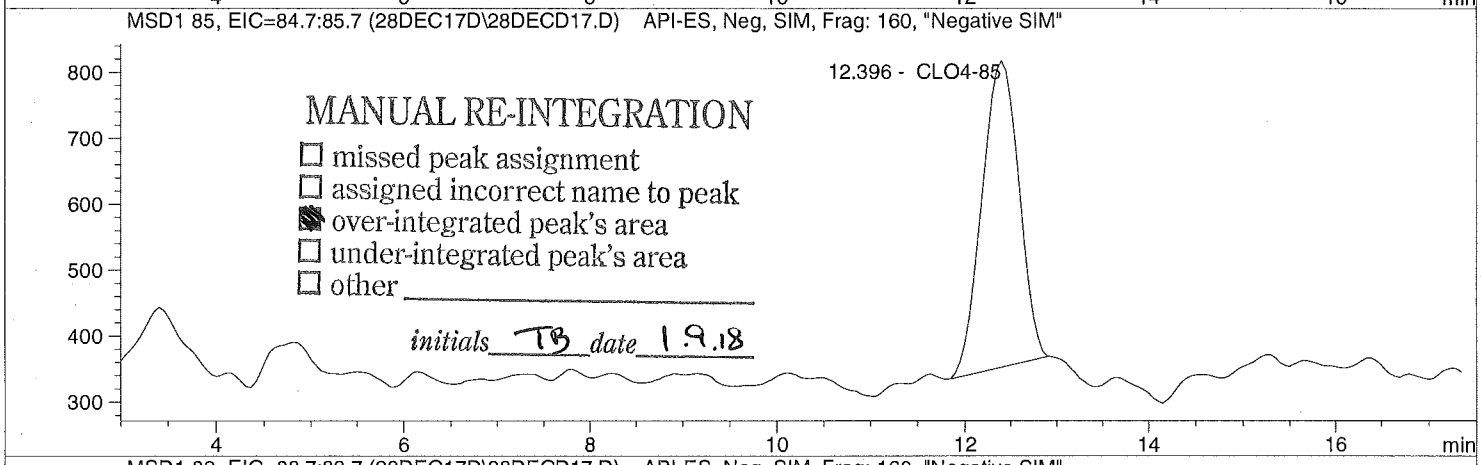
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD17.D Sample Name: 581177 LODV@1.

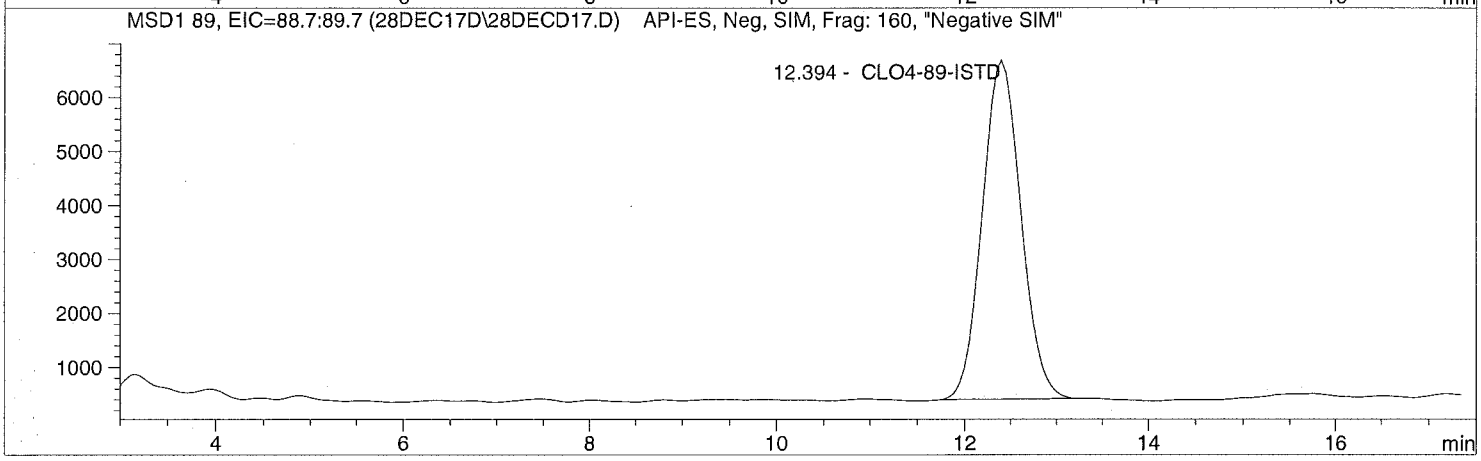
Injection Date:	12/28/2017 16:03:29	Seq Line:	17
Sample Name:	581177 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD17.D Sample Name: 581177 LODV@1.

Injection Date:	12/28/2017 16:03:29	Seq Line:	17
Sample Name:	581177 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
12.365	MM	44610.4	1.1407	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.396	MM	13051.3	0.8123	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.394	PBA	184350.1	5.0000	CLO4-89-ISTD

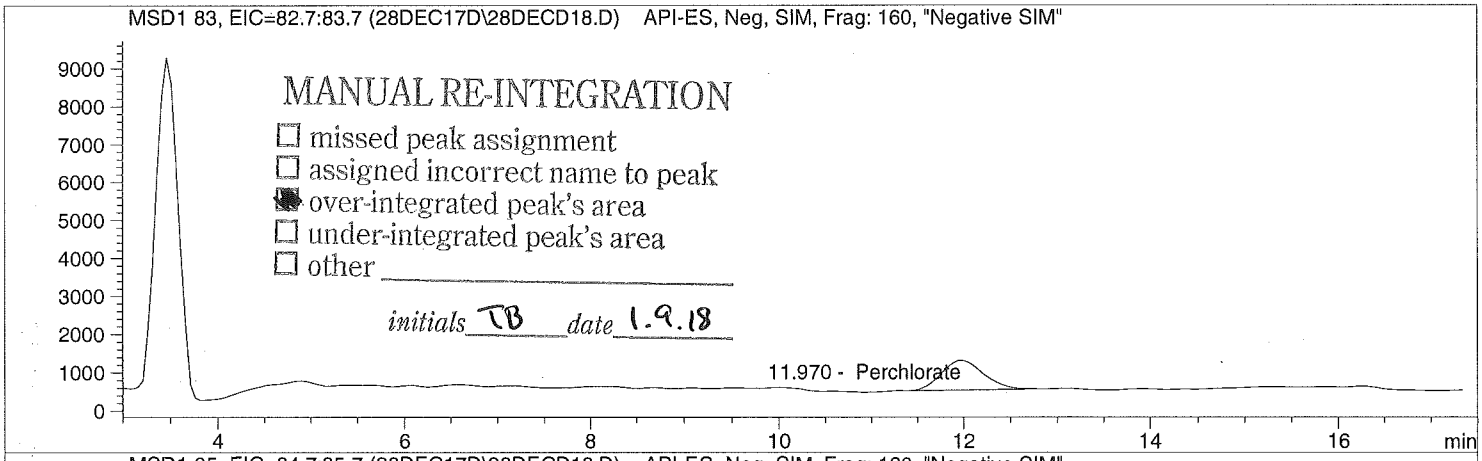
*** End of Report ***

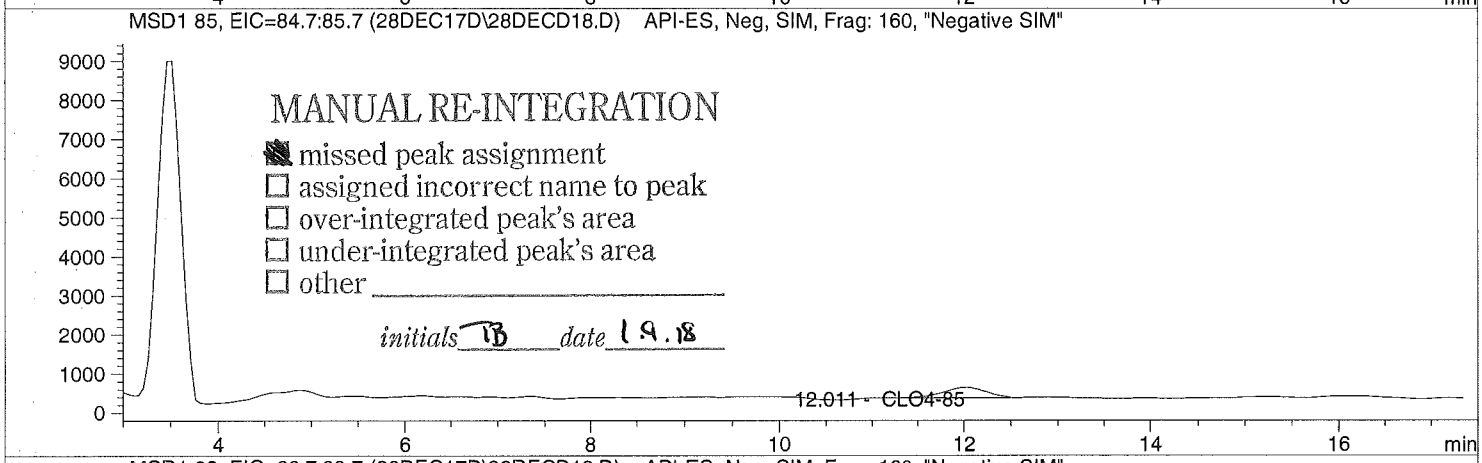
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD18.D Sample Name: 1735689001

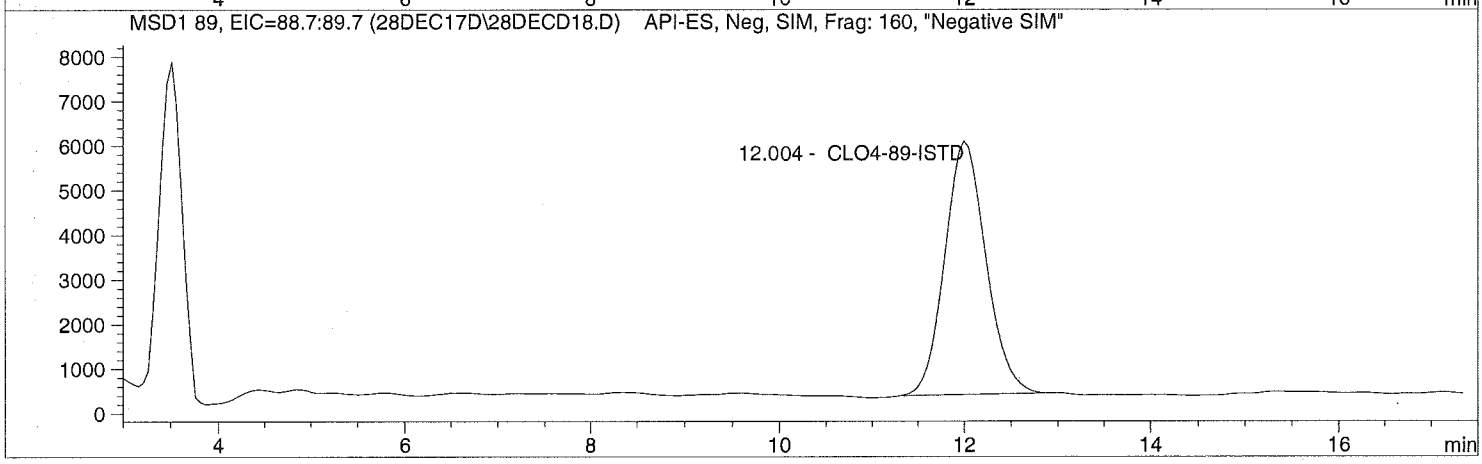
Injection Date:	12/28/2017 16:28:09	Seq Line:	18
Sample Name:	1735689001	Location:	Vial 86
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD18.D Sample Name: 1735689001

Injection Date:	12/28/2017 16:28:09	Seq Line:	18
Sample Name:	1735689001	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
11.970	MM	24383.9	0.6698	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.011	MM	8719.6	0.5129	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.004	BBA	174711.9	5.0000	CLO4-89-ISTD

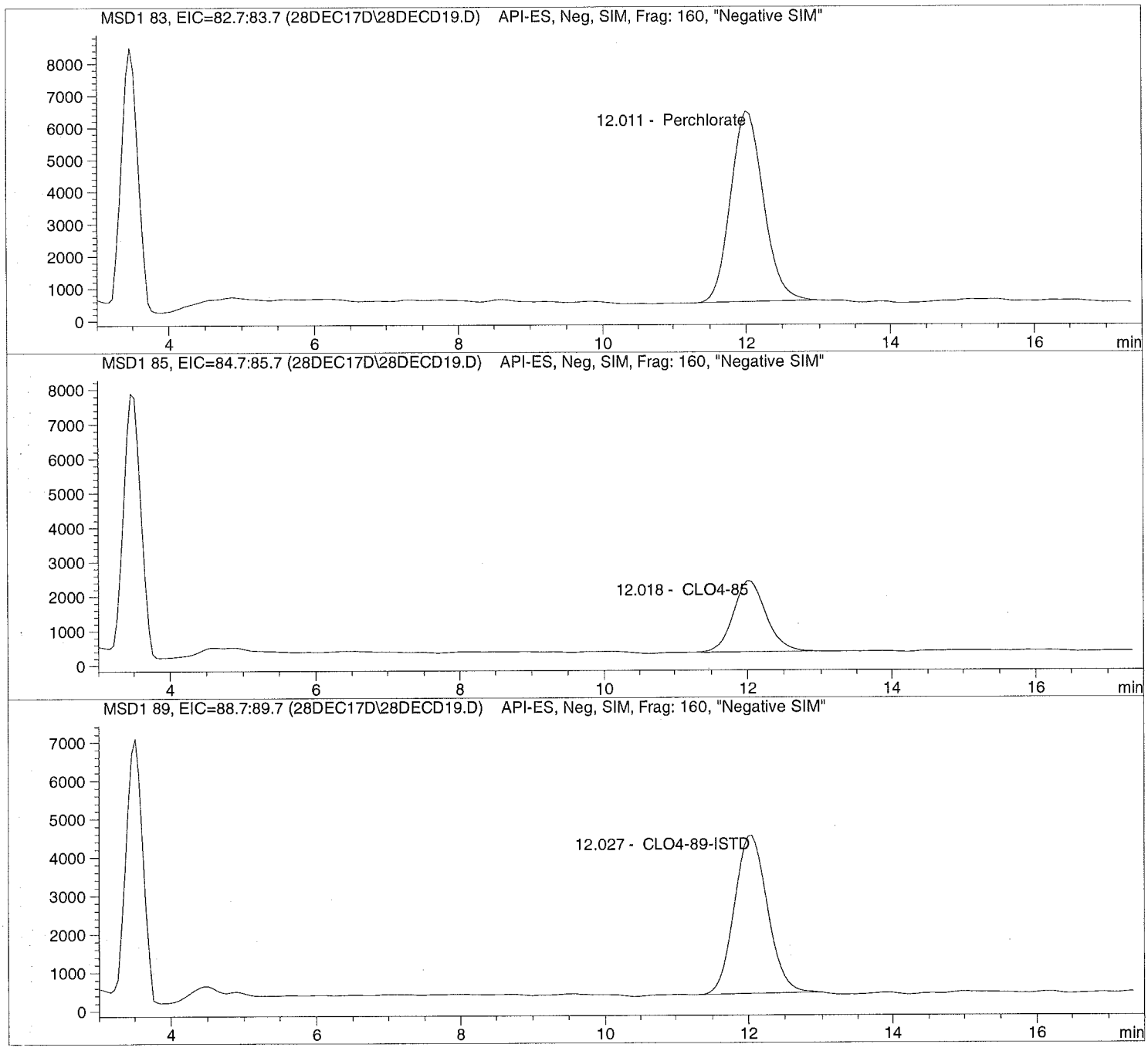
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD19.D Sample Name: 581367 356811S

Injection Date:	12/28/2017 16:47:18	Seq Line:	19
Sample Name:	581367 356811S	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\28DEC17D\28DECD19.D Sample Name: 581367 356811S

Injection Date:	12/28/2017 16:47:18	Seq Line:	19
Sample Name:	581367 356811S	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
12.011	BBA	186973.8	6.4160	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.018	BBA	64792.8	6.7239	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.027	PBA	131273.9	5.0000	CLO4-89-ISTD

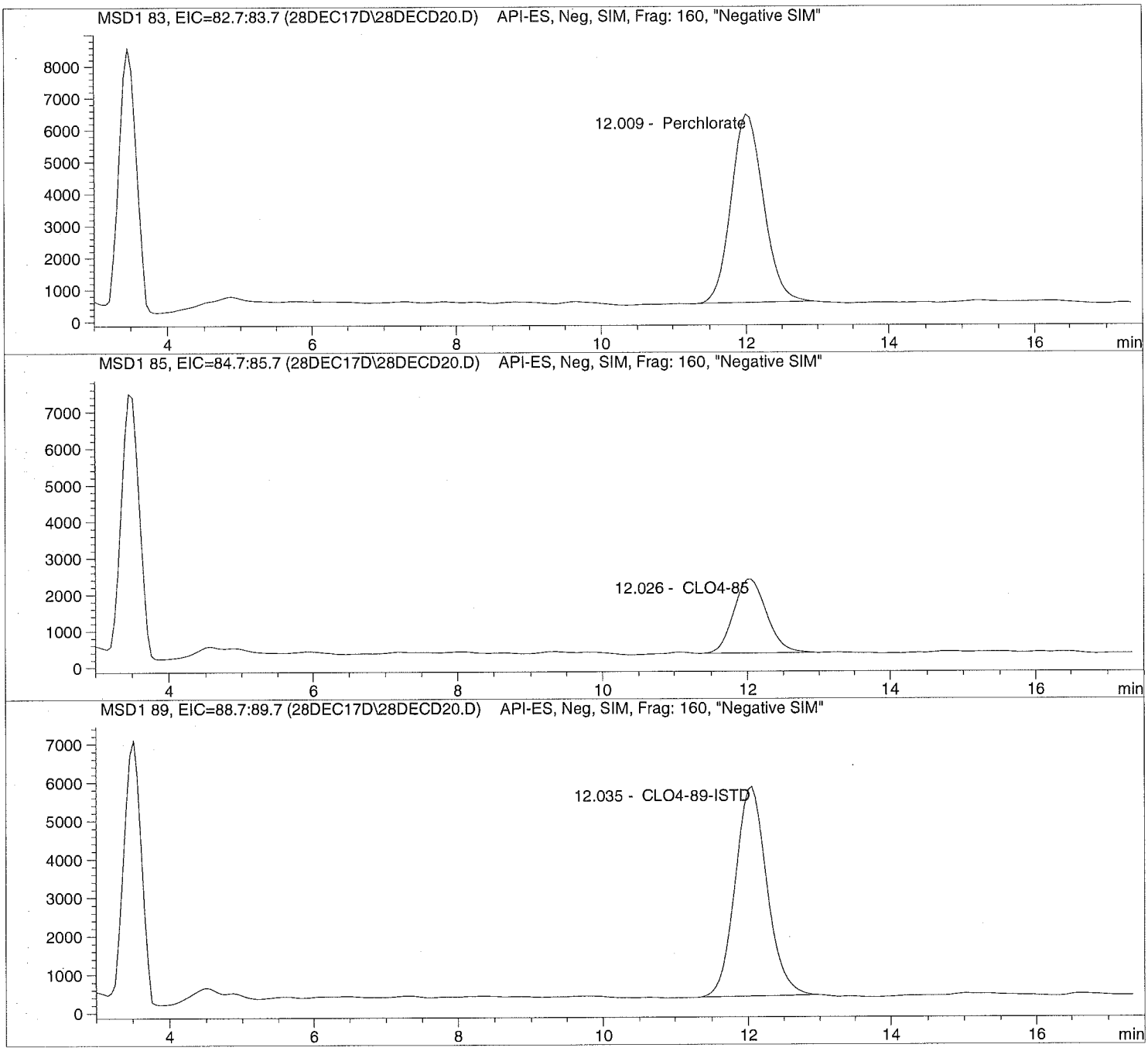
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD20.D Sample Name: 581368 356811D

Injection Date:	12/28/2017 17:06:27	Seq Line:	20
Sample Name:	581368 356811D	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\28DEC17D\28DECD20.D Sample Name: 581368 356811D

Injection Date:	12/28/2017 17:06:27	Seq Line:	20
Sample Name:	581368 356811D	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
12.009	PBA	182161.7	4.9686	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.026	PBA	63917.9	5.2142	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.035	PBA	166580.6	5.0000	CLO4-89-ISTD

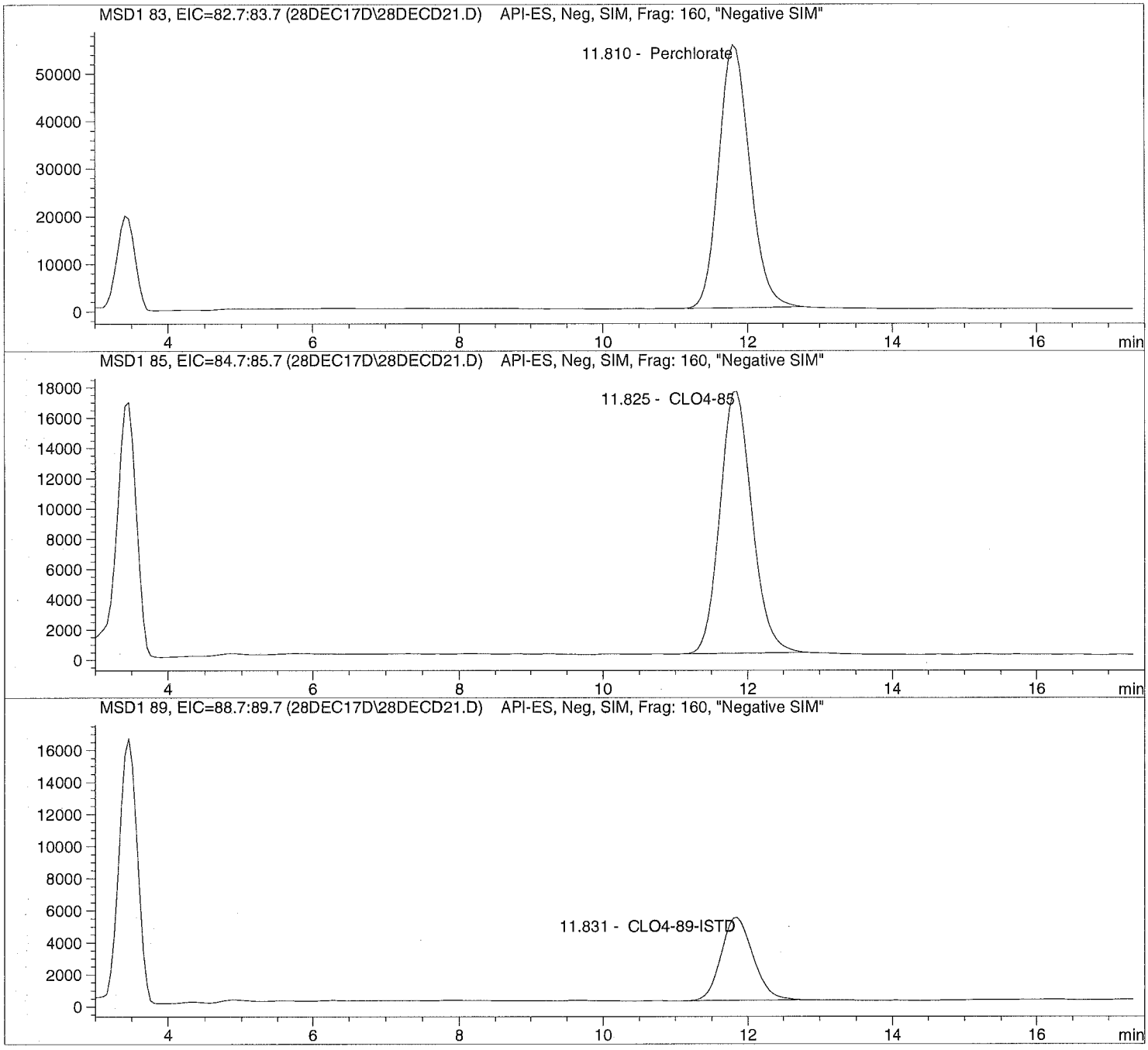
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD21.D Sample Name: 1735685004

Injection Date:	12/28/2017 17:25:40	Seq Line:	21
Sample Name:	1735685004	Location:	Vial 89
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\28DEC17D\28DECD21.D Sample Name: 1735685004

Injection Date:	12/28/2017 17:25:40	Seq Line:	21
Sample Name:	1735685004	Location:	Vial 89
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
11.810	PBA	1653258.4	39.7379	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.825	PBA	533653.0	41.1139	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.831	PBA	159385.2	5.0000	CLO4-89-ISTD

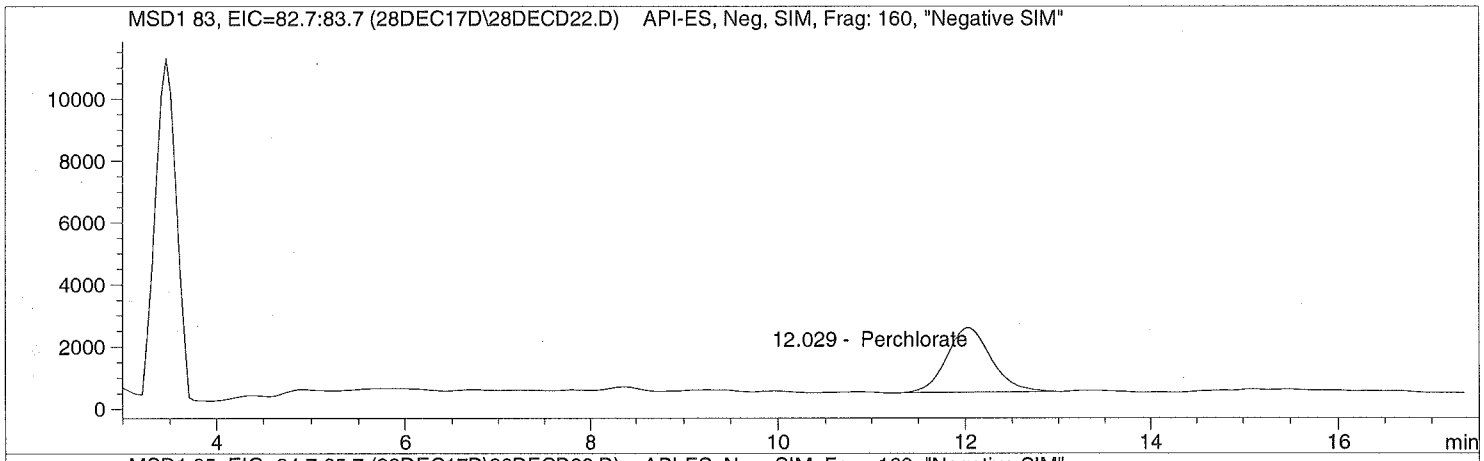
*** End of Report ***

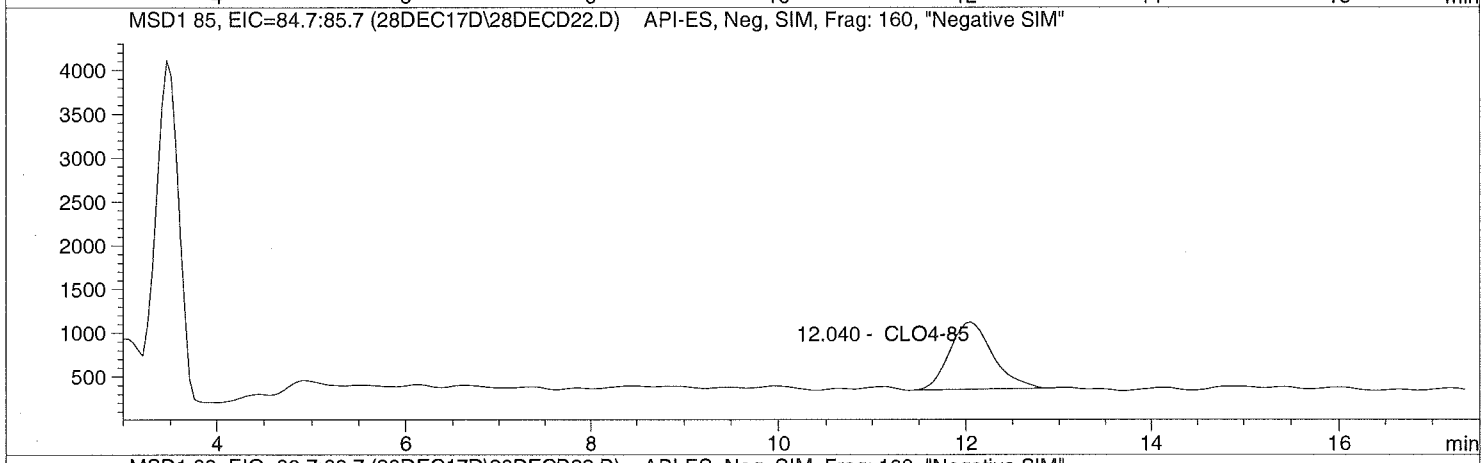
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD22.D Sample Name: 1735685005

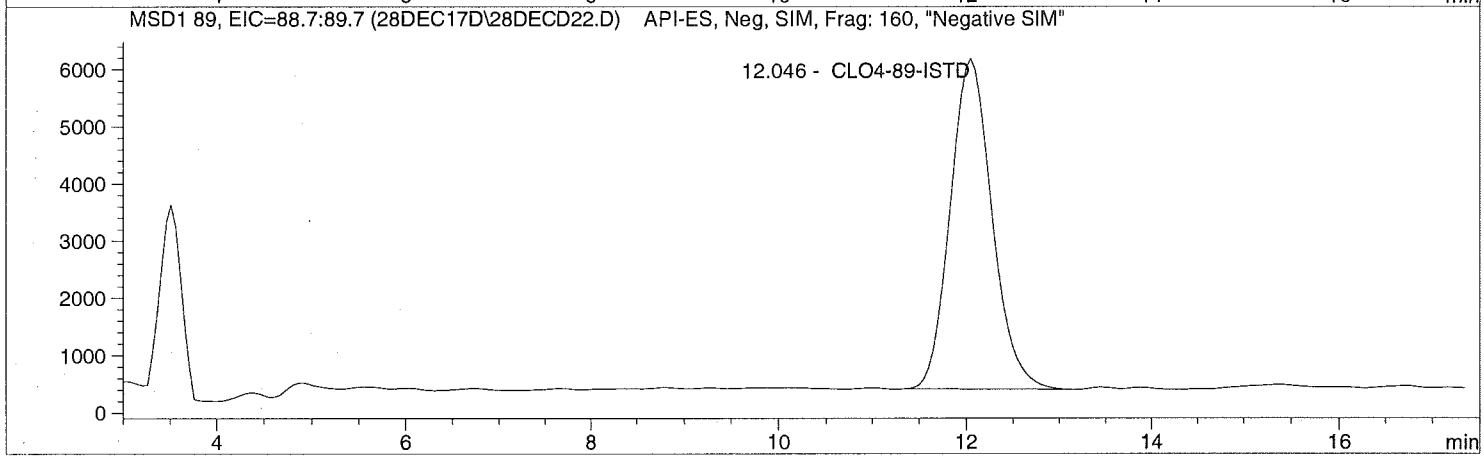
Injection Date:	12/28/2017 17:44:52	Seq Line:	22
Sample Name:	1735685005	Location:	Vial 90
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD22.D Sample Name: 1735685005

Injection Date:	12/28/2017 17:44:52	Seq Line:	22
Sample Name:	1735685005	Location:	Vial 90
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
12.029	PBA	68211.1	1.7773	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.040	PBA	24735.4	1.7747	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.046	PBA	178902.4	5.0000	CLO4-89-ISTD

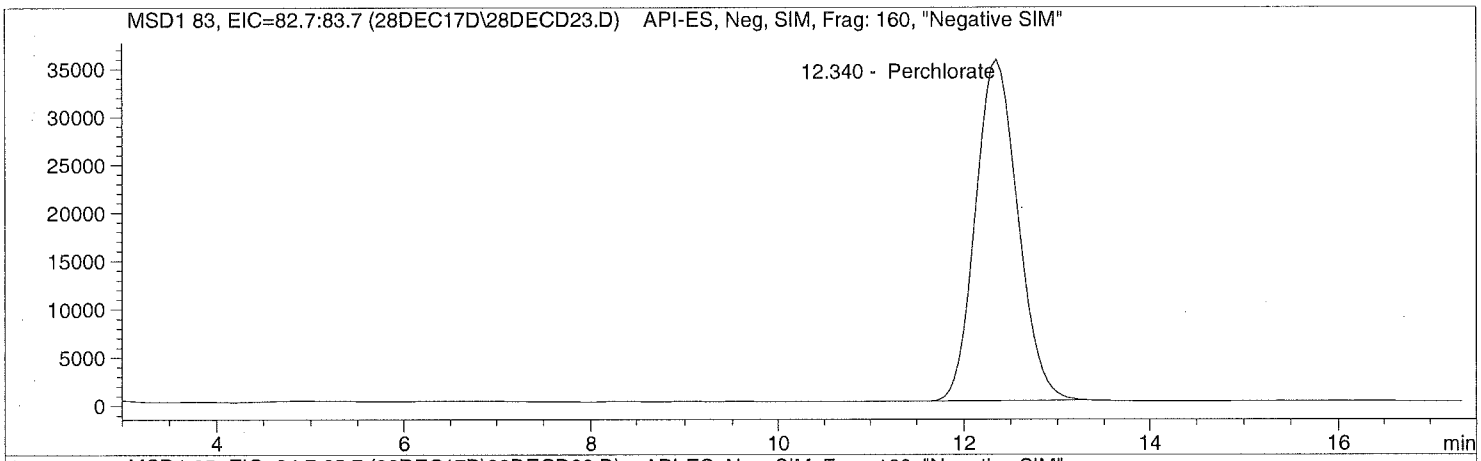
*** End of Report ***

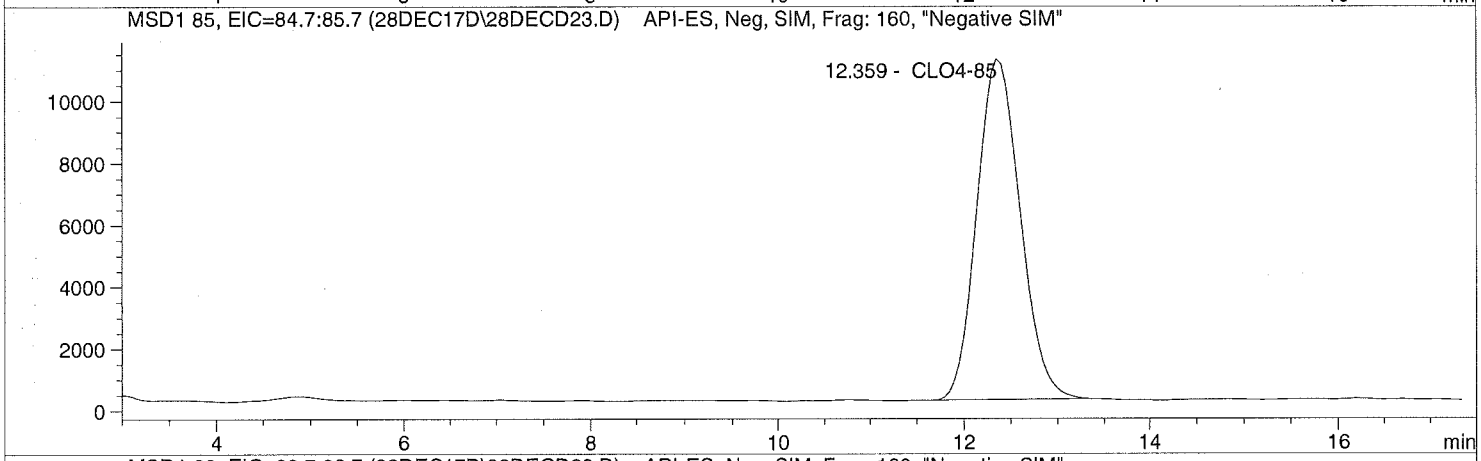
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD23.D Sample Name: 581178 CCV@25

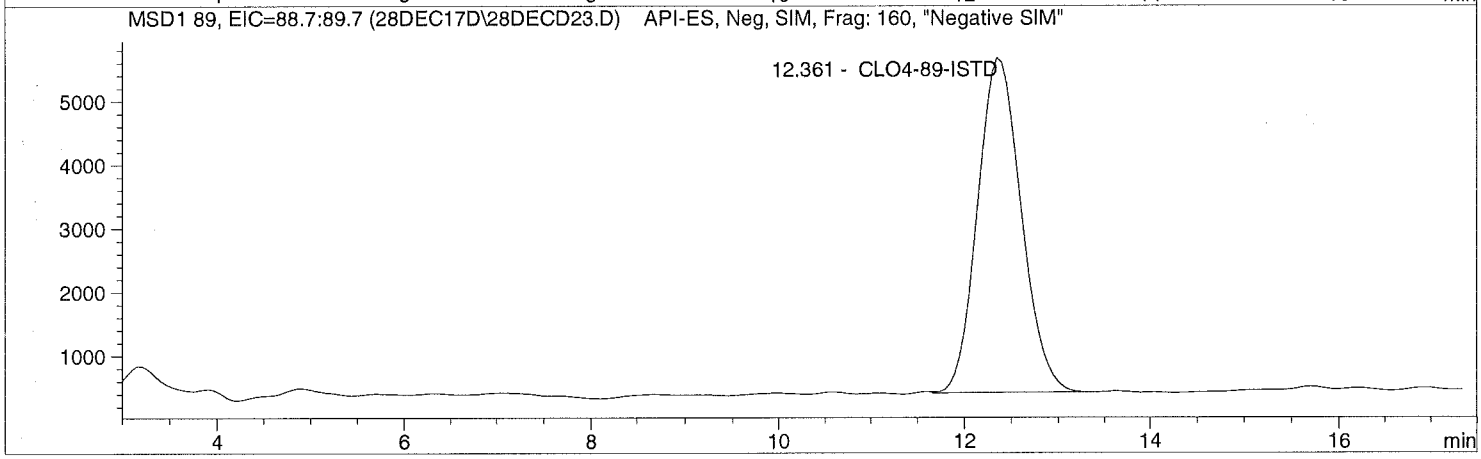
Injection Date:	12/28/2017 18:04:03	Seq Line:	23
Sample Name:	581178 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD23.D Sample Name: 581178 CCV@25

Injection Date:	12/28/2017 18:04:03	Seq Line:	23
Sample Name:	581178 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
12.340	PBA	1108499.4	26.5526	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.359	PBA	353709.5	26.8515	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.361	BBA	169851.7	5.0000	CLO4-89-ISTD

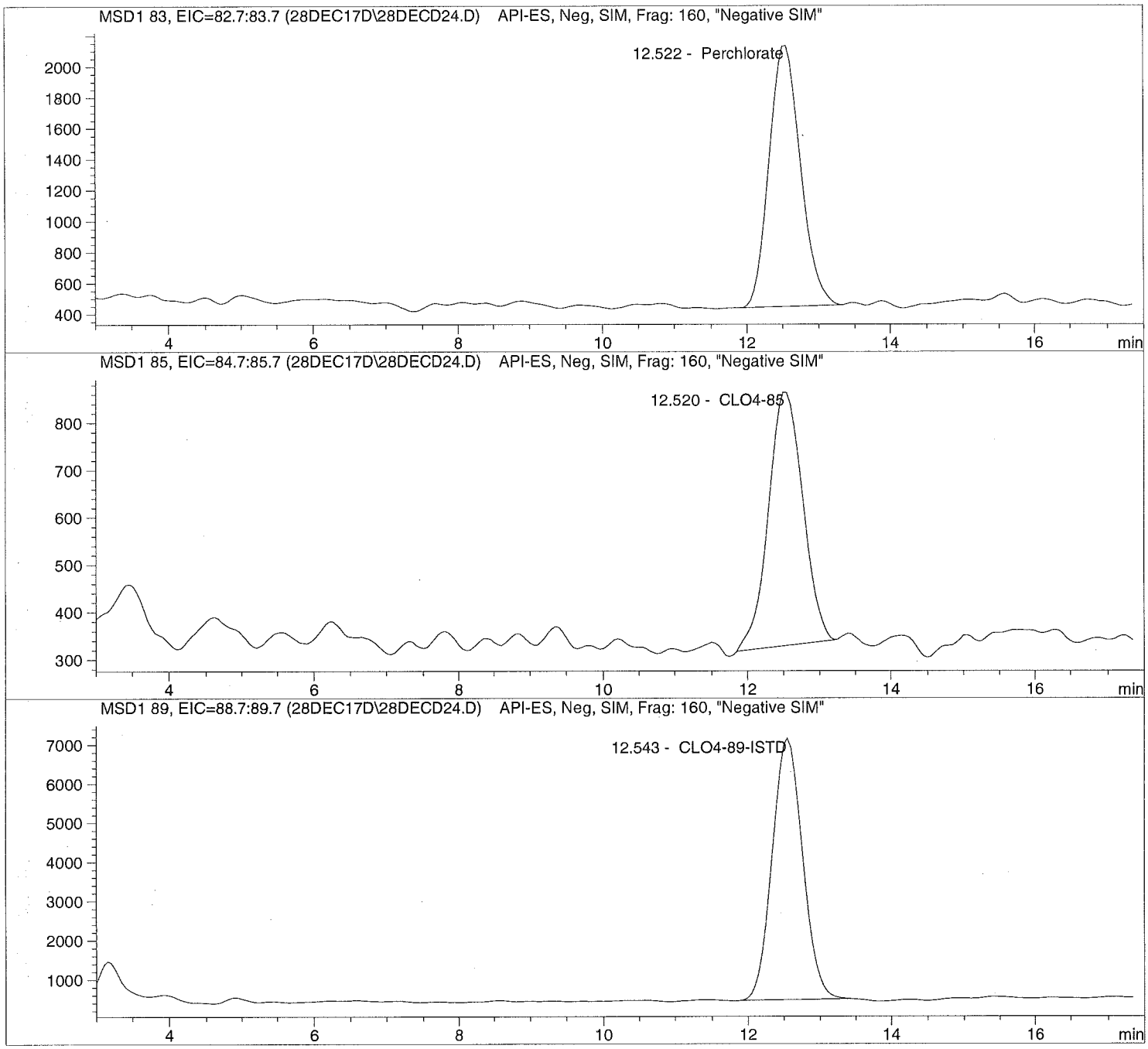
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD24.D Sample Name: 581179 LODV@1.

Injection Date:	12/28/2017 18:23:11	Seq Line:	24
Sample Name:	581179 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\28DEC17D\28DECD24.D Sample Name: 581179 LODV@1.

Injection Date:	12/28/2017 18:23:11	Seq Line:	24
Sample Name:	581179 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
12.522	PBA	50754.7	1.2255	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.520	PBA	17687.4	1.0982	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.543	PBA	194839.2	5.0000	CLO4-89-ISTD

*** End of Report ***

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Raw Data

Initial Calibration

Batch Report: C:\HPCHEM\1\DATA\21AUG17P\21AUG17P.B

Batch Review Method:
C:\HPCHEM\1\METHODS\CLO4-PR3.M

['#' ==> Run has not been reprocessed with Batch Review Method
'*' ==> Run has been saved with batch file]

#*	Sample Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
*	ICAL1@ .05ug/L Vial 71	1	Control	1	4365.90820	12.226	9.14000e-2
*	ICAL2@ .10ug/L Vial 72	1	Control	2	9514.03027	12.210	2.01141e-1
*	ICAL3@ .20ug/L Vial 73	1	Control	3	1.35331e4	12.236	2.88584e-1
*	ICAL4@ 0.5ug/L Vial 74	1	Control	4	2.76171e4	12.161	5.95393e-1
*	ICAL5@ 1.0ug/L Vial 75	1	Control	5	4.75097e4	12.226	1.01731
*	ICAL6@ 5.0ug/L Vial 76	1	Control	6	2.30426e5	12.209	5.01082
*	ICAL7@ 10.ug/L Vial 77	1	Control	7	4.46570e5	12.212	9.64041
*	ICAL8@ 25.ug/L Vial 78	1	Control	8	1.19993e6	12.134	25.19412
*	ICAL9@ 50.ug/L Vial 79	1	Control	9	2.60933e6	12.150	49.96977
*	ICAL Verf@10ug/L Vial 80	1	Control	10	4.49703e5	12.232	9.41499

#*	Sample Location	Inj	SampleType	Run	Perchlorate Area	Perchlorate RT	Perchlorate Amount
*	ICAL1@ .05ug/L Vial 71	1	Control	1	8930.38184	12.237	6.88583e-2
*	ICAL2@ .10ug/L Vial 72	1	Control	2	1.15052e4	12.248	8.73938e-2
*	ICAL3@ .20ug/L Vial 73	1	Control	3	2.62111e4	12.238	1.91166e-1
*	ICAL4@ 0.5ug/L Vial 74	1	Control	4	6.28912e4	12.159	4.52946e-1
*	ICAL5@ 1.0ug/L Vial 75	1	Control	5	1.30706e5	12.231	9.25591e-1
*	ICAL6@ 5.0ug/L Vial 76	1	Control	6	6.80205e5	12.200	4.80762
*	ICAL7@ 10.ug/L Vial 77	1	Control	7	1.41057e6	12.196	9.74126
*	ICAL8@ 25.ug/L Vial 78	1	Control	8	4.00474e6	12.118	25.78802
*	ICAL9@ 50.ug/L Vial 79	1	Control	9	8.85683e6	12.137	49.73658
*	ICAL Verf@10ug/L Vial 80	1	Control	10	1.36065e6	12.218	9.14332

#*	Sample Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
*	ICAL1@ .05ug/L Vial 71	1	Control	1	6.73943e5	12.272	5.00000
*	ICAL2@ .10ug/L Vial 72	1	Control	2	6.67016e5	12.250	5.00000
*	ICAL3@ .20ug/L Vial 73	1	Control	3	6.61031e5	12.267	5.00000
*	ICAL4@ 0.5ug/L Vial 74	1	Control	4	6.52904e5	12.190	5.00000
*	ICAL5@ 1.0ug/L Vial 75	1	Control	5	6.56071e5	12.242	5.00000
*	ICAL6@ 5.0ug/L Vial 76	1	Control	6	6.34251e5	12.221	5.00000
*	ICAL7@ 10.ug/L Vial 77	1	Control	7	6.25689e5	12.216	5.00000
*	ICAL8@ 25.ug/L Vial 78	1	Control	8	6.01523e5	12.141	5.00000
*	ICAL9@ 50.ug/L Vial 79	1	Control	9	5.97661e5	12.156	5.00000
*	ICAL Verf@10ug/L Vial 80	1	Control	10	6.45815e5	12.234	5.00000

*** End of Report ***

Method C:\HPCHEM\1\METHODS\CLO4-PR3.M

Calibration Table

Perchlorate

Calib. Data Modified : 8/21/2017 2:55:52 PM

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
12.226	2	1	5.00000e-2	4365.90820	1.14524e-5		1	CLO4-85
		2	1.00000e-1	9514.03027	1.05108e-5			
		3	2.00000e-1	1.35331e4	1.47786e-5			
		4	5.00000e-1	2.76171e4	1.81047e-5			
		5	1.00000	4.75097e4	2.10483e-5			
		6	5.00000	2.30426e5	2.16990e-5			
		7	10.00000	4.46570e5	2.23929e-5			
		8	25.00000	1.19993e6	2.08345e-5			
		9	50.00000	2.60933e6	1.91620e-5			
12.237	1	1	5.00000e-2	8930.38184	5.59886e-6		1	Perchlorate
		2	1.00000e-1	1.15052e4	8.69173e-6			
		3	2.00000e-1	2.62111e4	7.63037e-6			
		4	5.00000e-1	6.28912e4	7.95024e-6			
		5	1.00000	1.30706e5	7.65074e-6			
		6	5.00000	6.80205e5	7.35073e-6			
		7	10.00000	1.41057e6	7.08933e-6			
		8	25.00000	4.00474e6	6.24259e-6			
		9	50.00000	8.85683e6	5.64536e-6			
12.272	3	1	5.00000	6.73943e5	7.41903e-6	+I1		CLO4-89-ISTD
		2	5.00000	6.67016e5	7.49607e-6			

Method C:\HPCHEM\1\METHODS\CLO4-PR3.M

RetTime [min]	Sig	Lvl	Amount	Area	Amt/Area	Ref	Grp	Name
		3	5.00000	6.61031e5	7.56394e-6			
		4	5.00000	6.52904e5	7.65809e-6			
		5	5.00000	6.56071e5	7.62113e-6			
		6	5.00000	6.34251e5	7.88331e-6			
		7	5.00000	6.25689e5	7.99119e-6			
		8	5.00000	6.01523e5	8.31223e-6			
		9	5.00000	5.97661e5	8.36594e-6			

More compound-specific settings:

Compound: CLO4-85
- Time Window : From 10.676 min To 13.166 min
- Curve Type : Quadratic
- Origin : Forced
- Calibration Level Weights:/
  - Level 1 : 1
  - Level 2 : 1
  - Level 3 : 1
  - Level 4 : 1
  - Level 5 : 1
  - Level 6 : 1
  - Level 7 : 1
  - Level 8 : 1
  - Level 9 : 1

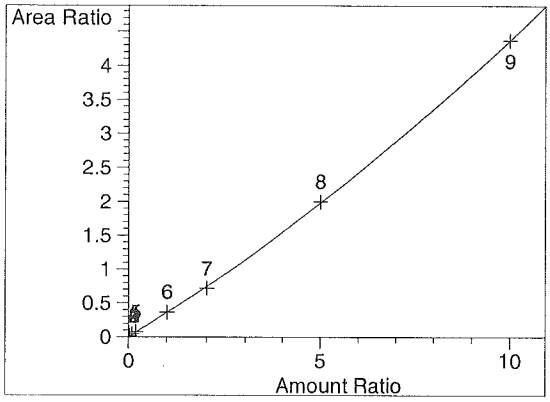
Compound: Perchlorate
- Time Window : From 10.737 min To 13.198 min
- Curve Type : Quadratic
- Origin : Ignored
- Calibration Level Weights:/
  - Level 1 : 1
  - Level 2 : 0.5
  - Level 3 : 0.25
  - Level 4 : 0.1
  - Level 5 : 0.05
  - Level 6 : 0.01
  - Level 7 : 0.005
  - Level 8 : 0.002
  - Level 9 : 0.001

Compound: CLO4-89-ISTD
- Time Window : From 10.704 min To 13.272 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
  - Level 8 : 1
  - Level 9 : 1

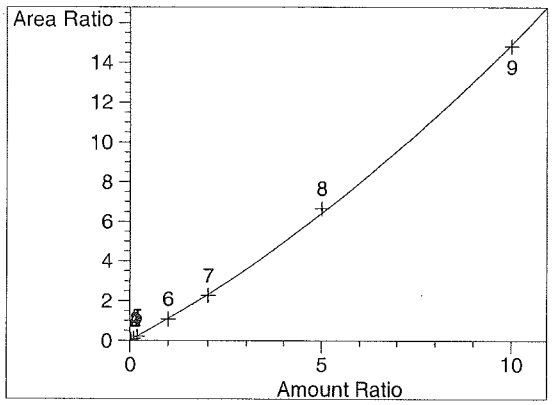
Peak Sum Table

No Entries in table

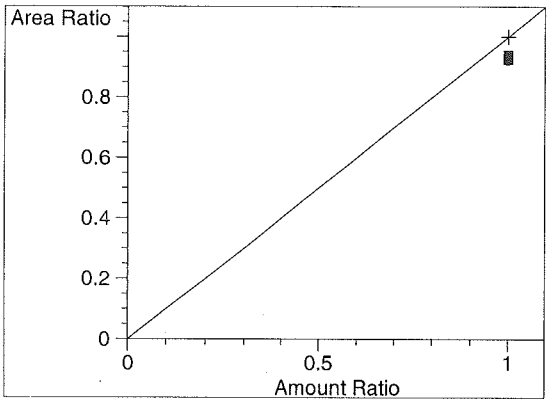
Calibration Curves



CLO4-85 at exp. RT: 12.226
MSD1 85, EIC=84.7:85.7
Correlation: 0.99997
Residual Std. Dev.: 0.01235
Formula: $y = ax^2 + bx$
a: 8.26698e-3
b: 3.54234e-1
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
Level 8 : 1
Level 9 : 1



Perchlorate at exp. RT: 12.237
MSD1 83, EIC=82.7:83.7
Correlation: 0.99970
Residual Std. Dev.: 0.10168
Formula: $y = ax^2 + bx + c$
a: 4.14991e-2
b: 1.07712
c: -1.59065e-3
x: Amount Ratio
y: Area Ratio
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.5
Level 3 : 0.25
Level 4 : 0.1
Level 5 : 0.05
Level 6 : 0.01
Level 7 : 0.005
Level 8 : 0.002
Level 9 : 0.001



CLO4-89-ISTD at exp. RT: 12.272
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
Level 8 : 1
Level 9 : 1

Sequence Table:

Method and Injection Info Part:

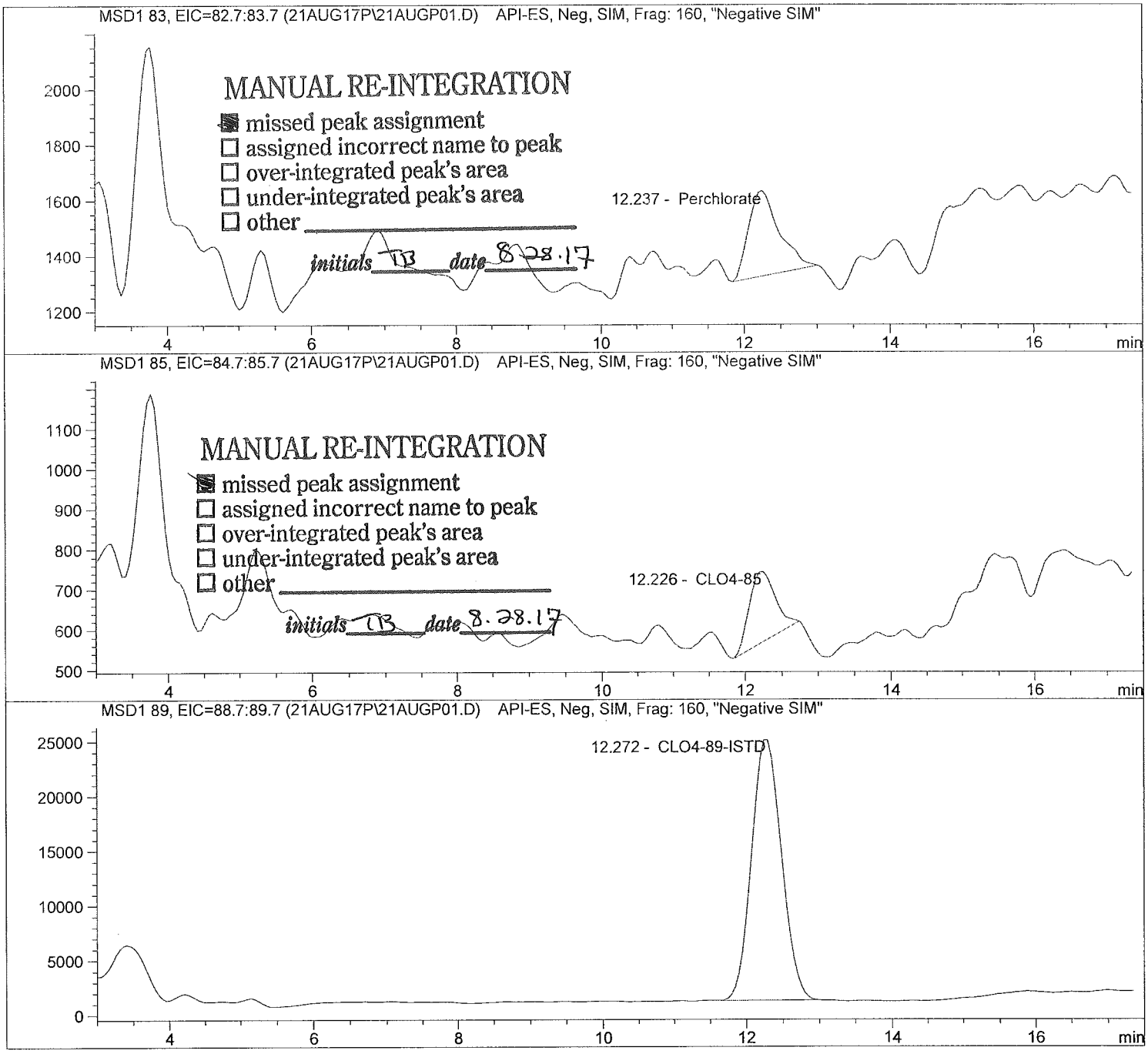
Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	ICAL1@ .05ug/L	CLO4-AQN	1	Ctrl Samp		
2	Vial 72	ICAL2@ .10ug/L	CLO4-AQN	1	Ctrl Samp		
3	Vial 73	ICAL3@ .20ug/L	CLO4-AQN	1	Ctrl Samp		
4	Vial 74	ICAL4@ 0.5ug/L	CLO4-AQN	1	Ctrl Samp		
5	Vial 75	ICAL5@ 1.0ug/L	CLO4-AQN	1	Ctrl Samp		
6	Vial 76	ICAL6@ 5.0ug/L	CLO4-AQN	1	Ctrl Samp		
7	Vial 77	ICAL7@ 10.ug/L	CLO4-AQN	1	Ctrl Samp		
8	Vial 78	ICAL8@ 25.ug/L	CLO4-AQN	1	Ctrl Samp		
9	Vial 79	ICAL9@ 50.ug/L	CLO4-AQN	1	Ctrl Samp		
10	Vial 80	ICAL Verf@10ug/L	CLO4-AQN	1	Ctrl Samp		

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP01.D Sample Name: ICAL1@ .05ug/L

Injection Date:	8/21/2017 09:42:32	Seq Line:	1
Sample Name:	ICAL1@ .05ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP01.D Sample Name: ICAL1@ .05ug/L

Injection Date:	8/21/2017 09:42:32	Seq Line:	1
Sample Name:	ICAL1@ .05ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.050

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.237	MM	8930.4	0.0689	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.226	MM	4365.9	0.0914	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.272	BBA	673942.9	5.0000	CLO4-89-ISTD

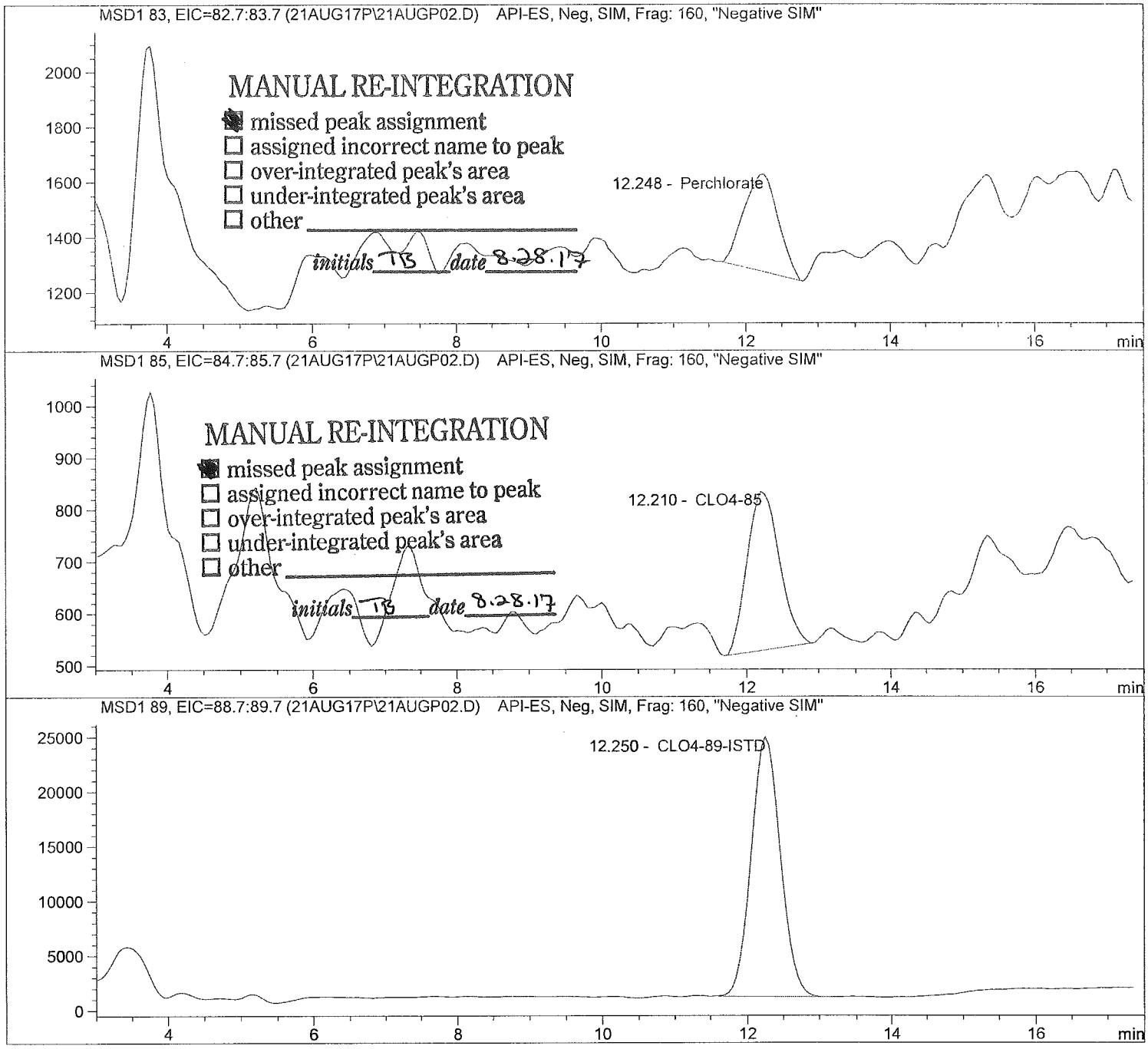
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP02.D Sample Name: ICAL2@ .10ug/L

Injection Date:	8/21/2017 10:01:47	Seq Line:	2
Sample Name:	ICAL2@ .10ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP02.D Sample Name: ICAL2@ .10ug/L

Injection Date:	8/21/2017 10:01:47	Seq Line:	2
Sample Name:	ICAL2@ .10ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method:	CLO4-AQN.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed:	8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.100

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.248	MM	11505.2	0.0874	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.210	MM	9514.0	0.2011	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.250	BBA	667016.3	5.0000	CLO4-89-ISTD

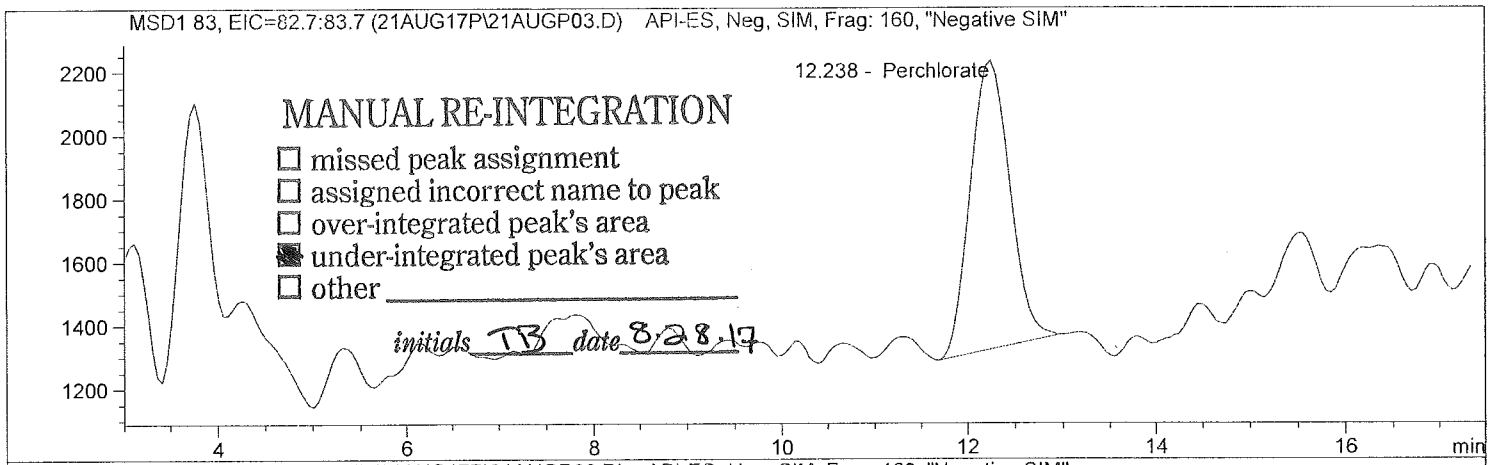
*** End of Report ***

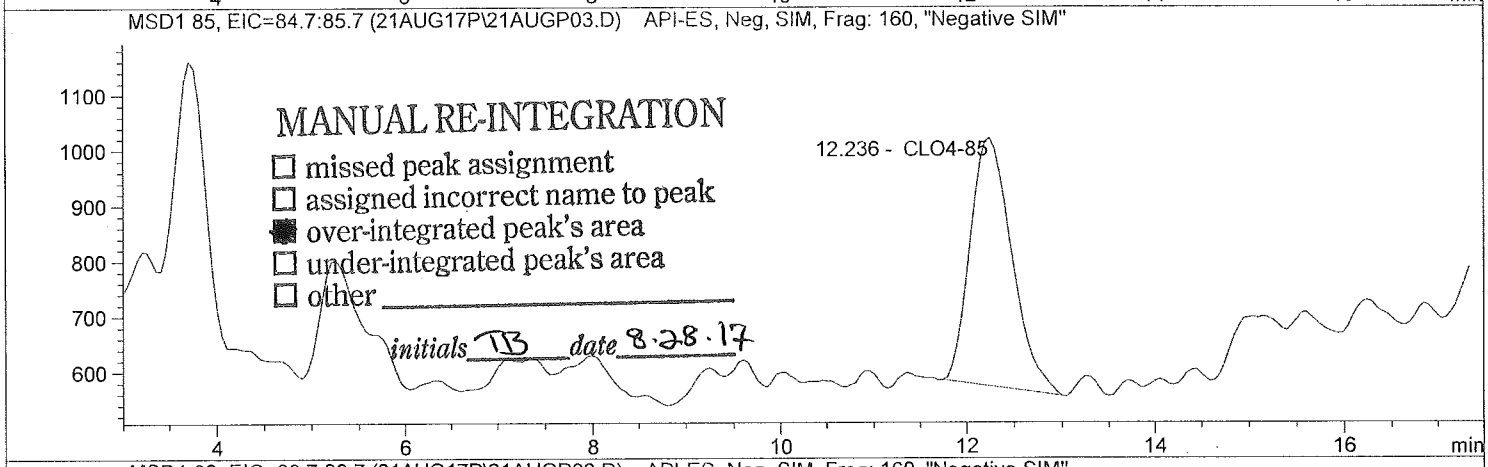
Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP03.D Sample Name: ICAL3@ .20ug/L

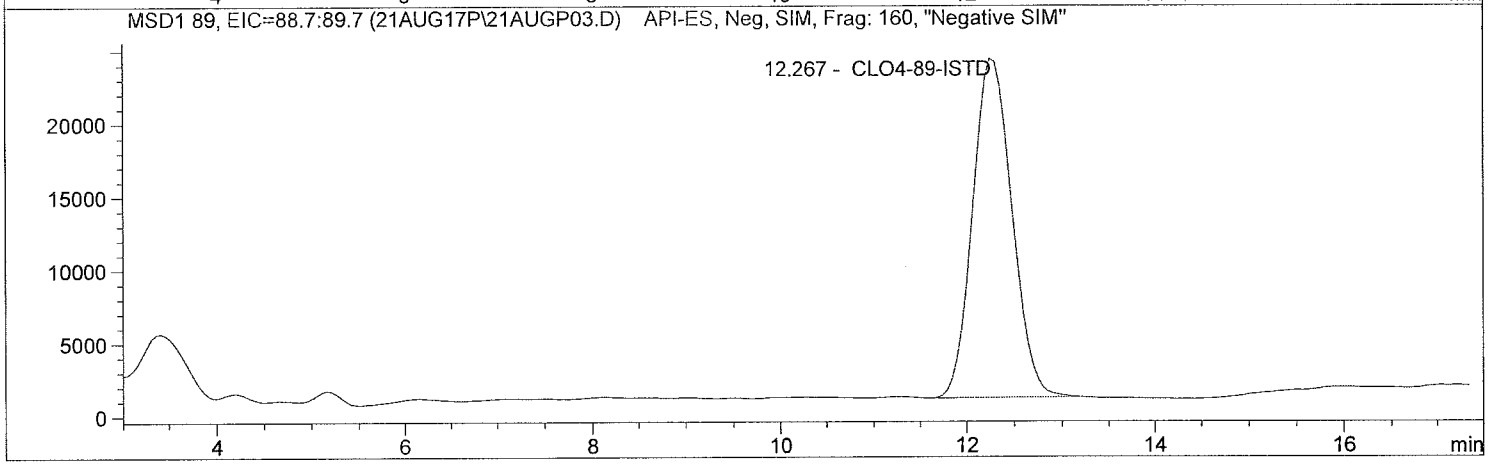
Injection Date:	8/21/2017 10:21:02	Seq Line:	3
Sample Name:	ICAL3@ .20ug/L	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP03.D Sample Name: ICAL3@ .20ug/L

Injection Date:	8/21/2017 10:21:02	Seq Line:	3
Sample Name:	ICAL3@ .20ug/L	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method:	CLO4-AQN.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed:	8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.200

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.238	MM	26211.1	0.1912	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.236	MM	13533.1	0.2886	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.267	PBA	661030.8	5.0000	CLO4-89-ISTD

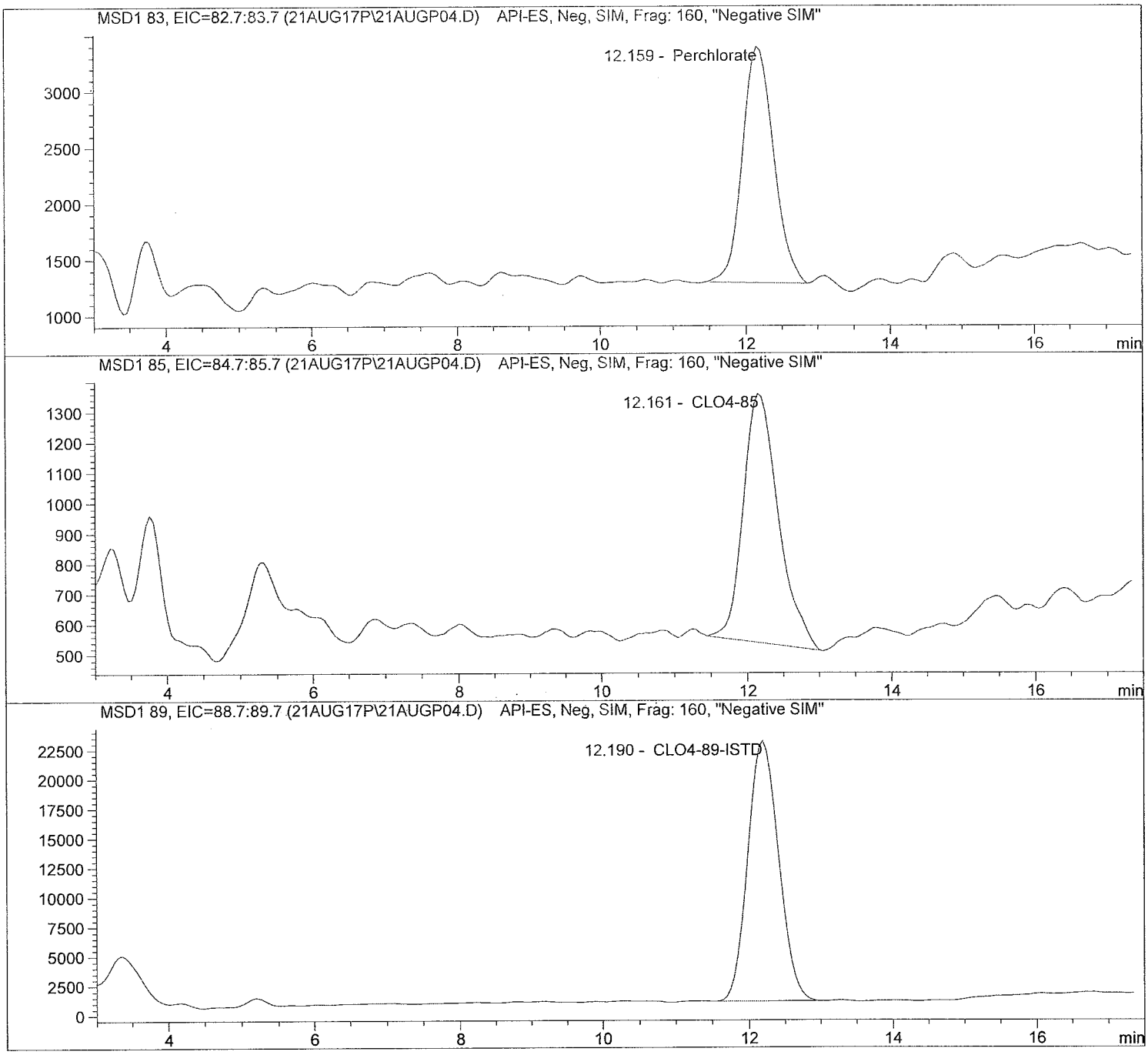
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP04.D Sample Name: ICAL4@ 0.5ug/L

Injection Date:	8/21/2017 10:40:22	Seq Line:	4
Sample Name:	ICAL4@ 0.5ug/L	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP04.D Sample Name: ICAL4@ 0.5ug/L

Injection Date:	8/21/2017 10:40:22	Seq Line:	4
Sample Name:	ICAL4@ 0.5ug/L	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.500

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.159	BBA	62891.2	0.4529	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.161	PBA	27617.1	0.5954	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.190	PBA	652904.1	5.0000	CLO4-89-ISTD

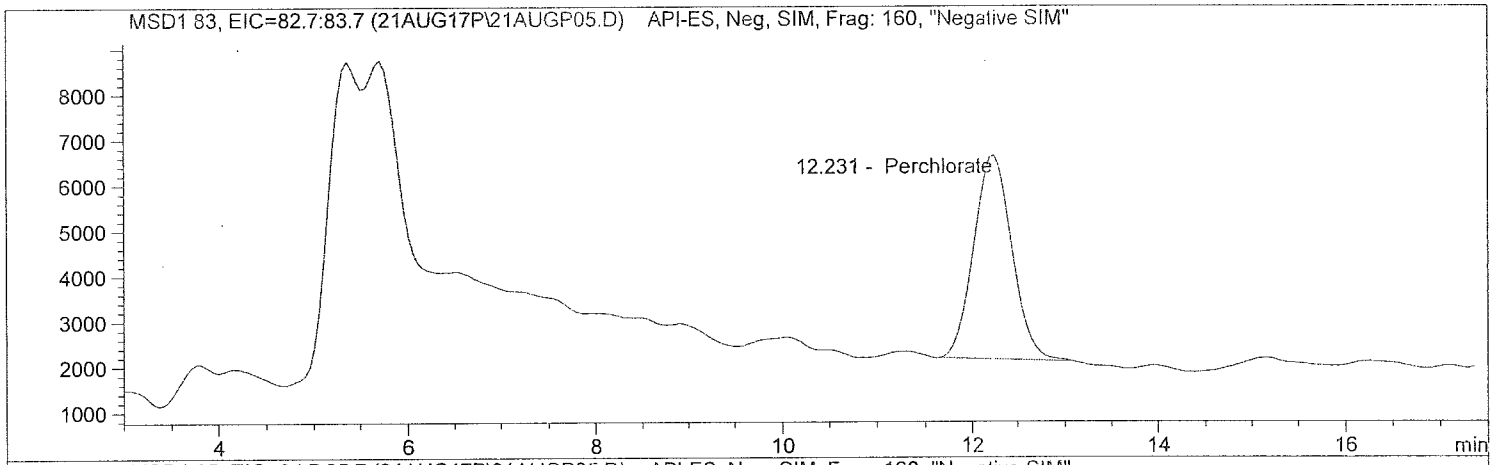
*** End of Report ***

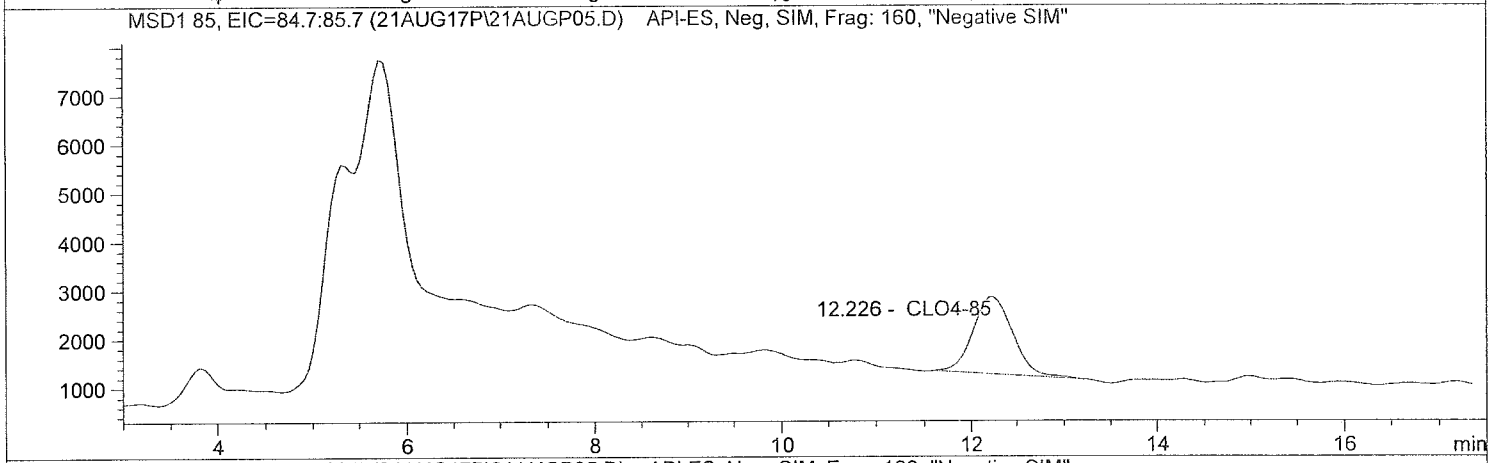
Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP05.D Sample Name: ICAL5@ 1.0ug/L

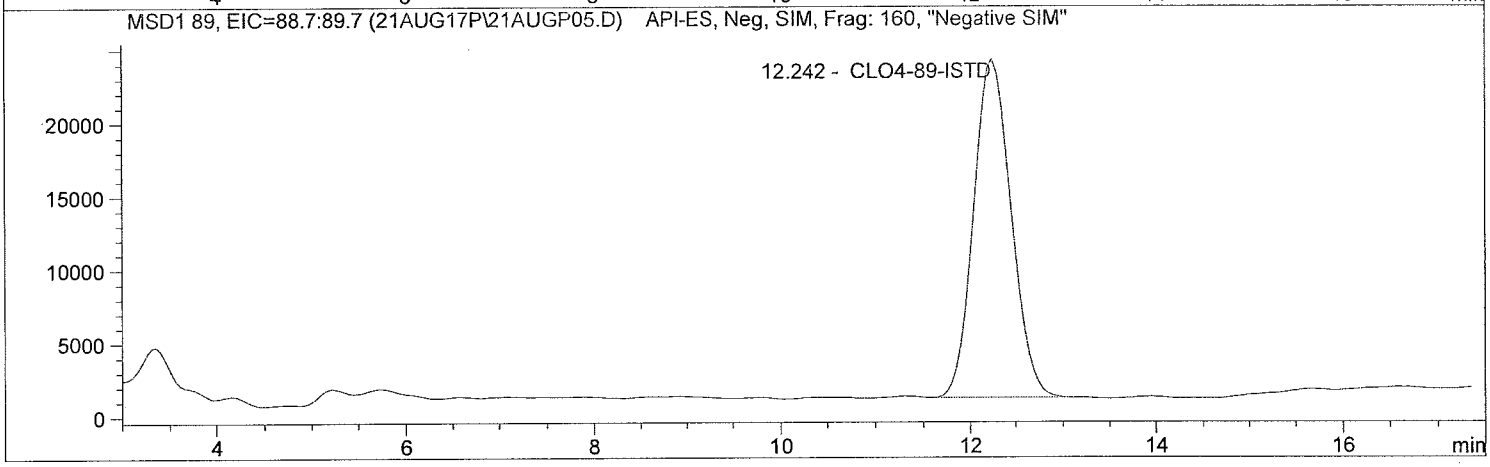
Injection Date:	8/21/2017 10:59:36	Seq Line:	5
Sample Name:	ICAL5@ 1.0ug/L	Location:	Vial 75
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP05.D Sample Name: ICAL5@ 1.0ug/L

Injection Date:	8/21/2017 10:59:36	Seq Line:	5
Sample Name:	ICAL5@ 1.0ug/L	Location:	Vial 75
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
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
12.231	PBA	130706.3	0.9256	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.226	PBA	47509.7	1.0173	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.242	PBA	656070.7	5.0000	CLO4-89-ISTD

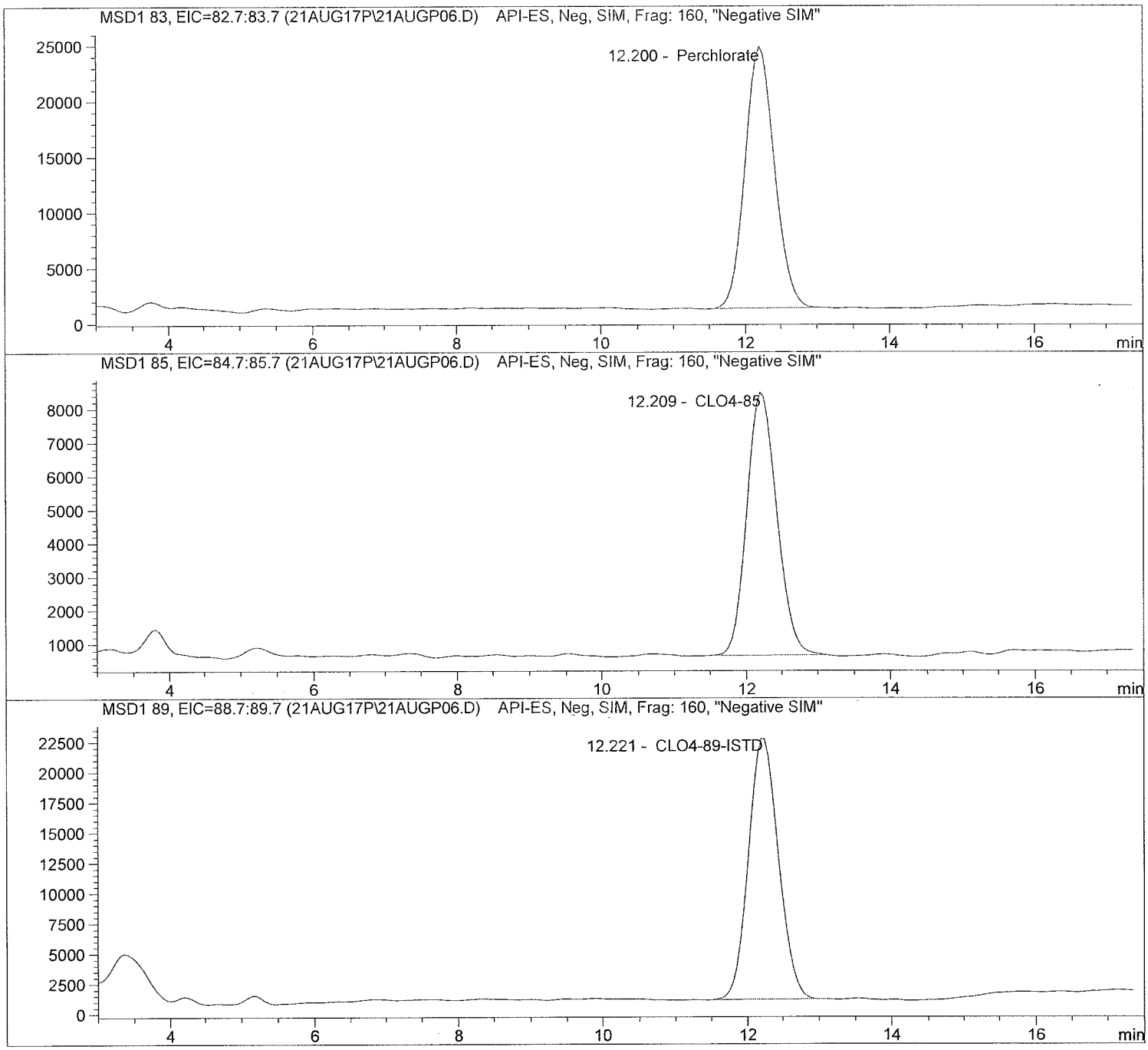
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP06.D Sample Name: ICAL6@ 5.0ug/L

Injection Date:	8/21/2017 11:18:53	Seq Line:	6
Sample Name:	ICAL6@ 5.0ug/L	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP06.D Sample Name: ICAL6@ 5.0ug/L

Injection Date:	8/21/2017 11:18:53	Seq Line:	6
Sample Name:	ICAL6@ 5.0ug/L	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
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
12.200	PBA	680204.6	4.8076	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.209	BBA	230425.8	5.0108	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.221	BBA	634251.4	5.0000	CLO4-89-ISTD

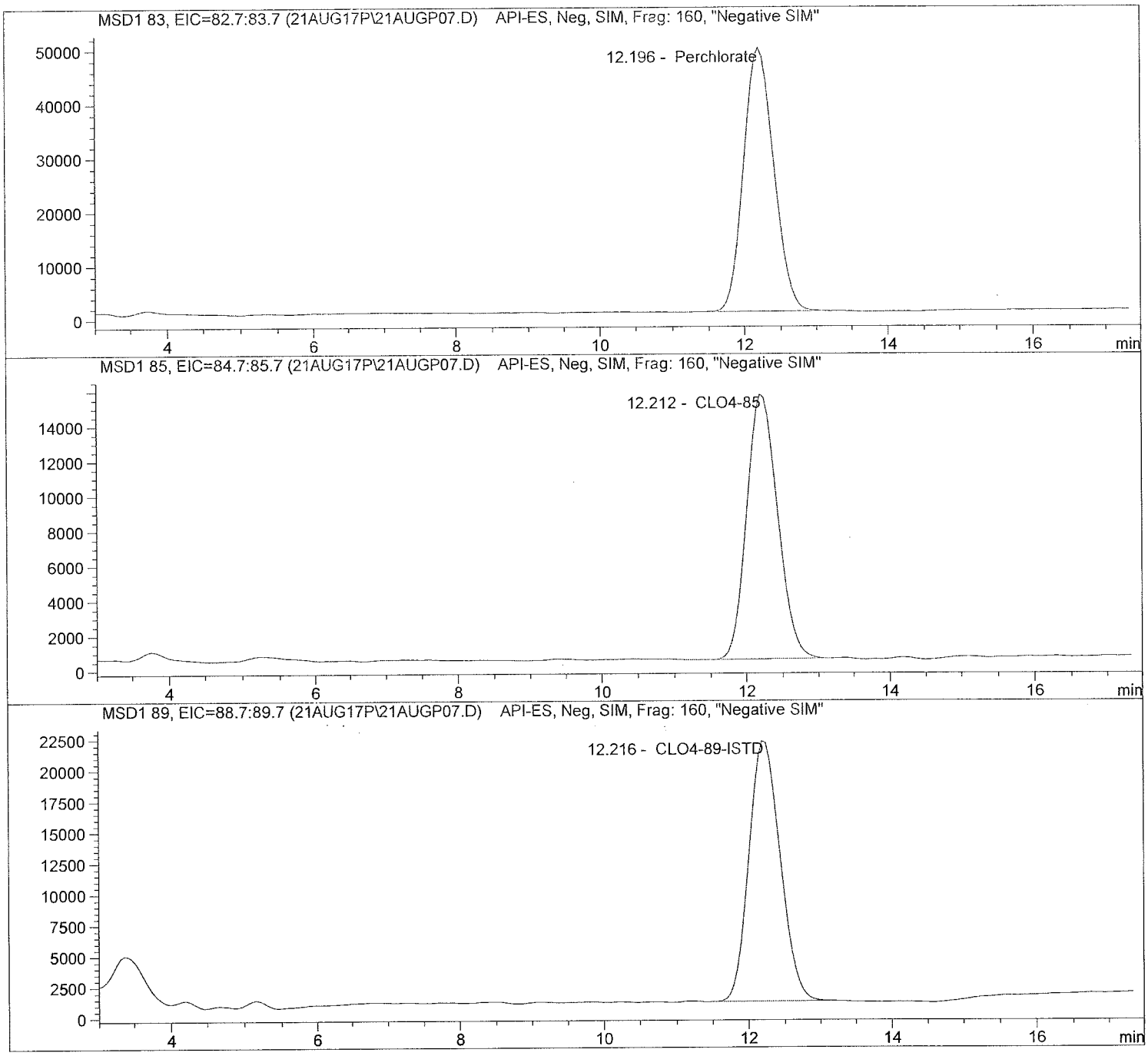
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP07.D Sample Name: ICAL7@ 10.ug/L

Injection Date:	8/21/2017 11:38:12	Seq Line:	7
Sample Name:	ICAL7@ 10.ug/L	Location:	Vial 77
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP07.D Sample Name: ICAL7@ 10.ug/L

Injection Date:	8/21/2017 11:38:12	Seq Line:	7
Sample Name:	ICAL7@ 10.ug/L	Location:	Vial 77
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
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
12.196	BBA	1410569.9	9.7413	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.212	PBA	446569.7	9.6404	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.216	PBA	625689.1	5.0000	CLO4-89-ISTD

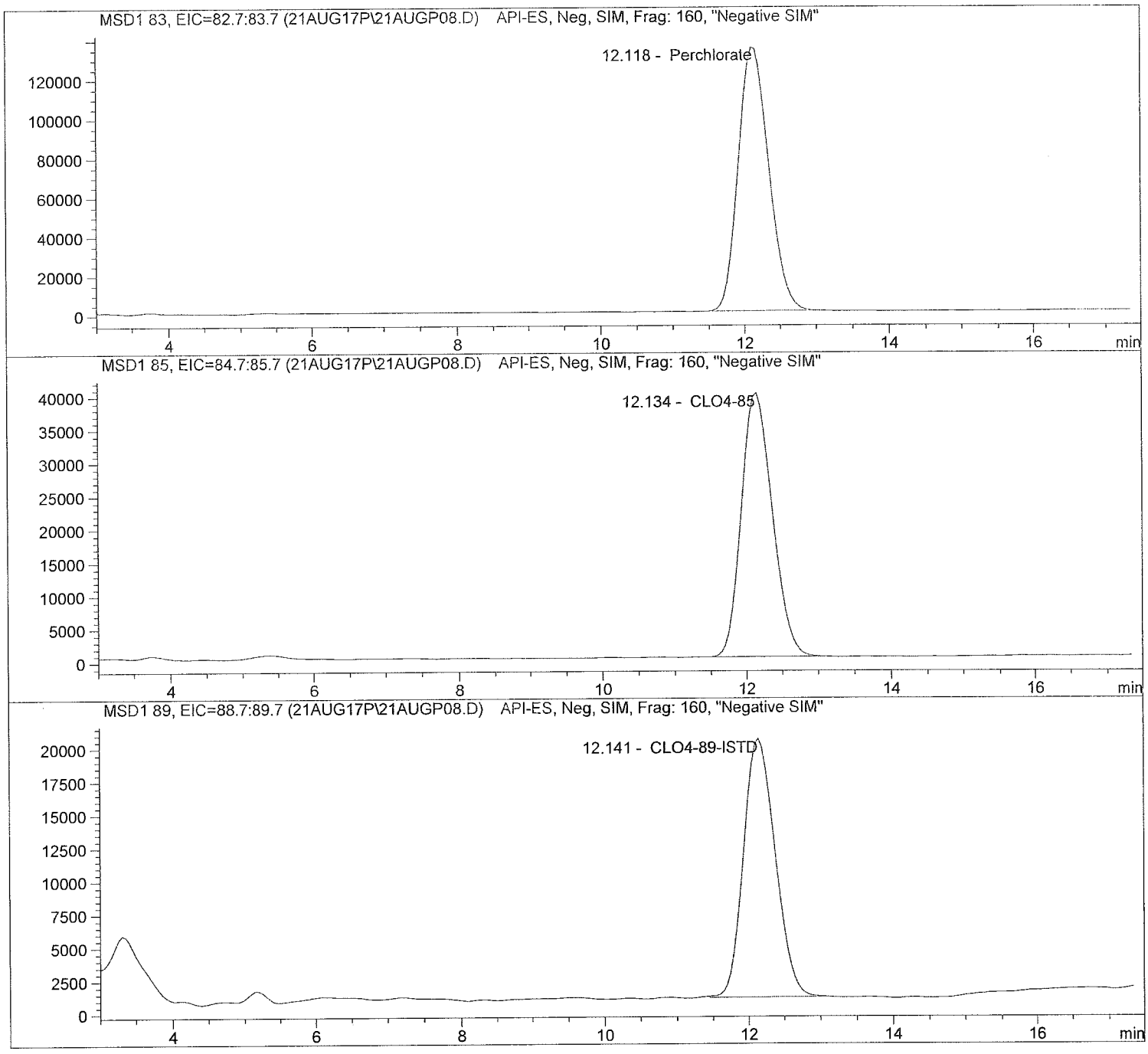
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP08.D Sample Name: ICAL8@ 25.ug/L

Injection Date:	8/21/2017 13:12:50	Seq Line:	8
Sample Name:	ICAL8@ 25.ug/L	Location:	Vial 78
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP08.D Sample Name: ICAL8@ 25.ug/L

Injection Date:	8/21/2017 13:12:50	Seq Line:	8
Sample Name:	ICAL8@ 25.ug/L	Location:	Vial 78
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method:	CLO4-AQN.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed:	8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
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
12.118	BBA	4004745.0	25.7880	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.134	BBA	1199930.0	25.1941	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.141	BBA	601523.1	5.0000	CLO4-89-ISTD

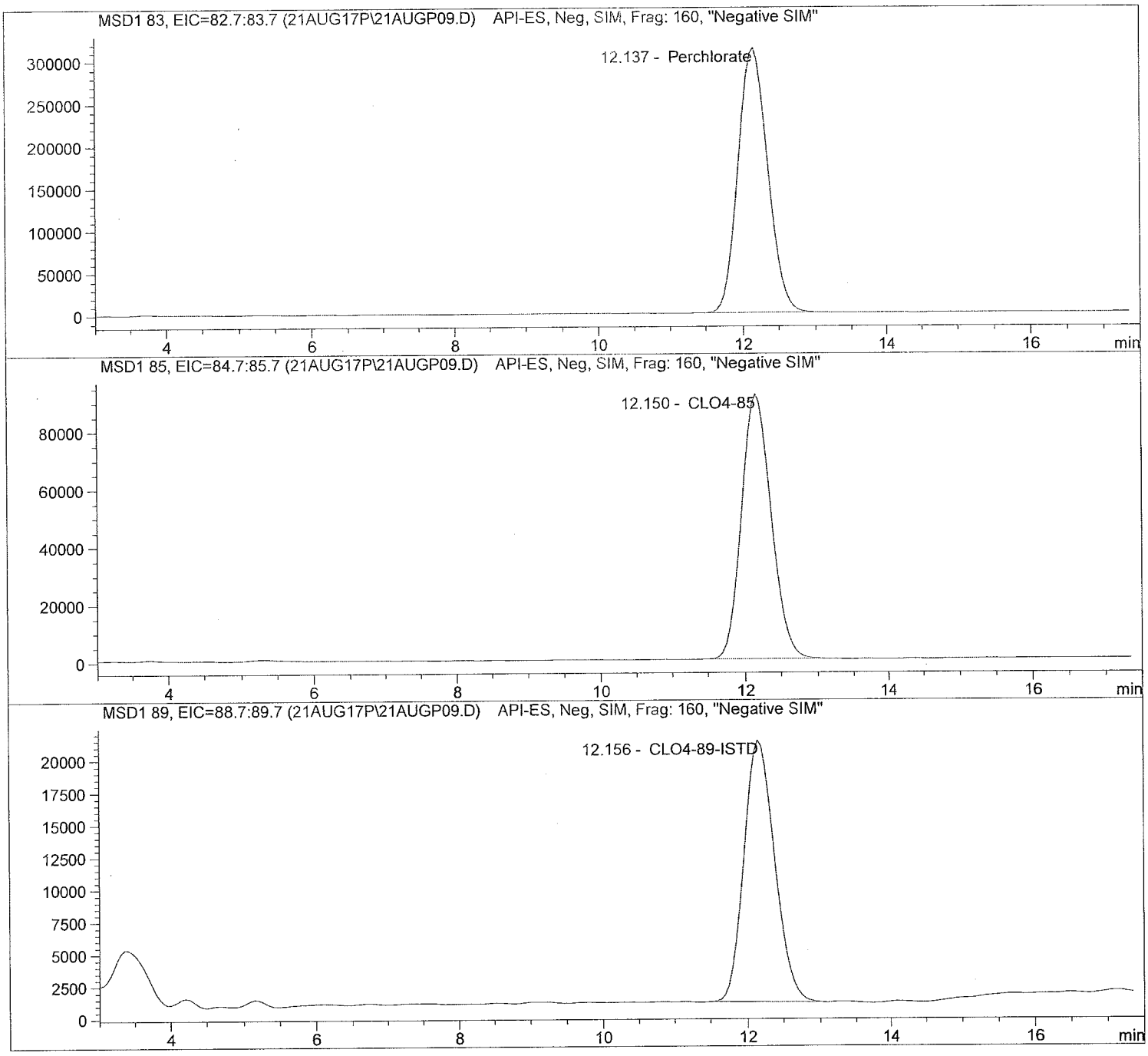
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP09.D Sample Name: ICAL9@ 50.ug/L

Injection Date:	8/21/2017 13:32:10	Seq Line:	9
Sample Name:	ICAL9@ 50.ug/L	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP09.D Sample Name: ICAL9@ 50.ug/L

Injection Date:	8/21/2017 13:32:10	Seq Line:	9
Sample Name:	ICAL9@ 50.ug/L	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
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
12.137	PBA	8856831.0	49.7366	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.150	BBA	2609327.3	49.9698	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.156	BBA	597661.2	5.0000	CLO4-89-ISTD

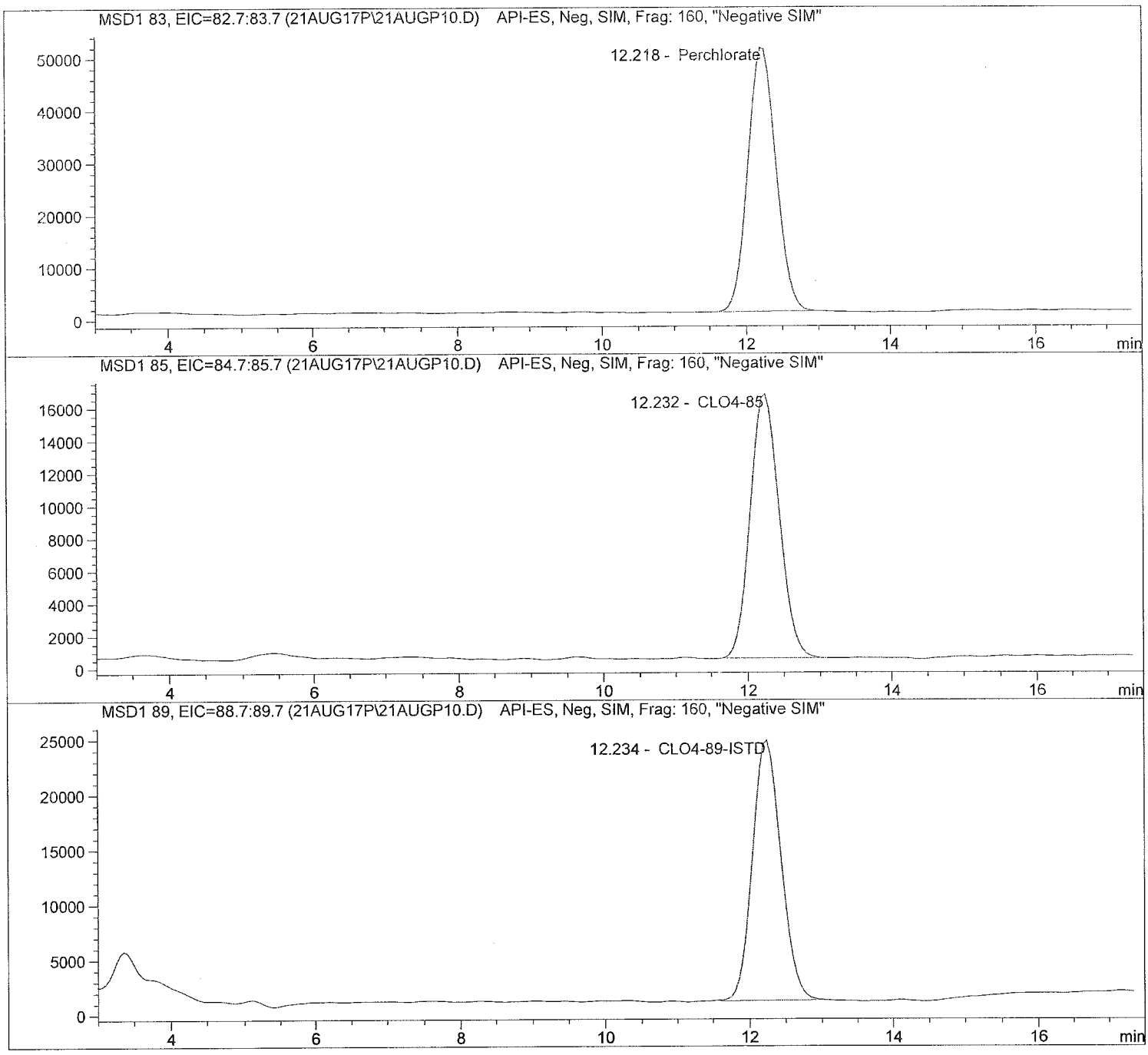
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP10.D Sample Name: ICAL Verf@10ug/L

Injection Date:	8/21/2017 13:51:27	Seq Line:	10
Sample Name:	ICAL Verf@10ug/L	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP10.D Sample Name: ICAL Verf@10ug/L

Injection Date:	8/21/2017 13:51:27	Seq Line:	10
Sample Name:	ICAL Verf@10ug/L	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
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
12.218	BBA	1360649.7	9.1433	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.232	PBA	449703.0	9.4150	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.234	BBA	645815.0	5.0000	CLO4-89-ISTD

*** End of Report ***

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Raw Data

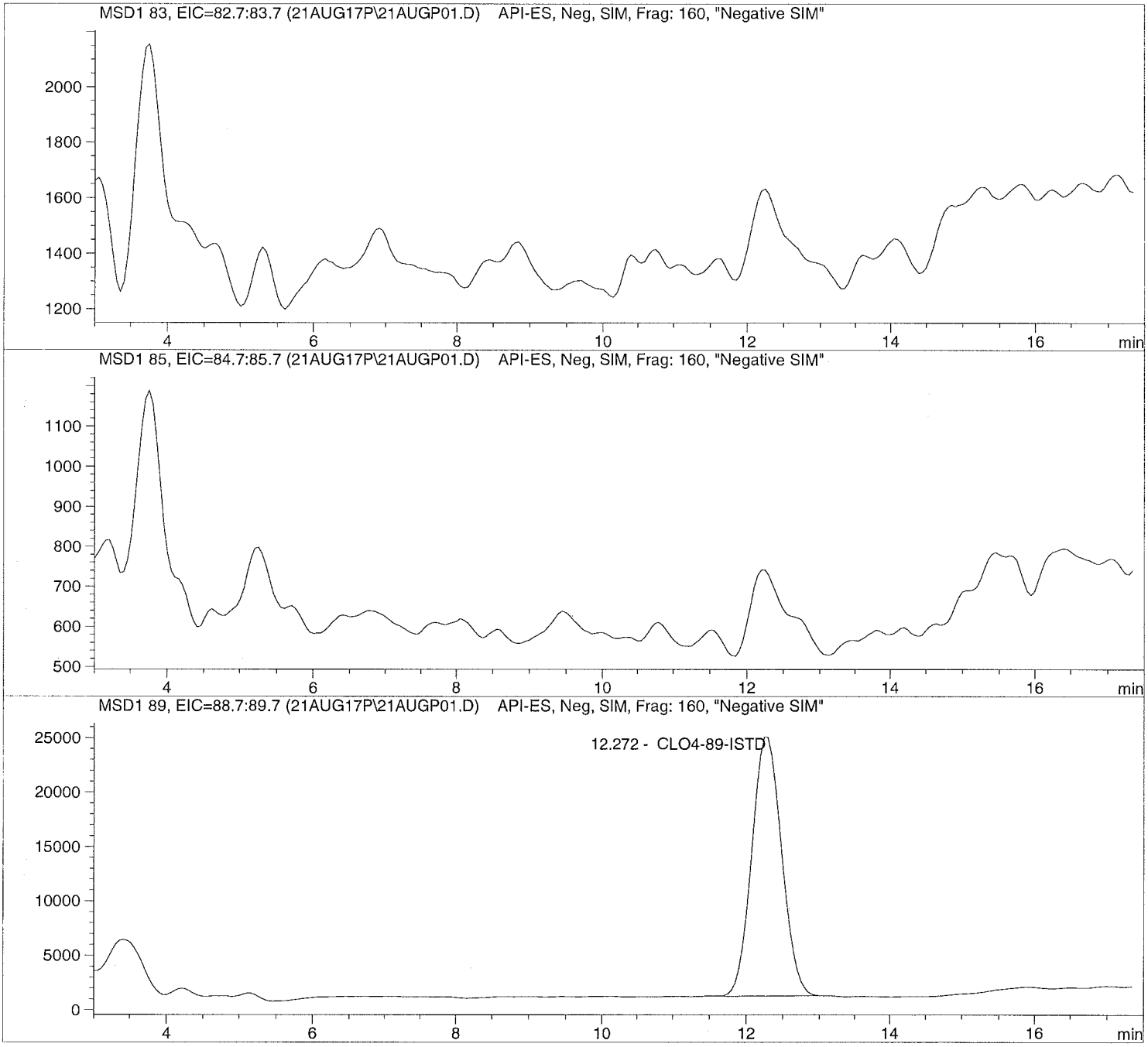
Unmodified

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP01.D Sample Name: ICAL1@ .05ug/L

Injection Date:	8/21/2017 09:42:32	Seq Line:	1
Sample Name:	ICAL1@ .05ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP01.D Sample Name: ICAL1@ .05ug/L

Injection Date:	8/21/2017 09:42:32	Seq Line:	1
Sample Name:	ICAL1@ .05ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.050

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
12.272	BBA	673942.9	5.0000	CLO4-89-ISTD

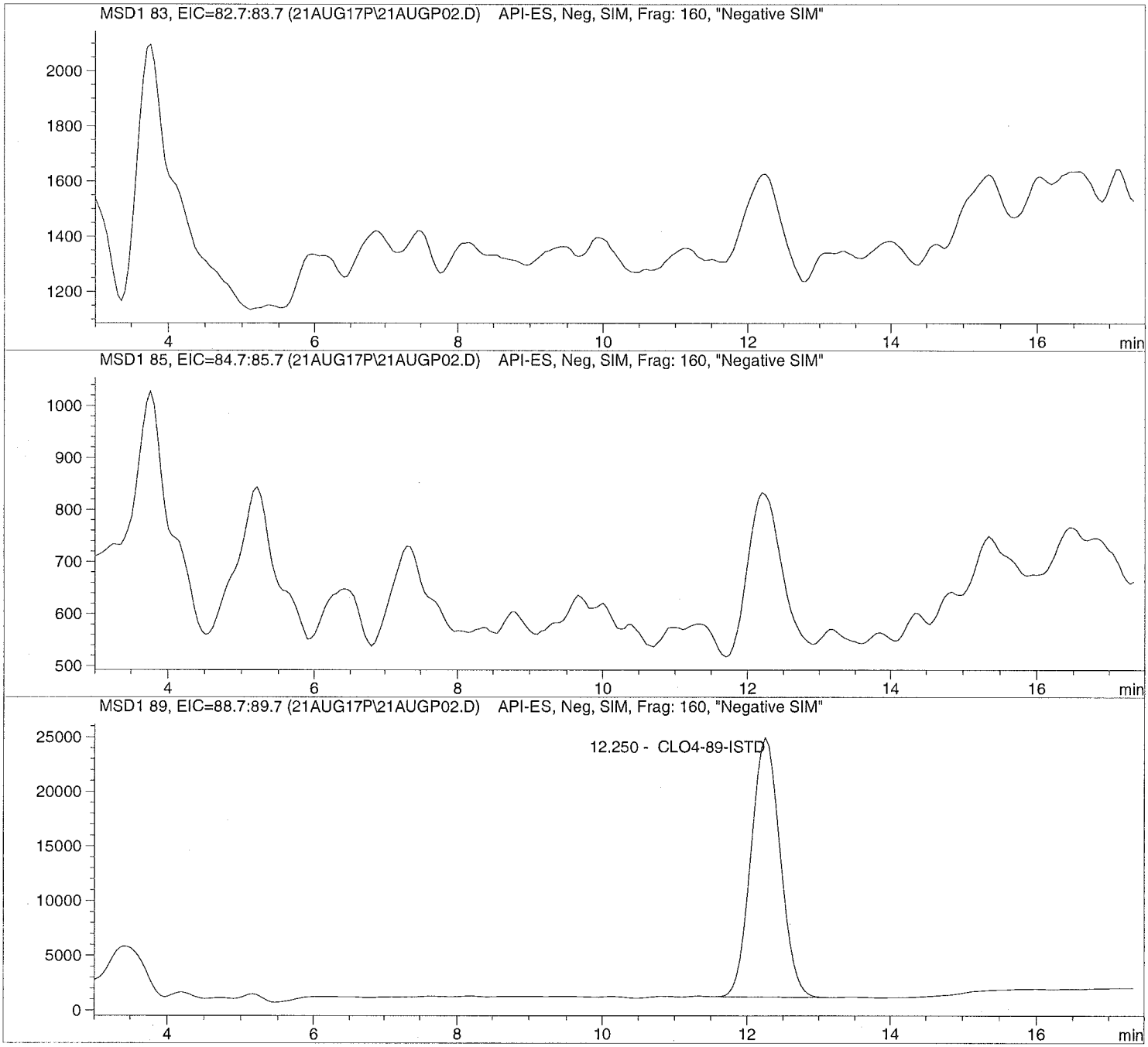
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP02.D Sample Name: ICAL2@ .10ug/L

Injection Date:	8/21/2017 10:01:47	Seq Line:	2
Sample Name:	ICAL2@ .10ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP02.D Sample Name: ICAL2@ .10ug/L

Injection Date:	8/21/2017 10:01:47	Seq Line:	2
Sample Name:	ICAL2@ .10ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.100

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
12.250	BBA	667016.3	5.0000	CLO4-89-ISTD

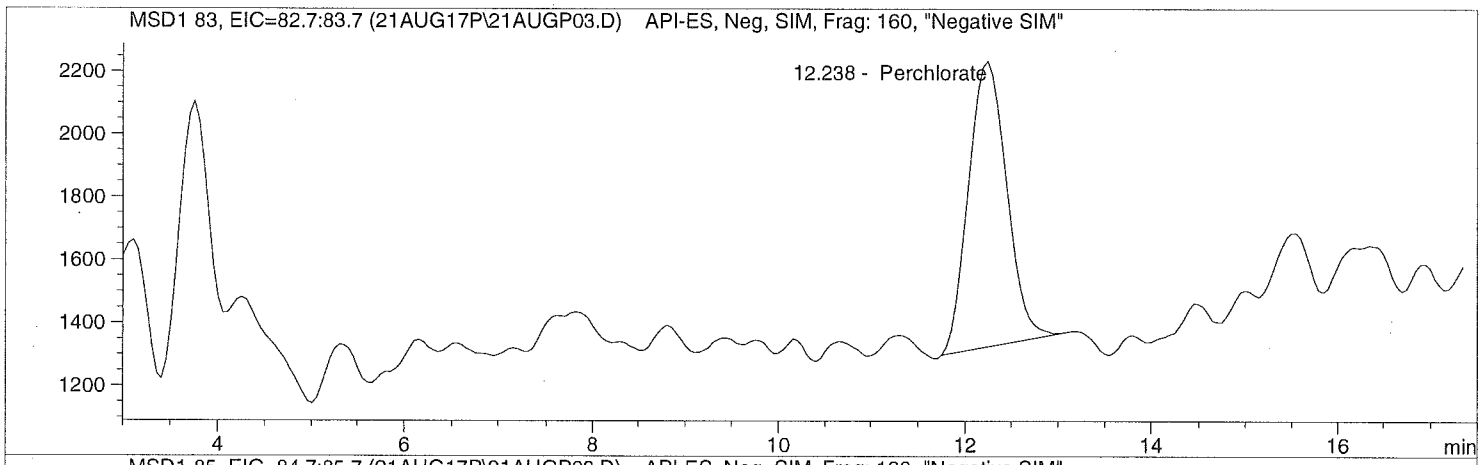
*** End of Report ***

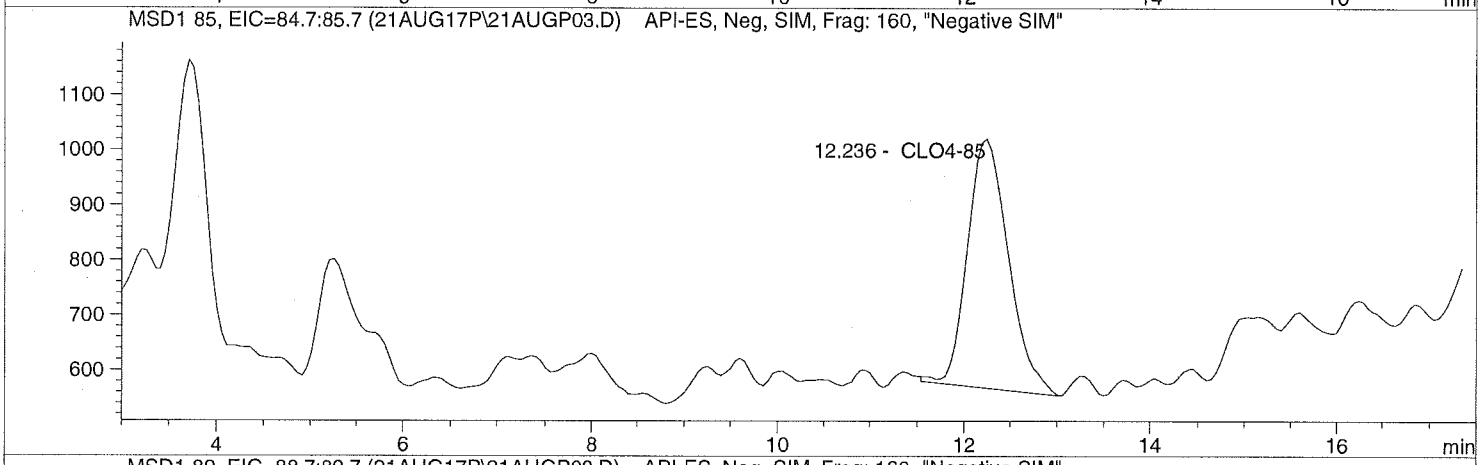
Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP03.D Sample Name: ICAL3@ .20ug/L

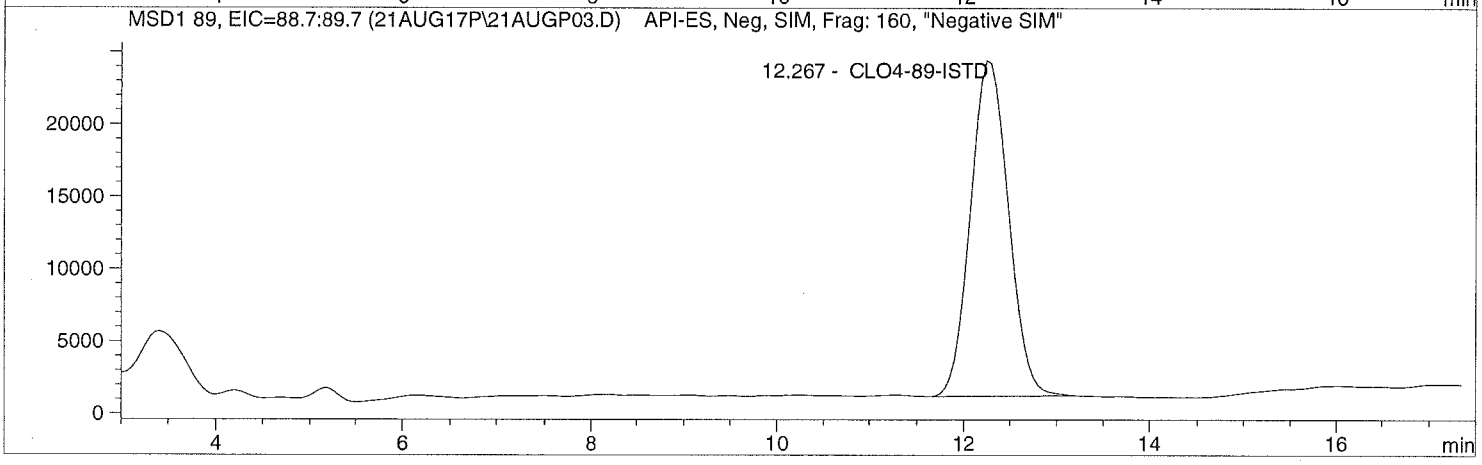
Injection Date:	8/21/2017 10:21:02	Seq Line:	3
Sample Name:	ICAL3@ .20ug/L	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP03.D Sample Name: ICAL3@ .20ug/L

Injection Date:	8/21/2017 10:21:02	Seq Line:	3
Sample Name:	ICAL3@ .20ug/L	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 8/21/2017 14:55:53

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Mon, 21. Aug. 2017,02:55:52 pm
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.200

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.238	PBA	26023.7	0.1899	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.236	BBA	13974.8	0.2980	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.267	PBA	661030.8	5.0000	CLO4-89-ISTD

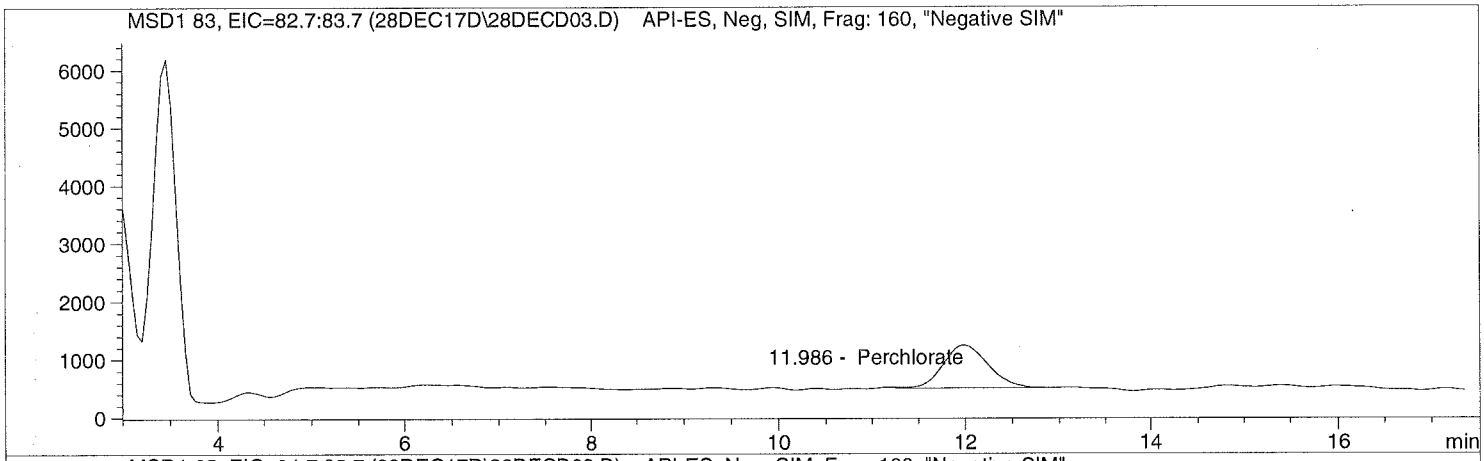
*** End of Report ***

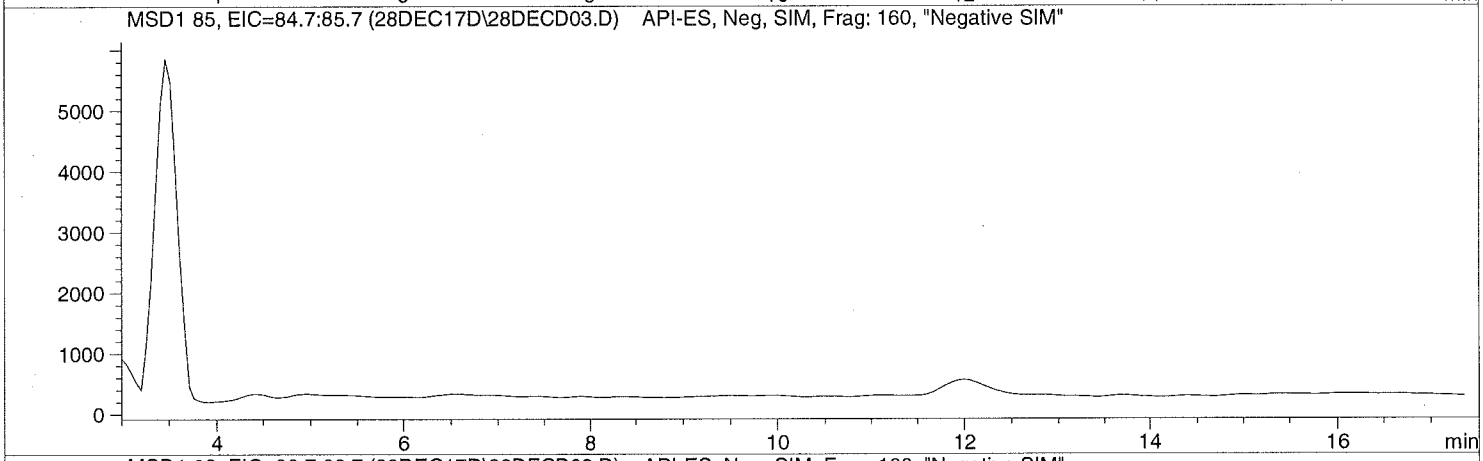
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD03.D Sample Name: 581171 ICS@1.

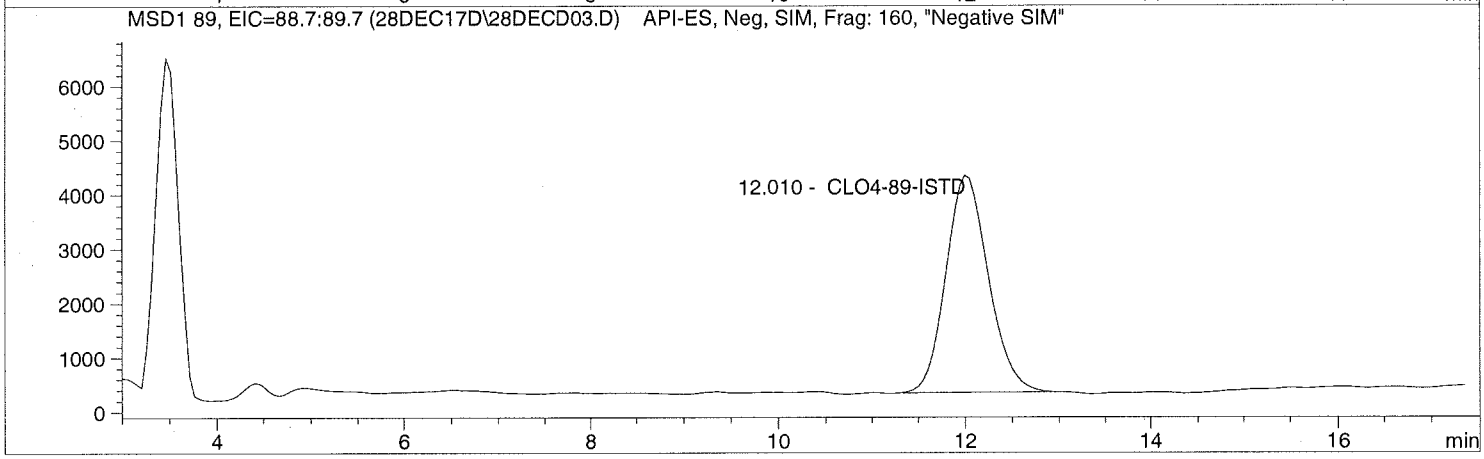
Injection Date:	12/28/2017 11:30:49	Seq Line:	3
Sample Name:	581171 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD03.D Sample Name: 581171 ICS@1.

Injection Date:	12/28/2017 11:30:49	Seq Line:	3
Sample Name:	581171 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
11.986	BBA	24593.0	0.9244	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
12.010	PBA	126199.8	5.0000	CLO4-89-ISTD

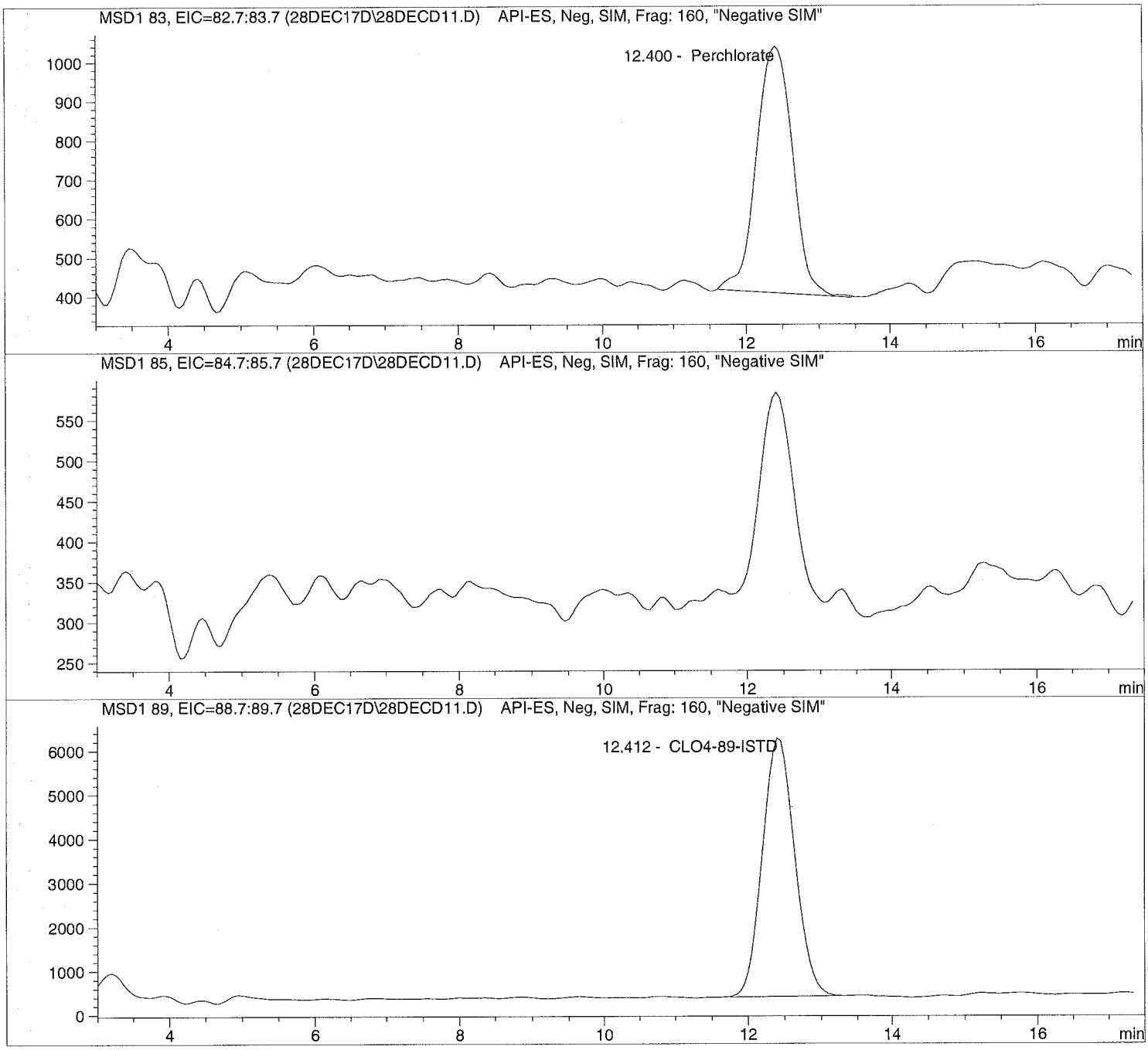
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD11.D Sample Name: 1735685004 100

Injection Date:	12/28/2017 14:08:36	Seq Line:	11
Sample Name:	1735685004 100	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\28DEC17D\28DECD11.D Sample Name: 1735685004 100

Injection Date:	12/28/2017 14:08:36	Seq Line:	11
Sample Name:	1735685004 100	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:	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
12.400	PBA	21505.4	58.0909	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
12.412	BBA	178775.9	500.0000	CLO4-89-ISTD

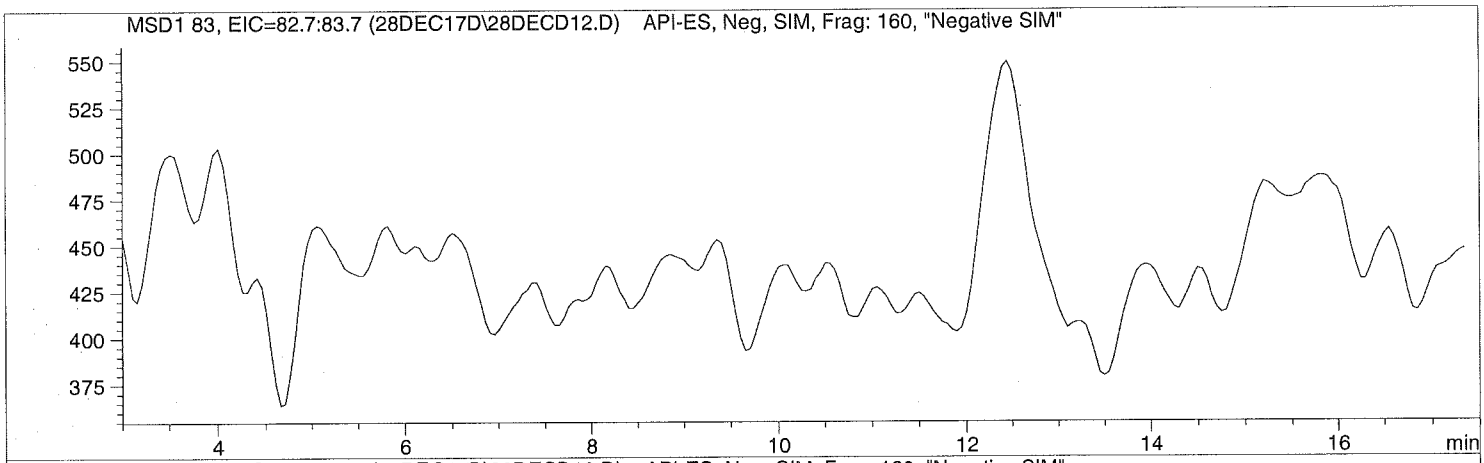
*** End of Report ***

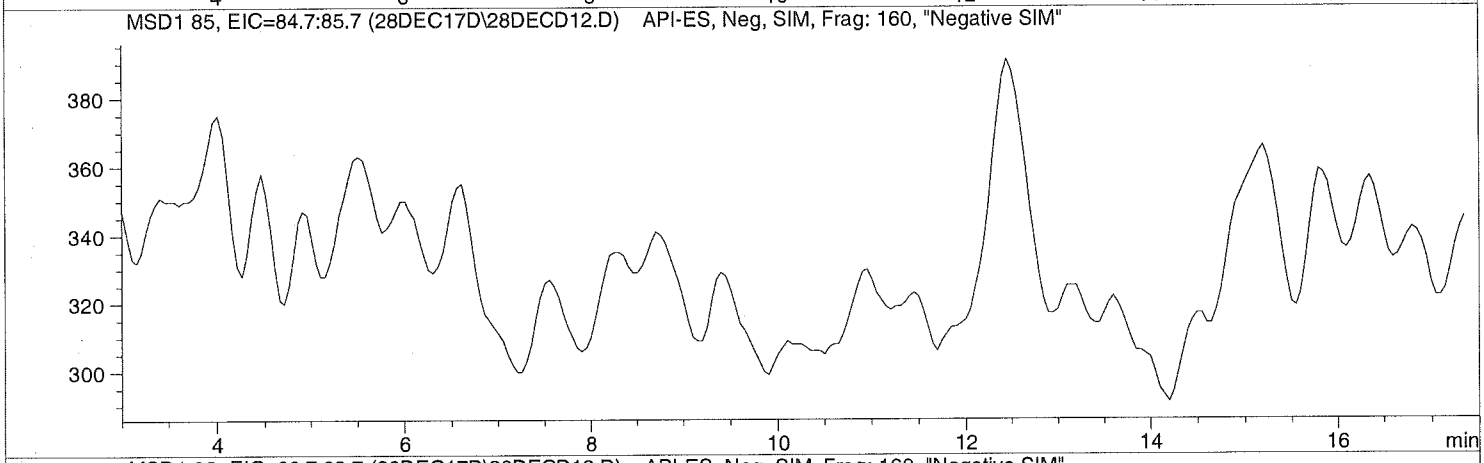
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD12.D Sample Name: 1735685005 100

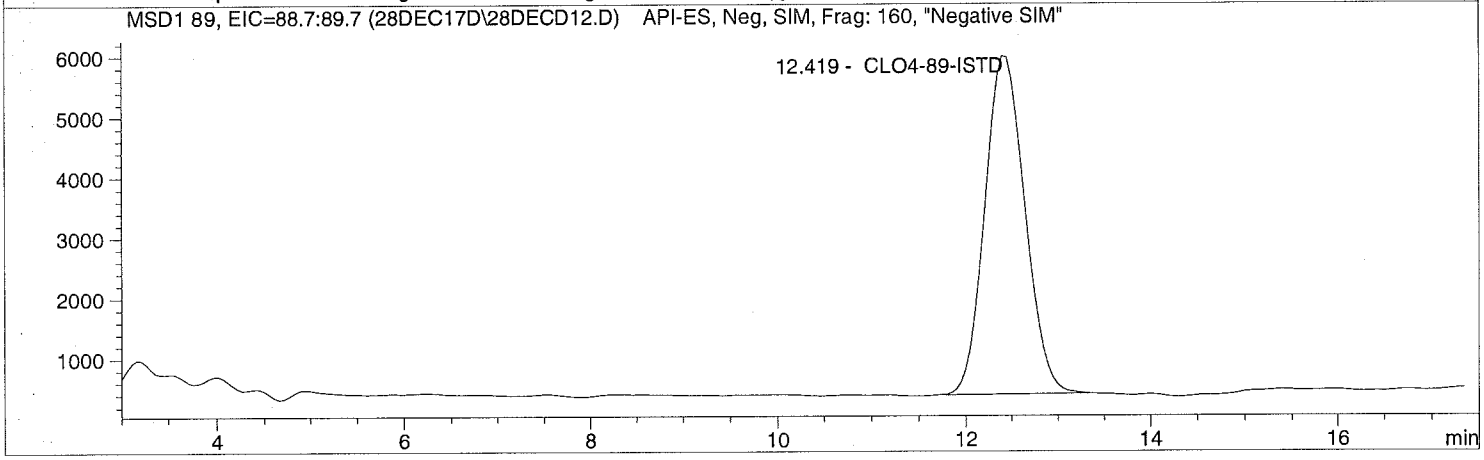
Injection Date:	12/28/2017 14:27:43	Seq Line:	12
Sample Name:	1735685005 100	Location:	Vial 82
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD12.D Sample Name: 1735685005 100

Injection Date:	12/28/2017 14:27:43	Seq Line:	12
Sample Name:	1735685005 100	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:	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
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
12.419	BBA	167796.2	500.0000	CLO4-89-ISTD

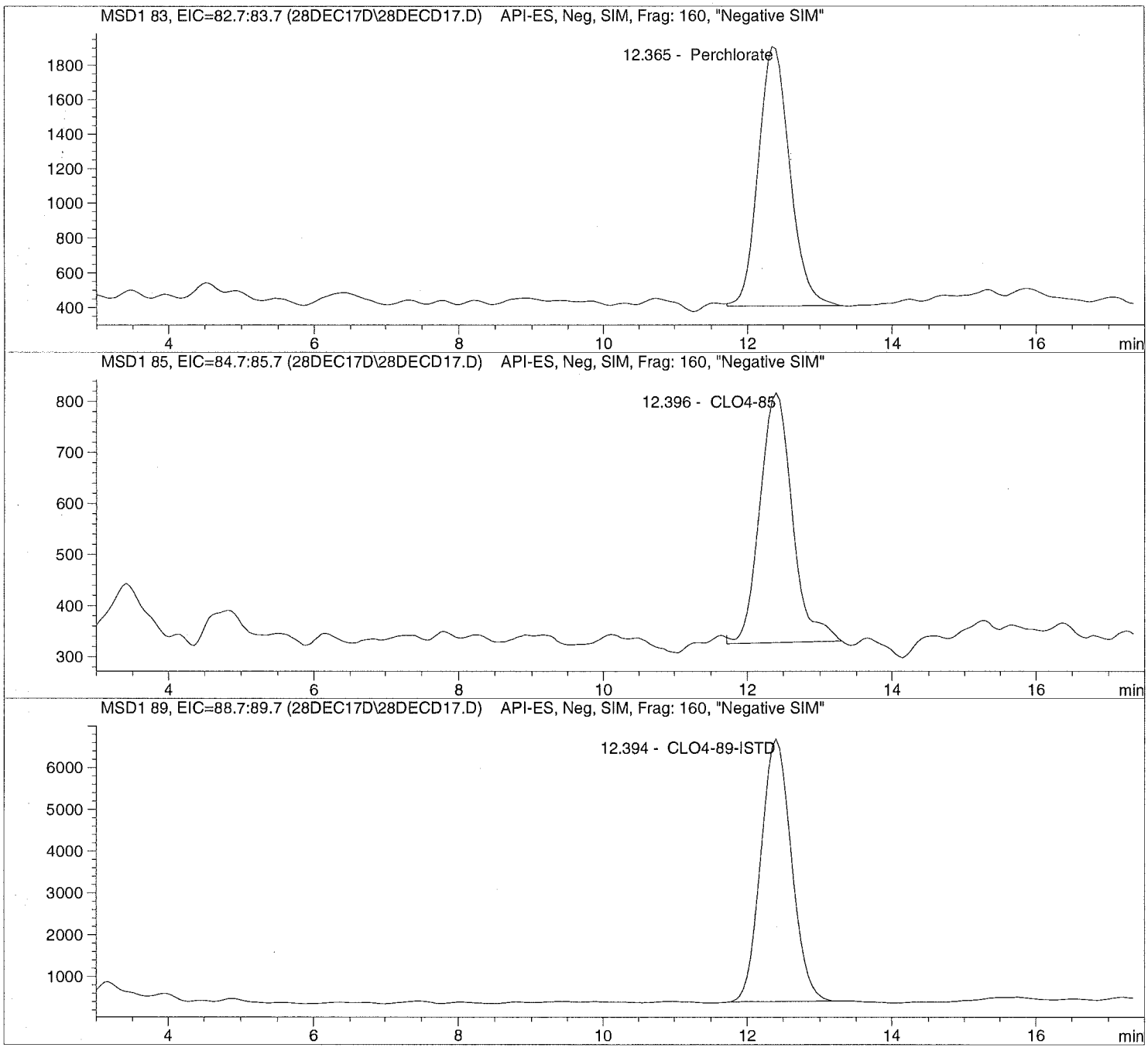
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD17.D Sample Name: 581177 LODV@1.

Injection Date:	12/28/2017 16:03:29	Seq Line:	17
Sample Name:	581177 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\28DEC17D\28DECD17.D Sample Name: 581177 LODV@1.

Injection Date:	12/28/2017 16:03:29	Seq Line:	17
Sample Name:	581177 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
12.365	BBA	45116.8	1.1533	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.396	BBA	15199.4	0.9791	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.394	PBA	184350.1	5.0000	CLO4-89-ISTD

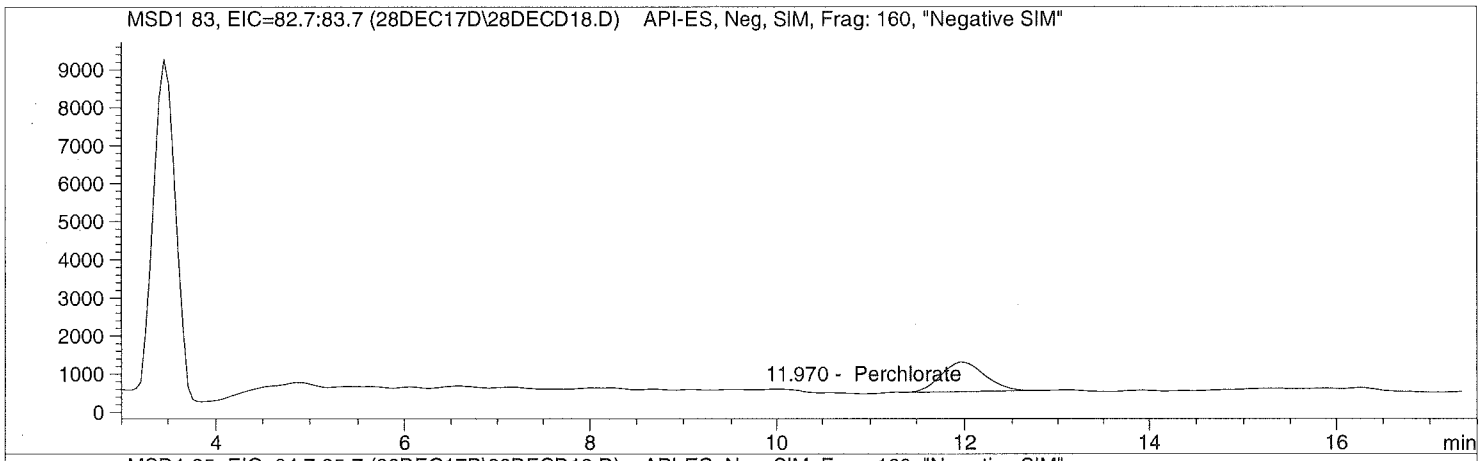
*** End of Report ***

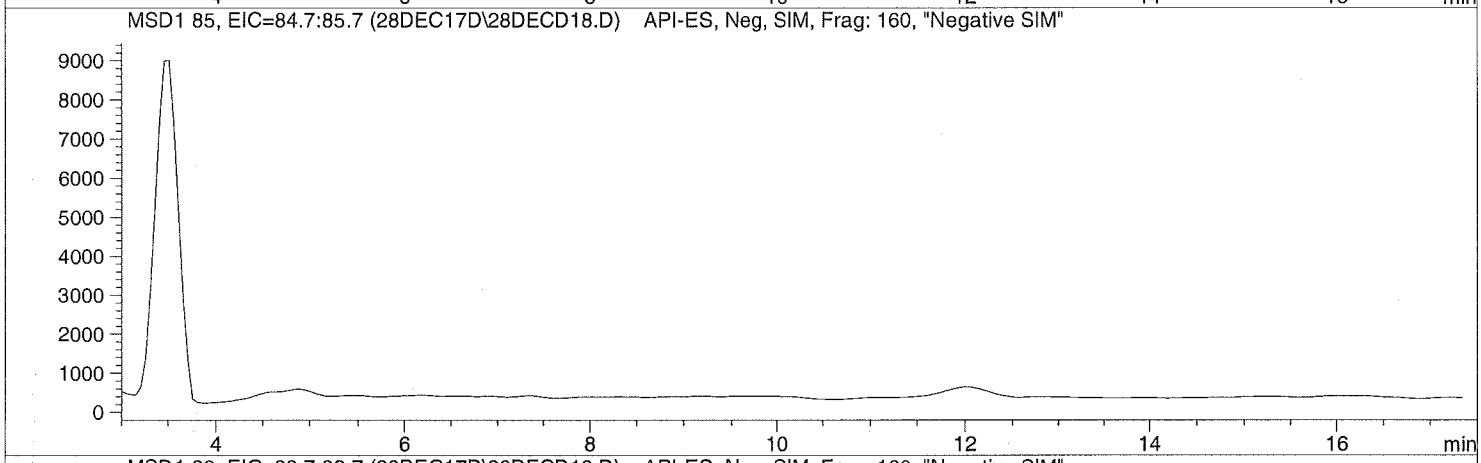
Data file: C:\HPCHEM\1\DATA\28DEC17D\28DECD18.D Sample Name: 1735689001

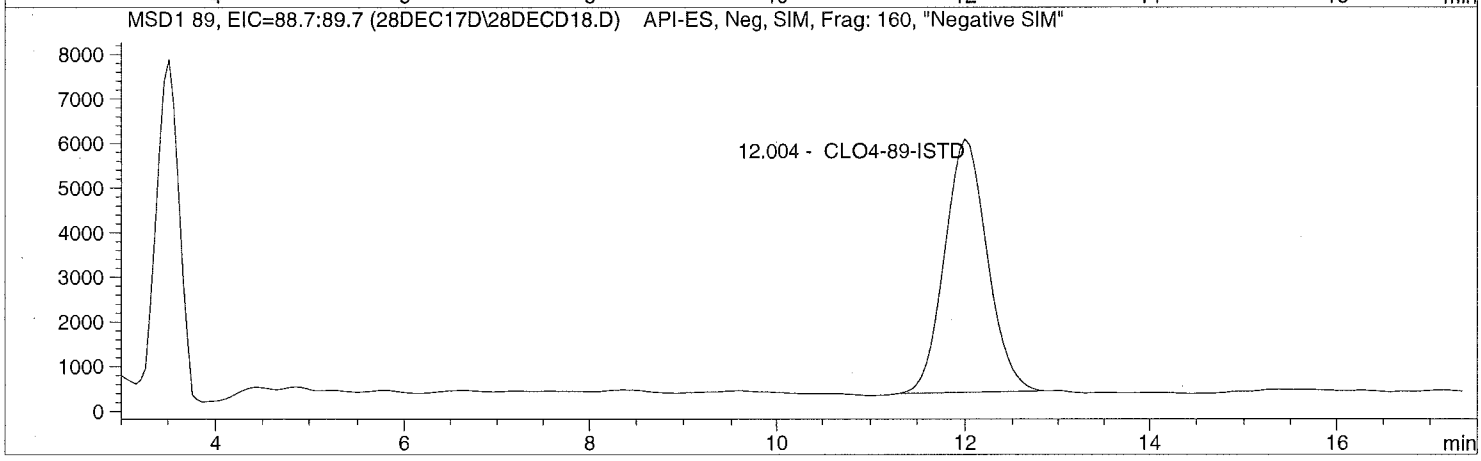
Injection Date:	12/28/2017 16:28:09	Seq Line:	18
Sample Name:	1735689001	Location:	Vial 86
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\28DEC17D\28DECD18.D Sample Name: 1735689001

Injection Date:	12/28/2017 16:28:09	Seq Line:	18
Sample Name:	1735689001	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
11.970	BBA	24877.5	0.6828	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
12.004	BBA	174711.9	5.0000	CLO4-89-ISTD

*** End of Report ***

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

WorkOrder: HS17121397

Groundwater Treatment Plant Weekly Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

22-Jan-2018

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

January 15, 2018

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

Work Order: **HS17121397**

Laboratory Results for: **Groundwater Treatment Plant Weekly Samples**

Dear Marcia,

ALS Environmental received 1 sample(s) on Dec 29, 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: 15-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Weekly Samples
Work Order: HS17121397

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS17121397-01	LH18/24-SP650_122717	Water		27-Dec-2017 14:00	29-Dec-2017 08:55	☐

ALS Group USA, Corp Date: 15-Jan-18

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Groundwater Treatment Plant Weekly Samples
Work Order: HS17121397

Work Order Comments

- The analysis for Perchlorate was subcontracted to ALS Environmental in Salt Lake City, UT.

WetChemistry by Method E415.1

Batch ID: R308631

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

WetChemistry by Method E350.3

Batch ID: R308503

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

WetChemistry by Method E365.3

Batch ID: R308175

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

ALS Group USA, Corp Date: 15-Jan-18

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Groundwater Treatment Plant Weekly Samples
WorkOrder:HS17121397
Sample ID: LH18/24-SP650_122717
Lab ID:HS17121397-01
Collection Date: 27-Dec-2017 14:00
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
AMMONIA AS N BY E350.3(ISE)		**Method:E350.3**						Analyst: SAP
Nitrogen, Ammonia (As N)	**13**		**0.20**	**0.20**	**0.20**	**mg/L**	1	05-Jan-2018 11:10
ORTHO PHOSPHATE (PO4) AS P BY E365.3		**Method:E365.3**						Analyst: SAP
Phosphorus, Total Orthophosphate (As P)	**3.80**		**0.100**	**0.125**	**0.250**	**mg/L**	10	29-Dec-2017 10:40
TOTAL ORGANIC CARBON BY E415.1		**Method:E415.1**						Analyst: KMU
Organic Carbon, Total	**21.2**		**0.500**	**0.500**	**1.00**	**mg/L**	1	08-Jan-2018 19:52
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	12-Jan-2018 11:16

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

ALS Group USA, Corp Date: 15-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Weekly Samples
WorkOrder: HS17121397

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R308175	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3			**Matrix:** Water		
HS17121397-01	LH18/24-SP650_122717	27 Dec 2017 14:00			29 Dec 2017 10:40	10
Batch ID R308503	**Test Name :** AMMONIA AS N BY E350.3(ISE)			**Matrix:** Water		
HS17121397-01	LH18/24-SP650_122717	27 Dec 2017 14:00			05 Jan 2018 11:10	1
Batch ID R308631	**Test Name :** TOTAL ORGANIC CARBON BY E415.1			**Matrix:** Water		
HS17121397-01	LH18/24-SP650_122717	27 Dec 2017 14:00			08 Jan 2018 19:52	1
Batch ID R308871	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)			**Matrix:** Water		
HS17121397-01	LH18/24-SP650_122717	27 Dec 2017 14:00			12 Jan 2018 11:16	1

ALS Group USA, Corp Date: 15-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Weekly Samples
WorkOrder: HS17121397

QC BATCH REPORT

Batch ID: R308175 **Instrument: UV-2450** **Method: E365.3**

MBLK Sample ID: **MBLK-308175** Units: **mg/L** Analysis Date: **29-Dec-2017 10:40**
Client ID: Run ID: **UV-2450_308175** SeqNo: **4384222** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.0125	0.0250								U

LCS Sample ID: **LCS-308175** Units: **mg/L** Analysis Date: **29-Dec-2017 10:40**
Client ID: Run ID: **UV-2450_308175** SeqNo: **4384223** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.246	0.0250	0.25	0	98.4	80 - 120				

MS Sample ID: **HS17121397-01MS** Units: **mg/L** Analysis Date: **29-Dec-2017 10:40**
Client ID: **LH18/24-SP650_122717** Run ID: **UV-2450_308175** SeqNo: **4384224** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	6.23	0.250	2.5	3.8	97.2	80 - 120				

MSD Sample ID: **HS17121397-01MSD** Units: **mg/L** Analysis Date: **29-Dec-2017 10:40**
Client ID: **LH18/24-SP650_122717** Run ID: **UV-2450_308175** SeqNo: **4384225** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	6.18	0.250	2.5	3.8	95.2	80 - 120	6.23	0.806	20	

The following samples were analyzed in this batch: HS17121397-01

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

ALS Group USA, Corp Date: 15-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Weekly Samples
WorkOrder: HS17121397

QC BATCH REPORT

Batch ID: R308503 **Instrument: WetChem_HS** **Method: E350.3**

MBLK Sample ID: **MBLK-308503** Units: **mg/L** Analysis Date: **05-Jan-2018 11:10**
Client ID: Run ID: **WetChem_HS_308503** SeqNo: **4382045** PrepDate: DF: **1**

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

LCS Sample ID: **LCS-308503** Units: **mg/L** Analysis Date: **05-Jan-2018 11:10**
Client ID: Run ID: **WetChem_HS_308503** SeqNo: **4382046** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	10.29	0.20	10	0	103	80 - 120				

MS Sample ID: **HS17121205-01MS** Units: **mg/L** Analysis Date: **05-Jan-2018 11:10**
Client ID: Run ID: **WetChem_HS_308503** SeqNo: **4382538** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (as N)	9.964	0.20	10	0.2016	97.6	80 - 120				

MSD Sample ID: **HS17121205-01MSD** Units: **mg/L** Analysis Date: **05-Jan-2018 11:10**
Client ID: Run ID: **WetChem_HS_308503** SeqNo: **4382537** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (as N)	9.981	0.20	10	0.2016	97.8	80 - 120	9.964	0.17	20	

The following samples were analyzed in this batch: HS17121397-01

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

ALS Group USA, Corp Date: 15-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Weekly Samples
WorkOrder: HS17121397

QC BATCH REPORT

Batch ID: R308631 **Instrument: TOC_02** **Method: E415.1**

MBLK Sample ID: **WBLKW1-010818** Units: **mg/L** Analysis Date: **08-Jan-2018 18:59**
Client ID: Run ID: **TOC_02_308631** SeqNo: **4385184** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	0.500	1.00								U

LCS Sample ID: **WLCSW1-010818** Units: **mg/L** Analysis Date: **08-Jan-2018 19:13**
Client ID: Run ID: **TOC_02_308631** SeqNo: **4385185** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	11.2	1.00	10	0	112	80 - 120				

LCSD Sample ID: **WLCSDW1-010818** Units: **mg/L** Analysis Date: **08-Jan-2018 19:26**
Client ID: Run ID: **TOC_02_308631** SeqNo: **4385186** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.94	1.00	10	0	109	80 - 120	11.2	2.35	20	

MS Sample ID: **HS17121337-01MS** Units: **mg/L** Analysis Date: **08-Jan-2018 20:49**
Client ID: Run ID: **TOC_02_308631** SeqNo: **4385192** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	21.26	1.00	10	10.98	103	80 - 120				

The following samples were analyzed in this batch: HS17121397-01

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

ALS Group USA, Corp Date: 15-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Weekly Samples
WorkOrder: **HS17121397**

QUALIFIERS, ACRONYMS, UNITS

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

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

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	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: 15-Jan-18

Sample Receipt Checklist

Client Name: Bhate Environmental
Work Order: HS17121397
Date/Time Received: **29-Dec-2017 08:55**
Received by: **RPG**

Checklist completed by: *Cesar A. Lira* eSignature 29-Dec-2017 Date
Reviewed by: *Sonia West* eSignature 2-Jan-2018 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/1.2C UC/C	IR11	
Cooler(s)/Kit(s):	23797		
Date/Time sample(s) sent to storage:	12/29/2017 11:00		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

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

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

Project No. NWO1312.0150.0 16.0001

Job: **GROUNDWATER TREATMENT PLANT WEEKLY SAMPLES**

Prepared By: Scott Beesinger

P.O. Number

HS17121397
Bhate Environmental Associates, Inc.
Groundwater Treatment Plant Weekly Samples

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: AMMONIA-N	TOTAL ORGANIC CARBON	ORTHO-PHOSPHATE	PERCHLORATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_122717	Water	12/27/17 / 14:00		2	X	X			H2SO4	
LH18/24-SP650_122717	Water	12/27/17 / 14:00		2			X	X	NONE	

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	12/27/17	14:30	R Cisse	12/29/17	0844						

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
R Cisse	12/29/17	0844	7376 7764 5210	R Cisse	12/29/17	0855	1.7c	-	IR # 11 CF - 0.5

Remarks: cooler # 23797

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

FedEx.
TRK# 0221 7376 9749 3210

FRI - 29 DEC 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

FID 982858 20DFCL7 SUVA 646C1/574C/8C8A

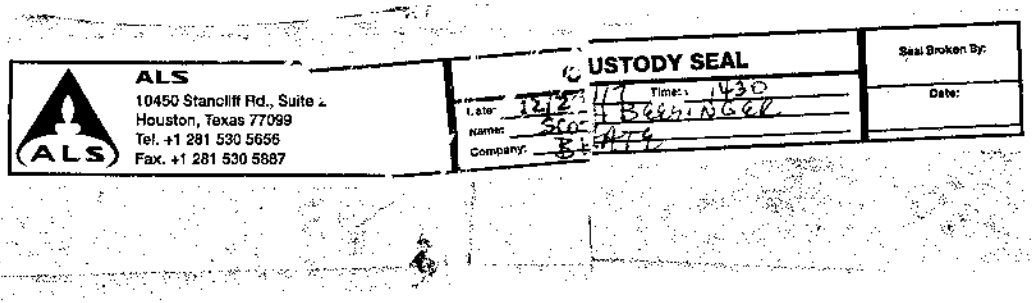
ALS
10450 Stancliff Rd., Suite 2
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887



CUSTODY SEAL

Date: 12/2[illegible]/17 Time: 1430
Name: SCOTT BERRINGER
Company: BEATE

Seal Broken By:



Date:

Wet Chemistry Raw Data

Bhate Environmental Associates, Inc.

Project: Longhorn GW Treatment Plant Monthly Effluent

ALS WO# HS17121397

C:\TOC3201\Data\2018_01_08_001.t32

HS17121397

	T	Analys	Sample Name	Sample ID	Origin	Result	Status	Date / Time	Vial
1	U	NPOC	CCV	304.183.701	10-16-2017_W	NPOC:27.09mg/L	Completed	1/8/2018 6:37:45 PM	1
2	U	NPOC	CCB	Untitled	10-16-2017_W	NPOC:0.3449mg/L	Completed	1/8/2018 6:50:53 PM	2
3	U	NPOC	WBLKW1-010818	5310B	10-16-2017_W	NPOC:0.2478mg/L	Completed	1/8/2018 7:04:06 PM	3
4	U	NPOC	WLCSW1-010818	297.020.4301	10-16-2017_W	NPOC:11.20mg/L	Completed	1/8/2018 7:17:19 PM	4
5	U	NPOC	WLCSDW1-010818	Untitled	10-16-2017_W	NPOC:10.94mg/L	Completed	1/8/2018 7:30:32 PM	5
6	U	NPOC	HS17121135-01	1/1 TOC_W	10-16-2017_W	NPOC:23.20mg/L	Completed	1/8/2018 7:43:45 PM	6
7	U	NPOC	HS17121397-01	1/1 TOC_W	10-16-2017_W	NPOC:21.18mg/L	Completed	1/8/2018 7:59:03 PM	7
8	U	NPOC	HS17121156-01	1/2 TOC_W	10-16-2017_W	NPOC:8.779mg/L	Completed	1/8/2018 8:14:16 PM	8
9	U	NPOC	HS17121156-02	1/2 TOC_W	10-16-2017_W	NPOC:4.104mg/L	Completed	1/8/2018 8:27:24 PM	9
10	U	NPOC	HS17121337-01	1/2 TOC_W	10-16-2017_W	NPOC:10.98mg/L	Completed	1/8/2018 8:40:37 PM	10
11	U	NPOC	HS17121337-01MS	1/2 TOC_W	10-16-2017_W	NPOC:21.26mg/L	Completed	1/8/2018 8:53:50 PM	11
12	U	NPOC	HS18010029-01	1/2	10-16-2017_W	NPOC:13.02mg/L	Completed	1/8/2018 9:09:08 PM	12
13	U	NPOC	CCV	Untitled	10-16-2017_W	NPOC:25.89mg/L	Completed	1/8/2018 9:24:24 PM	13
14	U	NPOC	CCB	Untitled	10-16-2017_W	NPOC:0.3234mg/L	Completed	1/8/2018 9:37:32 PM	14
15	U	NPOC	HS18010052-01	1/2	10-16-2017_W	NPOC:13.31mg/L	Completed	1/8/2018 9:52:50 PM	15
16	U	NPOC	HS18010056-01	1/2	10-16-2017_W	NPOC:6.934mg/L	Completed	1/8/2018 10:05:58 PM	16
17	U	NPOC	HS18010056-02	1/2	10-16-2017_W	NPOC:13.77mg/L	Completed	1/8/2018 10:19:11 PM	17
18	U	NPOC	HS18010056-08DF2	1/2 bubbly	10-16-2017_W	NPOC:45.04mg/L	Completed	1/8/2018 10:34:38 PM	18
19	U	NPOC	CCV	Untitled	10-16-2017_W	NPOC:25.99mg/L	Completed	1/8/2018 10:49:51 PM	19
20	U	NPOC	CCB	Untitled	10-16-2017_W	NPOC:0.3472mg/L	Completed	1/8/2018 11:05:04 PM	20

Instr Information

System	TOC csh with asi
Instrument Options	TOC/ASI/IC Unit/
Catalyst	Regular Sensitivity

Cal. Curve

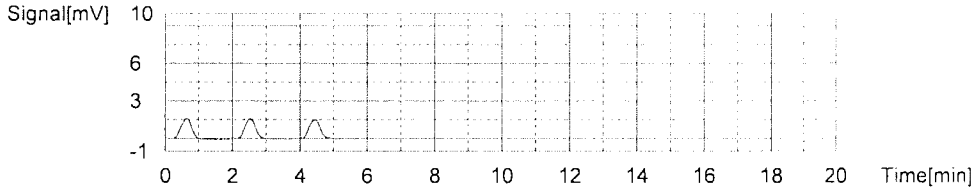
Sample Name:	CAL
Sample ID:	304146903
Cal. Curve:	10-16-2017_W.2017_10_16_17_39_41.cal
Status	Completed

Type	Anal.
Standard	NPOC

Conc. 1.000mg/l

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	3.430	50ul	1	*******		10/16/2017 5:48:58 PM
2	3.301	50ul	1	*******		10/16/2017 5:51:03 PM
3	3.288	50ul	1	*******		10/16/2017 5:53:08 PM

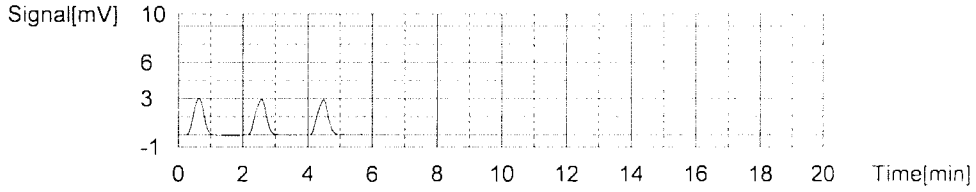
Acid Add.	0.000%
Sp. Time	180.0sec
Mean Area	3.340



Conc. 2.000mg/l

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	6.550	50ul	1	*******		10/16/2017 6:02:20 PM
2	6.642	50ul	1	*******		10/16/2017 6:04:25 PM
3	6.460	50ul	1	*******		10/16/2017 6:06:30 PM

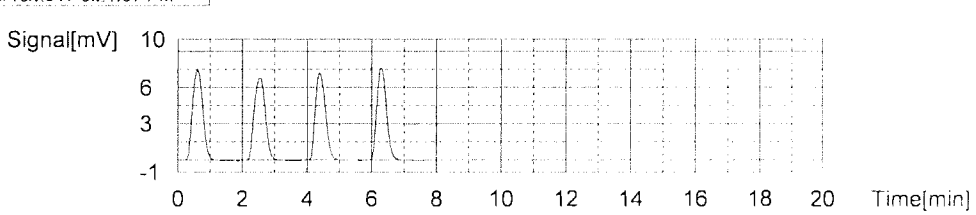
Acid Add.	0.000%
Sp. Time	180.0sec
Mean Area	6.551



Conc. 5.000mg/l

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	16.40	50ul	1	*******		10/16/2017 6:15:42 PM
2	16.13	50ul	1	*******		10/16/2017 6:17:47 PM
3	15.62	50ul	1	*******		10/16/2017 6:19:52 PM
4	15.82	50ul	1	*******		10/16/2017 6:21:57 PM

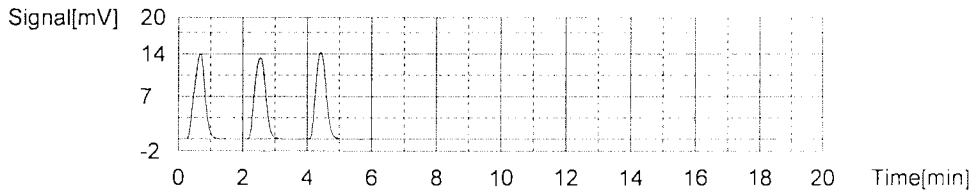
Acid Add.	0.000%
Sp. Time	180.0sec
Mean Area	15.86



Conc. 10.00mg/l

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	31.78	50ul	1	*******		10/16/2017 6:30:55 PM
2	31.39	50ul	1	*******		10/16/2017 6:33:00 PM
3	31.59	50ul	1	*******		10/16/2017 6:35:05 PM

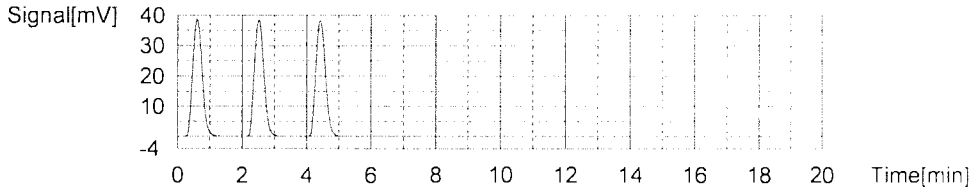
Acid Add. 0.000%
Sp. Time 180.0sec
Mean Area 31.59



Conc: 25.00mg/l

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	78.26	50ul	1	*******		10/16/2017 6:44:18 PM
2	78.67	50ul	1	*******		10/16/2017 6:46:23 PM
3	79.38	50ul	1	*******		10/16/2017 6:48:28 PM

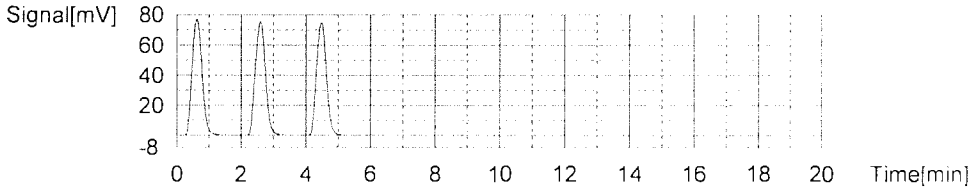
Acid Add. 0.000%
Sp. Time 180.0sec
Mean Area 78.77



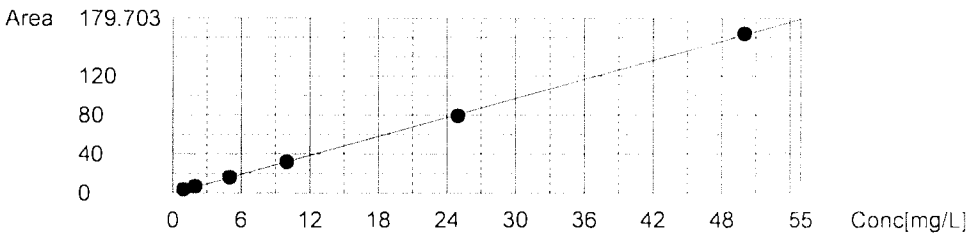
Conc: 50.00mg/l

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	164.9	50ul	1	*******		10/16/2017 6:57:42 PM
2	164.9	50ul	1	*******		10/16/2017 6:59:47 PM
3	160.3	50ul	1	*******		10/16/2017 7:01:52 PM

Acid Add. 0.000%
Sp. Time 180.0sec
Mean Area 163.4



Slope 3.257
Intercept -0.5787
r^2 0.9997
r 0.9998
Zero Shift No



Sample

Sample Name: ICV
Sample ID: 30414/002
Origin: 10-16-2017_W.cal
Status Completed
Chk. Result

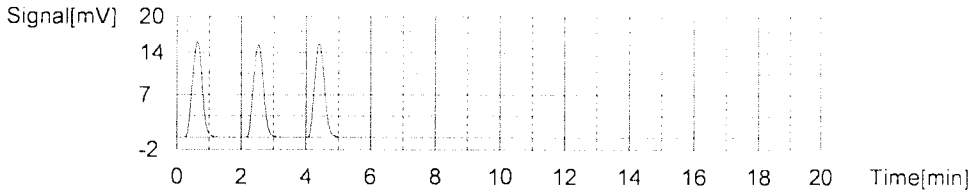
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.16mg/l

1: Det

Anal: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	32.84	10.26mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	10/16/2017 7:58:36 PM
2	32.50	10.15mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	10/16/2017 8:00:41 PM
3	32.24	10.07mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	10/16/2017 8:02:46 PM

Mean Area 32.53
Mean Conc. 10.16mg/l



Sample

Sample Name: ICB
Sample ID: Untitled
Origin: 10-16-2017_W.cal
Status Completed
Chk Result

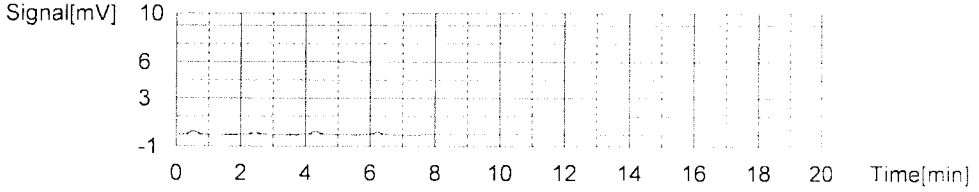
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2618mg/l

1: Det

Anal: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.4693	0.3217mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	10/16/2017 8:11:49 PM
2	0.2438	0.2525mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	10/16/2017 8:13:54 PM
3	0.3477	0.2844mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	10/16/2017 8:15:59 PM
4	0.2307	0.2485mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	10/16/2017 8:18:04 PM

Mean Area 0.2741
Mean Conc. 0.2618mg/L



Instr.Information

System	TOC csh with asi
Instrument Options	TOC/ASI/IC Unit/
Catalyst	Regular Sensitivity

Sample

Sample Name:	CCV
Sample ID:	304.183.701
Origin:	10-16-2017_W.cal
Status	Completed
Chk. Result	

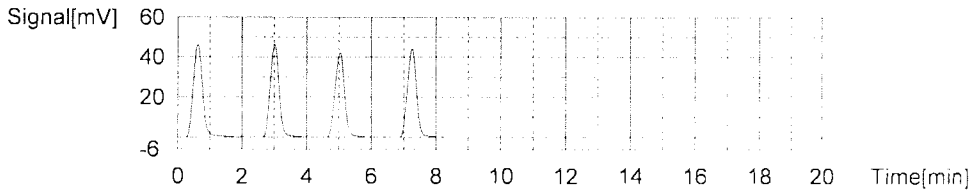
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:27.09mg/l

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	92.15	28.47mg/l	50ul	1	E	10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 6:31:00 PM
2	88.66	27.40mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 6:33:10 PM
3	87.20	26.95mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 6:35:36 PM
4	87.16	26.93mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 6:37:45 PM

Mean Area	87.67
Mean Conc.	27.09mg/l



Sample

Sample Name:	CCB
Sample ID:	Untitled
Origin:	10-16-2017_W.cal
Status	Completed
Chk. Result	

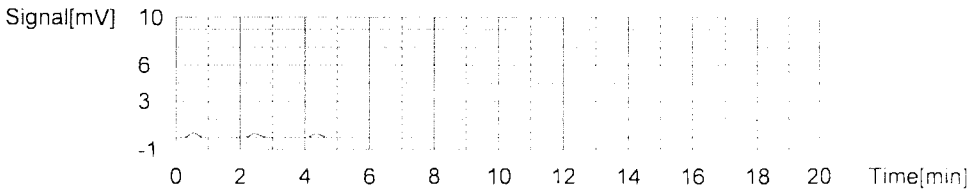
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3449mg/l

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.6078	0.3643mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 6:46:43 PM
2	0.5266	0.3393mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 6:48:48 PM
3	0.5003	0.3313mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 6:50:53 PM

Mean Area 0.5449
Mean Conc. 0.3449mg/l



Sample

Sample Name: WBLKW1-010818
Sample ID: 5310B
Origin: 10-16-2017_W.cal
Status Completed
Chk. Result

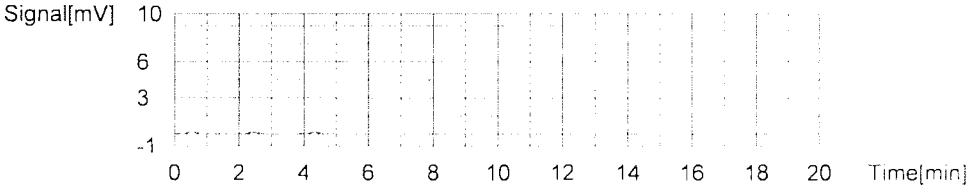
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2478mg/l

1. Dot

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.2708	0.2608mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 6:59:56 PM
2	0.2161	0.2440mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 7:02:01 PM
3	0.1981	0.2385mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 7:04:06 PM

Mean Area 0.2283
Mean Conc. 0.2478mg/l



Sample

Sample Name: WLCSW1-010818
Sample ID: 297.020.4301
Origin: 10-16-2017_W.cal
Status Completed
Chk. Result

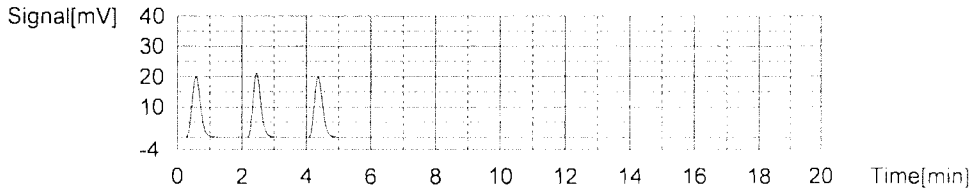
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:11.20mg/l

1. Dot

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	36.15	11.28mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 7:13:09 PM
2	35.91	11.20mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 7:15:14 PM
3	35.69	11.13mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 7:17:19 PM

Mean Area 35.92
Mean Conc. 11.20mg/l



Sample

Sample Name: WLCSDW1-010818
Sample ID: Untitled
Origin: 10-16-2017 W.cal
Status Completed
Chk. Result

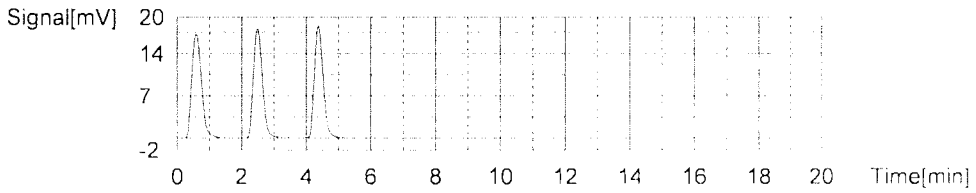
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.94mg/l

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	35.38	11.04mg/l	50ul	1		10-16-2017 W.2017 10 16 17 39 41.cal	1/8/2018 7:26:22 PM
2	35.05	10.94mg/l	50ul	1		10-16-2017 W.2017 10 16 17 39 41.cal	1/8/2018 7:28:27 PM
3	34.79	10.86mg/l	50ul	1		10-16-2017 W.2017 10 16 17 39 41.cal	1/8/2018 7:30:32 PM

Mean Area 35.07
Mean Conc. 10.94mg/l



Sample

Sample Name: HS1712139-01
Sample ID: 1/1 TOC W
Origin: 10-16-2017 W.cal
Status Completed
Chk. Result

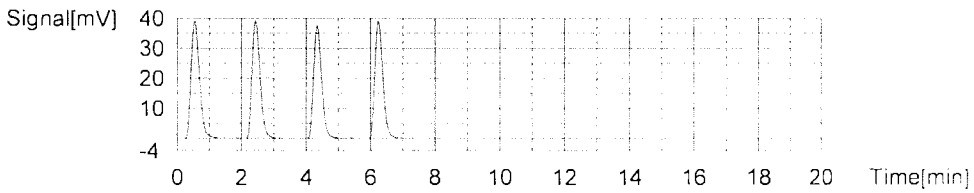
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:21.18mg/l

1. Det

Anal.: NPOC

No	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	69.82	21.61mg/l	50ul	1		10-16-2017 W.2017 10 16 17 39 41.cal	1/8/2018 7:52:48 PM
2	67.84	21.00mg/l	50ul	1		10-16-2017 W.2017 10 16 17 39 41.cal	1/8/2018 7:54:53 PM
3	65.16	20.18mg/l	50ul	1	E	10-16-2017 W.2017 10 16 17 39 41.cal	1/8/2018 7:56:58 PM
4	67.59	20.93mg/l	50ul	1		10-16-2017 W.2017 10 16 17 39 41.cal	1/8/2018 7:59:03 PM

Mean Area 68.42
Mean Conc. 21.18mg/l



Sample

Sample Name: HS1712133 7-01
Sample ID: 1/2 TOC_W
Origin: 10-16-2017_W.cal
Status Completed
Chk. Result

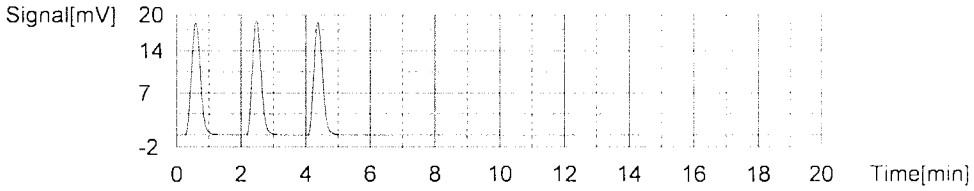
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.98mg/l

1. Det

Anal : NPOC

No	Area	Conc.	Inj. Vol.	Aut. Dil.	Fx.	Cal. Curve	Date / Time
1	35.37	11.04mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 8:36:27 PM
2	35.45	11.06mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 8:38:32 PM
3	34.71	10.83mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 8:40:37 PM

Mean Area 35.18
Mean Conc 10.98mg/l



Sample

Sample Name: HS1712133 7-01MS
Sample ID 1/2 TOC_W
Origin: 10-16-2017_W.cal
Status Completed
Chk. Result

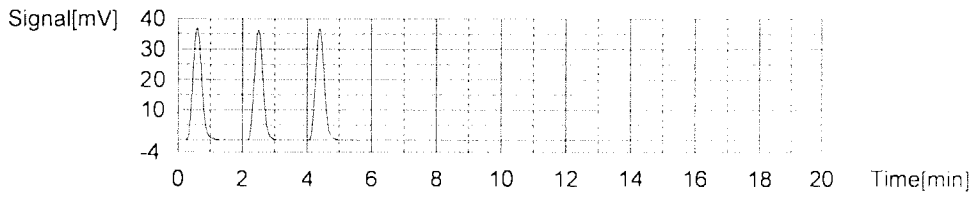
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:21.26mg/l

1. Det

Anal : NPOC

No	Area	Conc.	Inj. Vol.	Aut. Dil.	Fx.	Cal. Curve	Date / Time
1	69.88	21.63mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 8:49:40 PM
2	67.78	20.99mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 8:51:45 PM
3	68.37	21.17mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 8:53:50 PM

Mean Area 68.68
Mean Conc. 21.26mg/l



Sample

Sample Name: CCV
Sample ID: Untitled
Origin: 10-16-2017_W.cal
Status Completed
Chk. Result

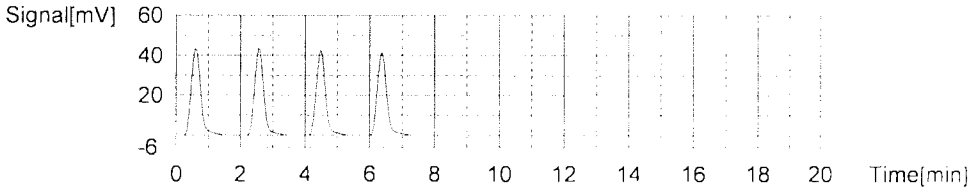
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:25.89mg/l

1 Det

Anal: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	87.35	26.99mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 9:18:09 PM
2	84.11	26.00mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 9:20:14 PM
3	83.71	25.88mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 9:22:19 PM
4	83.43	25.79mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 9:24:24 PM

Mean Area 83.75
Mean Conc. 25.89mg/l



Sample

Sample Name: CCB
Sample ID: Untitled
Origin: 10-16-2017_W.cal
Status Completed
Chk. Result

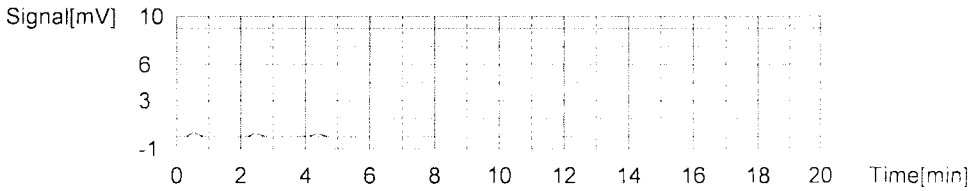
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3234mg/l

1 Det

Anal: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.5701	0.3527mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 9:33:22 PM
2	0.4573	0.3181mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 9:35:27 PM
3	0.3965	0.2994mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	1/8/2018 9:37:32 PM

Mean Area	0.4746
Mean Conc.	0.3234mg/l



Standard Table Report

01/18/2018 03:38:38 PM

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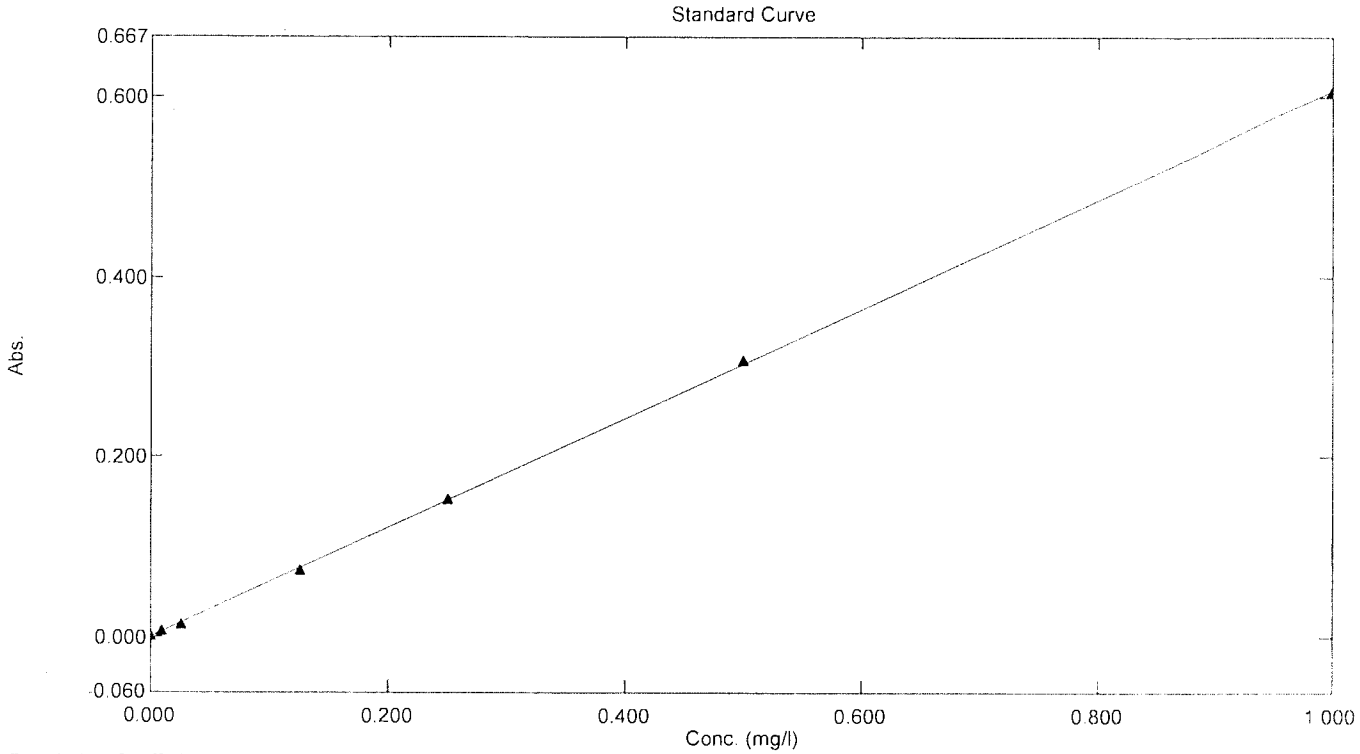

Correlation Coefficient r2 = 0.99990

Standard Table

	Sample ID	Type	Ex	Conc	WL880.0	Wgt.Facto	Comments
1	STD1	Standard		0.000	0.002	1.000	
2	STD2	Standard		0.010	0.006	1.000	
3	STD3	Standard		0.025	0.015	1.000	
4	STD4	Standard		0.125	0.073	1.000	
5	STD5	Standard		0.250	0.153	1.000	
6	STD6	Standard		0.500	0.307	1.000	
7	STD7	Standard		1.000	0.606	1.000	
8							

Sample Table Report

01/18/2018 03:38:40 PM

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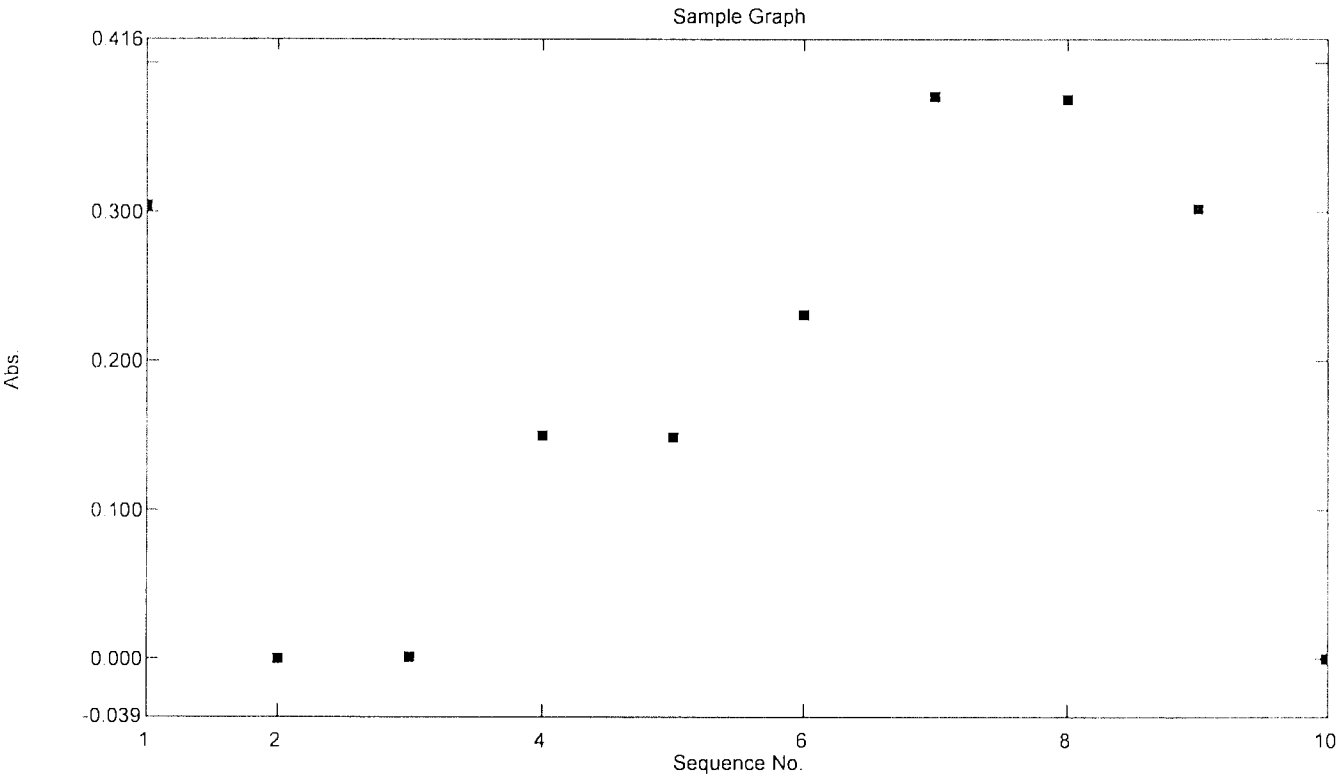

Sample Table

	Sample ID	Type	Ex	Conc	WL880.0	Comments
1	CCV	Unknown		0.501	0.305	
2	CCB	Unknown		-0.001	-0.000	
3	WBLNKW1	Unknown		0.001	0.001	
4	WLCSW1	Unknown		0.246	0.150	
5	WLCSDW1	Unknown		0.245	0.149	
6	17121397.01	Unknown		0.380	0.231	PF-10X
7	17121397.01MS	Unknown		0.623	0.379	PF-10X
8	17121397.01MSD	Unknown		0.618	0.376	PF-10X
9	CCV2	Unknown		0.498	0.302	
10	CCB2	Unknown		-0.002	-0.001	
11						

AMM_ISE_W / 350.3

HS1712397

Logbook **30509**

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Ion Selective Electrode Logbook

Analyst: SAP

Date: 01/05/18 11:00 AM

Method: SM4500NH3-D or SM4500 F⁻ C or SW9214 F⁻ or 351.3/4500NH3

SOP: WC-027 or WC-004 or WC-007 or WC-033

Probe Calibration: Prep 01/05/18

Cal Std ID: 304.184(0505-009)

Probe ID: SR-15910

Std Level		mV	Conc., mg/L:
STD 1 (mg/L):	0.2	109.4	0.1997
STD 2 (mg/L):	1	72.5	1.007
STD 3 (mg/L):	5	33.9	5.015

Matrix: Water / Soil (1: 10 -- soil -gm : DI Water -ml)

Std Level	mV	Conc., mg/L:
STD 4 (mg/L): 10	14.9	10.01
STD 5 (mg/L): 50	-26.2	50.07

LSC / MS Spike ID: 297.020.5715 (ICV 10PPM) 304.184,101

Ical Slope: 98.6 %/ -58.2 mV Ical Date: 01/05/18

WO # / SX #	Bottle #	Initial g or ml	Final Vol. ml	Dilution Factor	Initial Conc. mg/L	Final Conc. mg/L	Comments
ICV		50ml	50ml		10.11		
CCB					0.04127		
WBLN(CW)					0.04064		
WLCS(W)					10.29		
HS18010075-01		25ml		2x	0.1831		Df due to chlorine ISE 350.3
HS 17121397-01		50 ml			13.05		
HS 17121205-01					0.2016		
HS17121205-01 MS					9.964		
HS17121205-01 MSD					9.981		
HS 17121350-02					0.1402		
HS 17121351-02					0.1286		
HS17121380-01					0.1052		
CCV					9.997		
CCB					0.03964		
HS18010054-02		50ml	50ml		0.2313		
HS 17121311-01					12.29		
HS 17121312-01					12.71		
HS17121313-01					0.1557		
HS17121322-01					0.1134		
HS18010013-01					0.1008		
HS17121411-01					0.06160		
HS18010055-02					0.08896		
HS18010021-01					0.06512		
CCV					9.991		
CCB					0.04117		

Batch ID: AMM_W_ISE_350.3 308503
AMM_W_ISE 308505

Reported By: SAP

Reviewed By:

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Sub Contract Data

Bhate Environmental Associates, Inc.

Project: Longhorn GW Treatment Plant Monthly Effluent

ALS WO# HS171211397

Case Narrative

Method: 6850
Analysis: Perchlorate
Analysis SOP: LC-MS-CLO4
ALS WO ID(s): 1736221; 1736222; 1800210

Client: ALS Laboratories (Houston, TX)
Matrix: Water
ELMS Batch (HBN): 2032 (206369)

General Set Information: There were fourteen 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: Samples 1736222003/07 were analyzed and reported at a 1:10 dilutions. Sample 1736222002 was analyzed and reported at a 1:100 dilution. Samples 1736222005/06/08 were analyzed and reported at a 1:1,000 dilutions. The reporting limits have been adjusted accordingly.

Method QC data: The method blank (LMB 582602) was less than 1/2 the CRDL. The recovery for the LCS (582603) was within acceptable parameters.

MS/MSD Analysis: The matrix spike and matrix spike duplicate (MS/MSD) was performed on sample 1736221001 (Client ID: HBW7_122617). 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 08JAND03/10/26.

Thomas Bosch January 11, 2018
Analyst Date

ANALYTICAL REPORT

Report Date: January 12, 2018

Sonia West
ALS Environmental
10450 Stancliff Rd.
Suite 210
Houston, TX 77099

Phone: (281) 530-5656

E-mail: Sonia.West@alsglobal.com

Workorder: **34-1800210**
Project ID: HS17121397
Purchase Order: 8311
Project Manager Kevin W. Griffiths

Client Sample ID	Lab ID	Collect Date	Receive Date	Sampling Site
LH18/24-SP650_122717	1800210001	12/27/17	01/02/18	8311

ANALYTICAL REPORT

Workorder: 34-1800210
Client: ALS Environmental (Houston)
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **LH18/24-SP650_122717**	Sampling Site: 8311	Collected: 12/27/2017
Lab ID: 1800210001	Media: Liquid	Received: 01/02/2018
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/2032 (HBN: 206369)	**Percent Solid:** NA
	Analyzed: 01/08/2018 16:00	**Report Basis:** Wet

Analyte	Result (ug/L)	DL (ug/L)	LOD (ug/L)	LOQ (ug/L)	Dilution	Qual
Perchlorate	1.5	1.0	2.0	4.0	1	J

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 01/11/2018 10:56	/S/ Stephen Brose 01/12/2018 07:59

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: 34-1800210
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: 34-1800210
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: 1800210

Limits:	Client SOW/Contract Specified	**Preparation:**	NA	**Analysis:**	EPA 6850
Basis:	DoD QSM	**Batch:**	NA	**Batch:**	ELMS/2032 (HBN: 206369)
		Prepared By:	NA	**Analyzed By:**	Thomas Bosch

Blank

LMB: 582602
Analyzed: 01/08/2018 09:15
Units: ug/L

Analyte	Result	MDL	RL
Perchlorate	ND	1	2.00

Laboratory Control Sample

LCS: 582603
Analyzed: 01/08/2018 09:34
Dilution: 1
Units: ug/L

Analyte	Result	Target	% Rec	QC Limits	
Perchlorate	5.30	5.00	106	78.8	123.8

Matrix Spike - Matrix Spike Duplicate

Sample:	1736221001	**MS:**	582604				**MSD:**	582605			
Analyzed:	01/08/2018 09:55	**Analyzed:**	01/08/2018 10:14				**Analyzed:**	01/08/2018 10:33			
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	4.81	5	96.1	78.8	123.8	4.79	95.9	0.221	0.0	20.0

Continuing Calibration Verification

CCV:	582599			**CCV:**	582606			**CCV:**	582608		
Analyzed:	01/08/2018 08:17			**Analyzed:**	01/08/2018 13:08			**Analyzed:**	01/08/2018 16:40		
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	26.3	25.0	105	26.2	25.0	105	26.6	25.0	107

Interference Check Sample

ICSA: 582601
Analyzed: 01/08/2018 08:56
Units: ug/L
Criteria: ± 30%

Analyte	Result	Target	% Rec.
Perchlorate	0.880	1.00	88.0

Limit of Detection Verification

LODV:	582600			**LODV:**	582607			**LODV:**	582609		
Analyzed:	01/08/2018 08:36			**Analyzed:**	01/08/2018 13:27			**Analyzed:**	01/08/2018 16:21		
Units:	ug/L			**Units:**	ug/L			**Units:**	ug/L		
Criteria:	± 50%			**Criteria:**	± 50%			**Criteria:**	± 50%		

Analyte	Result	Target	% Rec.	Result	Target	% Rec.	Result	Target	% Rec.
Perchlorate	1.02	1.00	102	1.09	1.00	109	1.02	1.00	102

Quality Control Sample
Batch Report

Analysis Information

Workorder: **1800210**

Limits:	Client SOW/Contract Specified	**Preparation:**	NA	**Analysis:**	EPA 6850
Basis:	DoD QSM	**Batch:**	NA	**Batch:**	ELMS/2032 (HBN: 206369)
		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
01/11/2018 10:56	01/12/2018 07:57

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

1800210

18698/#2

1800210

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

Subcontract Chain of Custody

COC ID: 8311

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:	HS17121397
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS17121397-01**	**LH18/24-SP650_122717**	**Water**	**27 Dec 2017 14:00**
	SUB_Perch-6850			15 Jan 2018

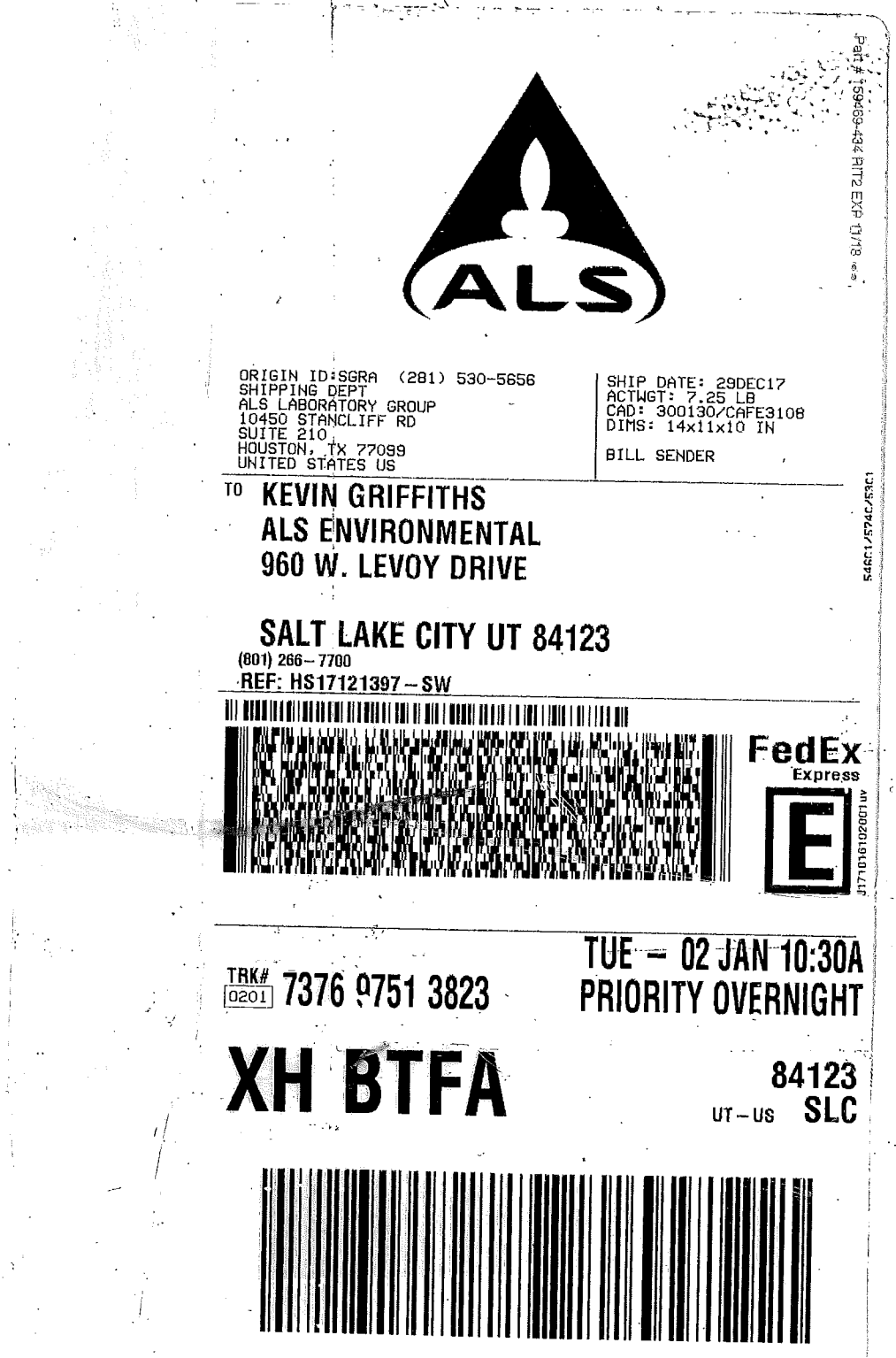
Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: 12.29.17 1800

Received By: _____ Date/Time: 01-02-18 8:30

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



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: 29DEC17
ACTWGT: 7.25 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: HS17121397-SW

54601/574C/53C1

FedEx Express

E

J171016102001uv

TRK# 0201 7376 9751 3823

TUE - 02 JAN 10:30A
PRIORITY OVERNIGHT

XH BTFA

84123
UT-US SLC

ALS-SALT LAKE CITY-RELATED INFORMATION REPORT (CRIR)

COOLER OR CONTAINER INFORMATION CHECKLIST (Fill In or Circle)

Client Name: ALS Houston

Project/Task/Site: HS17121397

Date/Time of Receipt: 01-08-18 8:30

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	Gross A.B, Gamma Spec	Yes/No/NA

Cooler Received	DCL Cooler No.	Temp.	Cooler Received	DCL Cooler No.	Temp.	Cooler Received	DCL Cooler No.	Temp.
1	C18 8145	5 °C	4	C18	°C	7	C18	°C
2	C18	°C	5	C18	°C	8	C18	°C
3	C18	°C	6	C18	°C	9	C18	°C

Taken By: Tami Van Tassell (Signature) Tami Van Tassell (Printed Name) 01-08-18 (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:

Client Notified? 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.doc Revised 01/01/2018

ALS Environmental

CHAIN-OF-CUSTODY

Project / Job / Task: 8311	Split:	Workorder ID: 1800210	Level: ENV_LVL4	Requested Analysis
Client: ALS Environmental (Houston)		Account: 8101	Type: LIQUID	
Comments:			Preservatives	
			COOL	
			Containers	

Item	Collect Date/Time	Sample ID	Lab ID	QC	Matrix	ID(s)	Count	EPA 6850, DoD QSM
1	12/27/2017 14:00	HS17121397-01	1800210001		Water	A	1	A
2								
3								
4								
5								
6								
7								
8								
9								
10								

41 of 145

ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Reason for Transfer / Storage Location
Van Tassell, Tami	01/02/2018 08:30	ALS Sample Receiving	Sample Login
Tami Van Tassell R.33.1	01-02-18 1.4.18/12:05	9:52 BD T. Burd	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

atch Worklist

Batch: ELMS/ 2032 **Created:** 1/5/2018 13:16 **Instrument:** **HBN:** 206369

Rule: EPA 6850, DoD QSM Water **Analyst:** T. Bosch **Status:** WP

Workorder: 1736221 [ENV_LVL4]
Workorder: 1736222 [ENV_LVL4]
Workorder: 1800210 [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	582599	CCV for HBN 206369 [ELMS/2032]				CCV	3		E685041C3Q	5311		1/12/2018	
2	582600	LODV for HBN 206369 [ELMS/2032				LODV	3		E6850..D3Q	5311		1/12/2018	
3	582601	ICS for HBN 206369 [ELMS/2032]				ICS	3		E6850..D3Q	5311		1/12/2018	
4	582602	LMB for HBN 206369 [ELMS/2032]				LMB	3		E6850Q413Q	5311		1/12/2018	
5	582603	LCS for HBN 206369 [ELMS/2032]				LCS	3		E6850Q413Q	5311		1/12/2018	
6	1736221001	HBW7_122617				SAMPLE	3	1736221001-A	E6850Q41.3	5480	1/23/2018	1/12/2018	
7	582604	HBW7_122617(1736221001MS)				MS	3		E6850Q413Q	5311		1/12/2018	
8	582605	HBW7_122617(1736221001MSD)				MSD	3		E6850Q413Q	5311		1/12/2018	
9	1736221002	HBW10_122617				SAMPLE	3	1736221002-A	E6850Q41.3	5480	1/23/2018	1/12/2018	
10	1736221003	HBW1_122617				SAMPLE	3	1736221003-A	E6850Q41.3	5480	1/23/2018	1/12/2018	
11	1736221004	GPW1_122617				SAMPLE	3	1736221004-A	E6850Q41.3	5480	1/23/2018	1/12/2018	
12	1736221005	GPW3_122617				SAMPLE	3	1736221005-A	E6850Q41.3	5480	1/23/2018	1/12/2018	
13	1736222001	18CPTMW04SW_122017				SAMPLE	3	1736222001-A	E6850Q41.3	5480	1/17/2018	1/12/2018	
14	1736222002	18CPTMW04_122017				SAMPLE	3	1736222002-A	E6850Q41.3	5480	1/17/2018	1/12/2018	
15	1736222003	MW2_122017				SAMPLE	3	1736222003-A	E6850Q41.3	5480	1/17/2018	1/12/2018	
16	582606	CCV for HBN 206369 [ELMS/2032]				CCV	3		E685041C3Q	5311		1/12/2018	
17	582607	LODV for HBN 206369 [ELMS/2032				LODV	3		E6850..D3Q	5311		1/12/2018	
18	1736222004	18CPTMWISW_122017				SAMPLE	3	1736222004-A	E6850Q41.3	5480	1/17/2018	1/12/2018	
19	1736222005	MW5_122017				SAMPLE	3	1736222005-A	E6850Q41.3	5480	1/17/2018	1/12/2018	
20	1736222006	MW3_122017				SAMPLE	3	1736222006-A	E6850Q41.3	5480	1/18/2018	1/12/2018	
21	1736222007	18CPTMW08SW_122117				SAMPLE	3	1736222007-A	E6850Q41.3	5480	1/18/2018	1/12/2018	
22	1736222008	18CPTMW08DW_122117				SAMPLE	3	1736222008-A	E6850Q41.3	5480	1/18/2018	1/12/2018	
23	1800210001	LH18/24-SP650_122717				SAMPLE	3	1800210001-A	E6850Q41.3	5480	1/24/2018	1/16/2018	
24	582608	CCV for HBN 206369 [ELMS/2032]				CCV	3		E685041C3Q	5311		1/12/2018	
25	582609	LODV for HBN 206369 [ELMS/2032				LODV	3		E6850..D3Q	5311		1/12/2018	

BWL-V3.1

00881147

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Analytical Documentation

ALS Work Order #'s & Sample #( )'s: 1736221 (001-05); 1736222 (001-08); 1800210 (001)
ELMS Batch/HBN ID: 2032 (206369)
Prep Date: 01/08/2018 Analysis Date: 01/08/2018 Analyst: T. Bosch
Analyte: **Perchlorate** Matrix: **Water** Method: **6850**
Sequence: \\HPCHEM\1\SEQUENCE\CLO4\2018\JAN\08JAN18D. 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 582603; Target = 5.0µg/L. ASTM type II water was used for LMB 582602.

MS/MSD: MS/MSD was performed on sample 1736221001 (Client ID: HBW7_122617). 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 1736222003/07 were analyzed and reported at a 1:10 dilutions. Sample 1736222002 was analyzed and reported at a 1:100 dilution. Samples 1736222005/06/08 were analyzed and reported at a 1:1,000 dilutions. 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\2018\JAN\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 08JAND02/10/26.
5) Notebook: \\alsltws013\ORGANIC\BOSCH\LCMS\Perchlorates\Waters\2018\ 206369-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 | Created By: T. Bosch | Amount: 10 mL
MFG: ALS/SLC | Create Date: 05/11/2017 | Expires: 05/11/2018
MFG Lot: TNB: 05/11/2017 | Lab Lot: CLO4 QC INT 10.ug/mL | Usable: Yes
Part ID:

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 17034 REFERENCE MATERIAL PRODUCER
ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ALS

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

TRIPLE ISO CERTIFICATION ISO 9001 ISO GUIDE 34 ISO GUIDE 31 ULTRA

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

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\08JAN18D\08JAN18D.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
*	582599 CCV@25	Vial 71	1	Control	1	1.14549e6	12.385	26.33777
*	582600 LODV@1.	Vial 72	1	Control	2	3.76805e4	12.280	1.01562
*	582601 ICS@1.	Vial 73	1	Control	3	2.49371e4	12.041	8.80302e-1
*	582602 LMB	Vial 74	1	Control	4	0.00000	0.000	0.00000
*	582603 LCS@5.	Vial 75	1	Control	5	1.94973e5	12.214	5.29911
*	1736221001	Vial 76	1	Sample	6	3.10872e4	12.036	8.87960e-1
*	582604 362211S	Vial 77	1	Sample	7	1.88371e5	12.094	4.80522
*	582605 362211D	Vial 78	1	Sample	8	1.58240e5	12.104	4.79464
*	1736221002	Vial 79	1	Sample	9	0.00000	0.000	0.00000
*	1736221003	Vial 80	1	Sample	10	3.27694e4	12.080	1.09251
*	1736221004	Vial 81	1	Sample	11	0.00000	0.000	0.00000
*	1736221005	Vial 82	1	Sample	12	0.00000	0.000	0.00000
*	1736222001	Vial 83	1	Sample	13	0.00000	0.000	0.00000
*	1736222002 100	Vial 84	1	Sample	14	2.60214e5	12.305	619.85991
*	1736222003 10X	Vial 85	1	Sample	15	6.72525e5	12.179	156.64971
*	582606 CCV@25	Vial 71	1	Control	16	1.18870e6	12.418	26.24661
*	582607 LODV@1.	Vial 72	1	Control	17	4.31770e4	12.270	1.08695
*	1736222004	Vial 86	1	Sample	18	0.00000	0.000	0.00000
*	1736222005 1K	Vial 87	1	Sample	19	1.37562e6	12.336	3.13188e4
*	1736222006 1K	Vial 88	1	Sample	20	6.15407e5	12.349	1.46859e4
*	1736222007 10X	Vial 89	1	Sample	21	9.38833e5	12.207	218.62778
*	1736222008 1K	Vial 90	1	Sample	22	1.37499e6	12.353	3.08094e4
*	1800210001	Vial 92	1	Sample	25	4.57609e4	11.942	1.45940
*	582609 LODV@1.	Vial 72	1	Control	26	4.08069e4	12.259	1.01832
*	582608 CCV@25	Vial 71	1	Control	27	1.19004e6	12.409	26.63706

#*	Sample	Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
*	582599 CCV@25	Vial 71	1	Control	1	3.52643e5	12.404	25.76585
*	582600 LODV@1.	Vial 72	1	Control	2	1.39901e4	12.288	9.40188e-1
*	582601 ICS@1.	Vial 73	1	Control	3	1.03139e4	12.050	8.95950e-1
*	582602 LMB	Vial 74	1	Control	4	0.00000	0.000	0.00000
*	582603 LCS@5.	Vial 75	1	Control	5	6.50763e4	12.223	5.30195
*	1736221001	Vial 76	1	Sample	6	1.12375e4	12.091	7.66309e-1
*	582604 362211S	Vial 77	1	Sample	7	6.41747e4	12.116	4.88509
*	582605 362211D	Vial 78	1	Sample	8	5.29940e4	12.110	4.78922
*	1736221002	Vial 79	1	Sample	9	0.00000	0.000	0.00000
*	1736221003	Vial 80	1	Sample	10	1.04691e4	12.074	8.57578e-1
*	1736221004	Vial 81	1	Sample	11	0.00000	0.000	0.00000
*	1736221005	Vial 82	1	Sample	12	0.00000	0.000	0.00000
*	1736222001	Vial 83	1	Sample	13	0.00000	0.000	0.00000
*	1736222002 100	Vial 84	1	Sample	14	8.44845e4	12.321	607.51704
*	1736222003 10X	Vial 85	1	Sample	15	2.19018e5	12.203	158.99673
*	582606 CCV@25	Vial 71	1	Control	16	3.67172e5	12.433	25.75282
*	582607 LODV@1.	Vial 72	1	Control	17	1.52559e4	12.260	9.63602e-1
*	1736222004	Vial 86	1	Sample	18	0.00000	0.000	0.00000
*	1736222005 1K	Vial 87	1	Sample	19	4.14786e5	12.354	3.02457e4
*	1736222006 1K	Vial 88	1	Sample	20	1.97524e5	12.362	1.46723e4
*	1736222007 10X	Vial 89	1	Sample	21	2.99209e5	12.220	219.55160
*	1736222008 1K	Vial 90	1	Sample	22	4.16880e5	12.373	2.98845e4
*	1800210001	Vial 92	1	Sample	25	1.87732e4	11.977	1.62643
*	582609 LODV@1.	Vial 72	1	Control	26	1.60463e4	12.270	1.01089
*	582608 CCV@25	Vial 71	1	Control	27	3.65901e5	12.425	26.03858

#*	Sample	Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
*	582599 CCV@25	Vial 71	1	Control	1	1.77131e5	12.405	5.00000
*	582600 LODV@1.	Vial 72	1	Control	2	1.75472e5	12.294	5.00000

Batch Report: C:\HPCHEM\1\DATA\08JAN18D\08JAN18D.B

#*	Sample	Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
*	582601 ICS@1.	Vial 73	1	Control	3	1.34582e5	12.058	5.00000
*	582602 LMB	Vial 74	1	Control	4	1.82149e5	12.427	5.00000
*	582603 LCS@5.	Vial 75	1	Control	5	1.66838e5	12.232	5.00000
*	1736221001	Vial 76	1	Sample	6	1.66279e5	12.070	5.00000
*	582604 362211S	Vial 77	1	Sample	7	1.78298e5	12.114	5.00000
*	582605 362211D	Vial 78	1	Sample	8	1.50118e5	12.119	5.00000
*	1736221002	Vial 79	1	Sample	9	1.39148e5	12.106	5.00000
*	1736221003	Vial 80	1	Sample	10	1.41559e5	12.094	5.00000
*	1736221004	Vial 81	1	Sample	11	1.63910e5	12.197	5.00000
*	1736221005	Vial 82	1	Sample	12	1.69085e5	12.238	5.00000
*	1736222001	Vial 83	1	Sample	13	1.63059e5	11.956	5.00000
*	1736222002 100	Vial 84	1	Sample	14	1.89341e5	12.321	500.00000
*	1736222003 10X	Vial 85	1	Sample	15	1.84162e5	12.202	50.00000
*	582606 CCV@25	Vial 71	1	Control	16	1.84530e5	12.435	5.00000
*	582607 LODV@1.	Vial 72	1	Control	17	1.87499e5	12.281	5.00000
*	1736222004	Vial 86	1	Sample	18	1.57843e5	12.007	5.00000
*	1736222005 1K	Vial 87	1	Sample	19	1.74782e5	12.358	5000.00000
*	1736222006 1K	Vial 88	1	Sample	20	1.80647e5	12.371	5000.00000
*	1736222007 10X	Vial 89	1	Sample	21	1.78667e5	12.222	50.00000
*	1736222008 1K	Vial 90	1	Sample	22	1.78008e5	12.374	5000.00000
*	1800210001	Vial 92	1	Sample	25	1.46856e5	11.966	5.00000
*	582609 LODV@1.	Vial 72	1	Control	26	1.89512e5	12.280	5.00000
*	582608 CCV@25	Vial 71	1	Control	27	1.81696e5	12.430	5.00000

*** End of Report ***

Sequence Table:

Method and Injection Info Part:

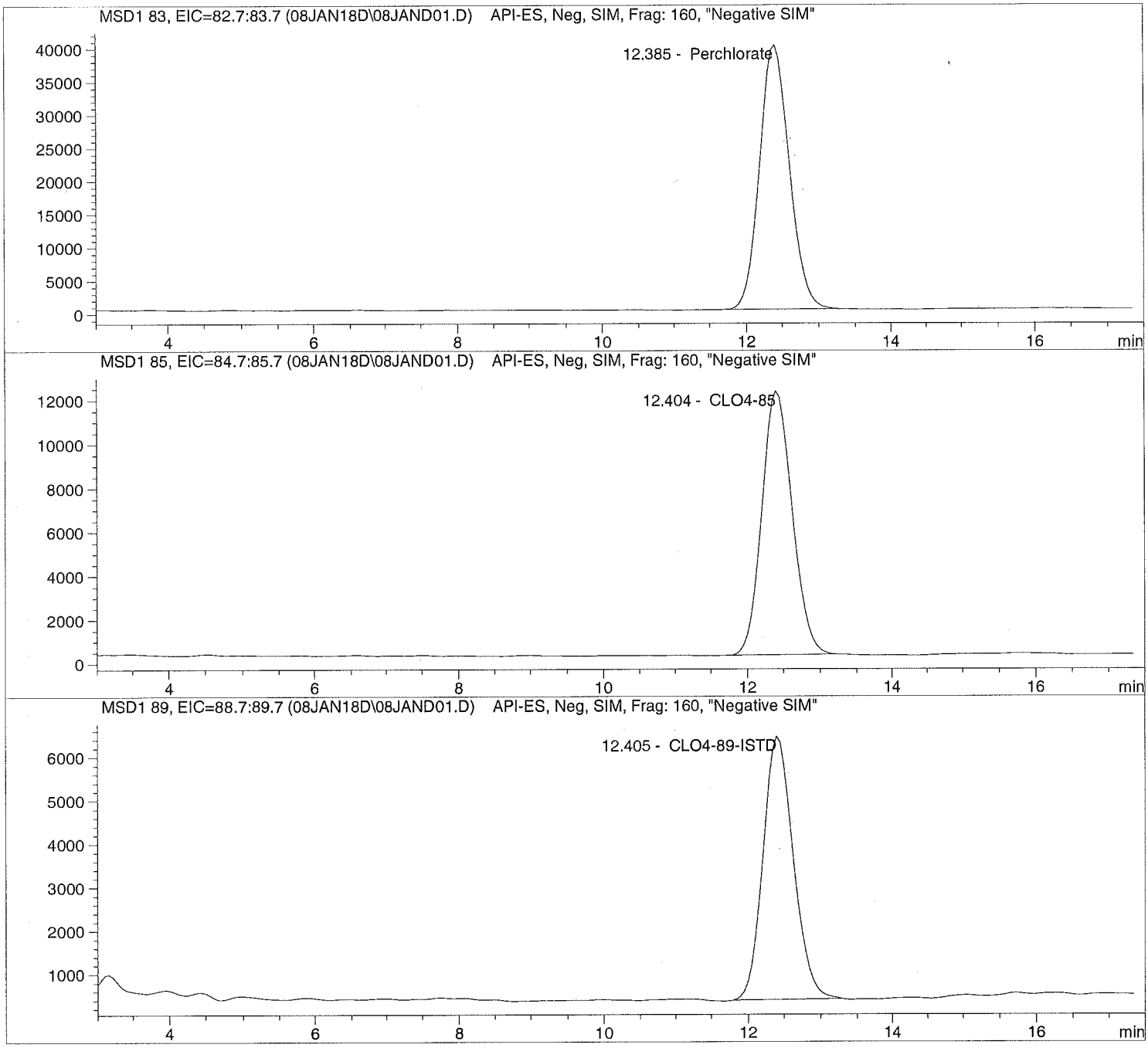
Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	582599 CCV@25	CLO4-DOD	1	Ctrl Samp		
2	Vial 72	582600 LODV@1.	CLO4-DOD	1	Ctrl Samp		
3	Vial 73	582601 ICS@1.	CLO4-DOD	1	Ctrl Samp		
4	Vial 74	582602 LMB	CLO4-DOD	1	Ctrl Samp		
5	Vial 75	582603 LCS@5.	CLO4-DOD	1	Ctrl Samp		
6	Vial 76	1736221001	CLO4-DOD	1	Sample		
7	Vial 77	582604 362211S	CLO4-DOD	1	Sample		
8	Vial 78	582605 362211D	CLO4-DOD	1	Sample		
9	Vial 79	1736221002	CLO4-DOD	1	Sample		
10	Vial 80	1736221003	CLO4-DOD	1	Sample		
11	Vial 81	1736221004	CLO4-DOD	1	Sample		
12	Vial 82	1736221005	CLO4-DOD	1	Sample		
13	Vial 83	1736222001	CLO4-DOD	1	Sample		
14	Vial 84	1736222002 100	CLO4-DOD	1	Sample		
15	Vial 85	1736222003 10X	CLO4-DOD	1	Sample		
16	Vial 71	582606 CCV@25	CLO4-DOD	1	Ctrl Samp		
17	Vial 72	582607 LODV@1.	CLO4-DOD	1	Ctrl Samp		
18	Vial 86	1736222004	CLO4-DOD	1	Sample		
19	Vial 87	1736222005 1K	CLO4-DOD	1	Sample		
20	Vial 88	1736222006 1K	CLO4-DOD	1	Sample		
21	Vial 89	1736222007 10X	CLO4-DOD	1	Sample		
22	Vial 90	1736222008 1K	CLO4-DOD	1	Sample		
23	Vial 91	1800210001 10X	CLO4-DOD	1	Sample		
24	Vial 71	582608 CCV@25	CLO4-DOD	1	Ctrl Samp		
25	Vial 92	1800210001	CLO4-DOD	1	Sample		
26	Vial 72	582609 LODV@1.	CLO4-DOD	1	Ctrl Samp		
27	Vial 71	582608 CCV@25	CLO4-DOD	1	Ctrl Samp		

Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND01.D Sample Name: 582599 CCV@25

Injection Date:	1/08/2018 08:17:41	Seq Line:	1
Sample Name:	582599 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\08JAN18D\08JAND01.D Sample Name: 582599 CCV@25

Injection Date:	1/08/2018 08:17:41	Seq Line:	1
Sample Name:	582599 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
12.385	BBA	1145492.5	26.3378	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.404	PBA	352643.5	25.7658	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.405	PBA	177130.7	5.0000	CLO4-89-ISTD

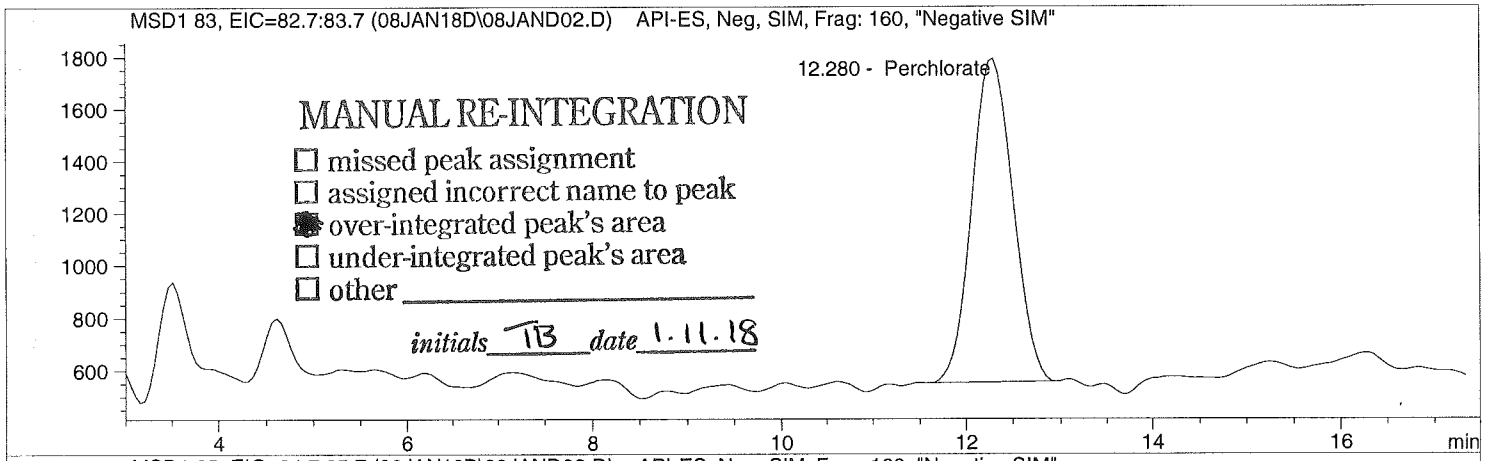
*** End of Report ***

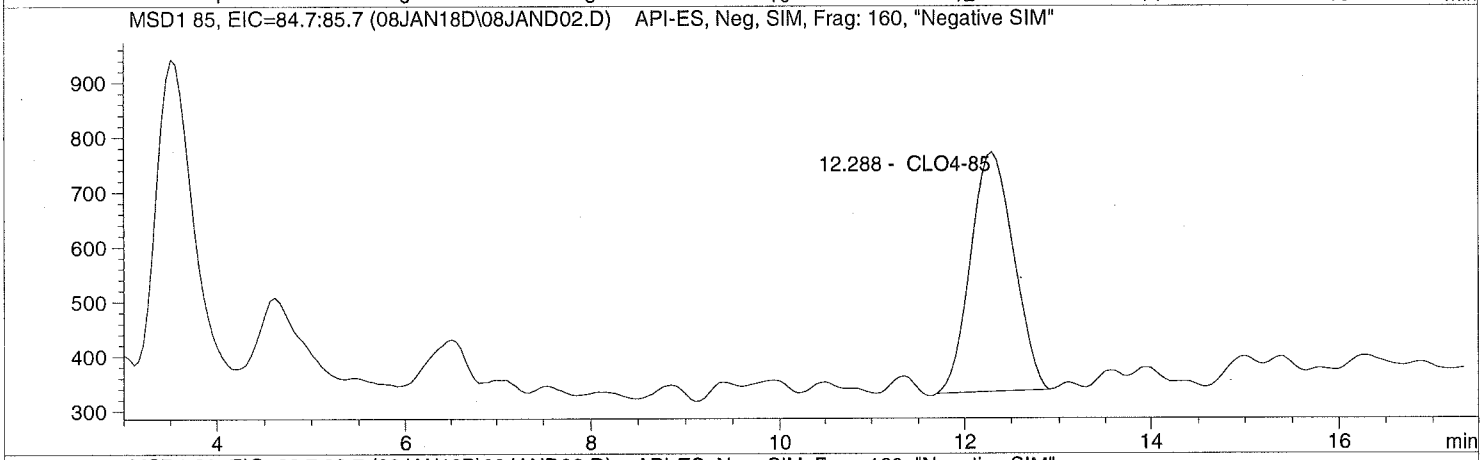
Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND02.D Sample Name: 582600 LODV@1.

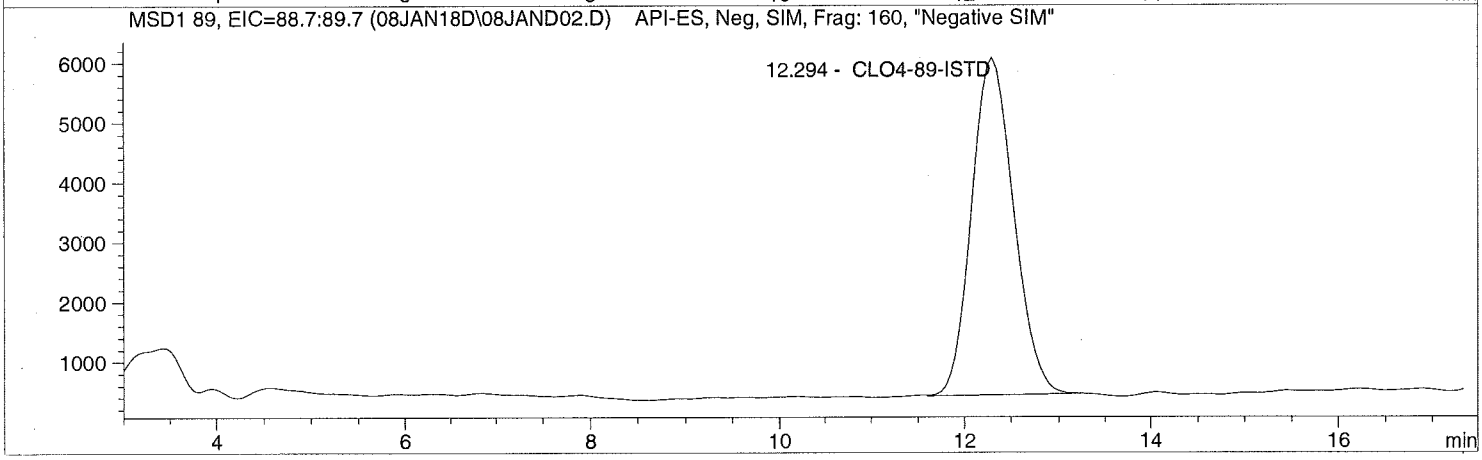
Injection Date:	1/08/2018 08:36:51	Seq Line:	2
Sample Name:	582600 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\08JAN18D\08JAND02.D Sample Name: 582600 LODV@1.

Injection Date:	1/08/2018 08:36:51	Seq Line:	2
Sample Name:	582600 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
12.280	MM	37680.5	1.0156	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.288	PBA	13990.1	0.9402	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.294	BBA	175472.0	5.0000	CLO4-89-ISTD

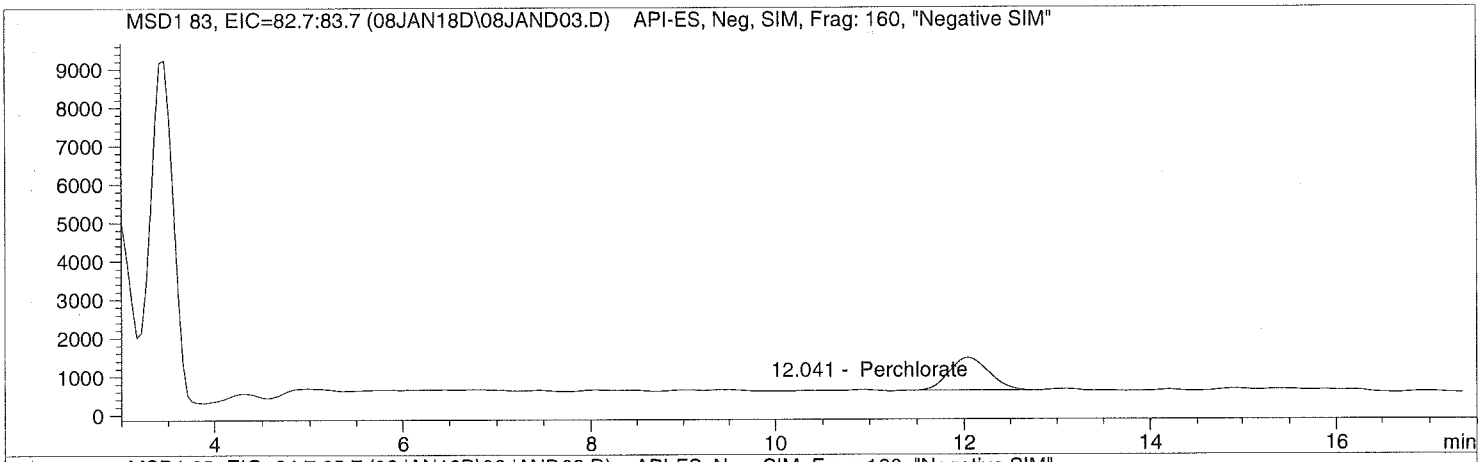
*** End of Report ***

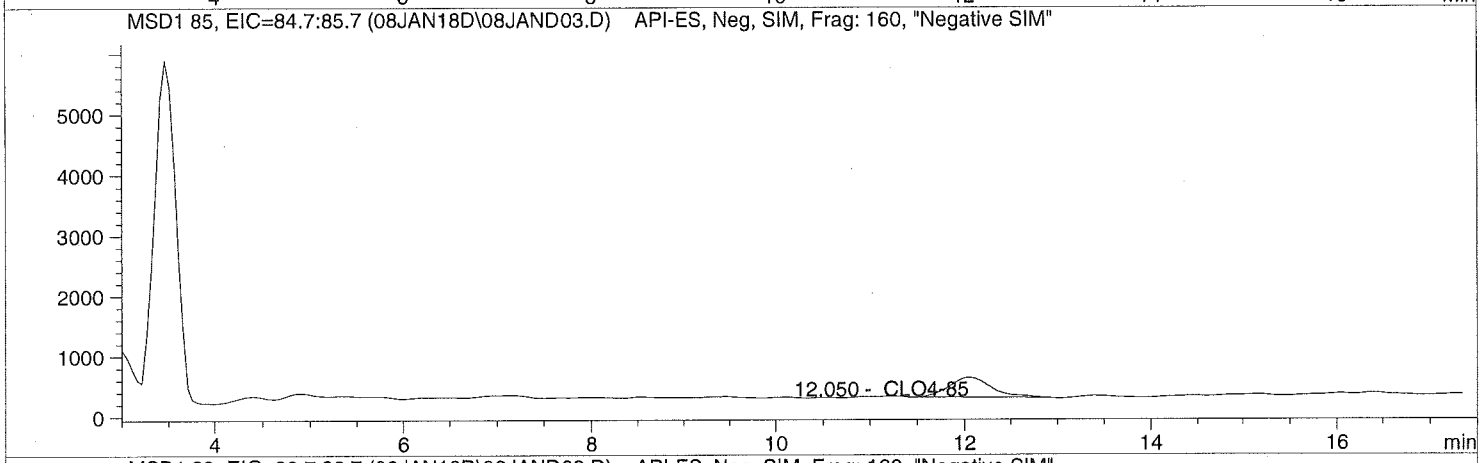
Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND03.D Sample Name: 582601 ICS@1.

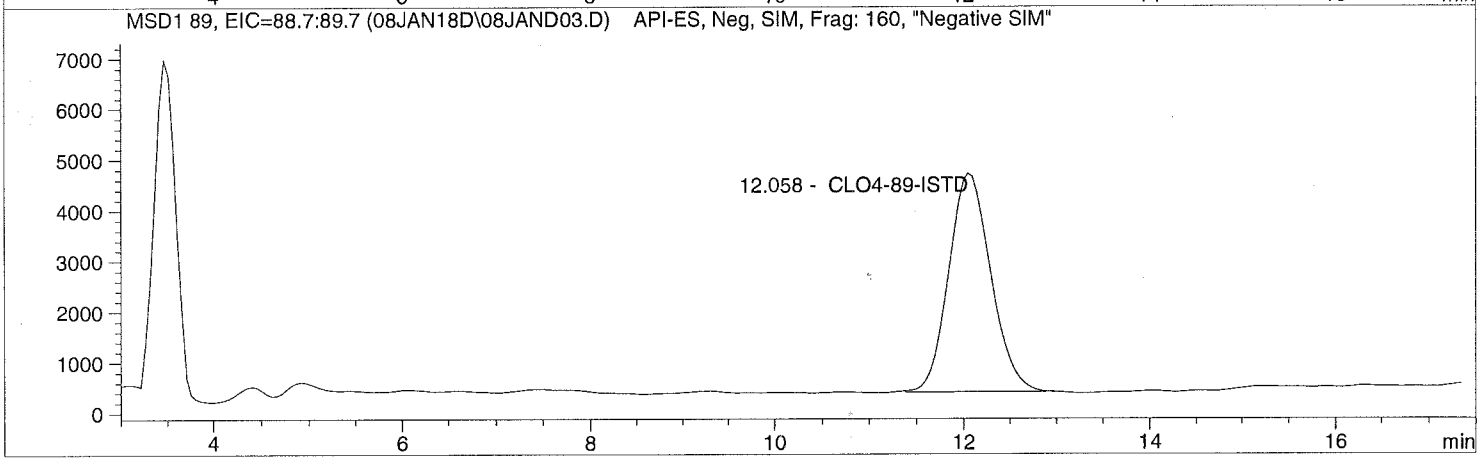
Injection Date:	1/08/2018 08:56:03	Seq Line:	3
Sample Name:	582601 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\08JAN18D\08JAND03.D Sample Name: 582601 ICS@1.

Injection Date:	1/08/2018 08:56:03	Seq Line:	3
Sample Name:	582601 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
12.041	PBA	24937.1	0.8803	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.050	PBA	10313.9	0.8959	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.058	BBA	134582.5	5.0000	CLO4-89-ISTD

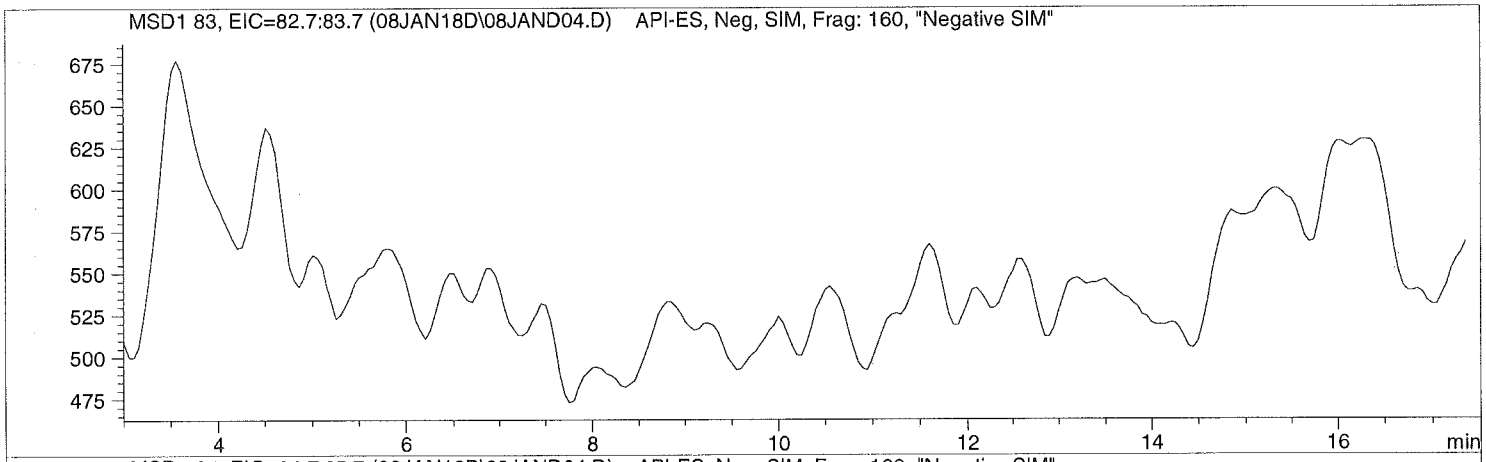
*** End of Report ***

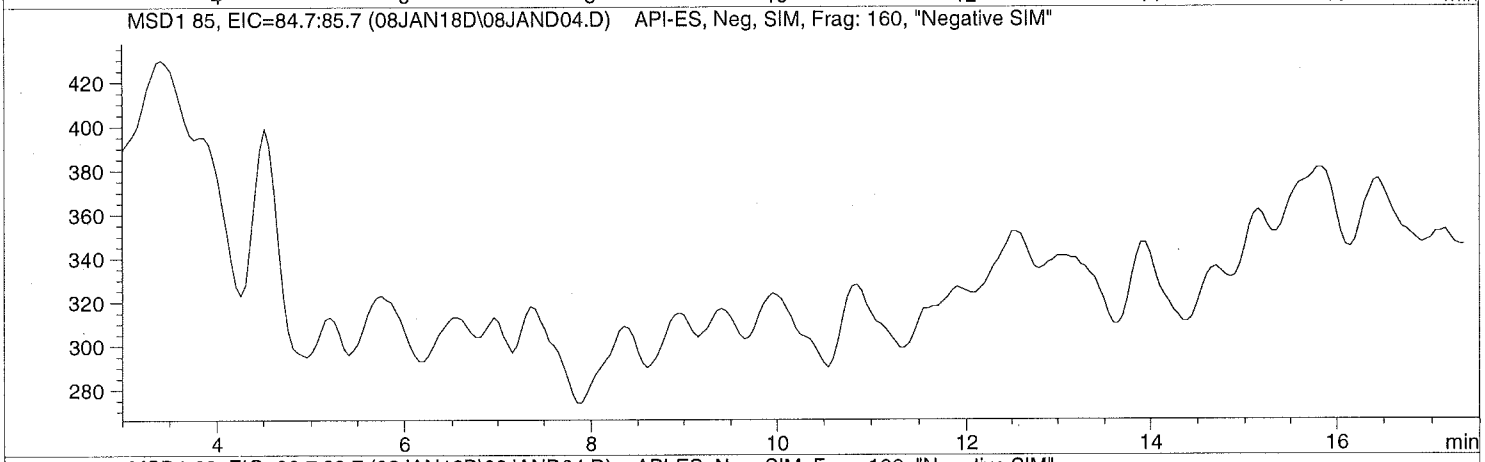
Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND04.D Sample Name: 582602 LMB

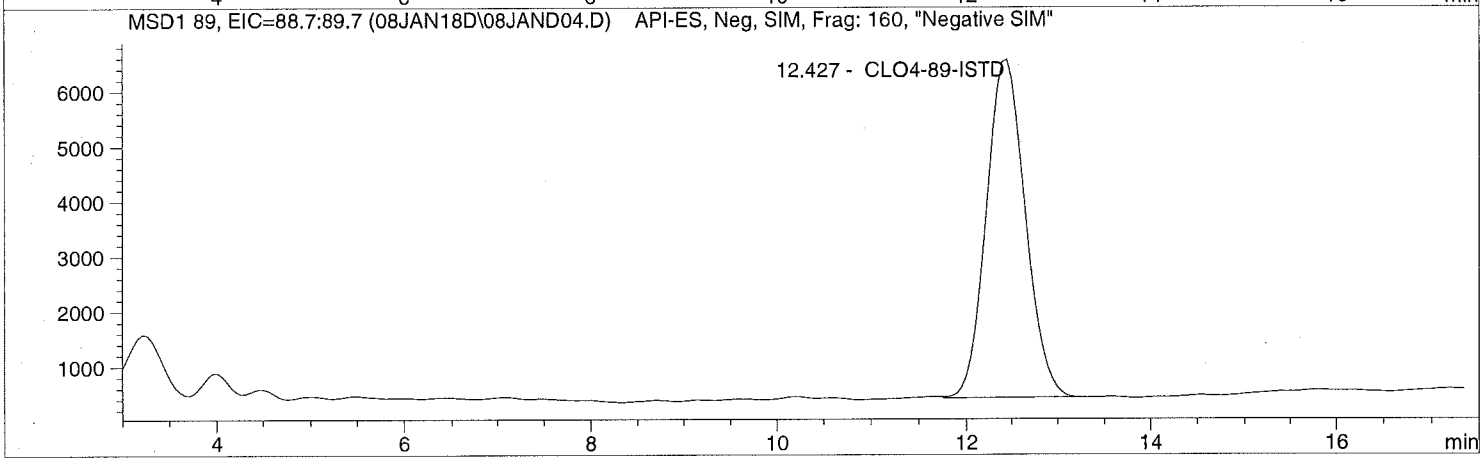
Injection Date:	1/08/2018 09:15:17	Seq Line:	4
Sample Name:	582602 LMB	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\08JAN18D\08JAND04.D Sample Name: 582602 LMB

Injection Date:	1/08/2018 09:15:17	Seq Line:	4
Sample Name:	582602 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
12.427	BBA	182149.0	5.0000	CLO4-89-ISTD

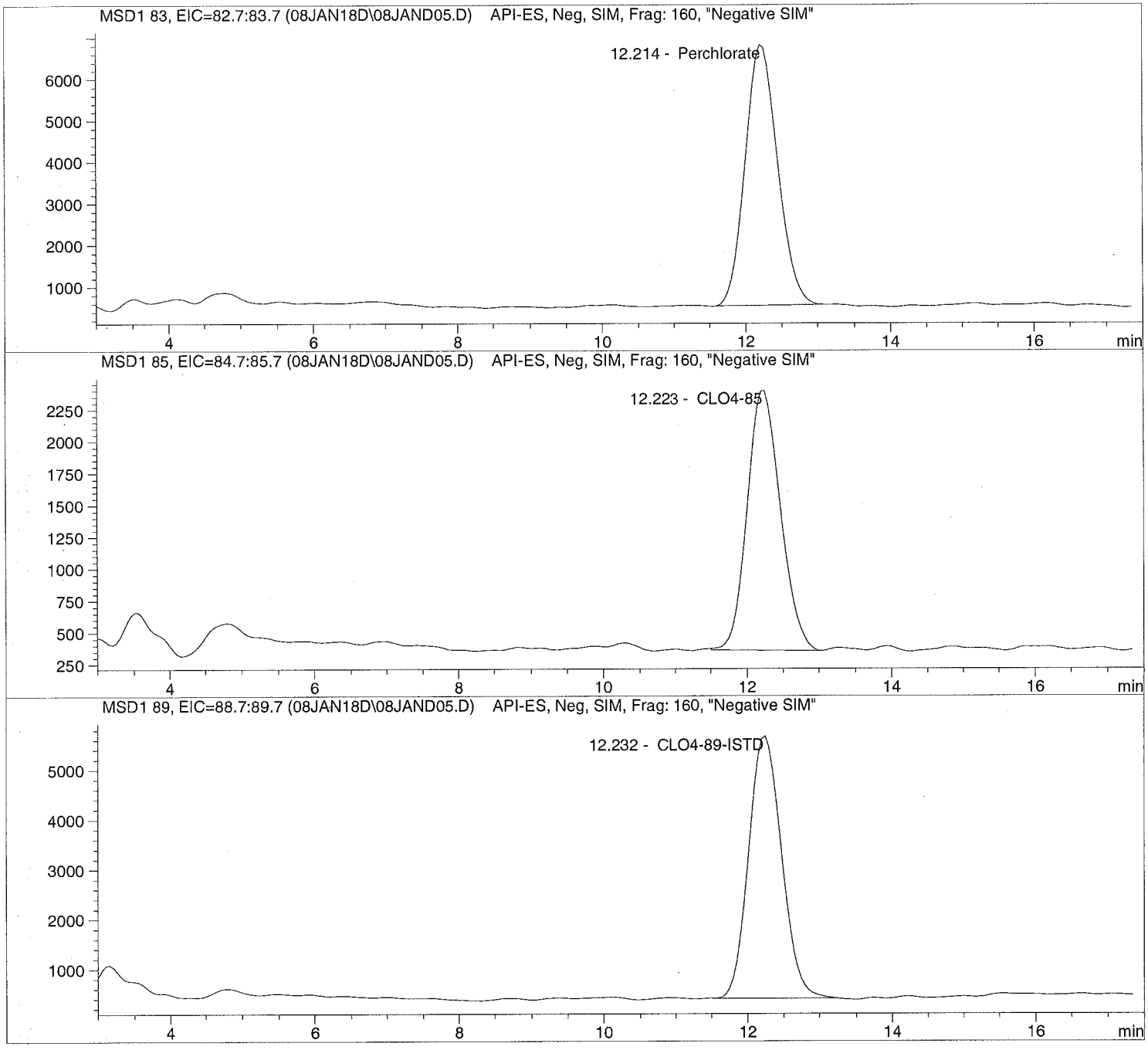
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND05.D Sample Name: 582603 LCS@5.

Injection Date:	1/08/2018 09:34:27	Seq Line:	5
Sample Name:	582603 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\08JAN18D\08JAND05.D Sample Name: 582603 LCS@5.

Injection Date:	1/08/2018 09:34:27	Seq Line:	5
Sample Name:	582603 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
12.214	PBA	194972.6	5.2991	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.223	BBA	65076.3	5.3019	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.232	BBA	166837.8	5.0000	CLO4-89-ISTD

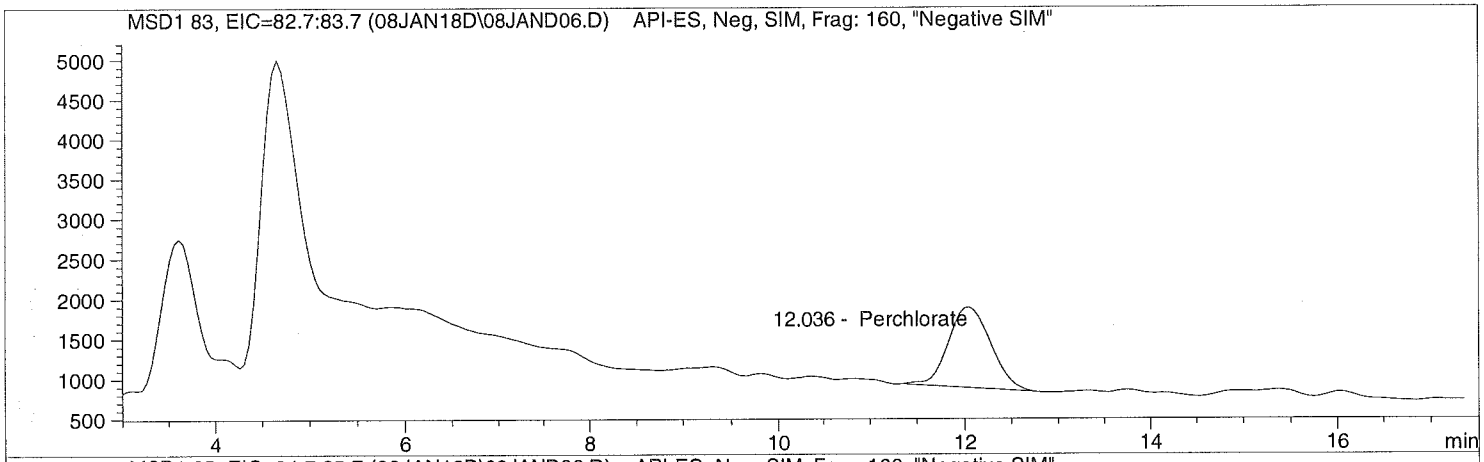
*** End of Report ***

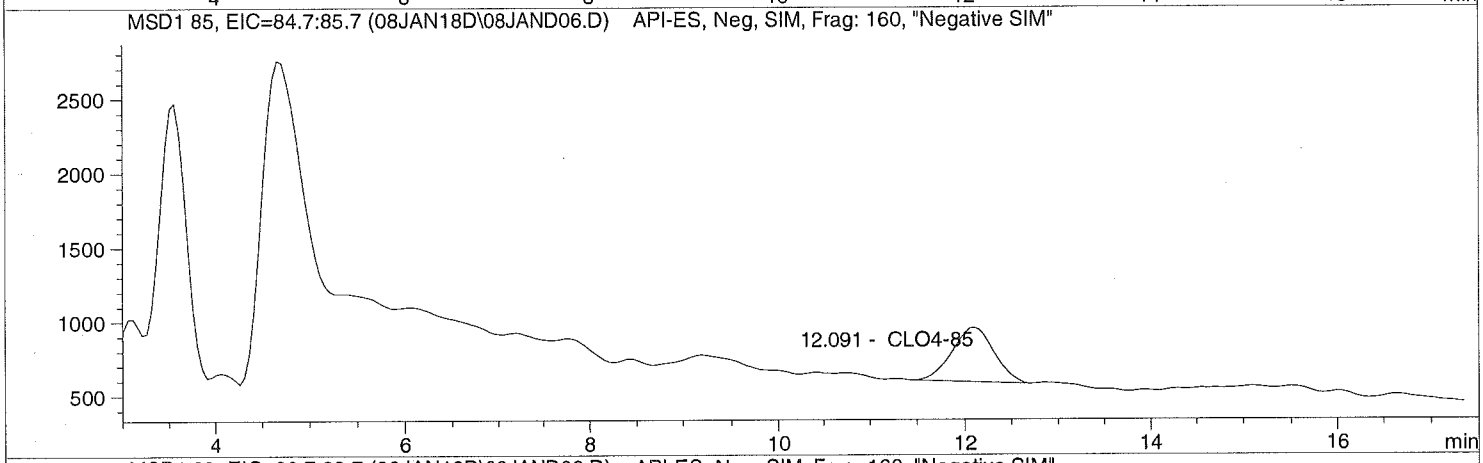
Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND06.D Sample Name: 1736221001

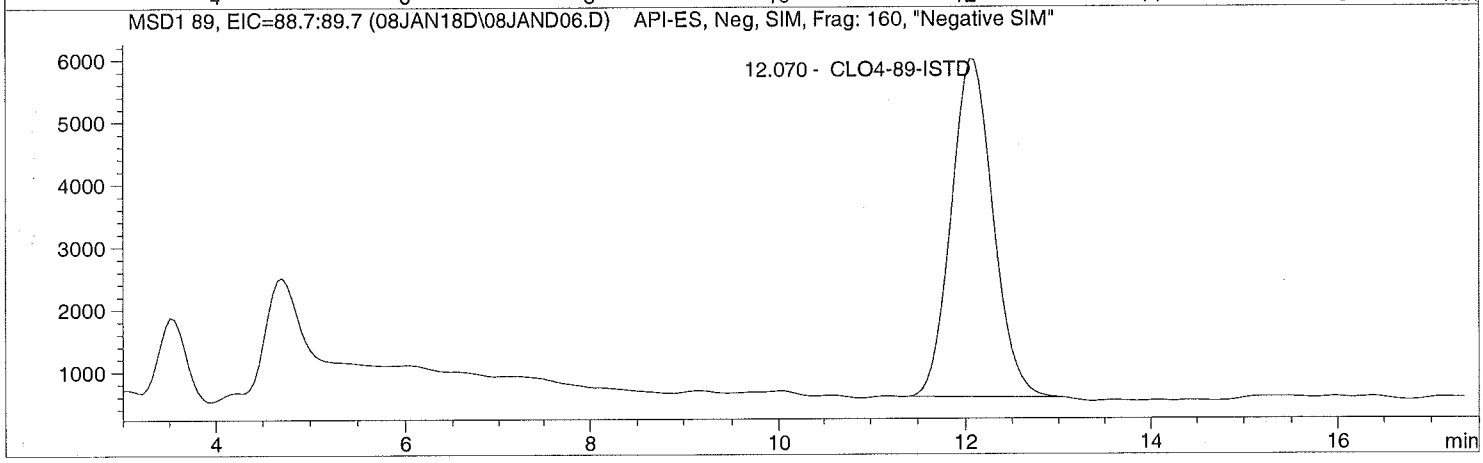
Injection Date:	1/08/2018 09:55:06	Seq Line:	6
Sample Name:	1736221001	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\08JAN18D\08JAND06.D Sample Name: 1736221001

Injection Date:	1/08/2018 09:55:06	Seq Line:	6
Sample Name:	1736221001	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
12.036	PBA	31087.2	0.8880	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.091	PBA	11237.5	0.7663	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.070	BBA	166279.1	5.0000	CLO4-89-ISTD

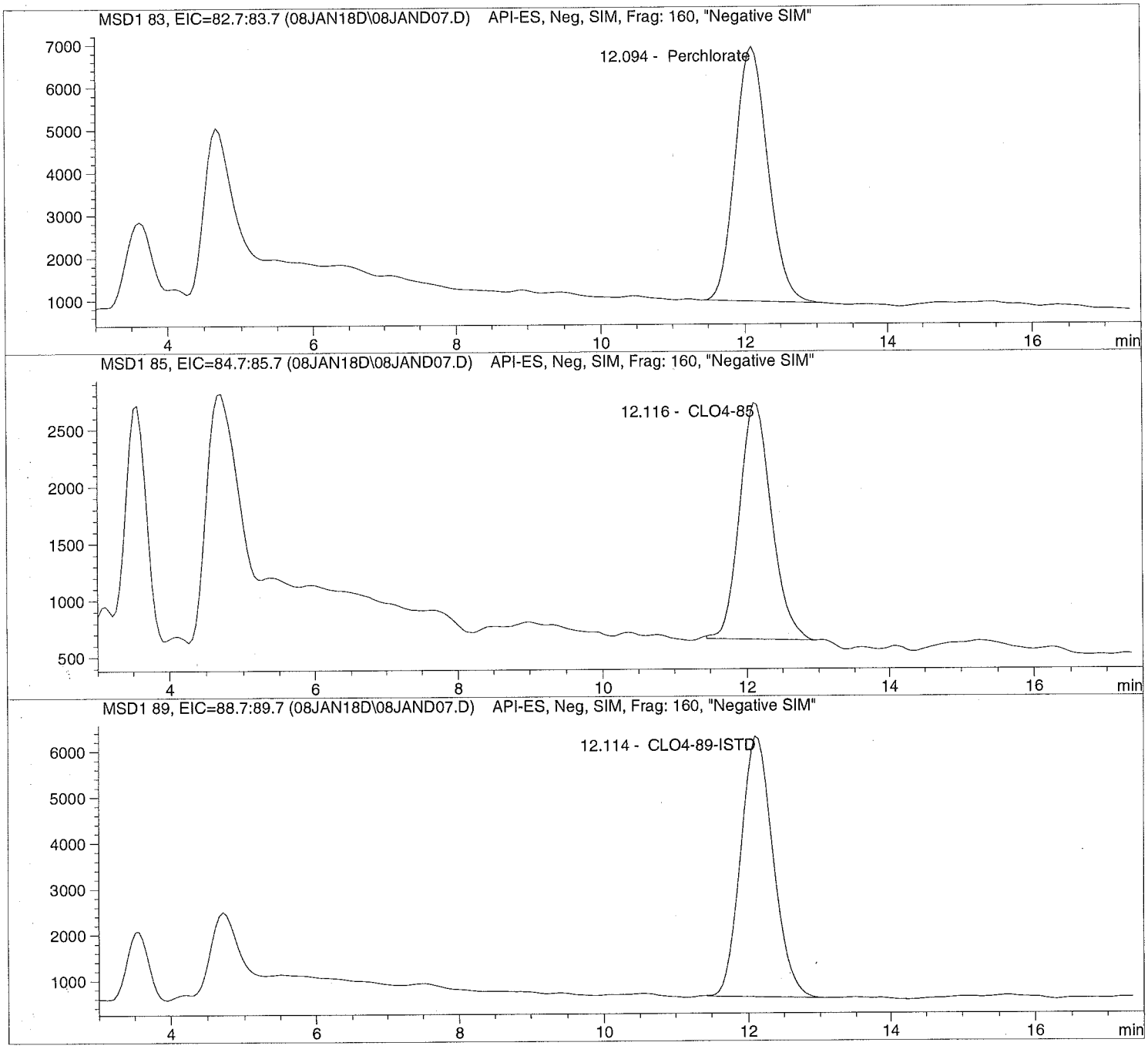
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND07.D Sample Name: 582604 362211S

Injection Date:	1/08/2018 10:14:18	Seq Line:	7
Sample Name:	582604 362211S	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\08JAN18D\08JAND07.D Sample Name: 582604 362211S

Injection Date:	1/08/2018 10:14:18	Seq Line:	7
Sample Name:	582604 362211S	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
12.094	PBA	188371.2	4.8052	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.116	BBA	64174.7	4.8851	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.114	BBA	178297.8	5.0000	CLO4-89-ISTD

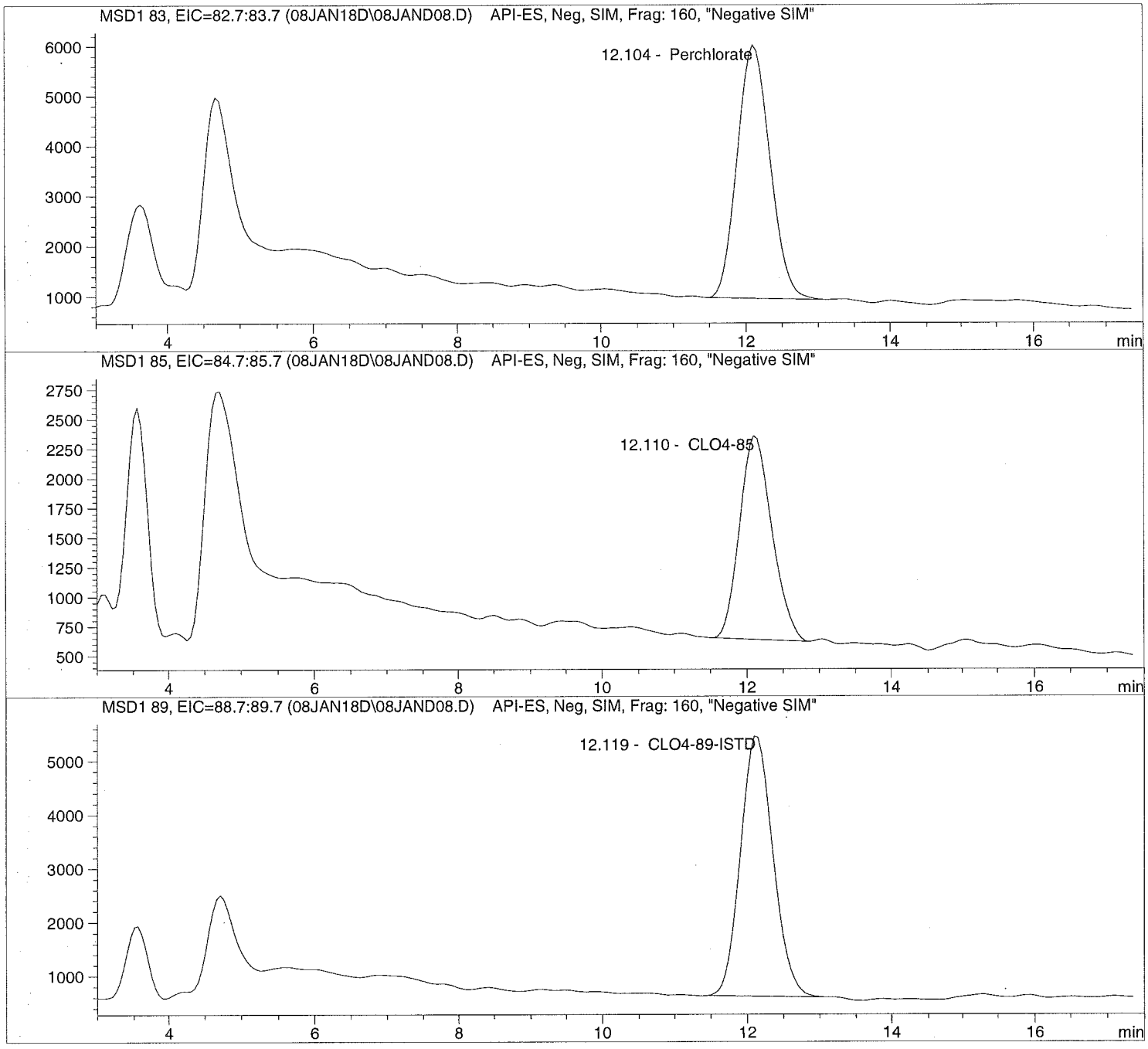
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND08.D Sample Name: 582605 362211D

Injection Date:	1/08/2018 10:33:30	Seq Line:	8
Sample Name:	582605 362211D	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\08JAN18D\08JAND08.D Sample Name: 582605 362211D

Injection Date:	1/08/2018 10:33:30	Seq Line:	8
Sample Name:	582605 362211D	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
12.104	PBA	158239.9	4.7946	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.110	PBA	52994.0	4.7892	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.119	PBA	150118.3	5.0000	CLO4-89-ISTD

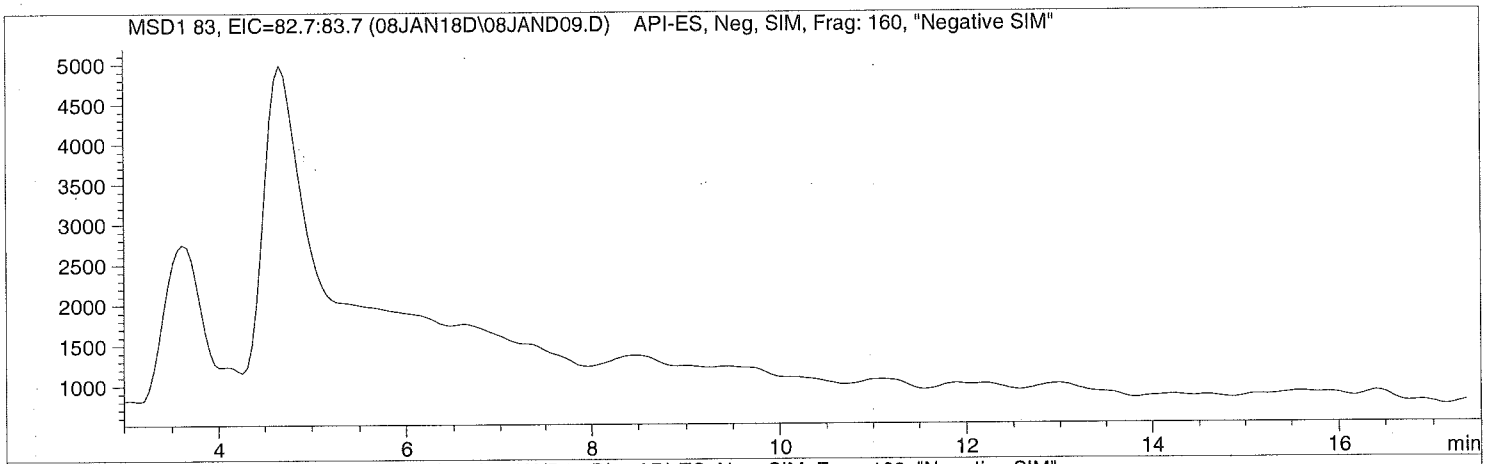
*** End of Report ***

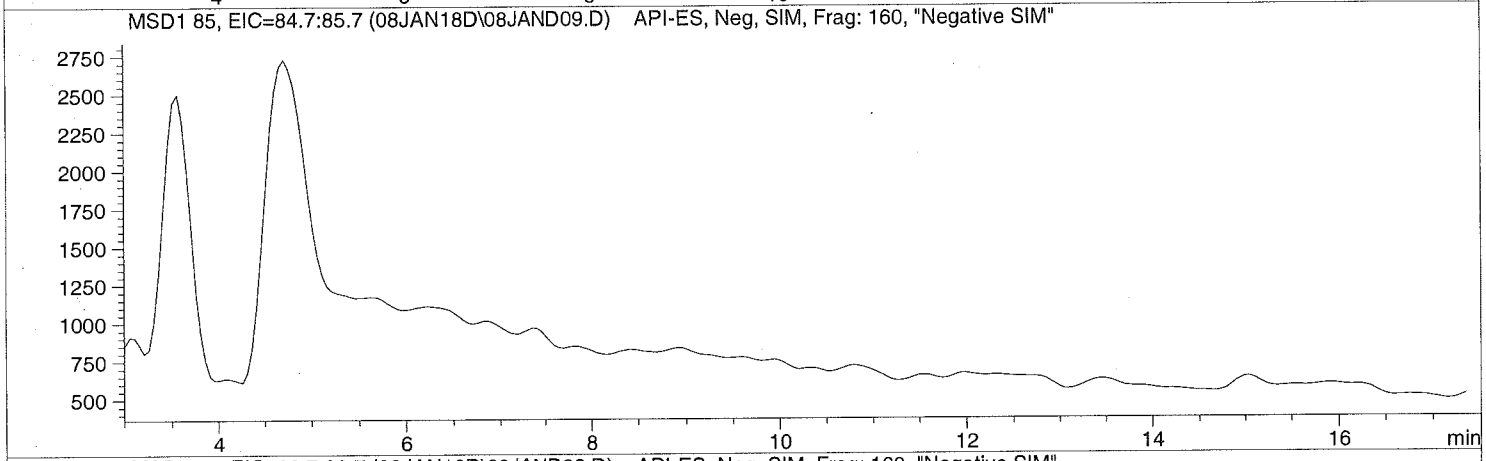
Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND09.D Sample Name: 1736221002

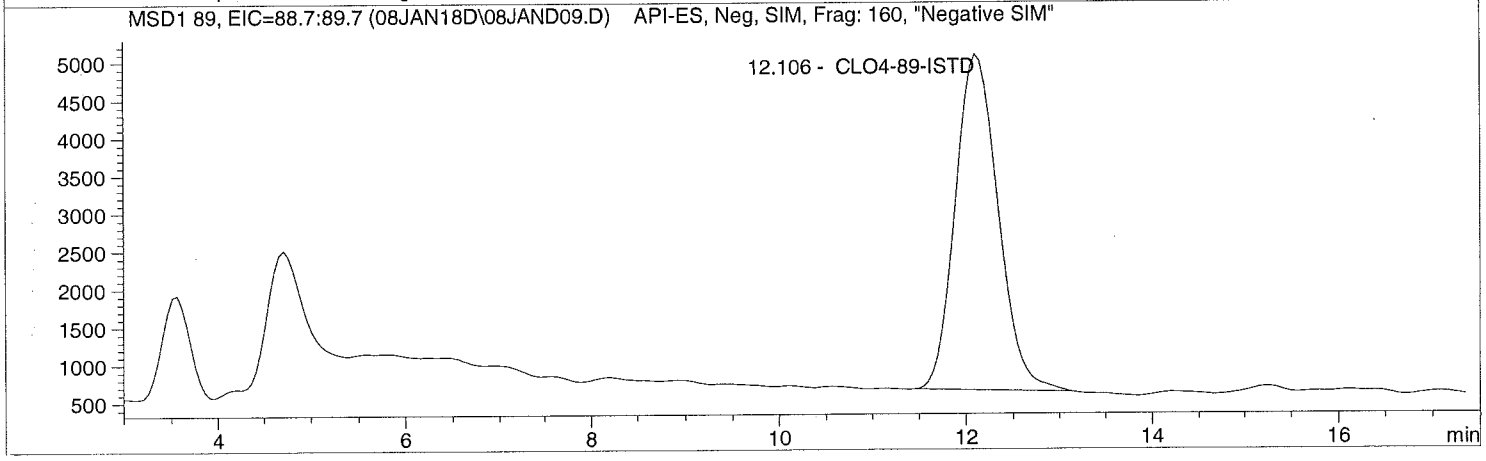
Injection Date:	1/08/2018 10:52:41	Seq Line:	9
Sample Name:	1736221002	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\08JAN18D\08JAND09.D Sample Name: 1736221002

Injection Date:	1/08/2018 10:52:41	Seq Line:	9
Sample Name:	1736221002	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
12.106	BBA	139148.3	5.0000	CLO4-89-ISTD

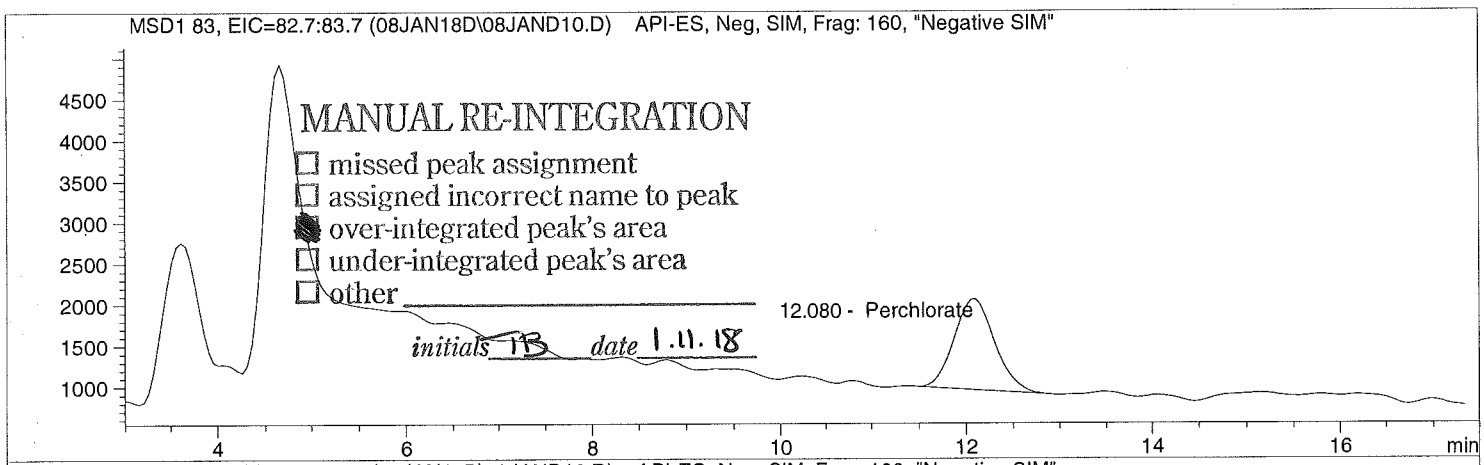
*** End of Report ***

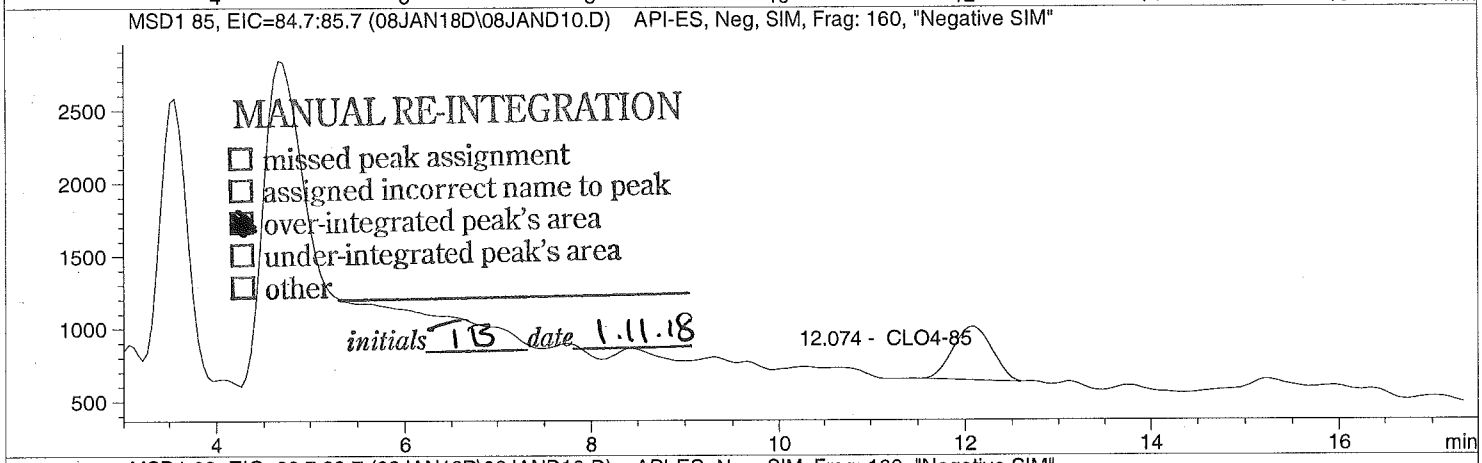
Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND10.D Sample Name: 1736221003

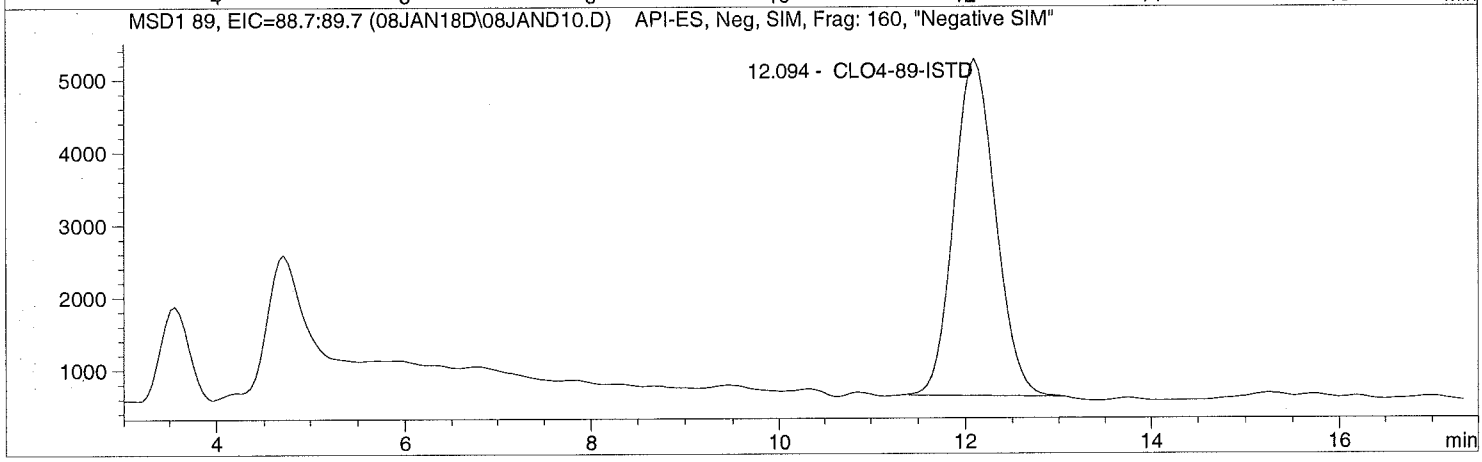
Injection Date:	1/08/2018 11:11:49	Seq Line:	10
Sample Name:	1736221003	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\08JAN18D\08JAND10.D Sample Name: 1736221003

Injection Date:	1/08/2018 11:11:49	Seq Line:	10
Sample Name:	1736221003	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
12.080	MM	32769.4	1.0925	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.074	MM	10469.1	0.8576	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.094	BBA	141559.2	5.0000	CLO4-89-ISTD

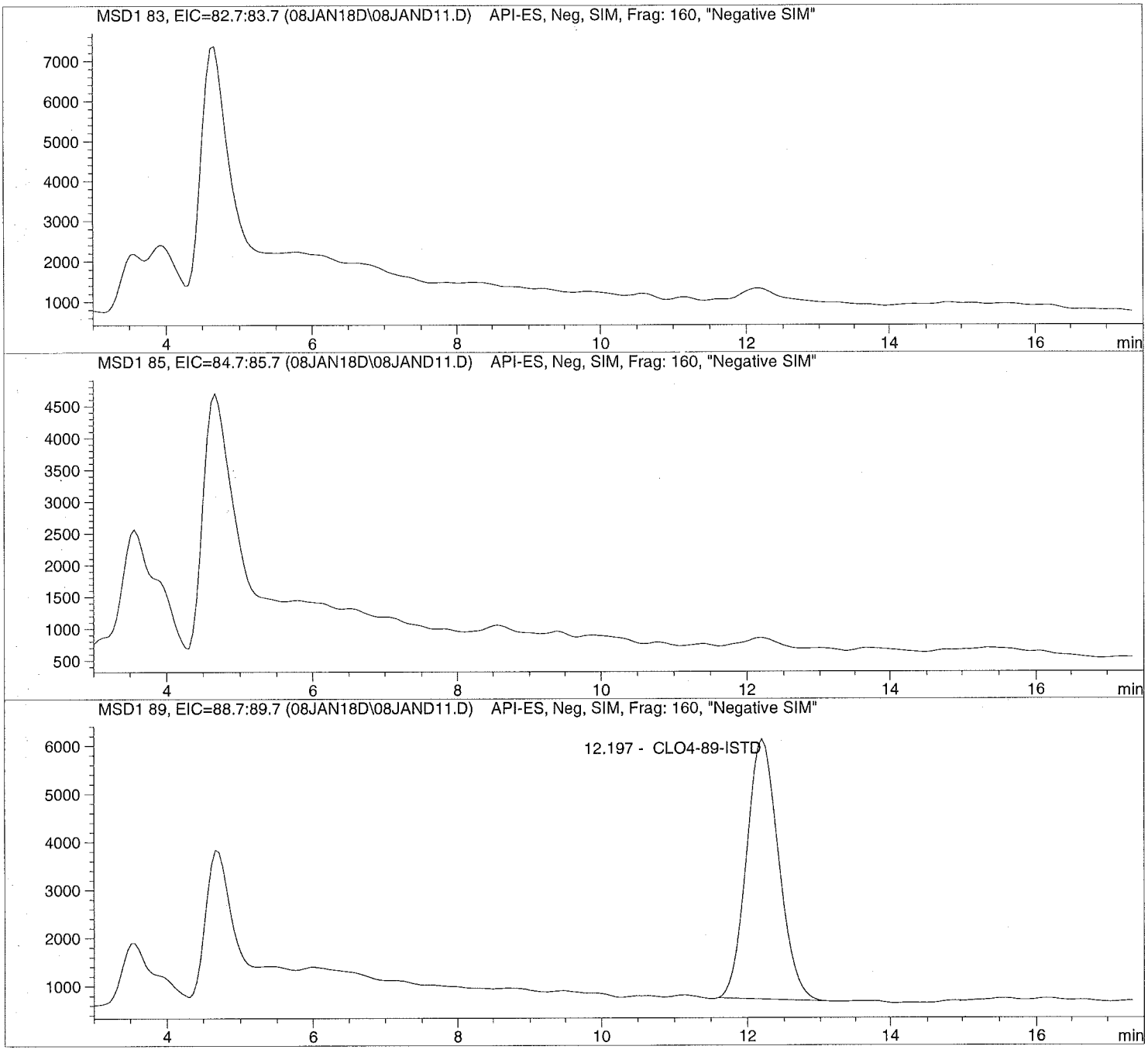
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND11.D Sample Name: 1736221004

Injection Date:	1/08/2018 11:31:01	Seq Line:	11
Sample Name:	1736221004	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\08JAN18D\08JAND11.D Sample Name: 1736221004

Injection Date:	1/08/2018 11:31:01	Seq Line:	11
Sample Name:	1736221004	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
12.197	PBA	163910.3	5.0000	CLO4-89-ISTD

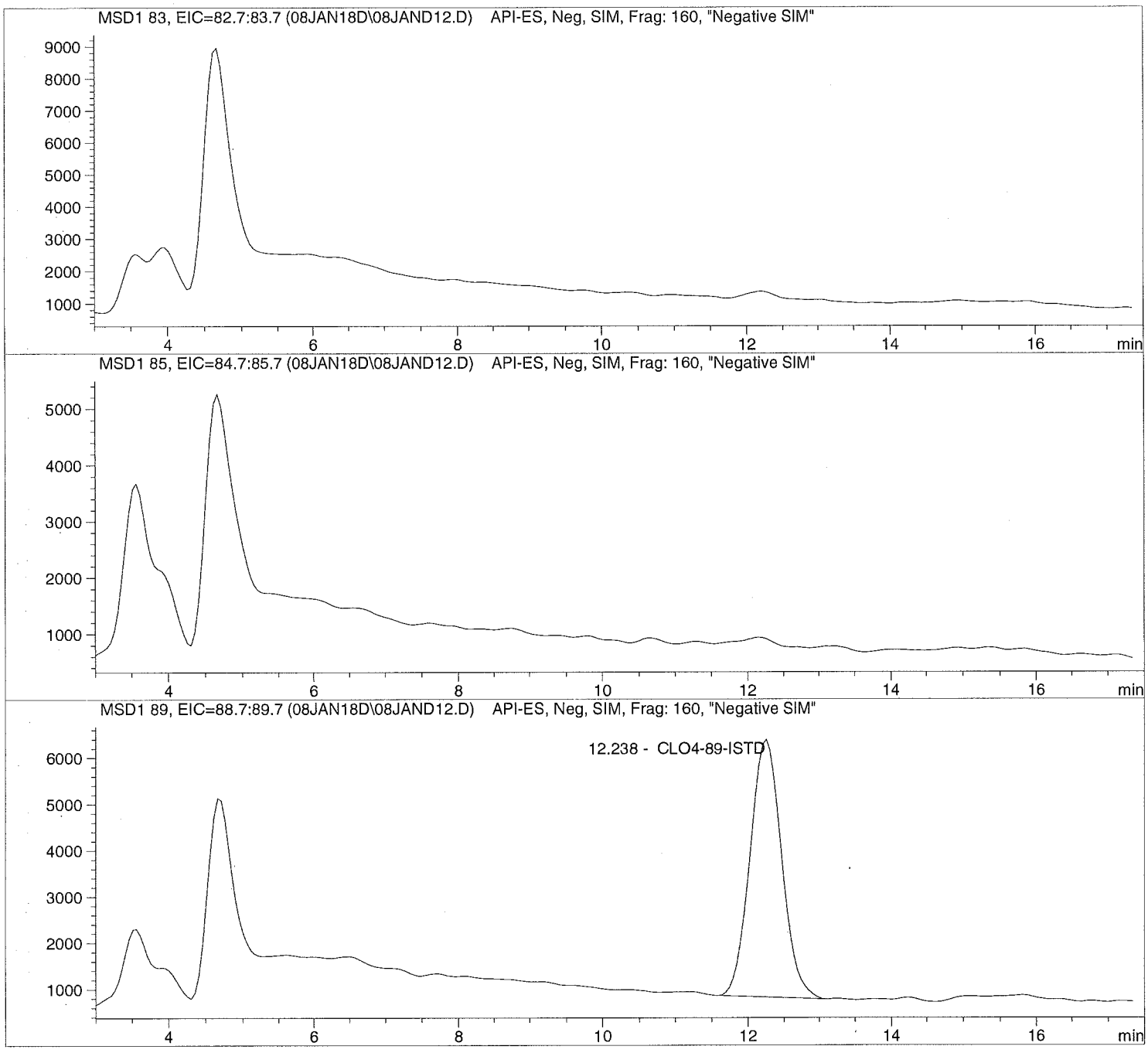
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND12.D Sample Name: 1736221005

Injection Date:	1/08/2018 11:50:08	Seq Line:	12
Sample Name:	1736221005	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\08JAN18D\08JAND12.D Sample Name: 1736221005

Injection Date:	1/08/2018 11:50:08	Seq Line:	12
Sample Name:	1736221005	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
12.238	PBA	169084.7	5.0000	CLO4-89-ISTD

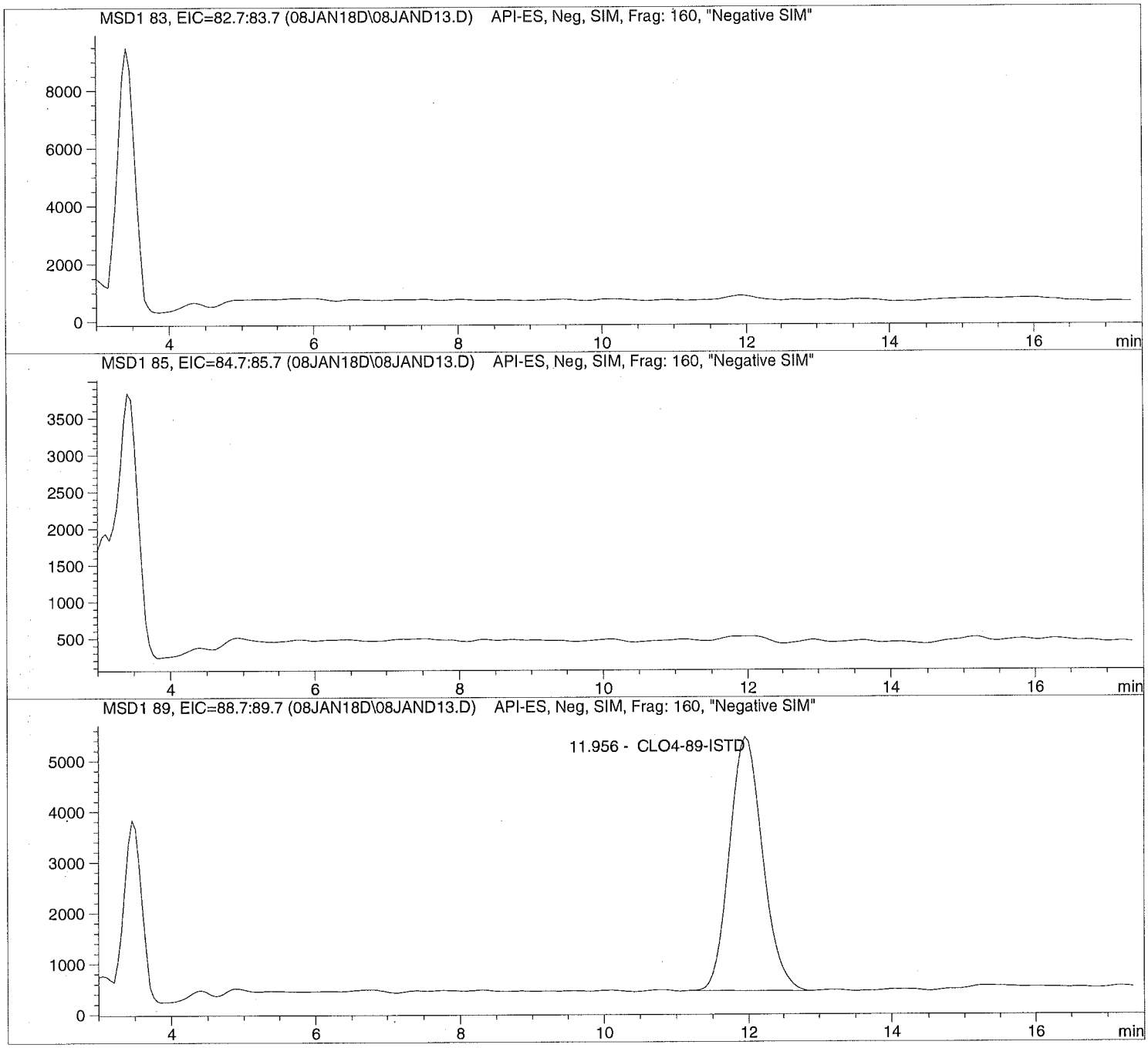
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND13.D Sample Name: 1736222001

Injection Date:	1/08/2018 12:09:16	Seq Line:	13
Sample Name:	1736222001	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\08JAN18D\08JAND13.D Sample Name: 1736222001

Injection Date:	1/08/2018 12:09:16	Seq Line:	13
Sample Name:	1736222001	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
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
11.956	BBA	163058.7	5.0000	CLO4-89-ISTD

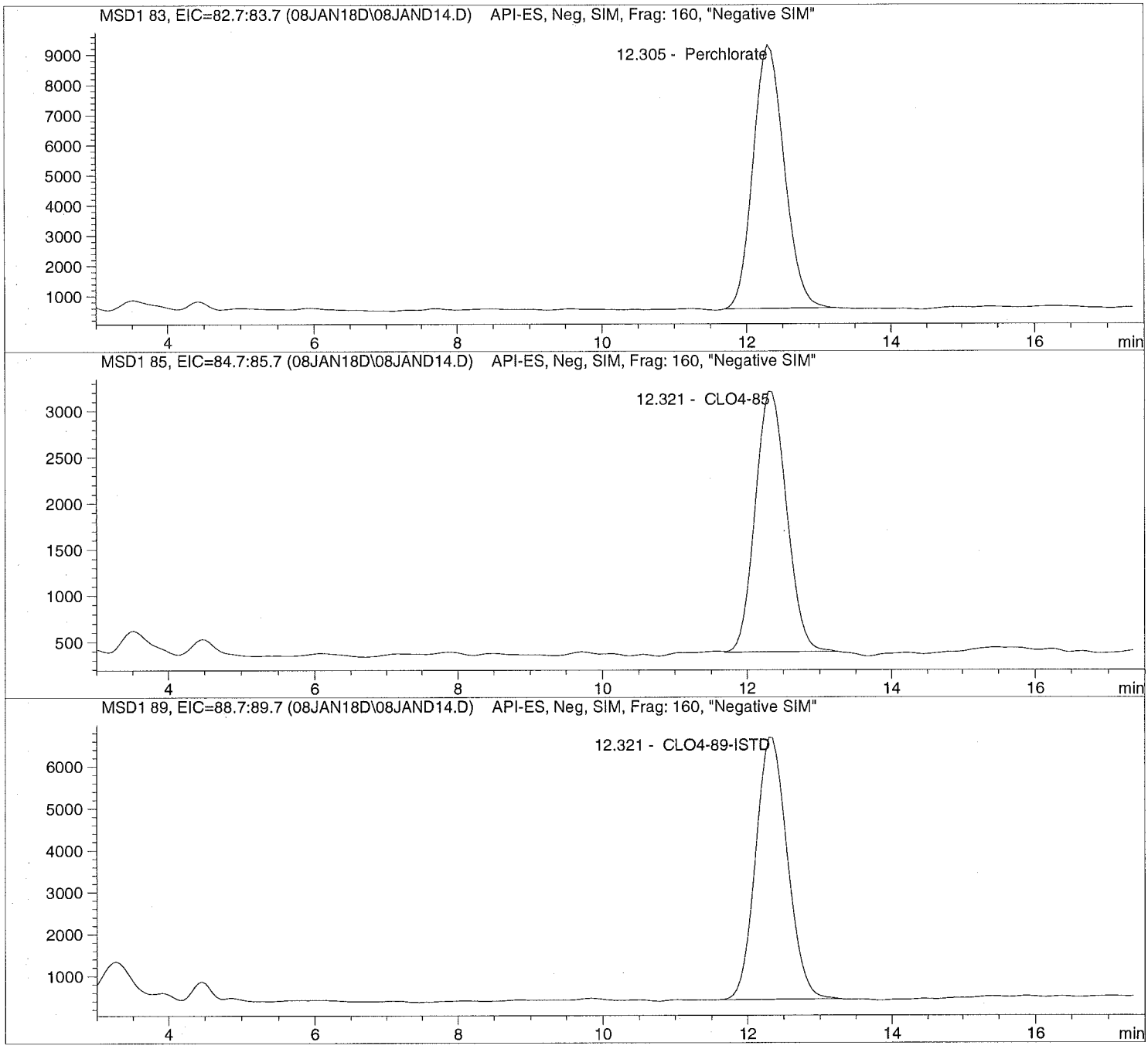
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND14.D Sample Name: 1736222002 100

Injection Date:	1/08/2018 12:28:24	Seq Line:	14
Sample Name:	1736222002 100	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\08JAN18D\08JAND14.D Sample Name: 1736222002 100

Injection Date:	1/08/2018 12:28:24	Seq Line:	14
Sample Name:	1736222002 100	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:	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
12.305	BBA	260213.5	619.8599	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.321	BBA	84484.5	607.5170	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.321	BBA	189341.2	500.0000	CLO4-89-ISTD

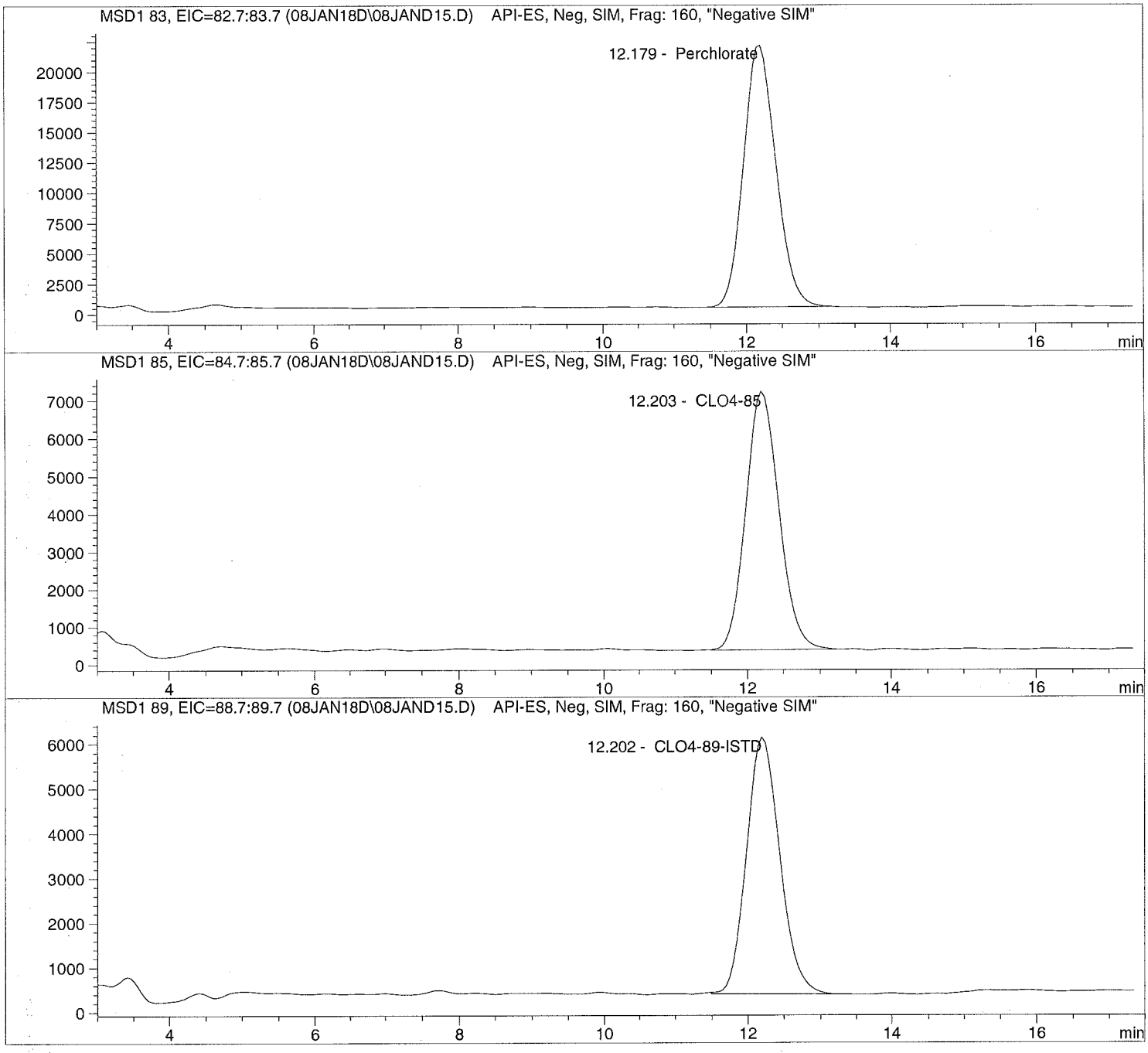
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND15.D Sample Name: 1736222003 10X

Injection Date:	1/08/2018 12:47:33	Seq Line:	15
Sample Name:	1736222003 10X	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\08JAN18D\08JAND15.D Sample Name: 1736222003 10X

Injection Date:	1/08/2018 12:47:33	Seq Line:	15
Sample Name:	1736222003 10X	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:	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
12.179	PBA	672525.0	156.6497	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.203	BBA	219017.6	158.9967	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.202	BBA	184162.5	50.0000	CLO4-89-ISTD

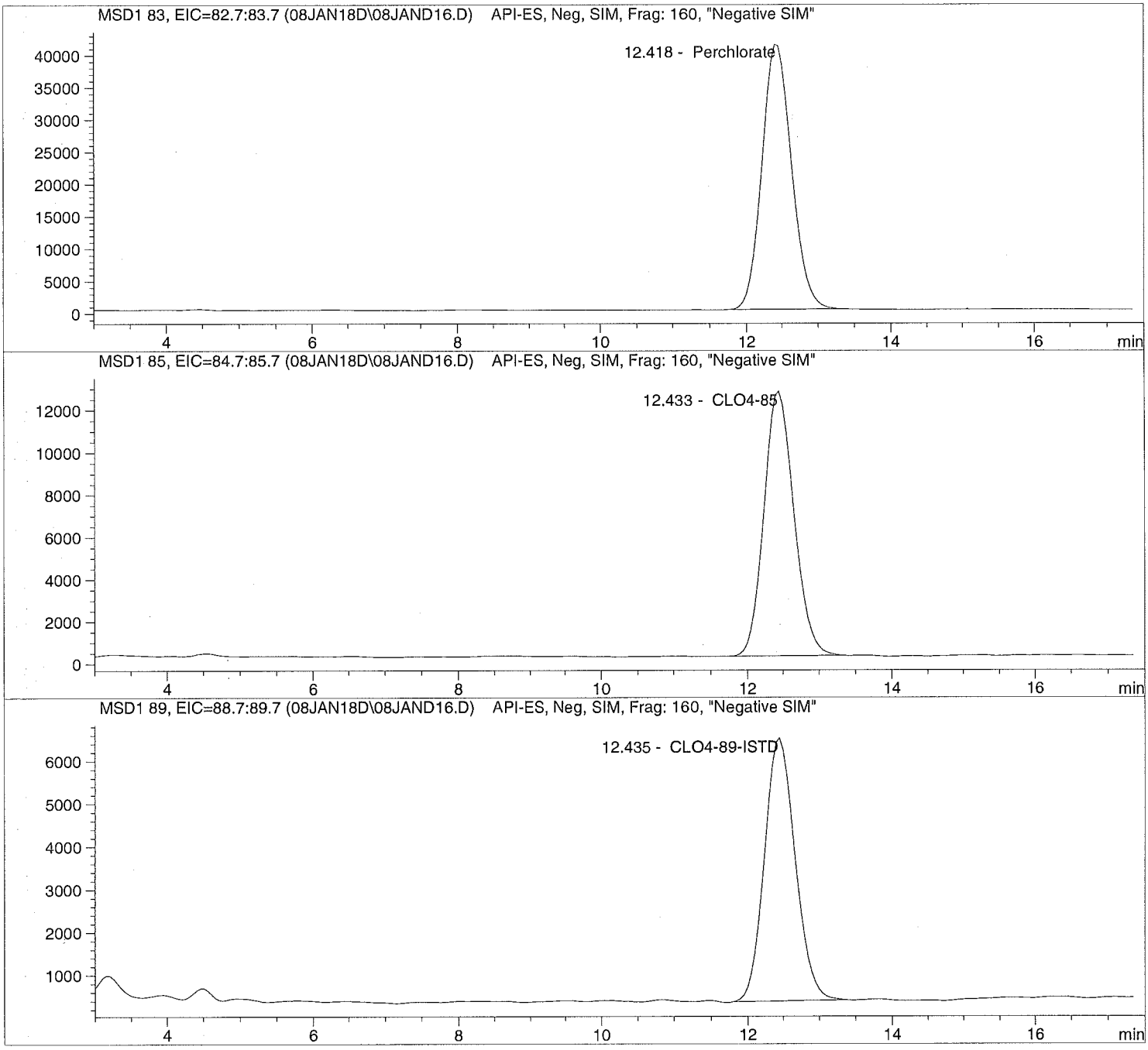
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND16.D Sample Name: 582606 CCV@25

Injection Date:	1/08/2018 13:08:12	Seq Line:	16
Sample Name:	582606 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\08JAN18D\08JAND16.D Sample Name: 582606 CCV@25

Injection Date:	1/08/2018 13:08:12	Seq Line:	16
Sample Name:	582606 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
12.418	PBA	1188700.2	26.2466	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.433	PBA	367172.0	25.7528	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.435	PBA	184529.9	5.0000	CLO4-89-ISTD

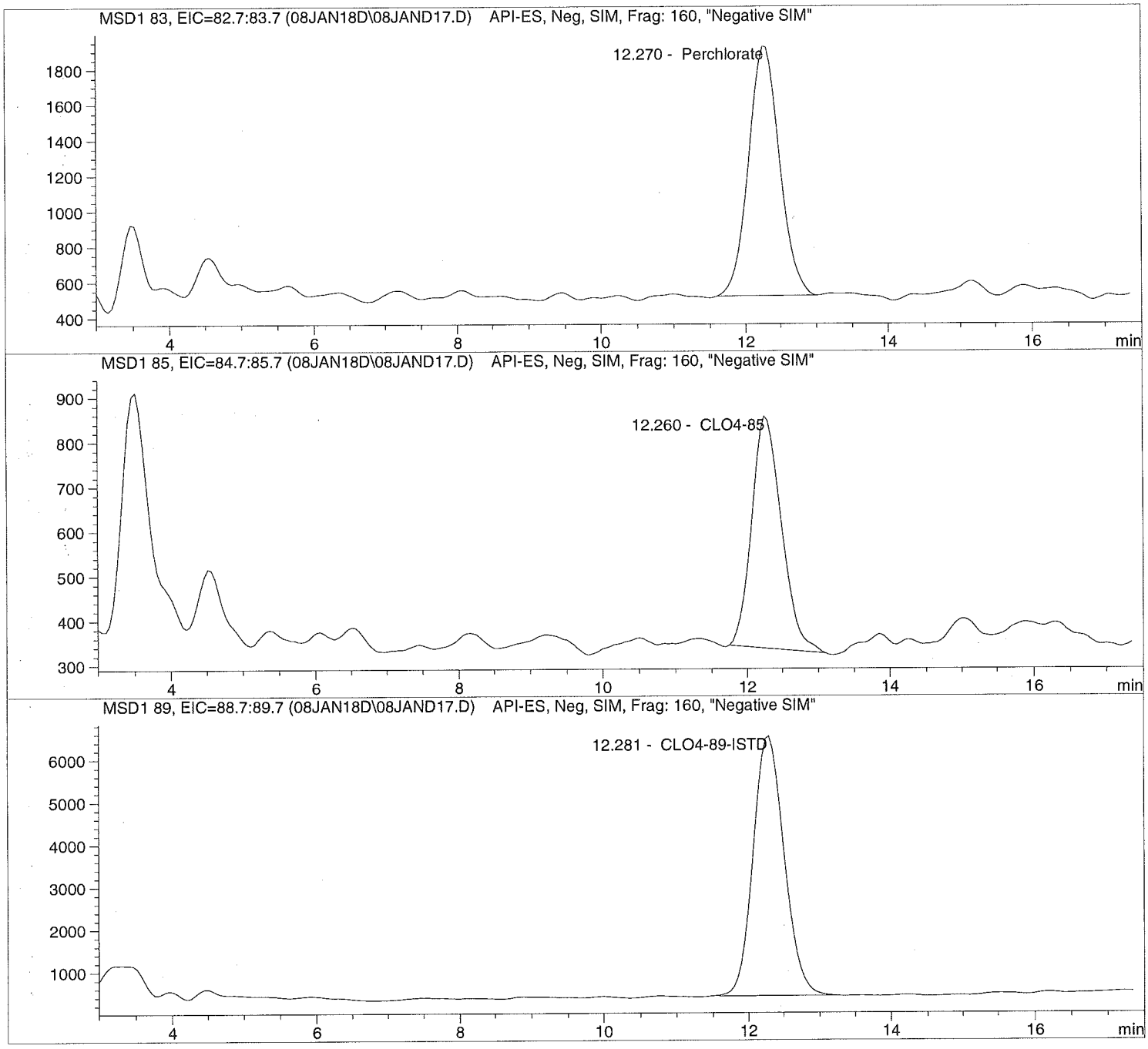
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND17.D Sample Name: 582607 LODV@1.

Injection Date:	1/08/2018 13:27:20	Seq Line:	17
Sample Name:	582607 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\08JAN18D\08JAND17.D Sample Name: 582607 LODV@1.

Injection Date:	1/08/2018 13:27:20	Seq Line:	17
Sample Name:	582607 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
12.270	PBA	43177.0	1.0870	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.260	PBA	15255.9	0.9636	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.281	BBA	187499.3	5.0000	CLO4-89-ISTD

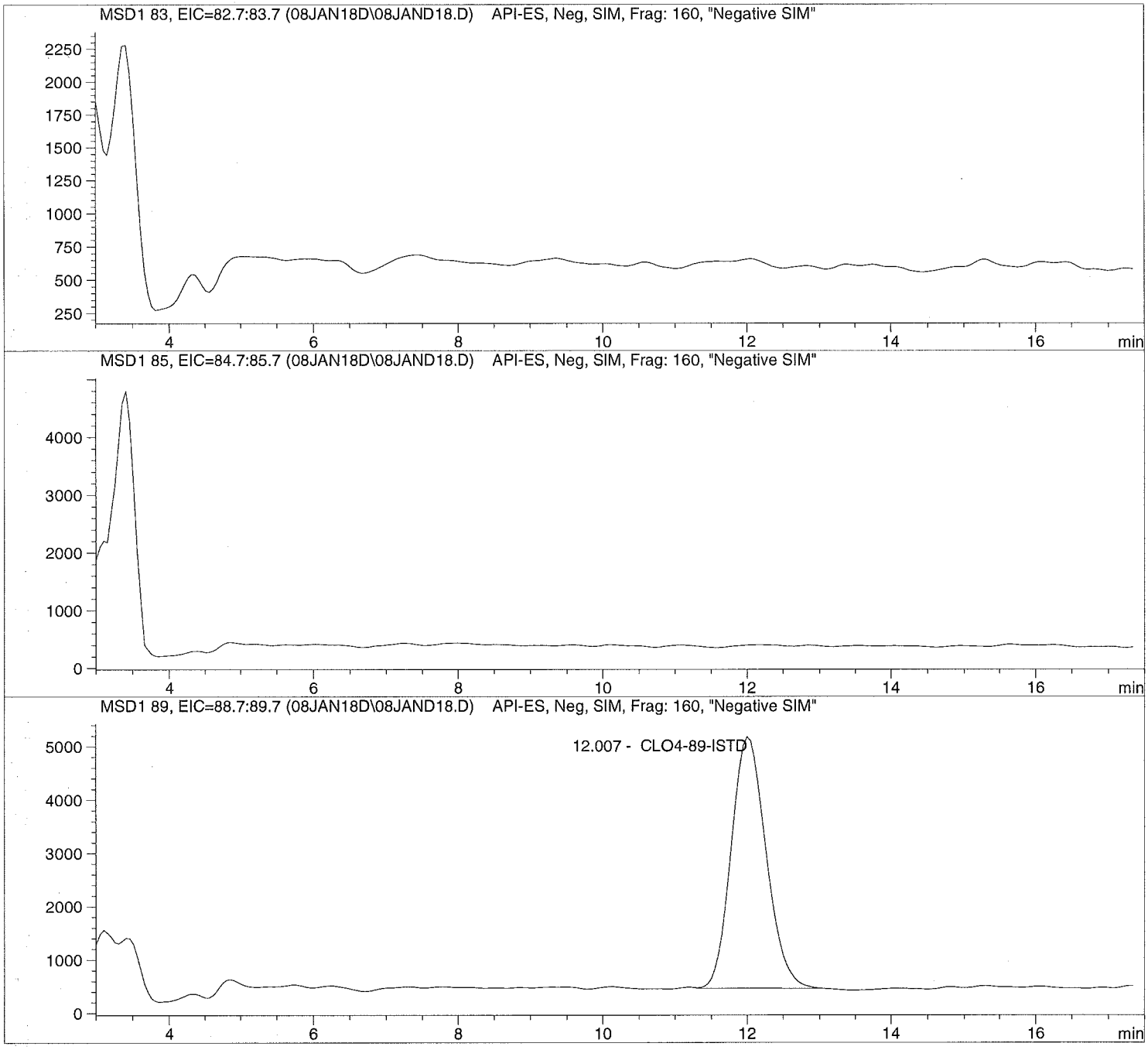
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND18.D Sample Name: 1736222004

Injection Date:	1/08/2018 13:46:29	Seq Line:	18
Sample Name:	1736222004	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\08JAN18D\08JAND18.D Sample Name: 1736222004

Injection Date:	1/08/2018 13:46:29	Seq Line:	18
Sample Name:	1736222004	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
12.007	BBA	157843.1	5.0000	CLO4-89-ISTD

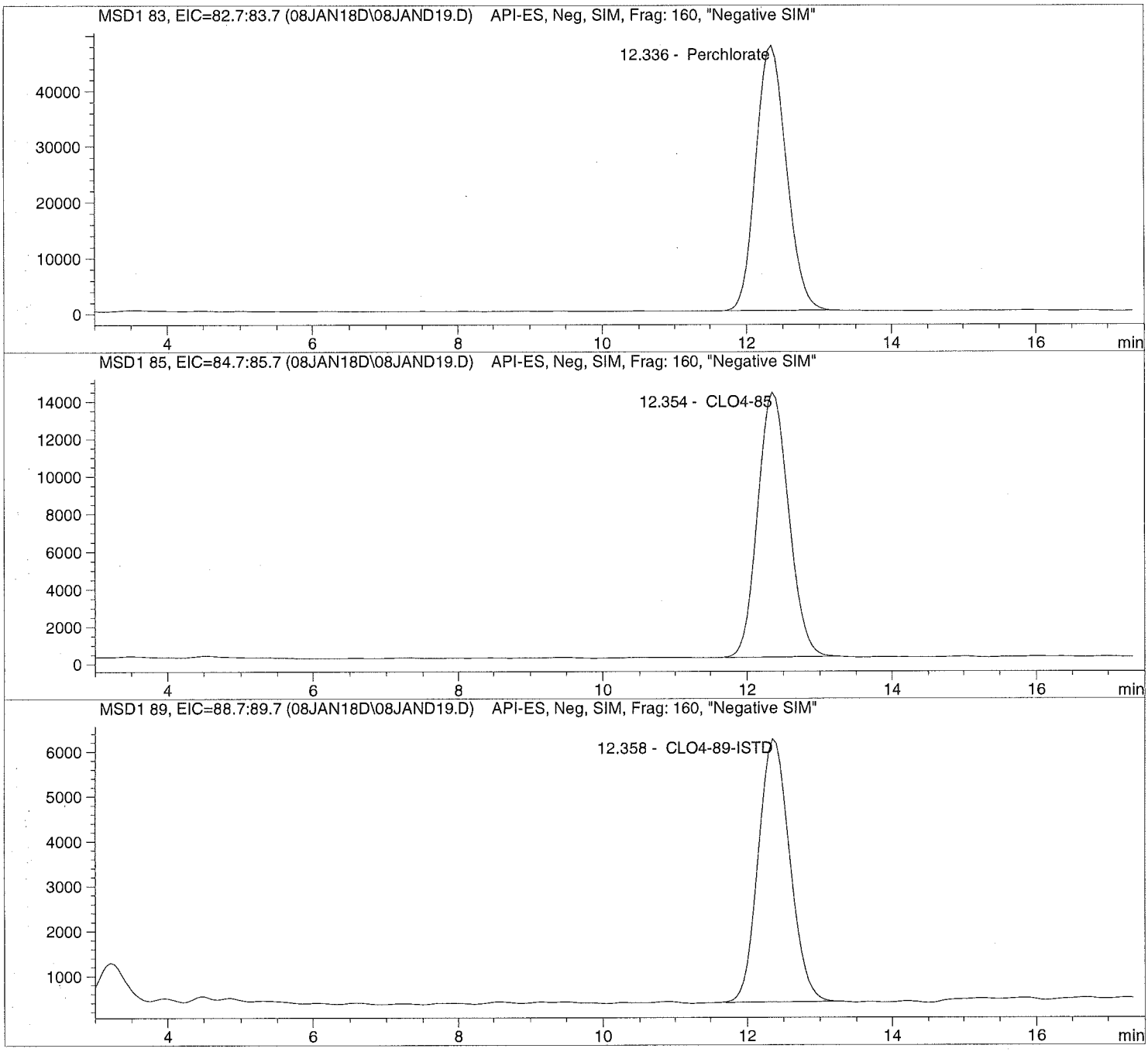
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND19.D Sample Name: 1736222005 1K

Injection Date:	1/08/2018 14:05:39	Seq Line:	19
Sample Name:	1736222005 1K	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\08JAN18D\08JAND19.D Sample Name: 1736222005 1K

Injection Date:	1/08/2018 14:05:39	Seq Line:	19
Sample Name:	1736222005 1K	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:	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
12.336	PBA	1375622.1	31318.8180	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.354	PBA	414786.1	30245.6824	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.358	PBA	174781.8	5000.0000	CLO4-89-ISTD

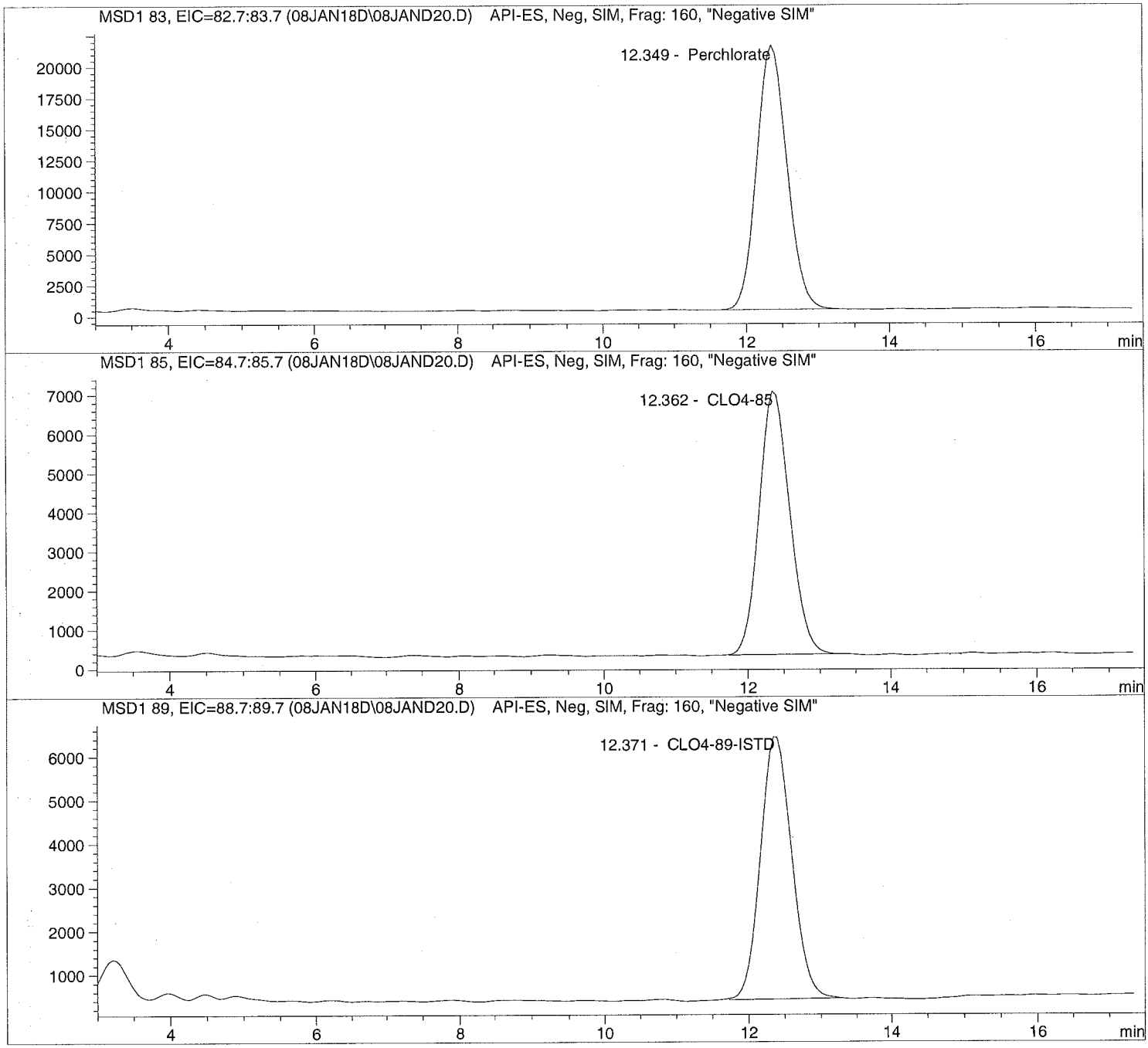
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND20.D Sample Name: 1736222006 1K

Injection Date:	1/08/2018 14:24:48	Seq Line:	20
Sample Name:	1736222006 1K	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\08JAN18D\08JAND20.D Sample Name: 1736222006 1K

Injection Date:	1/08/2018 14:24:48	Seq Line:	20
Sample Name:	1736222006 1K	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:	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
12.349	PBA	615406.7	14685.8937	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.362	BBA	197523.7	14672.3128	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.371	BBA	180646.8	5000.0000	CLO4-89-ISTD

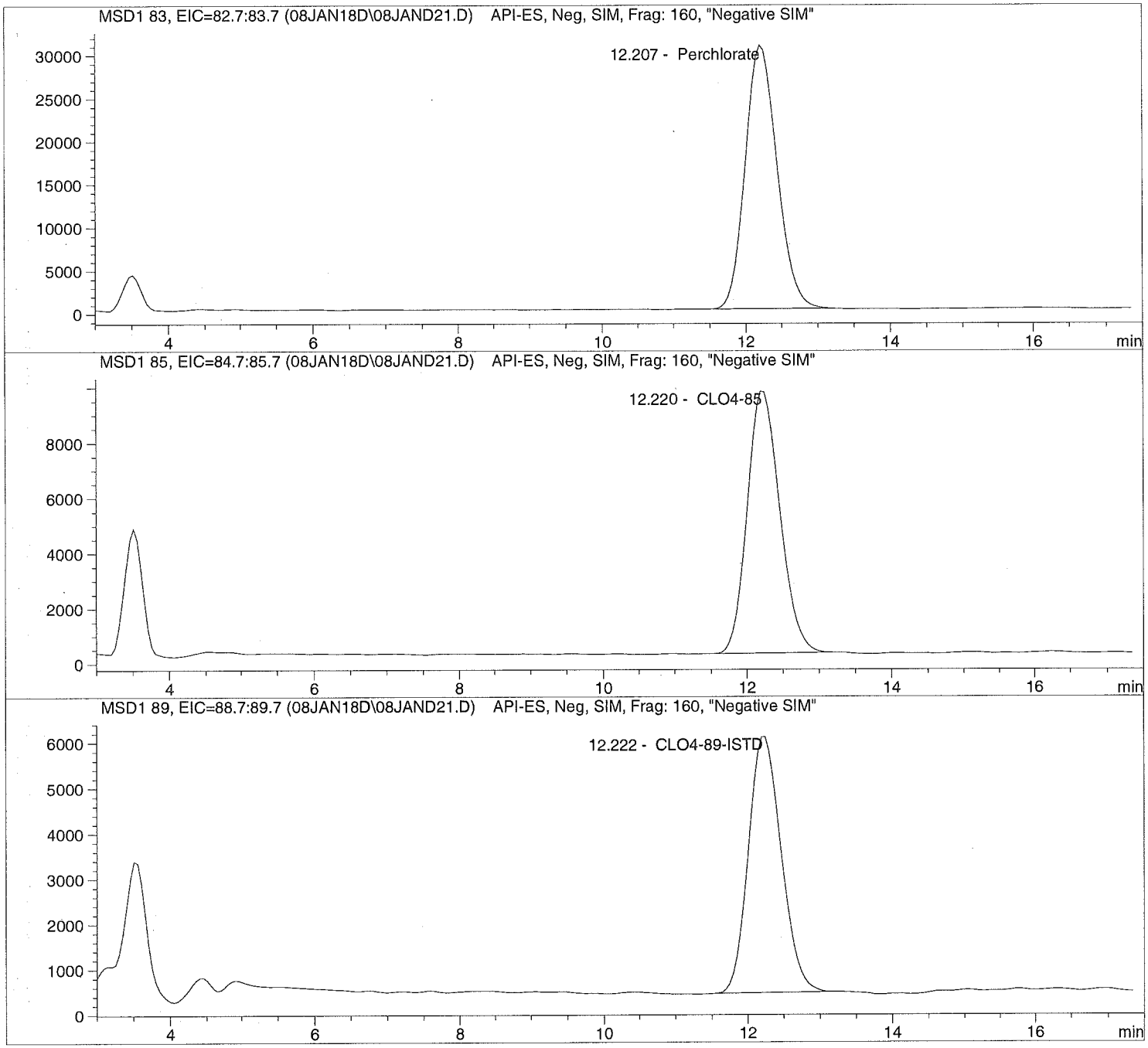
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND21.D Sample Name: 1736222007 10X

Injection Date:	1/08/2018 14:44:00	Seq Line:	21
Sample Name:	1736222007 10X	Location:	Vial 89
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\08JAN18D\08JAND21.D Sample Name: 1736222007 10X

Injection Date:	1/08/2018 14:44:00	Seq Line:	21
Sample Name:	1736222007 10X	Location:	Vial 89
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
12.207	PBA	938832.6	218.6278	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.220	PBA	299209.2	219.5516	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.222	PBA	178666.8	50.0000	CLO4-89-ISTD

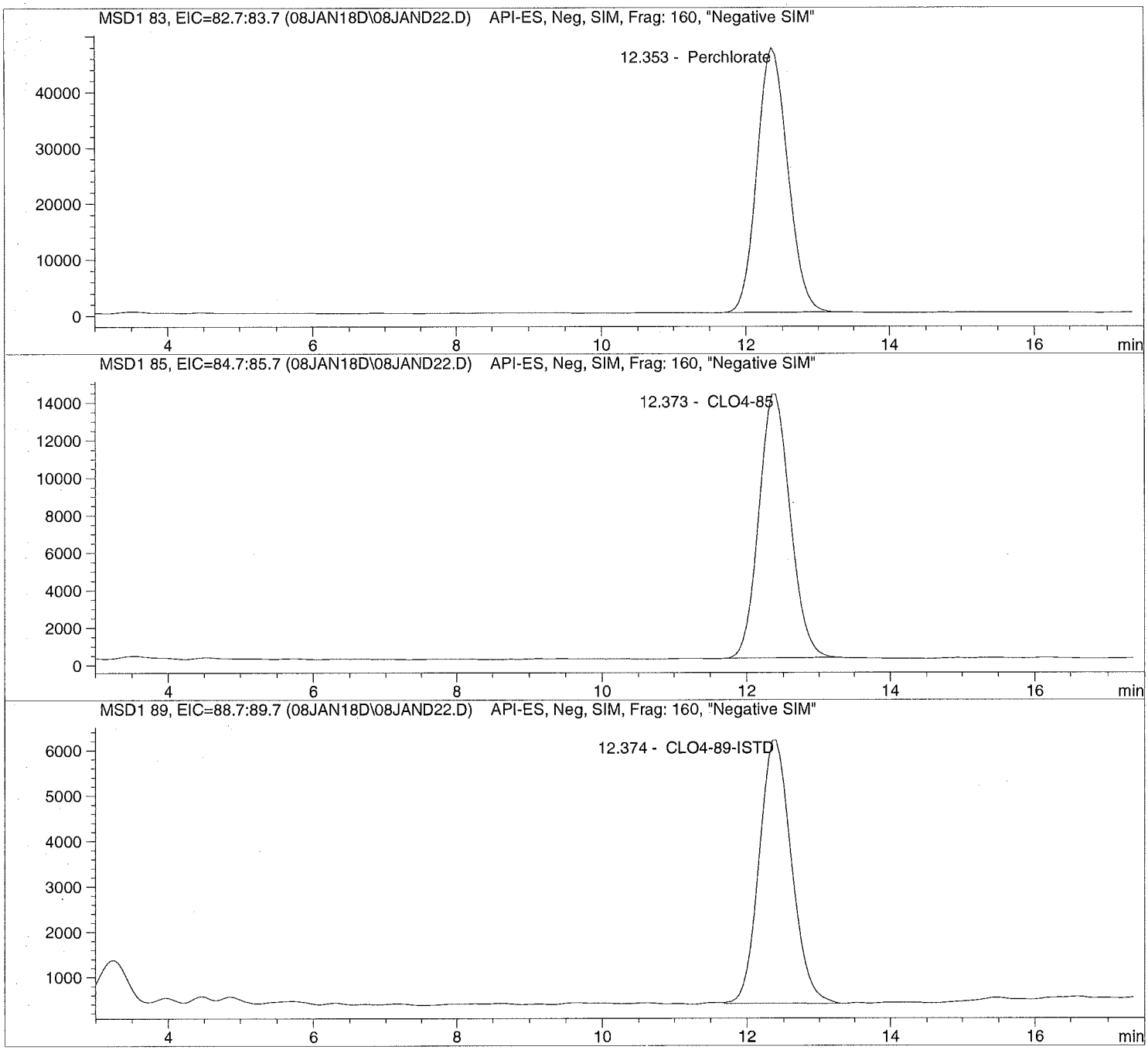
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND22.D Sample Name: 1736222008 1K

Injection Date:	1/08/2018 15:03:11	Seq Line:	22
Sample Name:	1736222008 1K	Location:	Vial 90
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\08JAN18D\08JAND22.D Sample Name: 1736222008 1K

Injection Date:	1/08/2018 15:03:11	Seq Line:	22
Sample Name:	1736222008 1K	Location:	Vial 90
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
12.353	PBA	1374991.0	30809.3521	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.373	PBA	416880.0	29884.5170	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.374	BBA	178007.8	5000.0000	CLO4-89-ISTD

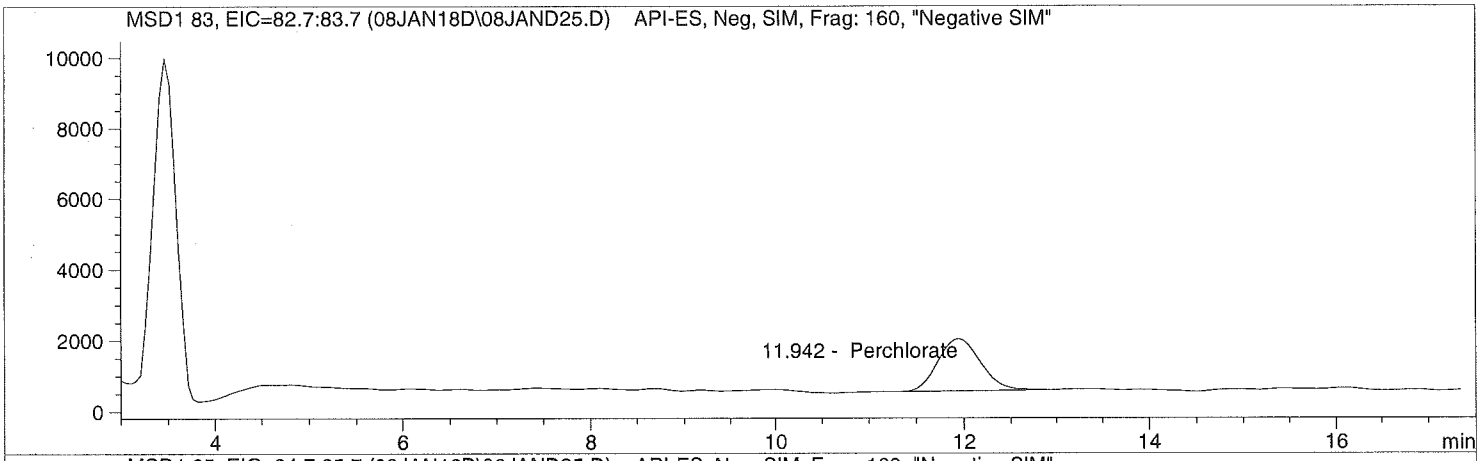
*** End of Report ***

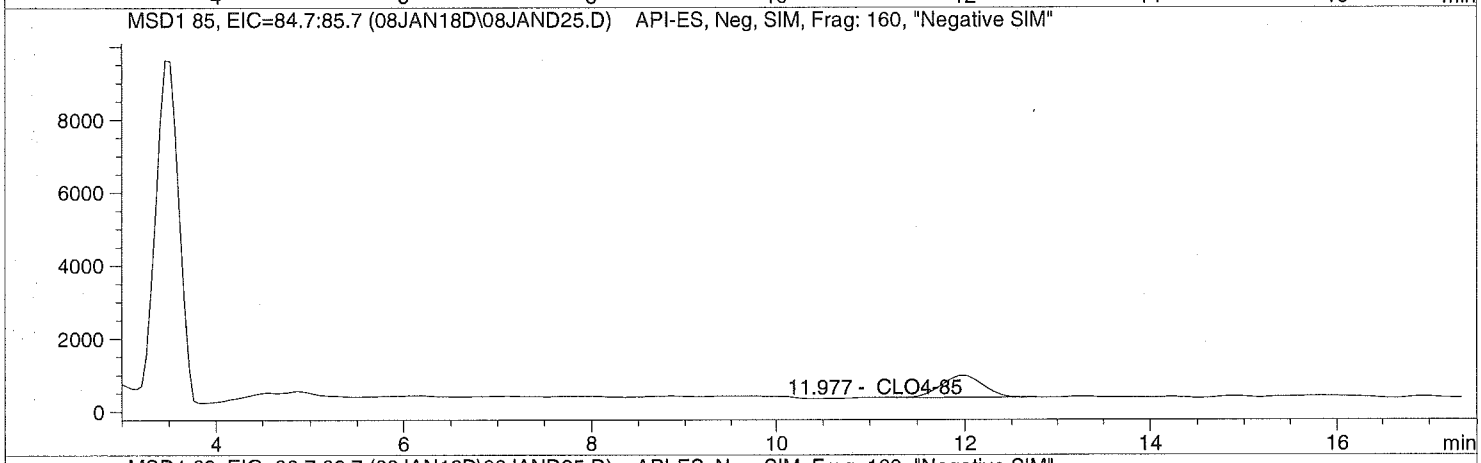
Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND25.D Sample Name: 1800210001

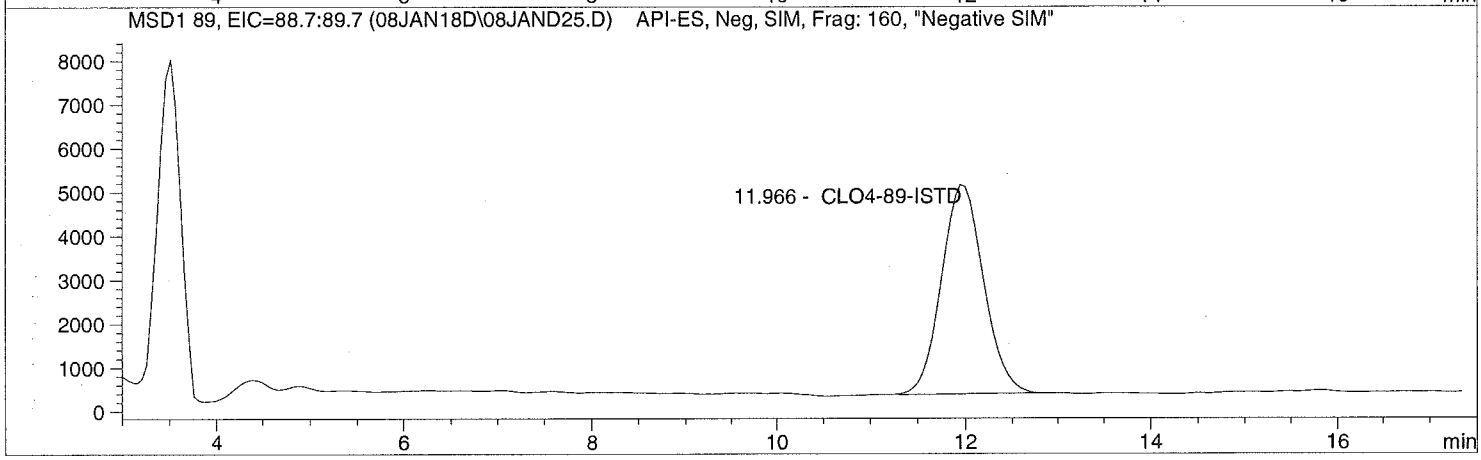
Injection Date:	1/08/2018 16:00:36	Seq Line:	25
Sample Name:	1800210001	Location:	Vial 92
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\08JAN18D\08JAND25.D Sample Name: 1800210001

Injection Date:	1/08/2018 16:00:36	Seq Line:	25
Sample Name:	1800210001	Location:	Vial 92
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
11.942	BBA	45760.9	1.4594	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.977	BBA	18773.2	1.6264	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.966	BBA	146856.5	5.0000	CLO4-89-ISTD

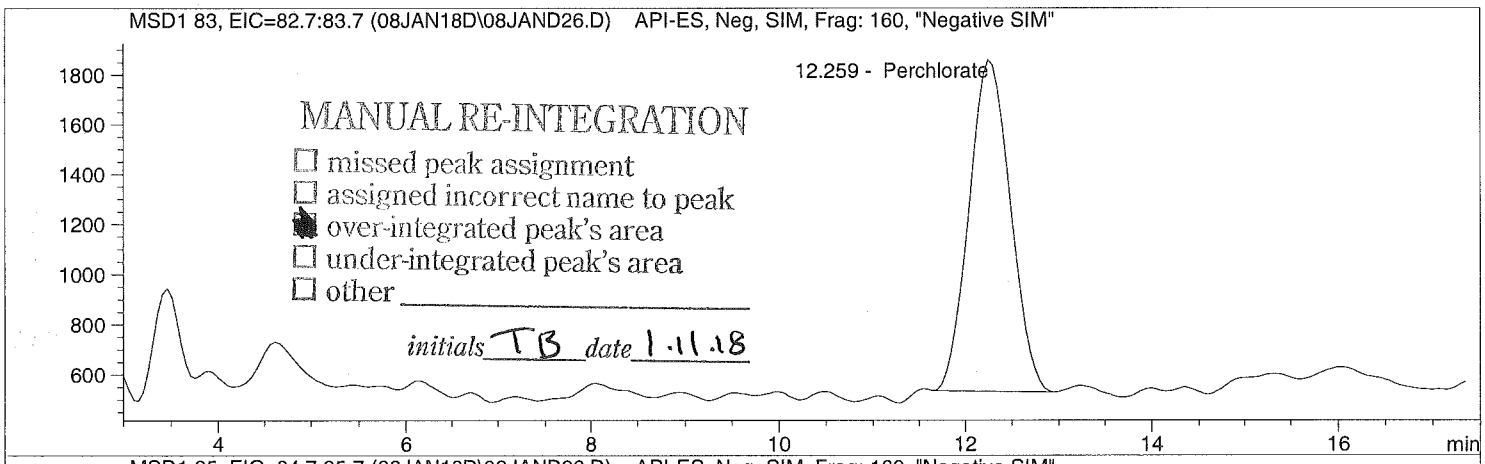
*** End of Report ***

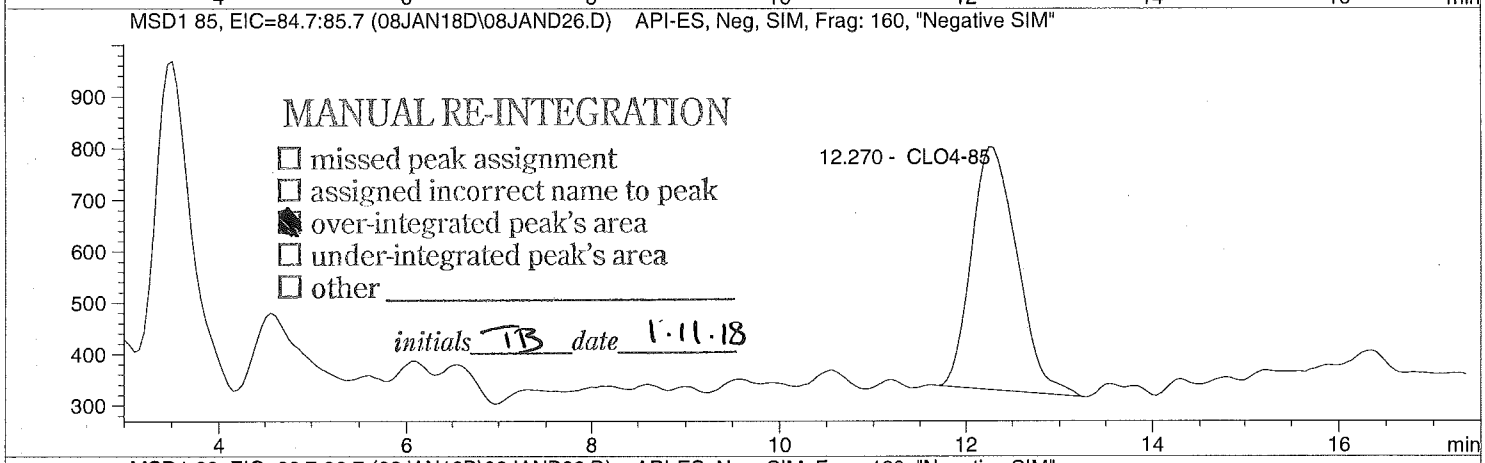
Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND26.D Sample Name: 582609 LODV@1.

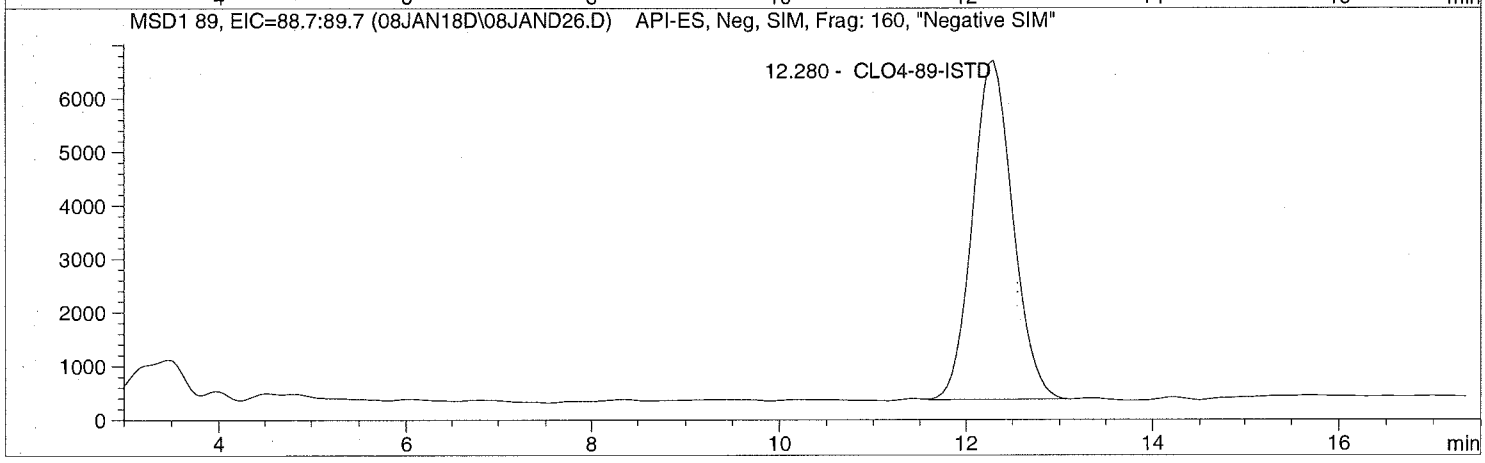
Injection Date:	1/08/2018 16:21:37	Seq Line:	26
Sample Name:	582609 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\08JAN18D\08JAND26.D Sample Name: 582609 LODV@1.

Injection Date:	1/08/2018 16:21:37	Seq Line:	26
Sample Name:	582609 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
12.259	MM	40806.9	1.0183	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.270	MM	16046.3	1.0109	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.280	BBA	189512.5	5.0000	CLO4-89-ISTD

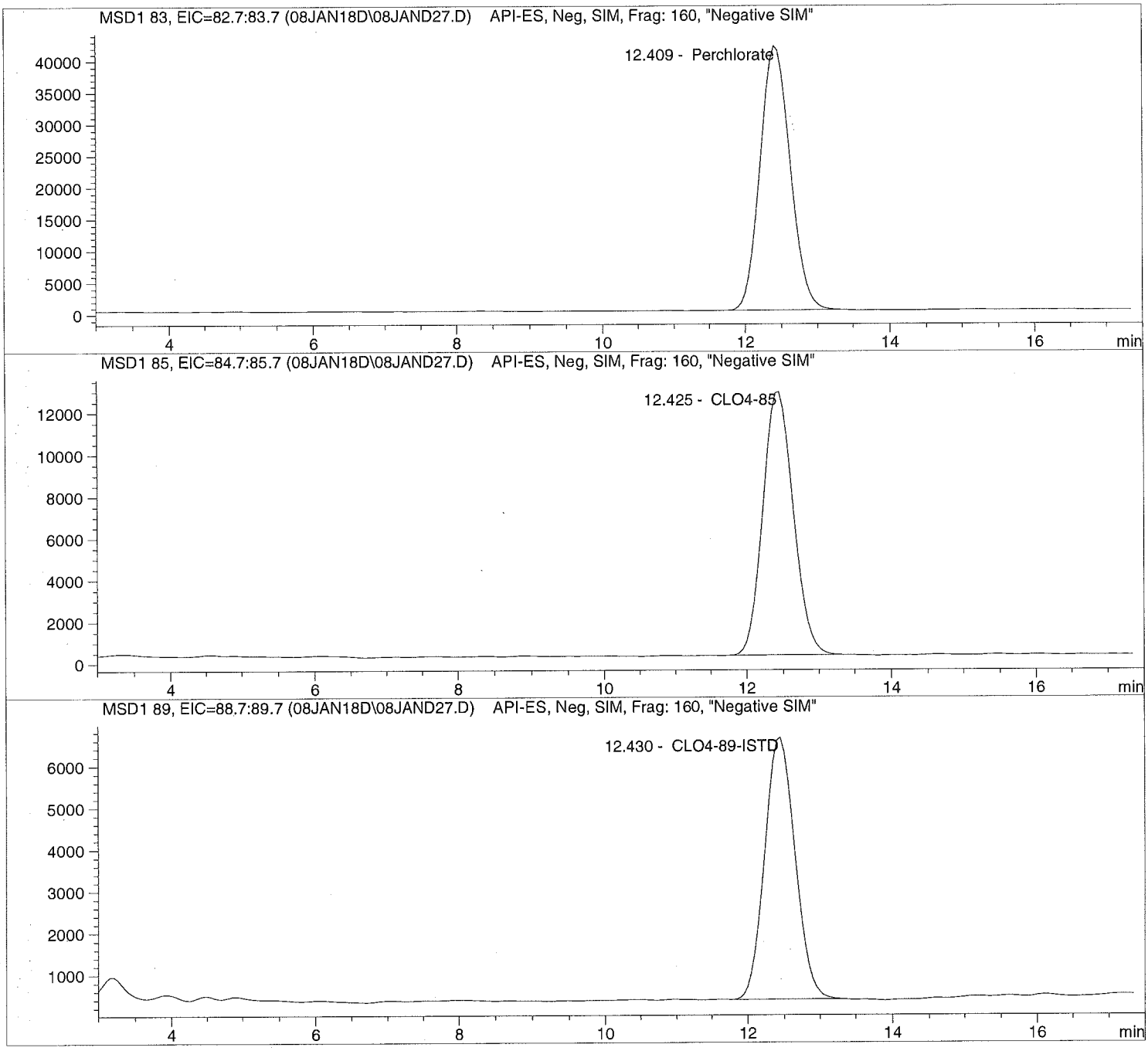
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND27.D Sample Name: 582608 CCV@25

Injection Date:	1/08/2018 16:40:46	Seq Line:	27
Sample Name:	582608 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\08JAN18D\08JAND27.D Sample Name: 582608 CCV@25

Injection Date:	1/08/2018 16:40:46	Seq Line:	27
Sample Name:	582608 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
12.409	PBA	1190044.5	26.6371	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.425	PBA	365901.1	26.0386	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.430	PBA	181695.7	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

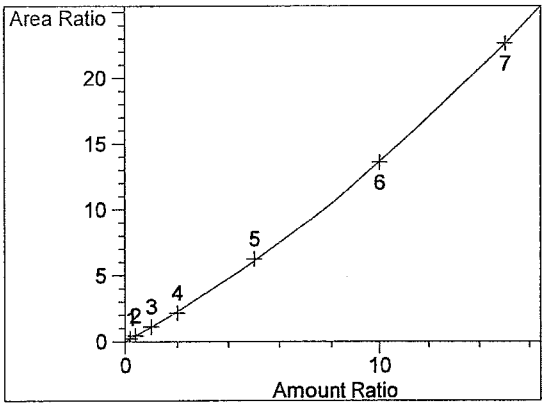
Compound: CLO4-85
- Time Window : From 8.366 min To 13.046 min
- Curve Type : Quadratic
- Origin : Ignored
- Calibration Level Weights:/
  - Level 1 : 1
  - Level 2 : 0.5
  - Level 3 : 0.2
  - Level 4 : 0.1
  - Level 5 : 0.04
  - Level 6 : 0.02
  - Level 7 : 0.013333

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

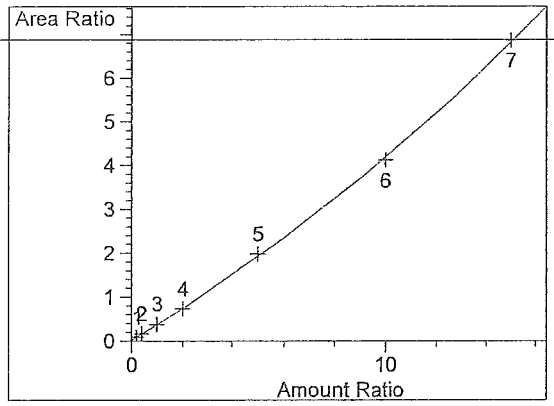
Calibration Curves



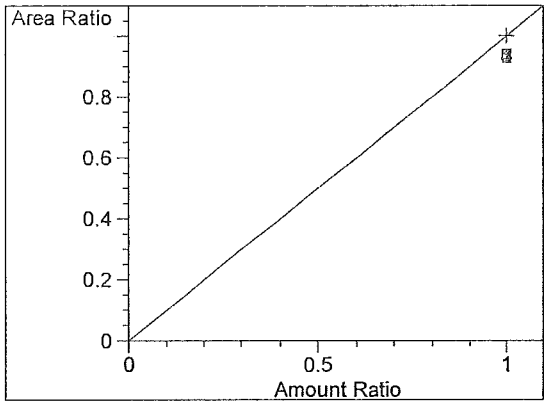
Perchlorate at exp. RT: 12.090
MSD1 83, EIC=82.7:83.7
Correlation: 0.99991
Residual Std. Dev.: 0.08487
Formula: $y = ax^2 + bx + c$
- a: 2.87739e-2
- b: 1.07712
- c: -5.23718e-3
- x: Amount Ratio
- y: Area Ratio

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 ***

Sequence: C:\HPCHEM\1\SEQUENCE\CLO4\2017\NOV\28NOV17P.S

Sequence Table:

Method and Injection Info Part:

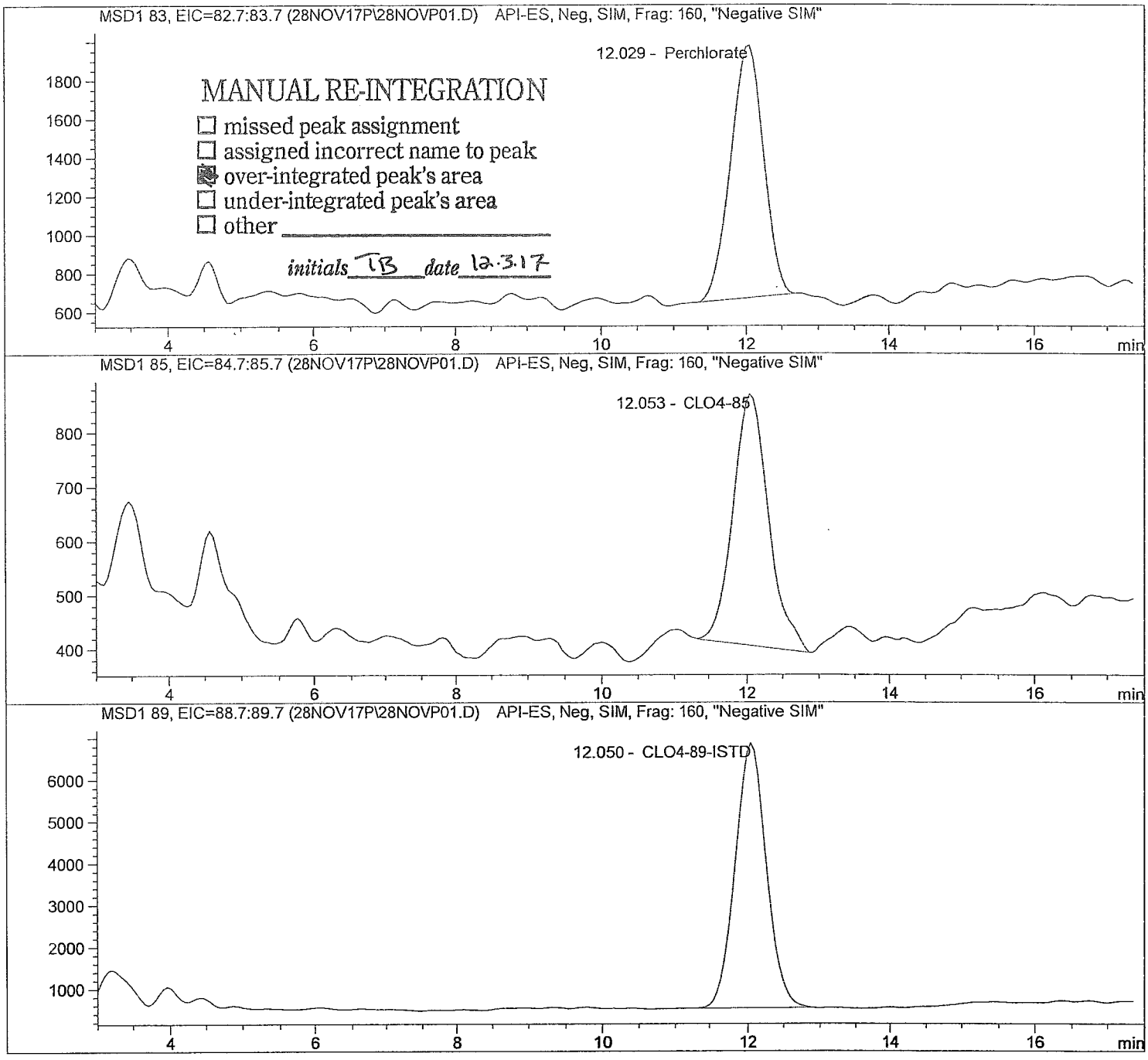
Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	ICAL1@ 1.0ug/L	CLO4-DOD	1	Ctrl Samp		
2	Vial 72	ICAL2@ 2.0ug/L	CLO4-DOD	1	Ctrl Samp		
3	Vial 73	ICAL3@ 5.0ug/L	CLO4-DOD	1	Ctrl Samp		
4	Vial 74	ICAL4@ 10.ug/L	CLO4-DOD	1	Ctrl Samp		
5	Vial 75	ICAL5@ 25.ug/L	CLO4-DOD	1	Ctrl Samp		
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

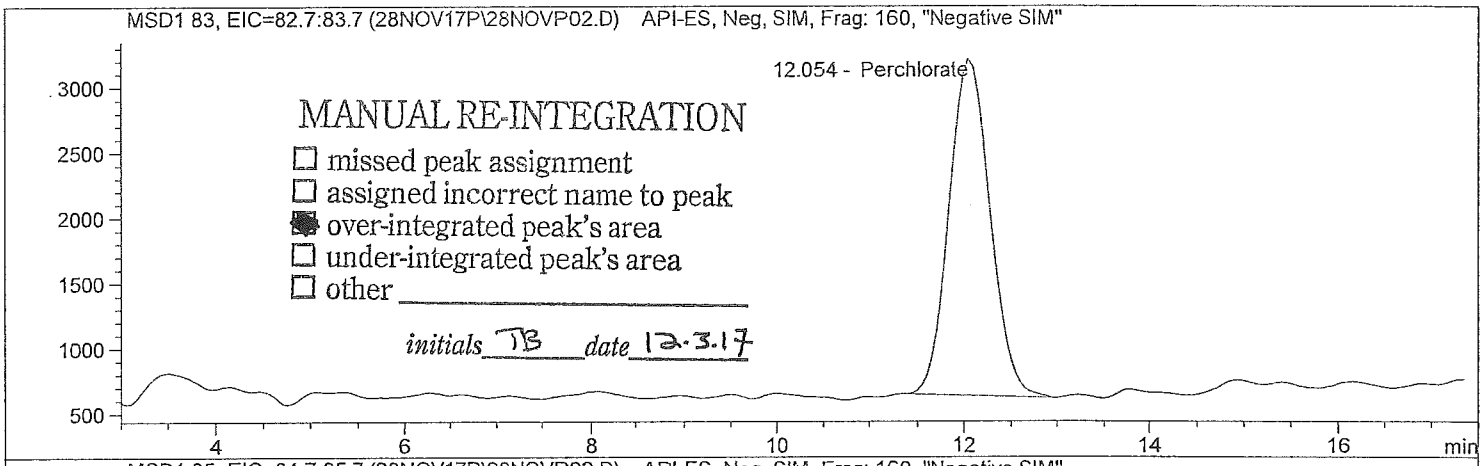
*** End of Report ***

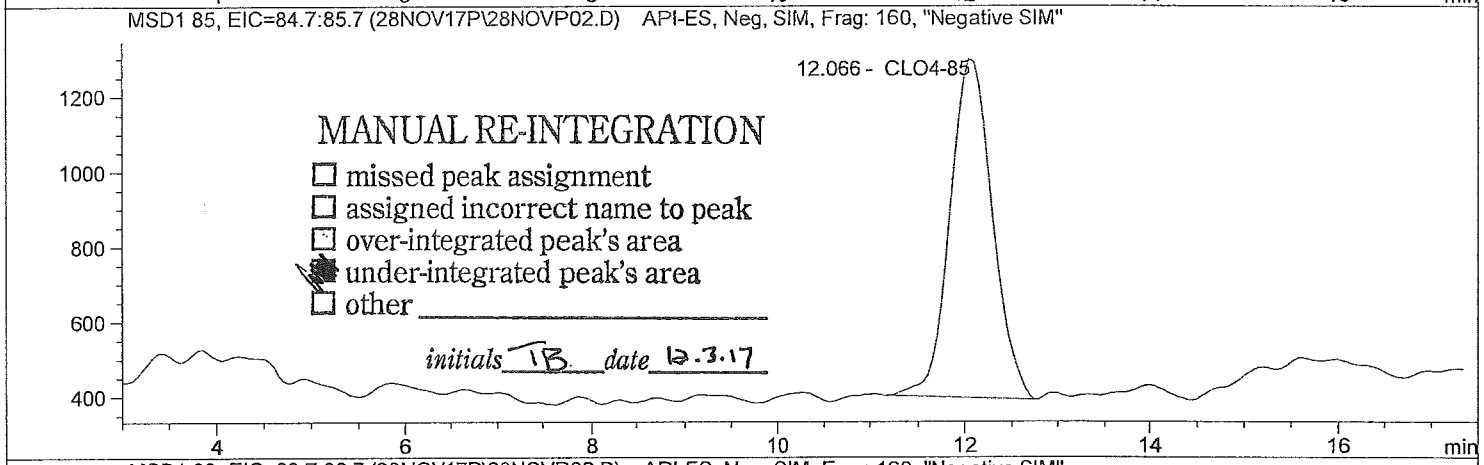
Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP02.D Sample Name: ICAL2@ 2.0ug/L

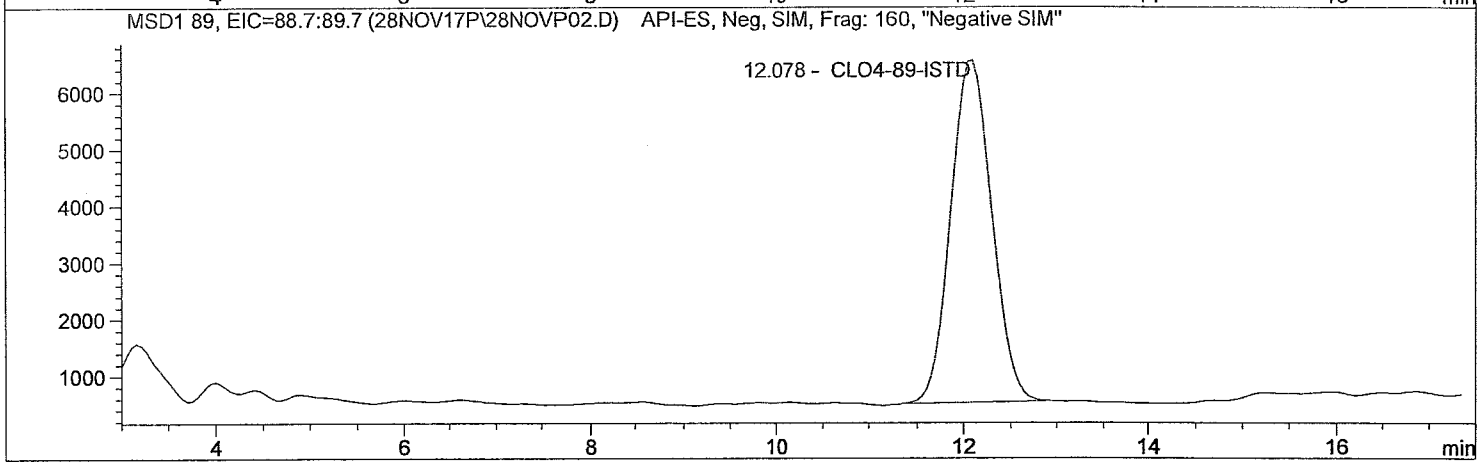
Injection Date:	11/28/2017 09:33:49	Seq Line:	2
Sample Name:	ICAL2@ 2.0ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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

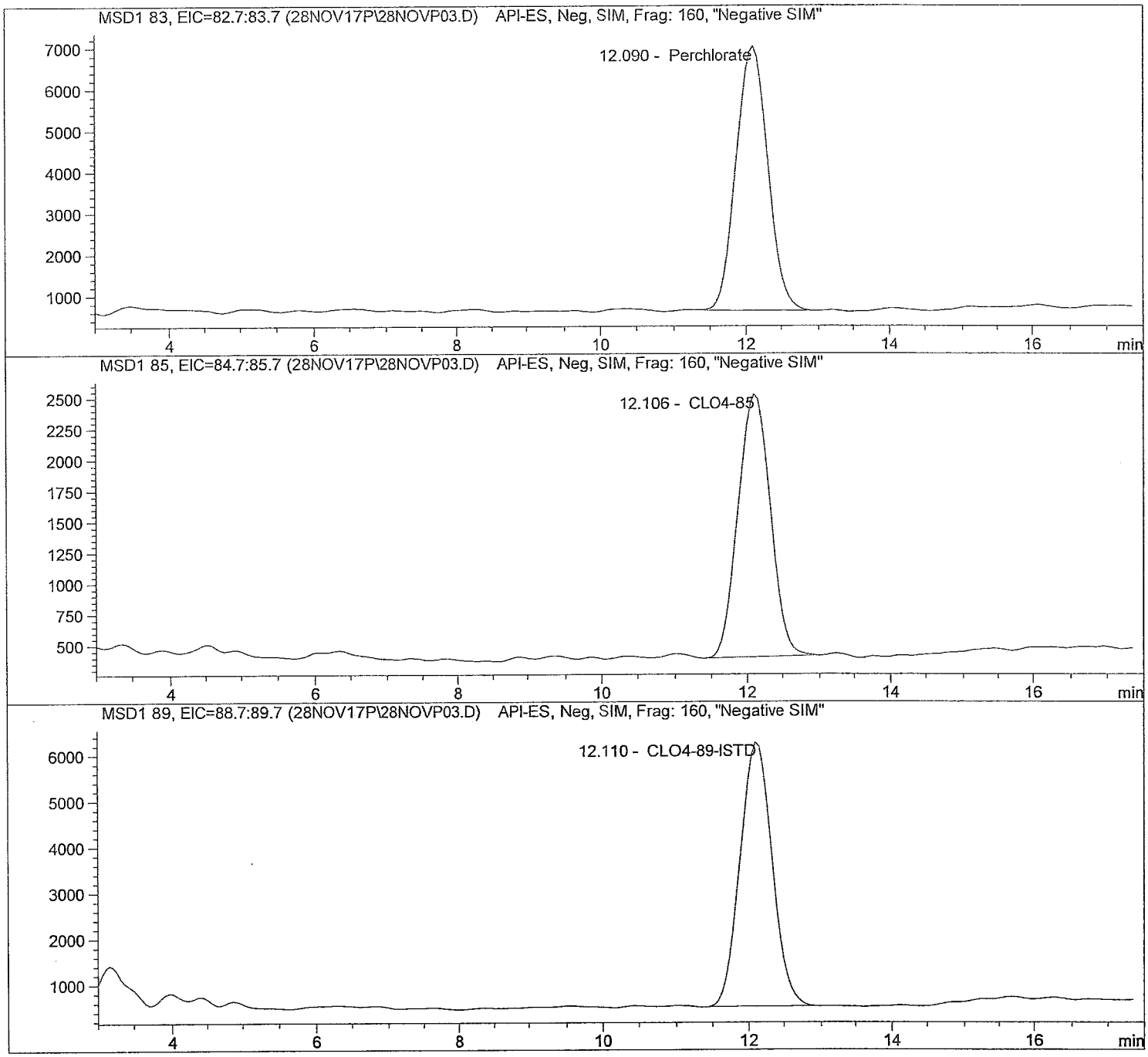
*** End of Report ***

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

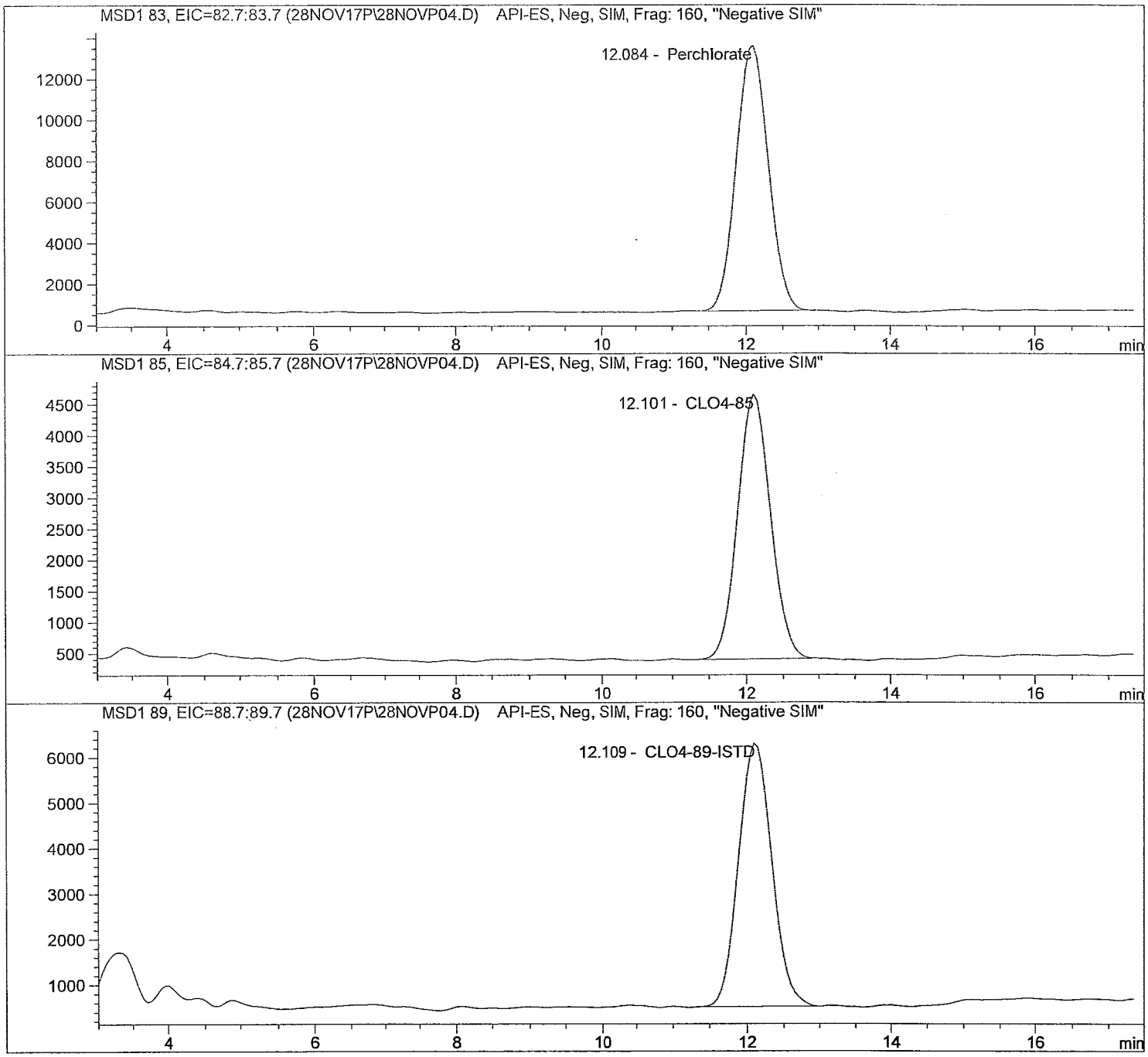
*** End of Report ***

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

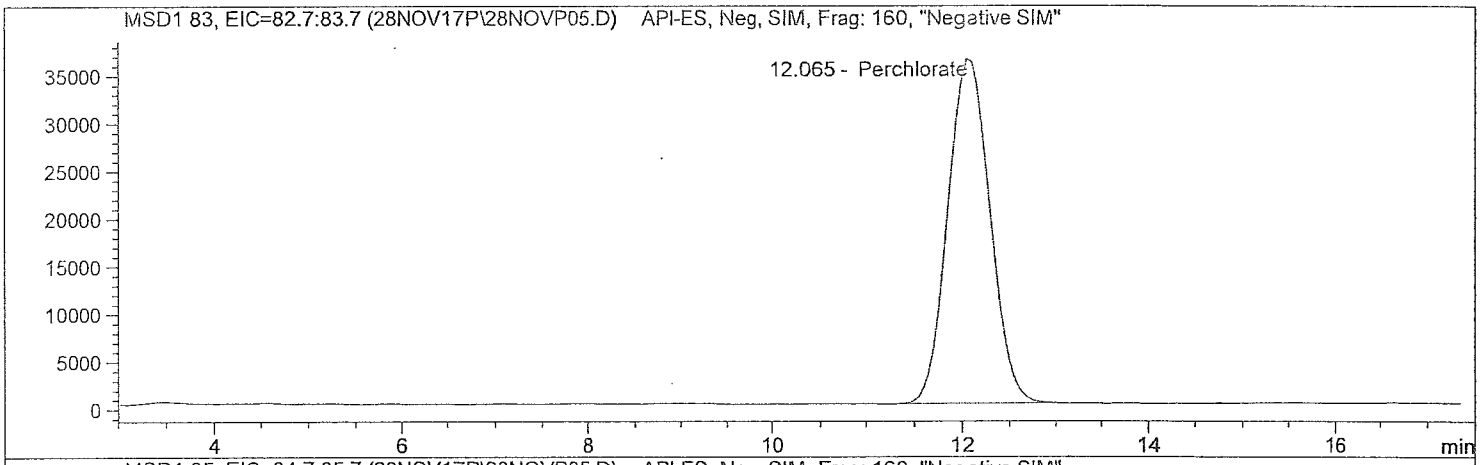
*** End of Report ***

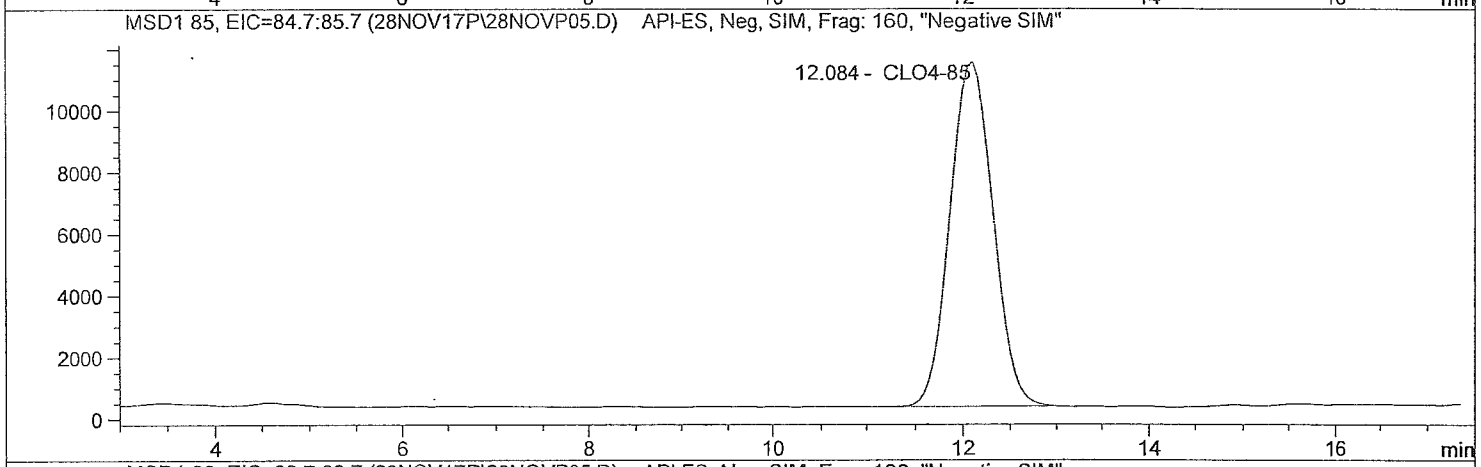
Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP05.D Sample Name: ICAL5@ 25.ug/L

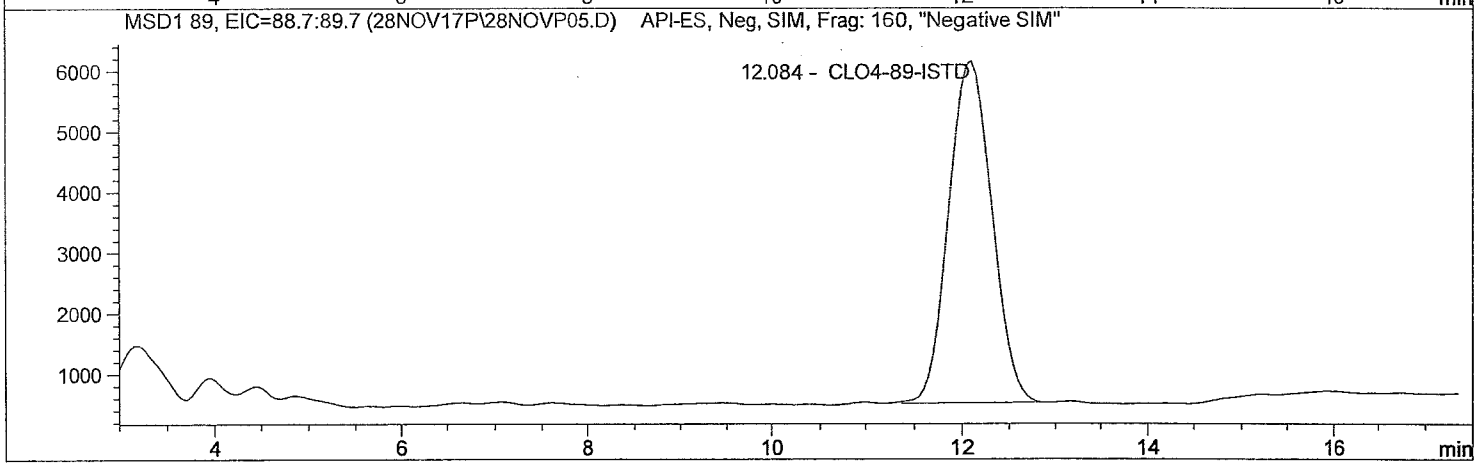
Injection Date:	11/28/2017 10:31:23	Seq Line:	5
Sample Name:	ICAL5@ 25.ug/L	Location:	Vial 75
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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

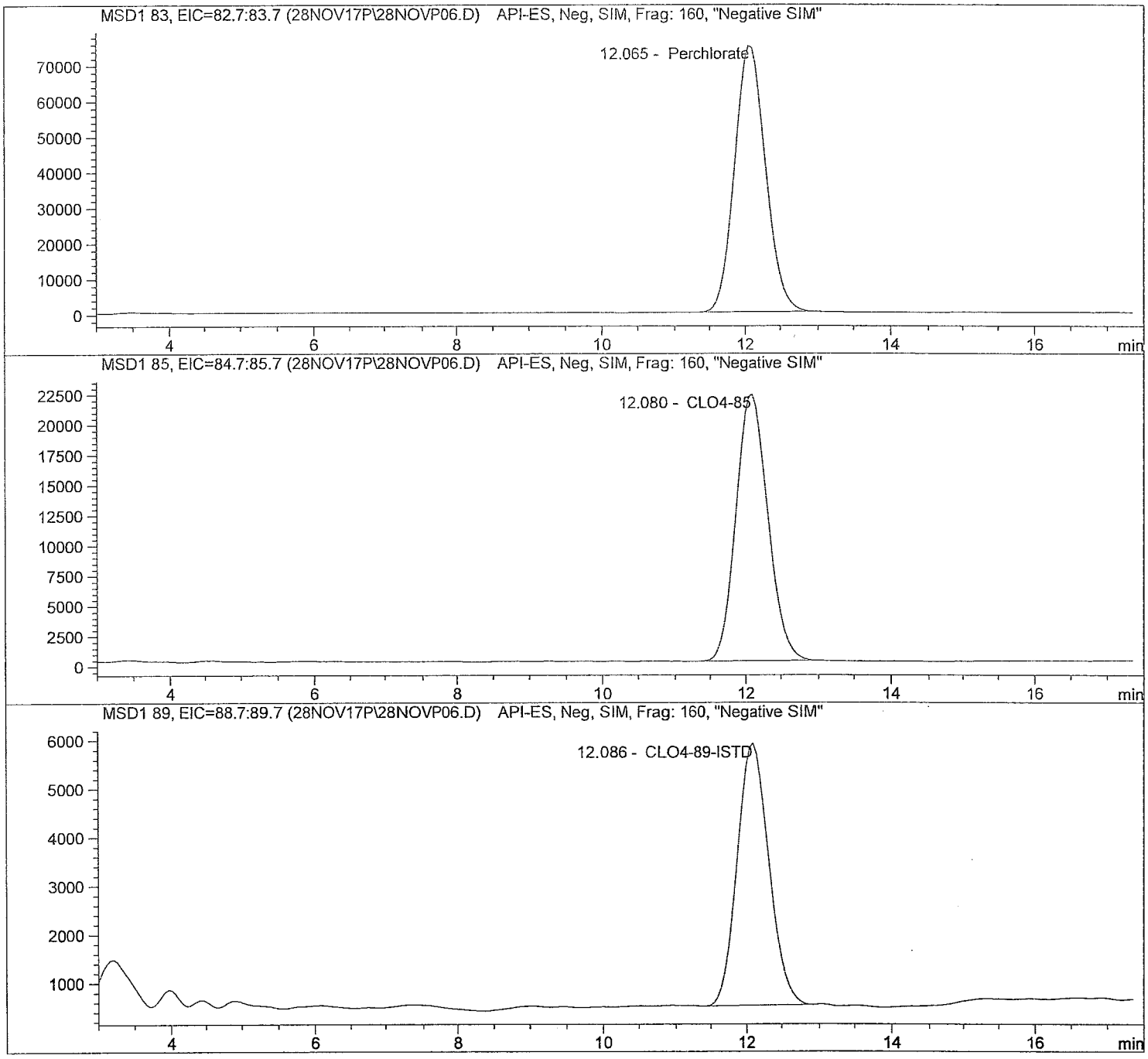
*** End of Report ***

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

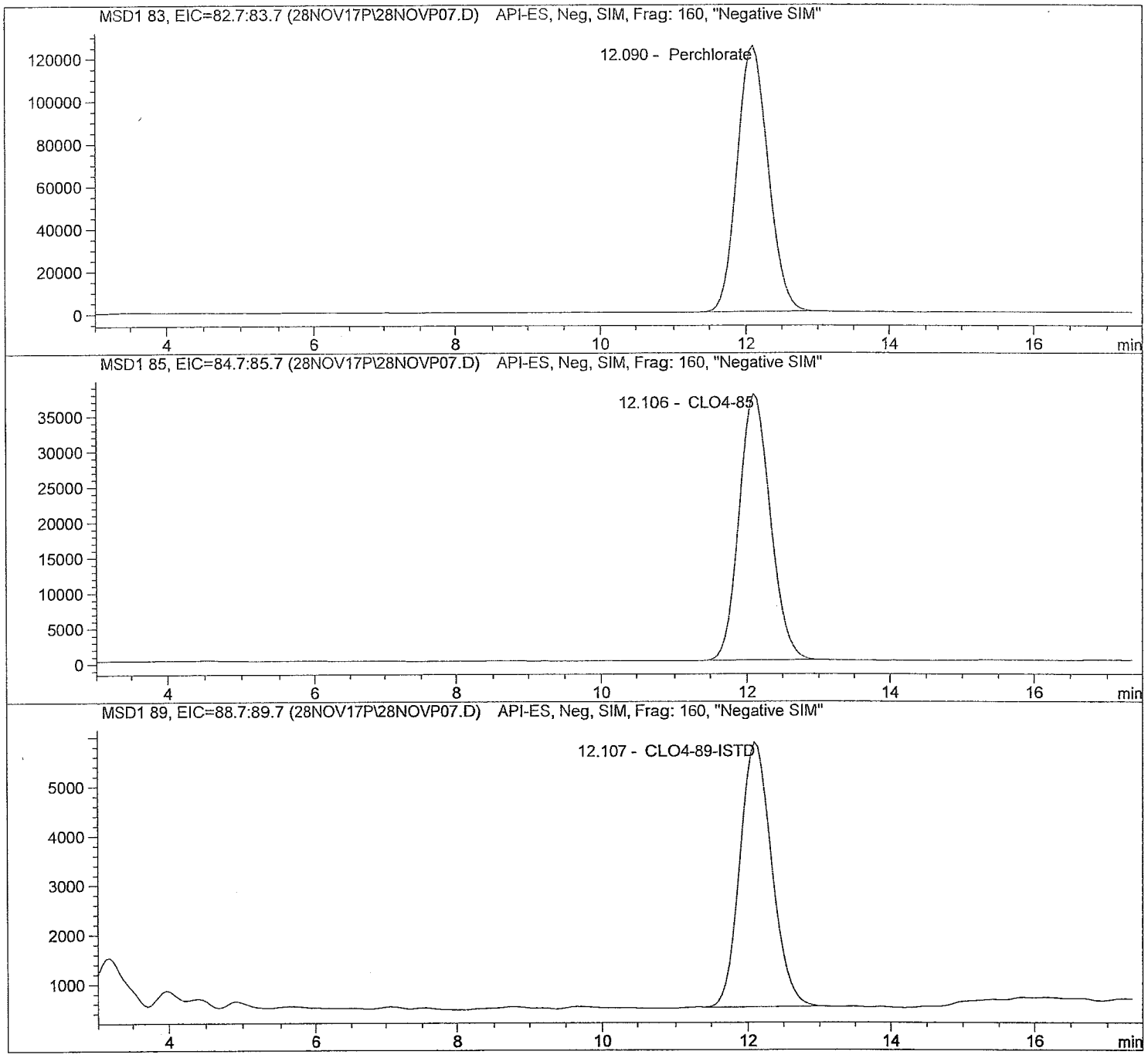
*** End of Report ***

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

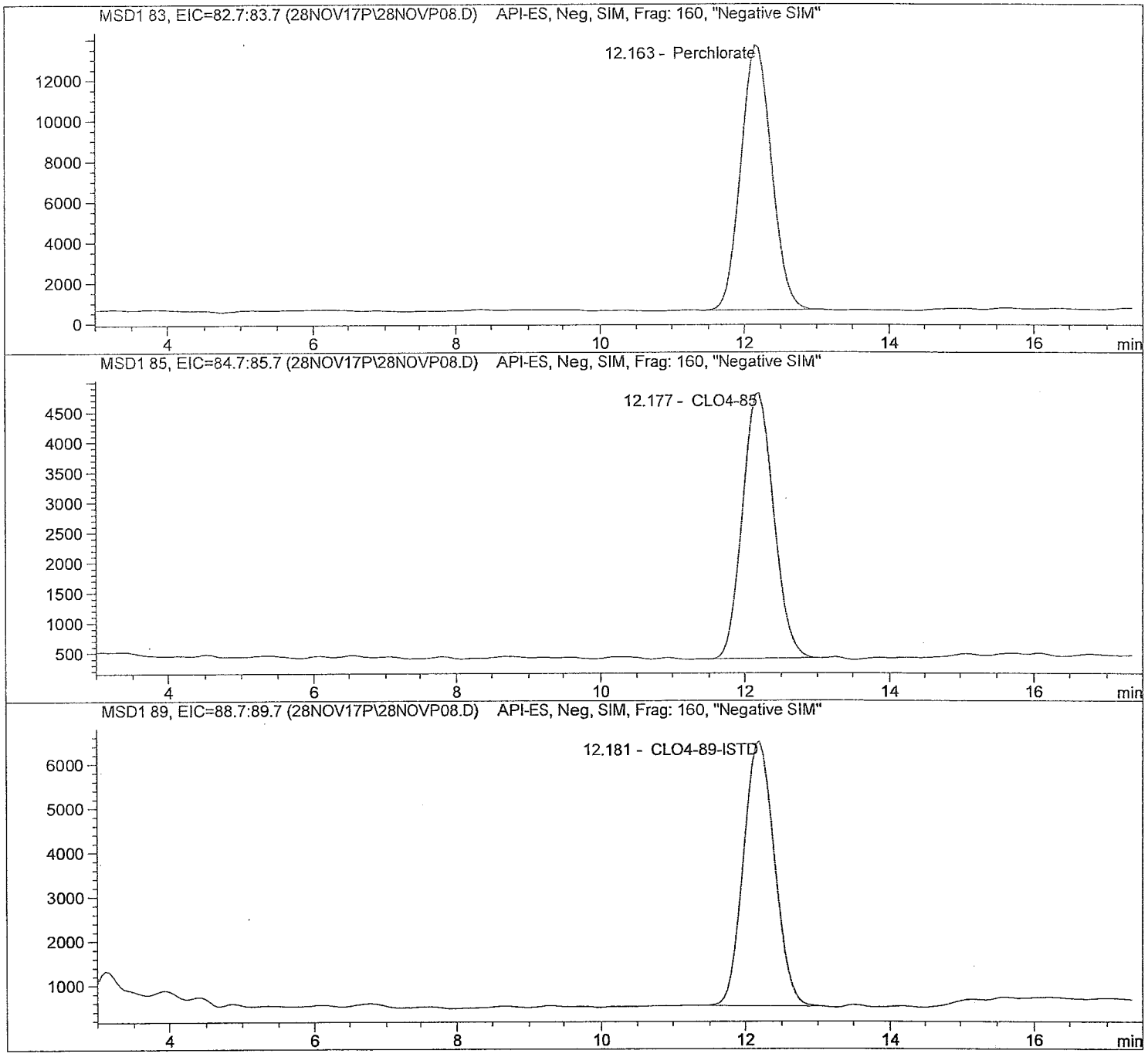
*** End of Report ***

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

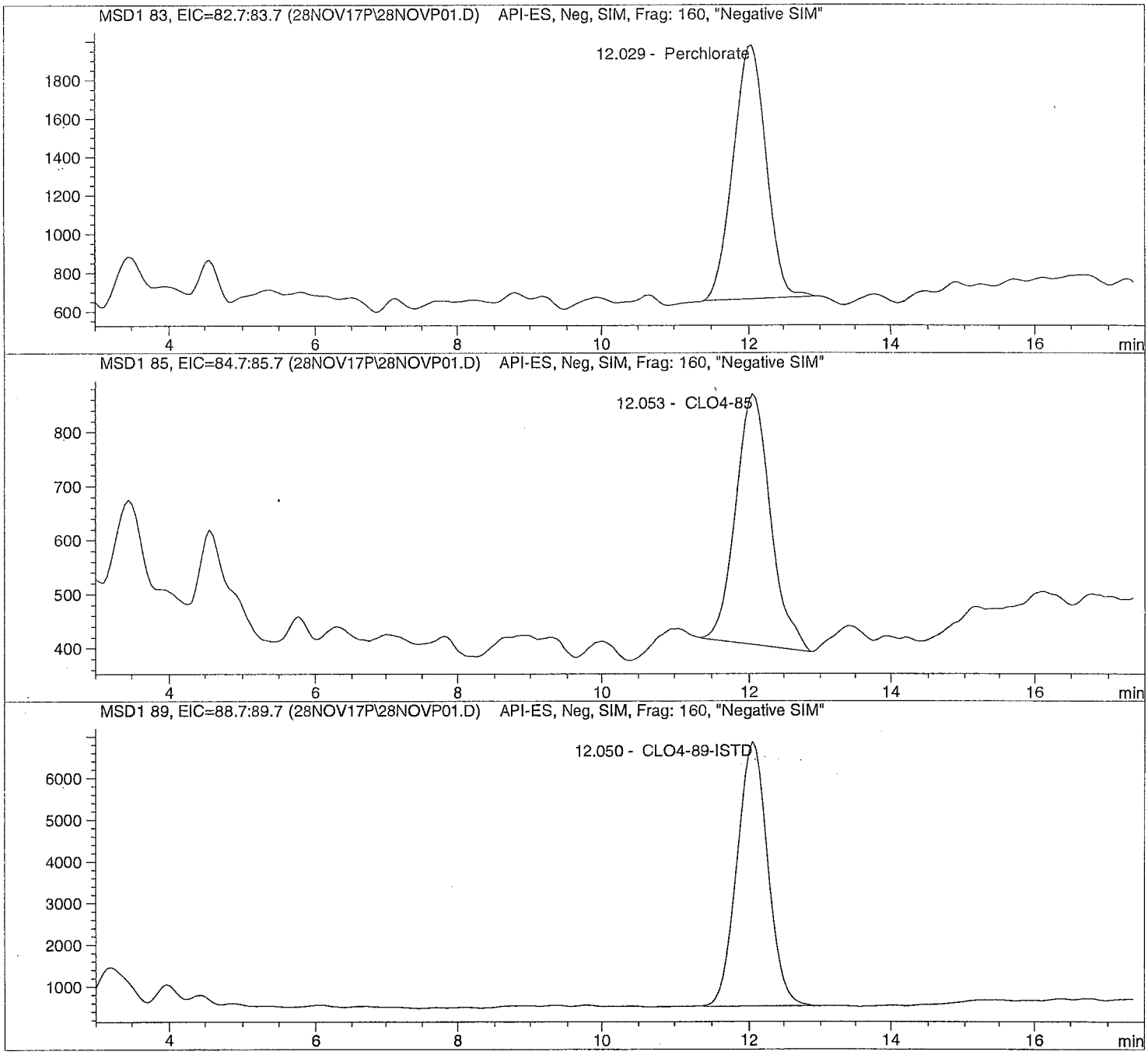
Unmodified

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

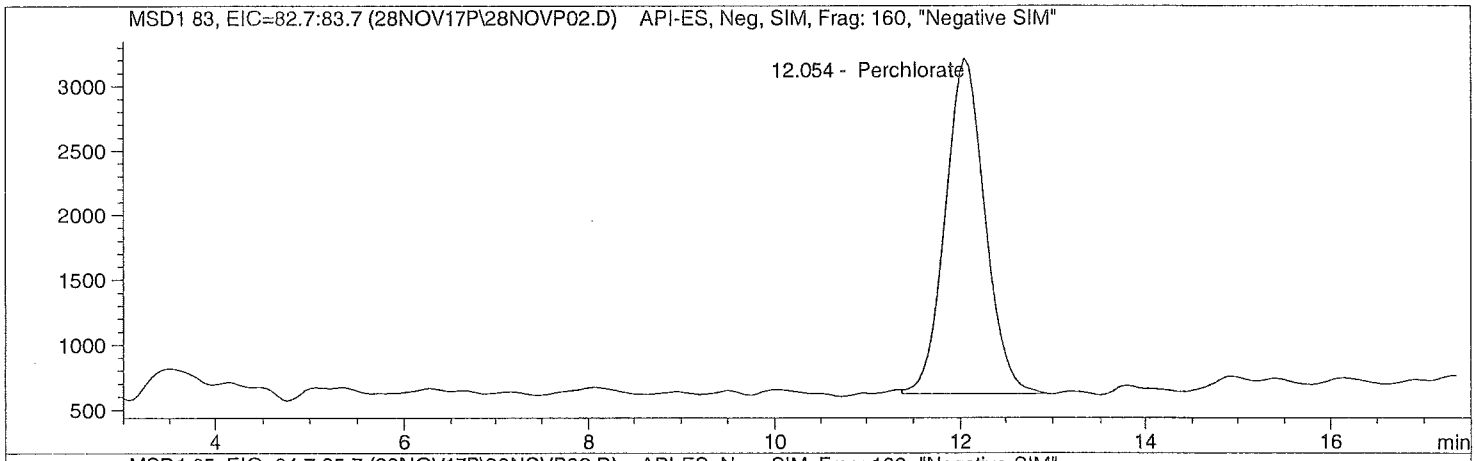
*** End of Report ***

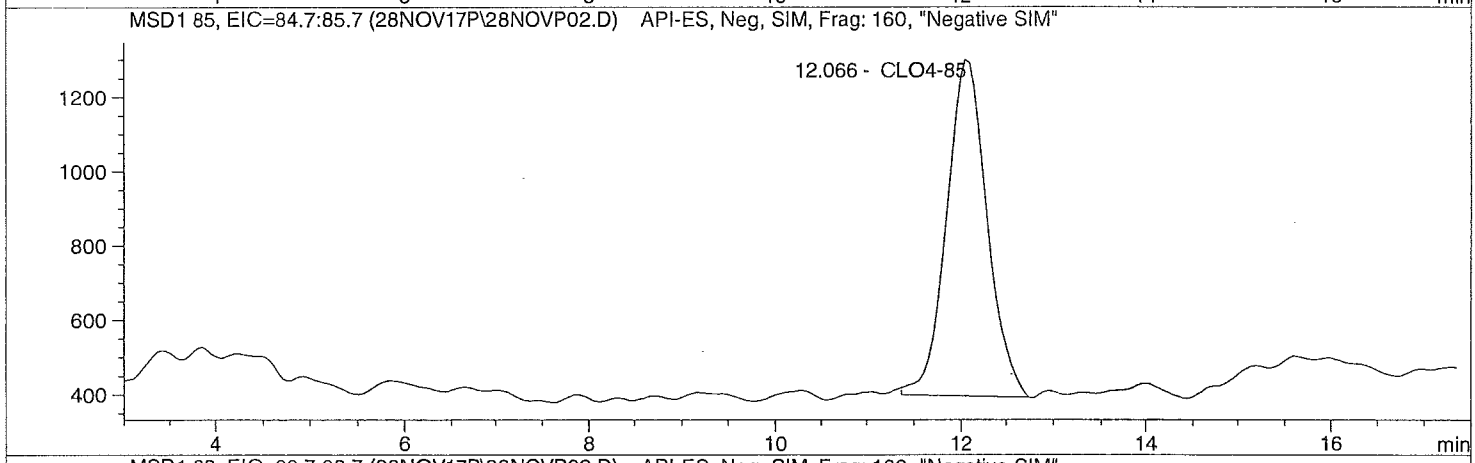
Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP02.D Sample Name: ICAL2@ 2.0ug/L

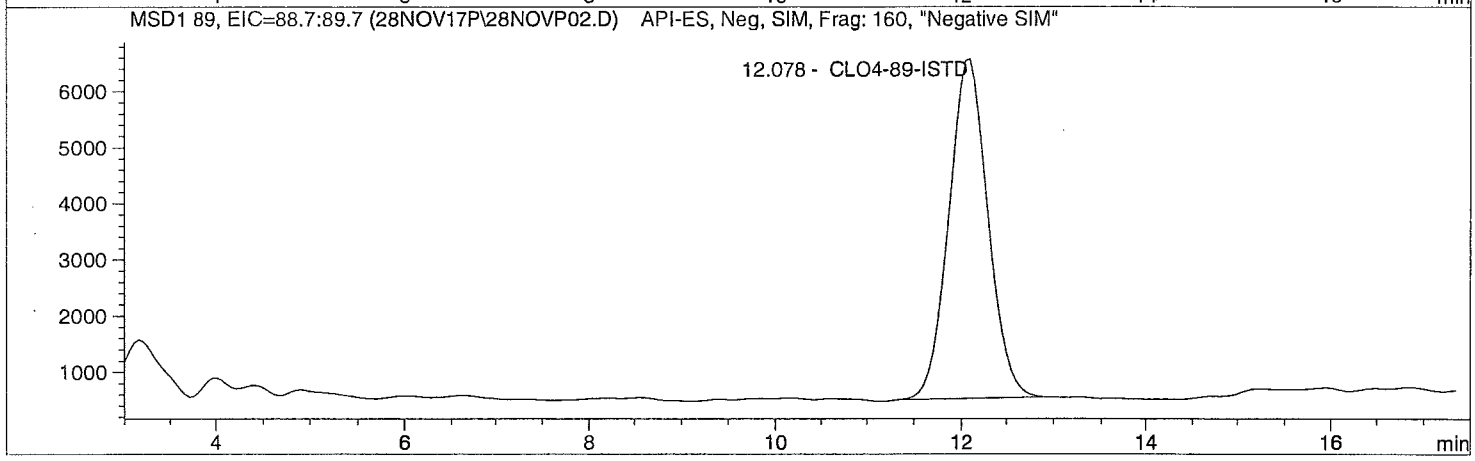
Injection Date:	11/28/2017 09:33:49	Seq Line:	2
Sample Name:	ICAL2@ 2.0ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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

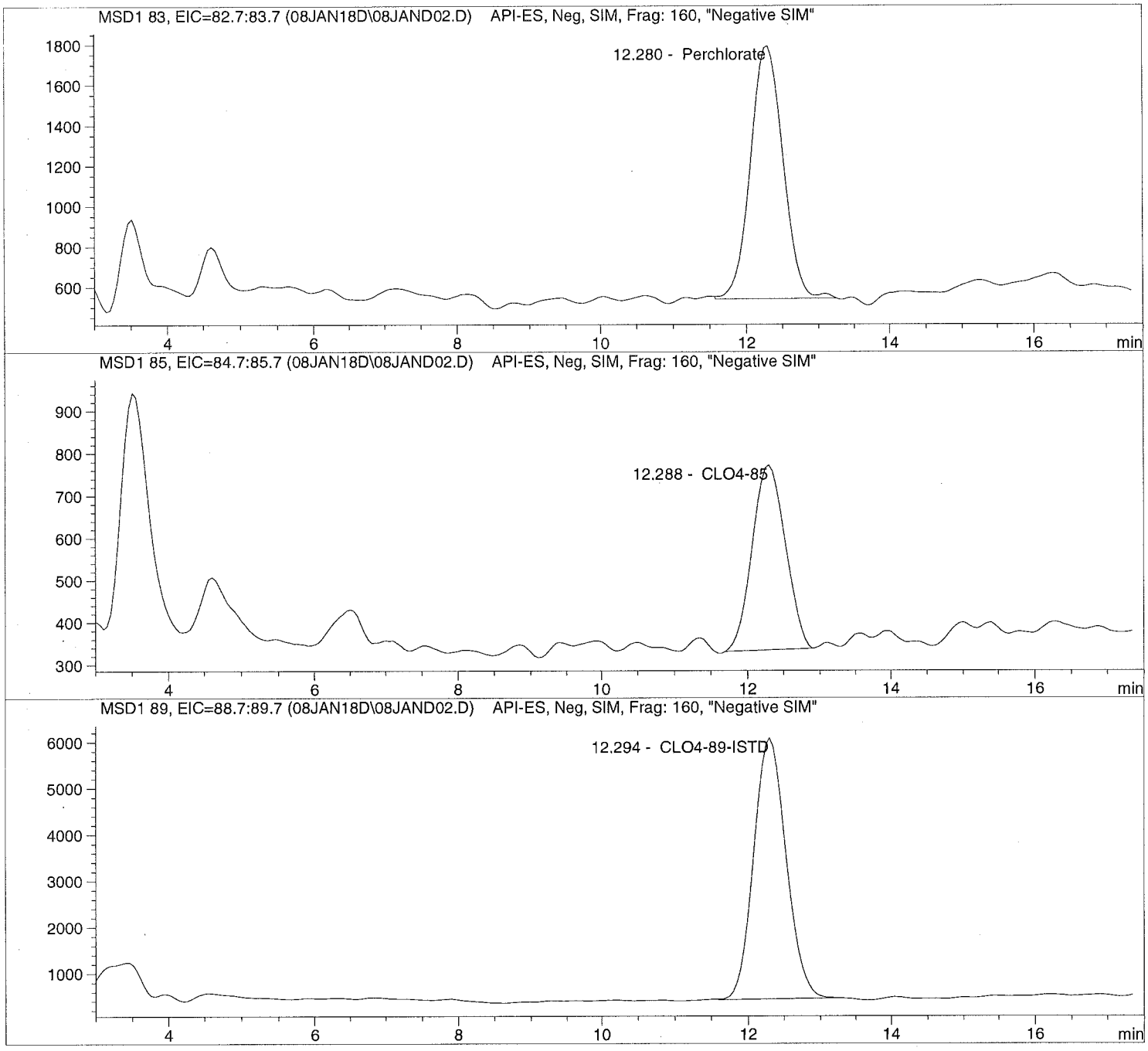
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND02.D Sample Name: 582600 LODV@1.

Injection Date:	1/08/2018 08:36:51	Seq Line:	2
Sample Name:	582600 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\08JAN18D\08JAND02.D Sample Name: 582600 LODV@1.

Injection Date:	1/08/2018 08:36:51	Seq Line:	2
Sample Name:	582600 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
12.280	BBA	39034.0	1.0510	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.288	PBA	13990.1	0.9402	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.294	BBA	175472.0	5.0000	CLO4-89-ISTD

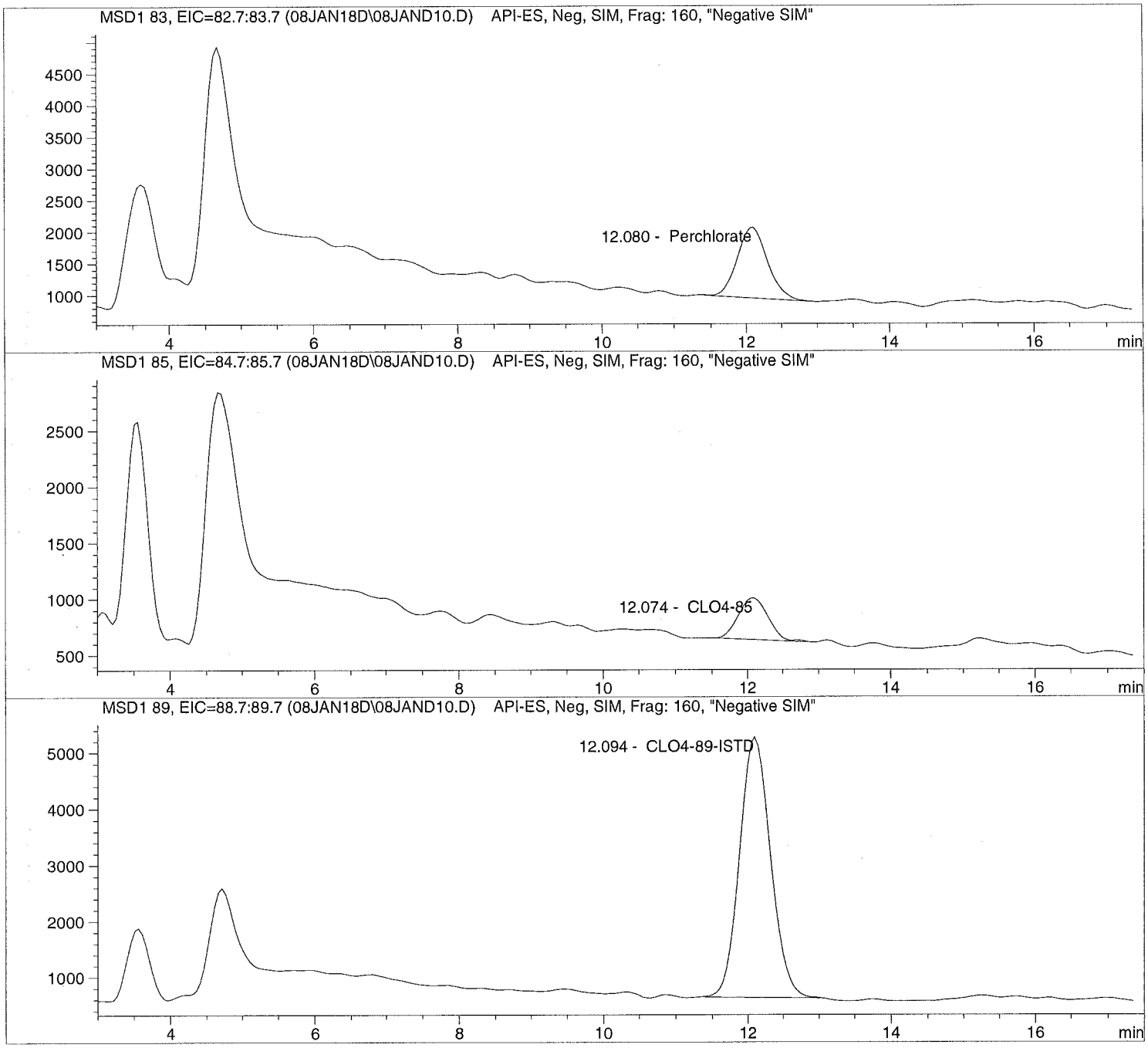
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND10.D Sample Name: 1736221003

Injection Date:	1/08/2018 11:11:49	Seq Line:	10
Sample Name:	1736221003	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\08JAN18D\08JAND10.D Sample Name: 1736221003

Injection Date:	1/08/2018 11:11:49	Seq Line:	10
Sample Name:	1736221003	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
12.080	BBA	33243.2	1.1079	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.074	PBA	10836.0	0.8947	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.094	BBA	141559.2	5.0000	CLO4-89-ISTD

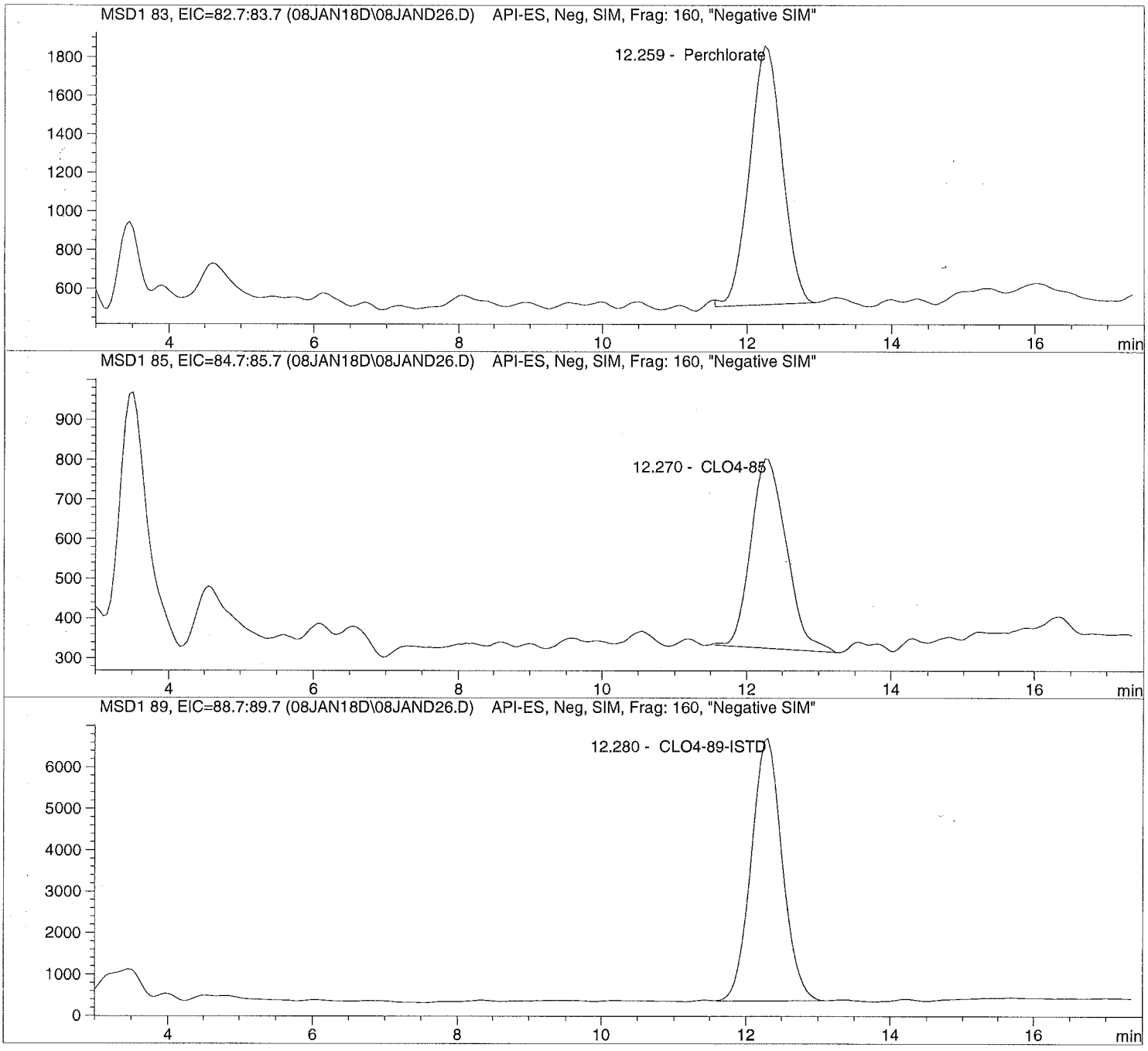
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\08JAN18D\08JAND26.D Sample Name: 582609 LODV@1.

Injection Date:	1/08/2018 16:21:37	Seq Line:	26
Sample Name:	582609 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\08JAN18D\08JAND26.D Sample Name: 582609 LODV@1.

Injection Date:	1/08/2018 16:21:37	Seq Line:	26
Sample Name:	582609 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
12.259	BBA	41926.3	1.0454	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.270	BBA	16347.7	1.0336	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.280	BBA	189512.5	5.0000	CLO4-89-ISTD

*** End of Report ***

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WorkOrder: HS17121400

Groundwater Treatment Plant Bi-Weekly Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

10-Feb-2018

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
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January 15, 2018

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

Work Order: **HS17121400**

Laboratory Results for: **Groundwater Treatment Plant Bi-Weekly Samples**

Dear Marcia,

ALS Environmental received 2 sample(s) on Dec 29, 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: 15-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
Work Order: HS17121400

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS17121400-01	LH18/24-SP650_122717	Water		27-Dec-2017 14:00	29-Dec-2017 08:50	☐
HS17121400-02	Trip Blank	Water	ALS-121217-41	27-Dec-2017 00:00	29-Dec-2017 08:50	☐

ALS Group USA, Corp Date: 15-Jan-18

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Groundwater Treatment Plant Bi-Weekly Samples
Work Order: HS17121400

GCMS Volatiles by Method SW8260

Batch ID: R308234

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

WetChemistry by Method SW9056

Batch ID: R308967

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

ALS Group USA, Corp Date: 15-Jan-18

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Groundwater Treatment Plant Bi-Weekly Samples WorkOrder:HS17121400
Sample ID: LH18/24-SP650_122717 Lab ID:HS17121400-01
Collection Date: 27-Dec-2017 14:00 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	31-Dec-2017 18:58
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 18:58
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 18:58
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 18:58
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 18:58
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 18:58
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 18:58
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 18:58
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 18:58
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 18:58
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 18:58
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 18:58
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 18:58
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 18:58
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 18:58
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 18:58
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 18:58
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 18:58
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 18:58
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 18:58
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 18:58
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	31-Dec-2017 18:58
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 18:58
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	31-Dec-2017 18:58
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 18:58
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 18:58
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	31-Dec-2017 18:58
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	31-Dec-2017 18:58
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 18:58
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 18:58
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 18:58
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 18:58
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 18:58
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 18:58
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	31-Dec-2017 18:58
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 18:58
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 18:58
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 18:58

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

ALS Group USA, Corp Date: 15-Jan-18

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder:HS17121400
Sample ID: LH18/24-SP650_122717
Lab ID:HS17121400-01
Collection Date: 27-Dec-2017 14:00
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	31-Dec-2017 18:58
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 18:58
cis-1,2-Dichloroethene	**3.8**		**0.20**	**0.50**	**1.0**	**ug/L**	1	31-Dec-2017 18:58
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	31-Dec-2017 18:58
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 18:58
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 18:58
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 18:58
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 18:58
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	31-Dec-2017 18:58
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 18:58
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	31-Dec-2017 18:58
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	31-Dec-2017 18:58
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 18:58
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 18:58
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 18:58
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 18:58
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 18:58
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 18:58
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 18:58
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 18:58
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 18:58
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 18:58
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 18:58
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 18:58
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 18:58
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 18:58
Surr: 1,2-Dichloroethane-d4	*91.1*			**0**	*81-118*	*%REC*	*1*	*31-Dec-2017 18:58*
Surr: 4-Bromofluorobenzene	*97.2*			**0**	*85-114*	*%REC*	*1*	*31-Dec-2017 18:58*
Surr: Dibromofluoromethane	*99.4*			**0**	*80-119*	*%REC*	*1*	*31-Dec-2017 18:58*
Surr: Toluene-d8	*94.9*			**0**	*89-112*	*%REC*	*1*	*31-Dec-2017 18:58*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: KMU
Chloride	**674**		**2.00**	**2.50**	**5.00**	**mg/L**	10	15-Jan-2018 14:44
Sulfate	**95.8**		**1.00**	**1.25**	**2.50**	**mg/L**	5	13-Jan-2018 03:52

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

ALS Group USA, Corp Date: 15-Jan-18

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Groundwater Treatment Plant Bi-Weekly Samples WorkOrder:HS17121400
Sample ID: Trip Blank Lab ID:HS17121400-02
Collection Date: 27-Dec-2017 00:00 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	31-Dec-2017 17:20
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:20
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 17:20
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:20
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:20
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:20
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:20
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 17:20
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 17:20
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 17:20
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:20
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:20
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:20
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 17:20
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:20
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 17:20
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:20
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 17:20
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:20
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 17:20
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:20
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	31-Dec-2017 17:20
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:20
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	31-Dec-2017 17:20
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 17:20
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:20
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	31-Dec-2017 17:20
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	31-Dec-2017 17:20
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:20
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 17:20
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:20
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:20
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 17:20
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 17:20
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	31-Dec-2017 17:20
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	31-Dec-2017 17:20
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:20
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:20

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

ALS Group USA, Corp Date: 15-Jan-18

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

Project: Groundwater Treatment Plant Bi-Weekly Samples WorkOrder:HS17121400

Sample ID: Trip Blank Lab ID:HS17121400-02

Collection Date: 27-Dec-2017 00:00 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	31-Dec-2017 17:20
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:20
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:20
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	31-Dec-2017 17:20
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:20
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:20
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:20
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:20
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	31-Dec-2017 17:20
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:20
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	31-Dec-2017 17:20
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	31-Dec-2017 17:20
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	31-Dec-2017 17:20
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:20
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:20
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:20
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:20
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:20
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:20
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:20
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:20
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:20
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:20
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:20
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	31-Dec-2017 17:20
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	31-Dec-2017 17:20
Surr: 1,2-Dichloroethane-d4	*92.6*			**0**	*81-118*	*%REC*	*1*	*31-Dec-2017 17:20*
Surr: 4-Bromofluorobenzene	*96.1*			**0**	*85-114*	*%REC*	*1*	*31-Dec-2017 17:20*
Surr: Dibromofluoromethane	*99.3*			**0**	*80-119*	*%REC*	*1*	*31-Dec-2017 17:20*
Surr: Toluene-d8	*96.5*			**0**	*89-112*	*%REC*	*1*	*31-Dec-2017 17:20*

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

ALS Group USA, Corp Date: 15-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder: HS17121400

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R308234	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C			**Matrix:** Water		
HS17121400-01	LH18/24-SP650_122717	27 Dec 2017 14:00			31 Dec 2017 18:58	1
HS17121400-02	Trip Blank	27 Dec 2017 00:00			31 Dec 2017 17:20	1
Batch ID R308967	**Test Name :** ANIONS BY SW9056A			**Matrix:** Water		
HS17121400-01	LH18/24-SP650_122717	27 Dec 2017 14:00			15 Jan 2018 14:44	10
HS17121400-01	LH18/24-SP650_122717	27 Dec 2017 14:00			13 Jan 2018 03:52	5

ALS Group USA, Corp Date: 15-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder: HS17121400

QC BATCH REPORT

Batch ID: R308234 **Instrument: VOA2** **Method: SW8260**

MBLK Sample ID: **VBLKW-171231** Units: **ug/L** Analysis Date: **31-Dec-2017 15:17**
Client ID: Run ID: **VOA2_308234** SeqNo: **4375147** 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: 15-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder: HS17121400

QC BATCH REPORT

Batch ID: R308234 **Instrument: VOA2** **Method: SW8260**

MBLK Sample ID: **VBLKW-171231** Units: **ug/L** Analysis Date: **31-Dec-2017 15:17**
Client ID: Run ID: **VOA2_308234** SeqNo: **4375147** 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	*45.6*	*1.0*	*50*	*0*	*91.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.04*	*1.0*	*50*	*0*	*96.1*	*85 - 114*				
Surr: Dibromofluoromethane	*49.22*	*1.0*	*50*	*0*	*98.4*	*80 - 119*				
Surr: Toluene-d8	*48.55*	*1.0*	*50*	*0*	*97.1*	*89 - 112*				

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

ALS Group USA, Corp Date: 15-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder: HS17121400

QC BATCH REPORT

Batch ID: R308234 **Instrument: VOA2** **Method: SW8260**

LCS Sample ID: **VLCSW-171231** Units: **ug/L** Analysis Date: **31-Dec-2017 14:28**
Client ID: Run ID: **VOA2_308234** SeqNo: **4375145** 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	47.86	1.0	50	0	95.7	78 - 124				
1,1,1-Trichloroethane	47.85	1.0	50	0	95.7	74 - 131				
1,1,2,2-Tetrachloroethane	41.54	1.0	50	0	83.1	71 - 121				
1,1,2-Trichloroethane	46.09	1.0	50	0	92.2	80 - 119				
1,1-Dichloroethane	46.48	1.0	50	0	93.0	77 - 125				
1,1-Dichloroethene	49.4	1.0	50	0	98.8	71 - 131				
1,1-Dichloropropene	51.32	1.0	50	0	103	79 - 125				
1,2,3-Trichlorobenzene	51.87	1.0	50	0	104	69 - 129				
1,2,3-Trichloropropane	44.61	1.0	50	0	89.2	73 - 122				
1,2,4-Trichlorobenzene	52.6	1.0	50	0	105	69 - 130				
1,2,4-Trimethylbenzene	42.39	1.0	50	0	84.8	76 - 124				
1,2-Dibromo-3-chloropropane	43.41	1.0	50	0	86.8	62 - 128				
1,2-Dibromoethane	48.3	1.0	50	0	96.6	77 - 121				
1,2-Dichlorobenzene	43.99	1.0	50	0	88.0	80 - 119				
1,2-Dichloroethane	49.28	1.0	50	0	98.6	73 - 128				
1,2-Dichloropropane	46.94	1.0	50	0	93.9	78 - 122				
1,3,5-Trimethylbenzene	43.25	1.0	50	0	86.5	75 - 124				
1,3-Dichlorobenzene	44.39	1.0	50	0	88.8	80 - 119				
1,3-Dichloropropane	45.35	1.0	50	0	90.7	80 - 119				
1,4-Dichlorobenzene	44.46	1.0	50	0	88.9	79 - 118				
2,2-Dichloropropane	50.02	1.0	50	0	100	60 - 139				
2-Butanone	86.86	2.0	100	0	86.9	56 - 143				
2-Chlorotoluene	42.25	1.0	50	0	84.5	79 - 122				
2-Hexanone	86.53	2.0	100	0	86.5	57 - 139				
4-Chlorotoluene	43.02	1.0	50	0	86.0	78 - 122				
4-Isopropyltoluene	44.78	1.0	50	0	89.6	77 - 127				
4-Methyl-2-pentanone	88.08	2.0	100	0	88.1	67 - 130				
Acetone	89.2	2.0	100	0	89.2	39 - 160				
Benzene	47.24	1.0	50	0	94.5	79 - 120				
Bromobenzene	43.78	1.0	50	0	87.6	80 - 120				
Bromochloromethane	49.33	1.0	50	0	98.7	78 - 123				
Bromodichloromethane	48.13	1.0	50	0	96.3	79 - 125				
Bromoform	50.51	1.0	50	0	101	66 - 130				
Bromomethane	54.19	1.0	50	0	108	53 - 141				

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

ALS Group USA, Corp Date: 15-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder: HS17121400

QC BATCH REPORT

Batch ID: R308234 **Instrument: VOA2** **Method: SW8260**

LCS Sample ID: **VLCSW-171231** Units: **ug/L** Analysis Date: **31-Dec-2017 14:28**
Client ID: Run ID: **VOA2_308234** SeqNo: **4375145** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	98.72	2.0	100	0	98.7	64 - 133				
Carbon tetrachloride	40.99	1.0	50	0	82.0	72 - 136				
Chlorobenzene	46.43	1.0	50	0	92.9	80 - 120				
Chloroethane	43.11	1.0	50	0	86.2	82 - 118				
Chloroform	46.54	1.0	50	0	93.1	79 - 124				
Chloromethane	49.86	1.0	50	0	99.7	50 - 139				
cis-1,2-Dichloroethene	47.37	1.0	50	0	94.7	78 - 123				
cis-1,3-Dichloropropene	52.05	1.0	50	0	104	75 - 124				
Dibromochloromethane	48.61	1.0	50	0	97.2	74 - 126				
Dibromomethane	49.85	1.0	50	0	99.7	79 - 123				
Dichlorodifluoromethane	46.5	1.0	50	0	93.0	32 - 152				
Ethylbenzene	45.93	1.0	50	0	91.9	79 - 121				
Hexachlorobutadiene	50.83	1.0	50	0	102	66 - 134				
Isopropylbenzene	47.55	1.0	50	0	95.1	72 - 131				
m,p-Xylene	92.23	2.0	100	0	92.2	80 - 121				
Methylene chloride	45.03	2.0	50	0	90.1	74 - 124				
Naphthalene	48.76	1.0	50	0	97.5	61 - 128				
n-Butylbenzene	47.57	1.0	50	0	95.1	75 - 128				
n-Propylbenzene	44.13	1.0	50	0	88.3	76 - 126				
o-Xylene	46.93	1.0	50	0	93.9	78 - 122				
sec-Butylbenzene	45.5	1.0	50	0	91.0	77 - 126				
Styrene	47.93	1.0	50	0	95.9	78 - 128				
tert-Butylbenzene	43.81	1.0	50	0	87.6	78 - 124				
Tetrachloroethene	52.24	1.0	50	0	104	74 - 129				
Toluene	46.23	1.0	50	0	92.5	80 - 121				
trans-1,2-Dichloroethene	51.28	1.0	50	0	103	75 - 124				
trans-1,3-Dichloropropene	51.85	1.0	50	0	104	73 - 127				
Trichloroethene	49	1.0	50	0	98.0	79 - 123				
Trichlorofluoromethane	51.82	1.0	50	0	104	65 - 141				
Vinyl chloride	48.57	1.0	50	0	97.1	58 - 137				
Surr: 1,2-Dichloroethane-d4	*47.17*	*1.0*	*50*	*0*	*94.3*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.78*	*1.0*	*50*	*0*	*99.6*	*85 - 114*				
Surr: Dibromofluoromethane	*47.39*	*1.0*	*50*	*0*	*94.8*	*80 - 119*				
Surr: Toluene-d8	*46.57*	*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: 15-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder: HS17121400

QC BATCH REPORT

Batch ID: R308234 **Instrument: VOA2** **Method: SW8260**

MS Sample ID: **HS17121224-01MS** Units: **ug/L** Analysis Date: **01-Jan-2018 00:44**
Client ID: Run ID: **VOA2_308234** SeqNo: **4375169** 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	47.04	1.0	50	0	94.1	78 - 124				
1,1,1-Trichloroethane	48.9	1.0	50	0	97.8	74 - 131				
1,1,2,2-Tetrachloroethane	40.4	1.0	50	0	80.8	71 - 121				
1,1,2-Trichloroethane	44.91	1.0	50	0	89.8	80 - 119				
1,1-Dichloroethane	45.71	1.0	50	0	91.4	77 - 125				
1,1-Dichloroethene	51.49	1.0	50	0	103	71 - 131				
1,1-Dichloropropene	51.53	1.0	50	0	103	79 - 125				
1,2,3-Trichlorobenzene	49.47	1.0	50	0	98.9	69 - 129				
1,2,3-Trichloropropane	41.84	1.0	50	0	83.7	73 - 122				
1,2,4-Trichlorobenzene	48.75	1.0	50	0	97.5	69 - 130				
1,2,4-Trimethylbenzene	40.85	1.0	50	0	81.7	76 - 124				
1,2-Dibromo-3-chloropropane	41.97	1.0	50	0	83.9	62 - 128				
1,2-Dibromoethane	47.88	1.0	50	0	95.8	77 - 121				
1,2-Dichlorobenzene	42.75	1.0	50	0	85.5	80 - 119				
1,2-Dichloroethane	50.56	1.0	50	0	101	73 - 128				
1,2-Dichloropropane	46.39	1.0	50	0	92.8	78 - 122				
1,3,5-Trimethylbenzene	41.56	1.0	50	0	83.1	75 - 124				
1,3-Dichlorobenzene	42.78	1.0	50	0	85.6	80 - 119				
1,3-Dichloropropane	44.3	1.0	50	0	88.6	80 - 119				
1,4-Dichlorobenzene	42.48	1.0	50	0	85.0	79 - 118				
2,2-Dichloropropane	43.91	1.0	50	0	87.8	60 - 139				
2-Butanone	87.07	2.0	100	0	87.1	56 - 143				
2-Chlorotoluene	40.98	1.0	50	0	82.0	79 - 122				
2-Hexanone	86.07	2.0	100	0	86.1	57 - 139				
4-Chlorotoluene	41.09	1.0	50	0	82.2	78 - 122				
4-Isopropyltoluene	42.85	1.0	50	0	85.7	77 - 127				
4-Methyl-2-pentanone	87.52	2.0	100	0	87.5	67 - 130				
Acetone	93.39	2.0	100	0	93.4	39 - 160				
Benzene	47.56	1.0	50	0	95.1	79 - 120				
Bromobenzene	41.47	1.0	50	0	82.9	80 - 120				
Bromochloromethane	48.01	1.0	50	0	96.0	78 - 123				
Bromodichloromethane	47.87	1.0	50	0	95.7	79 - 125				
Bromoform	49.09	1.0	50	0	98.2	66 - 130				
Bromomethane	44.46	1.0	50	0	88.9	53 - 141				

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

ALS Group USA, Corp Date: 15-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder: HS17121400

QC BATCH REPORT

Batch ID: R308234 **Instrument: VOA2** **Method: SW8260**

MS Sample ID: **HS17121224-01MS** Units: **ug/L** Analysis Date: **01-Jan-2018 00:44**
Client ID: Run ID: **VOA2_308234** SeqNo: **4375169** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	99.01	2.0	100	0	99.0	64 - 133				
Carbon tetrachloride	43.9	1.0	50	0	87.8	72 - 136				
Chlorobenzene	45.69	1.0	50	0	91.4	80 - 120				
Chloroethane	44.2	1.0	50	0	88.4	82 - 118				
Chloroform	45.8	1.0	50	0	91.6	79 - 124				
Chloromethane	53.01	1.0	50	0	106	50 - 139				
cis-1,2-Dichloroethene	47.51	1.0	50	0	95.0	78 - 123				
cis-1,3-Dichloropropene	50.46	1.0	50	0	101	75 - 124				
Dibromochloromethane	47.38	1.0	50	0	94.8	74 - 126				
Dibromomethane	49.4	1.0	50	0	98.8	79 - 123				
Dichlorodifluoromethane	55.3	1.0	50	0	111	32 - 152				
Ethylbenzene	45.71	1.0	50	0	91.4	79 - 121				
Hexachlorobutadiene	45.23	1.0	50	0	90.5	66 - 134				
Isopropylbenzene	47.41	1.0	50	0	94.8	72 - 131				
m,p-Xylene	91.1	2.0	100	0	91.1	80 - 121				
Methylene chloride	45.7	2.0	50	0	91.4	74 - 124				
Naphthalene	47.28	1.0	50	0	94.6	61 - 128				
n-Butylbenzene	44.14	1.0	50	0	88.3	75 - 128				
n-Propylbenzene	42.52	1.0	50	0	85.0	76 - 126				
o-Xylene	45.9	1.0	50	0	91.8	78 - 122				
sec-Butylbenzene	43.8	1.0	50	0	87.6	77 - 126				
Styrene	46.71	1.0	50	0	93.4	78 - 128				
tert-Butylbenzene	43.15	1.0	50	0	86.3	78 - 124				
Tetrachloroethene	51.95	1.0	50	0	104	74 - 129				
Toluene	45.86	1.0	50	0	91.7	80 - 121				
trans-1,2-Dichloroethene	51.36	1.0	50	0	103	75 - 124				
trans-1,3-Dichloropropene	50.22	1.0	50	0	100	73 - 127				
Trichloroethene	49.6	1.0	50	0	99.2	79 - 123				
Trichlorofluoromethane	52.84	1.0	50	0	106	65 - 141				
Vinyl chloride	50.95	1.0	50	0	102	58 - 137				
Surr: 1,2-Dichloroethane-d4	*46.83*	*1.0*	*50*	*0*	*93.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.15*	*1.0*	*50*	*0*	*98.3*	*85 - 114*				
Surr: Dibromofluoromethane	*47.87*	*1.0*	*50*	*0*	*95.7*	*80 - 119*				
Surr: Toluene-d8	*46.64*	*1.0*	*50*	*0*	*93.3*	*89 - 112*				

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

ALS Group USA, Corp Date: 15-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder: HS17121400

QC BATCH REPORT

Batch ID: R308234 **Instrument: VOA2** **Method: SW8260**

MSD Sample ID: **HS17121224-01MSD** Units: **ug/L** Analysis Date: **01-Jan-2018 01:09**
Client ID: Run ID: **VOA2_308234** SeqNo: **4375170** 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	46.34	1.0	50	0	92.7	78 - 124	47.04	1.51	20	
1,1,1-Trichloroethane	48.97	1.0	50	0	97.9	74 - 131	48.9	0.149	20	
1,1,2,2-Tetrachloroethane	40.71	1.0	50	0	81.4	71 - 121	40.4	0.767	20	
1,1,2-Trichloroethane	45.32	1.0	50	0	90.6	80 - 119	44.91	0.901	20	
1,1-Dichloroethane	46.42	1.0	50	0	92.8	77 - 125	45.71	1.56	20	
1,1-Dichloroethene	51.21	1.0	50	0	102	71 - 131	51.49	0.547	20	
1,1-Dichloropropene	52.6	1.0	50	0	105	79 - 125	51.53	2.04	20	
1,2,3-Trichlorobenzene	49.28	1.0	50	0	98.6	69 - 129	49.47	0.389	20	
1,2,3-Trichloropropane	41.66	1.0	50	0	83.3	73 - 122	41.84	0.434	20	
1,2,4-Trichlorobenzene	49.76	1.0	50	0	99.5	69 - 130	48.75	2.06	20	
1,2,4-Trimethylbenzene	39.67	1.0	50	0	79.3	76 - 124	40.85	2.93	20	
1,2-Dibromo-3-chloropropane	43.31	1.0	50	0	86.6	62 - 128	41.97	3.13	20	
1,2-Dibromoethane	47.75	1.0	50	0	95.5	77 - 121	47.88	0.282	20	
1,2-Dichlorobenzene	41.6	1.0	50	0	83.2	80 - 119	42.75	2.73	20	
1,2-Dichloroethane	48.63	1.0	50	0	97.3	73 - 128	50.56	3.88	20	
1,2-Dichloropropane	45.87	1.0	50	0	91.7	78 - 122	46.39	1.13	20	
1,3,5-Trimethylbenzene	40.48	1.0	50	0	81.0	75 - 124	41.56	2.65	20	
1,3-Dichlorobenzene	41.64	1.0	50	0	83.3	80 - 119	42.78	2.72	20	
1,3-Dichloropropane	44.75	1.0	50	0	89.5	80 - 119	44.3	1	20	
1,4-Dichlorobenzene	41.85	1.0	50	0	83.7	79 - 118	42.48	1.48	20	
2,2-Dichloropropane	43.76	1.0	50	0	87.5	60 - 139	43.91	0.35	20	
2-Butanone	87.75	2.0	100	0	87.8	56 - 143	87.07	0.785	20	
2-Chlorotoluene	39.92	1.0	50	0	79.8	79 - 122	40.98	2.62	20	
2-Hexanone	87.81	2.0	100	0	87.8	57 - 139	86.07	2	20	
4-Chlorotoluene	40.01	1.0	50	0	80.0	78 - 122	41.09	2.68	20	
4-Isopropyltoluene	42.11	1.0	50	0	84.2	77 - 127	42.85	1.74	20	
4-Methyl-2-pentanone	88.49	2.0	100	0	88.5	67 - 130	87.52	1.09	20	
Acetone	95.78	2.0	100	0	95.8	39 - 160	93.39	2.52	20	
Benzene	47.41	1.0	50	0	94.8	79 - 120	47.56	0.31	20	
Bromobenzene	41.03	1.0	50	0	82.1	80 - 120	41.47	1.07	20	
Bromochloromethane	48.61	1.0	50	0	97.2	78 - 123	48.01	1.26	20	
Bromodichloromethane	47.86	1.0	50	0	95.7	79 - 125	47.87	0.0172	20	
Bromoform	49.89	1.0	50	0	99.8	66 - 130	49.09	1.63	20	
Bromomethane	44.08	1.0	50	0	88.2	53 - 141	44.46	0.858	20	

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

ALS Group USA, Corp Date: 15-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder: HS17121400

QC BATCH REPORT

Batch ID: R308234 **Instrument: VOA2** **Method: SW8260**

MSD Sample ID: **HS17121224-01MSD** Units: **ug/L** Analysis Date: **01-Jan-2018 01:09**
Client ID: Run ID: **VOA2_308234** SeqNo: **4375170** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	98.72	2.0	100	0	98.7	64 - 133	99.01	0.294	20	
Carbon tetrachloride	43.69	1.0	50	0	87.4	72 - 136	43.9	0.479	20	
Chlorobenzene	45.36	1.0	50	0	90.7	80 - 120	45.69	0.726	20	
Chloroethane	42.34	1.0	50	0	84.7	82 - 118	44.2	4.31	20	
Chloroform	46.14	1.0	50	0	92.3	79 - 124	45.8	0.75	20	
Chloromethane	50	1.0	50	0	100.0	50 - 139	53.01	5.85	20	
cis-1,2-Dichloroethene	47.11	1.0	50	0	94.2	78 - 123	47.51	0.846	20	
cis-1,3-Dichloropropene	49.73	1.0	50	0	99.5	75 - 124	50.46	1.45	20	
Dibromochloromethane	47.49	1.0	50	0	95.0	74 - 126	47.38	0.242	20	
Dibromomethane	48.72	1.0	50	0	97.4	79 - 123	49.4	1.39	20	
Dichlorodifluoromethane	54.4	1.0	50	0	109	32 - 152	55.3	1.65	20	
Ethylbenzene	45.12	1.0	50	0	90.2	79 - 121	45.71	1.31	20	
Hexachlorobutadiene	46.3	1.0	50	0	92.6	66 - 134	45.23	2.34	20	
Isopropylbenzene	46.69	1.0	50	0	93.4	72 - 131	47.41	1.54	20	
m,p-Xylene	90.36	2.0	100	0	90.4	80 - 121	91.1	0.813	20	
Methylene chloride	44.91	2.0	50	0	89.8	74 - 124	45.7	1.75	20	
Naphthalene	47.07	1.0	50	0	94.1	61 - 128	47.28	0.45	20	
n-Butylbenzene	43.71	1.0	50	0	87.4	75 - 128	44.14	0.973	20	
n-Propylbenzene	41.18	1.0	50	0	82.4	76 - 126	42.52	3.2	20	
o-Xylene	45.96	1.0	50	0	91.9	78 - 122	45.9	0.14	20	
sec-Butylbenzene	42.94	1.0	50	0	85.9	77 - 126	43.8	1.98	20	
Styrene	46.51	1.0	50	0	93.0	78 - 128	46.71	0.428	20	
tert-Butylbenzene	42.01	1.0	50	0	84.0	78 - 124	43.15	2.68	20	
Tetrachloroethene	50.69	1.0	50	0	101	74 - 129	51.95	2.46	20	
Toluene	45.44	1.0	50	0	90.9	80 - 121	45.86	0.932	20	
trans-1,2-Dichloroethene	51.43	1.0	50	0	103	75 - 124	51.36	0.135	20	
trans-1,3-Dichloropropene	50.28	1.0	50	0	101	73 - 127	50.22	0.109	20	
Trichloroethene	49.1	1.0	50	0	98.2	79 - 123	49.6	1.01	20	
Trichlorofluoromethane	52.07	1.0	50	0	104	65 - 141	52.84	1.45	20	
Vinyl chloride	50.1	1.0	50	0	100	58 - 137	50.95	1.7	20	
Surr: 1,2-Dichloroethane-d4	*47.86*	*1.0*	*50*	*0*	*95.7*	*81 - 118*	*46.83*	*2.19*	*20*	
Surr: 4-Bromofluorobenzene	*49.38*	*1.0*	*50*	*0*	*98.8*	*85 - 114*	*49.15*	*0.463*	*20*	
Surr: Dibromofluoromethane	*48.38*	*1.0*	*50*	*0*	*96.8*	*80 - 119*	*47.87*	*1.05*	*20*	
Surr: Toluene-d8	*46.83*	*1.0*	*50*	*0*	*93.7*	*89 - 112*	*46.64*	*0.406*	*20*	

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

ALS Group USA, Corp Date: 15-Jan-18

Client:	Bhate Environmental Associates, Inc.
Project:	Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder:	HS17121400

QC BATCH REPORT

Batch ID:	**R308234**	**Instrument:**	**VOA2**	**Method:**	**SW8260**

The following samples were analyzed in this batch:	HS17121400-01	HS17121400-02

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

ALS Group USA, Corp Date: 15-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder: HS17121400

QC BATCH REPORT

Batch ID: R308967 **Instrument: ICS3K2** **Method: SW9056**

MBLK Sample ID: **WBLKW1-011218** Units: **mg/L** Analysis Date: **12-Jan-2018 17:23**
Client ID: Run ID: **ICS3K2_308967** SeqNo: **4392461** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.250	0.500								U
Sulfate	0.250	0.500								U

LCS Sample ID: **WLCSW1-011218** Units: **mg/L** Analysis Date: **12-Jan-2018 17:45**
Client ID: Run ID: **ICS3K2_308967** SeqNo: **4392462** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.66	0.500	20	0	103	80 - 120				
Sulfate	20.34	0.500	20	0	102	80 - 120				

LCSD Sample ID: **WLCSDW1-011218** Units: **mg/L** Analysis Date: **12-Jan-2018 18:07**
Client ID: Run ID: **ICS3K2_308967** SeqNo: **4392463** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.69	0.500	20	0	103	80 - 120	20.66	0.15	20	
Sulfate	20.18	0.500	20	0	101	80 - 120	20.34	0.775	20	

MS Sample ID: **HS18010445-04MS** Units: **mg/L** Analysis Date: **12-Jan-2018 16:18**
Client ID: Run ID: **ICS3K2_308967** SeqNo: **4392459** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	25.93	0.500	10	15.84	101	80 - 120				
Sulfate	22.05	0.500	10	12.21	98.5	80 - 120				

MSD Sample ID: **HS18010445-04MSD** Units: **mg/L** Analysis Date: **12-Jan-2018 16:40**
Client ID: Run ID: **ICS3K2_308967** SeqNo: **4392460** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	25.98	0.500	10	15.84	101	80 - 120	25.93	0.196	20	
Sulfate	22.15	0.500	10	12.21	99.4	80 - 120	22.05	0.434	20	

The following samples were analyzed in this batch: HS17121400-01

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

ALS Group USA, Corp Date: 15-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder: **HS17121400**

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 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: 15-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
Work Order: HS17121400

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS17121400-01	LH18/24-SP650_122717	Login	12/29/2017 10:53:57 AM	CL	Sub
HS17121400-01	LH18/24-SP650_122717	Login	12/29/2017 10:53:57 AM	CL	WET245
HS17121400-01	LH18/24-SP650_122717	Login	12/29/2017 10:53:57 AM	CL	WET245
HS17121400-01	LH18/24-SP650_122717	Login	12/29/2017 10:53:57 AM	CL	WET245

ALS Group USA, Corp Date: 15-Jan-18

Sample Receipt Checklist

Client Name: Bhate Environmental
Work Order: HS17121400
Date/Time Received: **29-Dec-2017 08:50**
Received by: **RPG**

Checklist completed by: *Cesar A. Lira* eSignature 29-Dec-2017 Date
Reviewed by: *Sonia West* eSignature 2-Jan-2018 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/1.2C UC/C	IR11	
Cooler(s)/Kit(s):	23797		
Date/Time sample(s) sent to storage:	12/29/2017 11:00		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210, Houston, Tx. 77099 ATTN: SONIA WEST

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

Project No. NWO1312.0150.0 16.0001

Job: GROUNDWATER TREATMENT PLANT BI-WEEKLY SAMPLES

Prepared By: Scott Beesinger

P.O Number

HS17121400

Bhate Environmental Associates, Inc.
Groundwater Treatment Plant Bi-Weekly Samples

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC	Analyses: CHLORIDE, SULFATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_122717	Water	12/27/17 / 14:00		3	3		HCL	
LH18/24-SP650_122717	Water	12/27/17 / 14:00		1		1	NONE	
Trip Blank	Water	12/27/17		2	2		HCL	

Additional Remarks: STANDARD TAT ON ALL PARAMETERS.

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	12/27/17	14:30									

9For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
R Cuse	12/29/17	08:44	7376 9749 5210	R Cuse	12/29/17	0850	1-7c		IR # 11 cf -0.5 · cooler # 23797

Remarks

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

FedEx
TRK# 0221 7376 9749 3210

FRI - 29 DEC 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

FID 982850 28DEC17 SHVA 546C1/574C/0C8A

23797

ALS
10450 Stancliff Rd., Suite 21
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUSTODY SEAL

Date: 12/27/17 Time: 1430
Name: SCOTT BEESINGER
Company: BHATE

Seal Broken By:
Date: 12-29-17

Volatile Organics Raw Data

Bhate Environmental Associates, Inc.
Project: GROUNDWATER TREATMENT PLANT
Bi-WEEKLY SAMPLES
ALS WO# HS17121400

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121400

	CLIENT SAMPLE NO.	SMC1 (DCE) #	SMC2 #	SMC3 (TOL) #	OTHER #	TOT OUT
01	VLCSW-171231	94	95	93	100	0
02	VBLKW-171231	91	98	97	96	0
03	HS17121400-02	93	99	96	96	0
04	HS17121400-01	91	99	95	97	0
05	HS17121224-01	94	96	93	98	0
06	HS17121224-01	96	97	94	99	0
07						
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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.: HS17121400

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 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121400

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.: HS17121400

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.: HS17121400

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.: HS17121400

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.: HS1712140

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.: HS1712140

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.: HS1712140

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.: HS1712140

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.: HS1712140

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: 30160
Date: 12-19-2017
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	12-19-2017 09:21 am	1.00	50 mL	50 mL	D121901.D	Liquid	Y	NA
	Not reported									
2	BFB	TUNE	12-19-2017 09:45 am	1.00	50 mL	50 mL	D121902.D	Liquid	Y	NA
	Auto find/purged									
3	VSTD00.5	ICAL1	12-19-2017 10:10 am	1.00	50 mL	50 mL	D121903.D	Liquid	Y	NA
	0.5 uL cal std/250 mL DI									
4	VSTD001	ICAL2	12-19-2017 10:34 am	1.00	50 mL	50 mL	D121904.D	Liquid	Y	NA
	1 uL cal std/250 mL DI									
5	VSTD002	ICAL3	12-19-2017 10:59 am	1.00	50 mL	50 mL	D121905.D	Liquid	Y	NA
	2 uL cal std/250 mL DI									
6	VSTD005	ICAL4	12-19-2017 11:23 am	1.00	50 mL	50 mL	D121906.D	Liquid	Y	NA
	5 uL cal std/250 mL DI									
7	VSTD010	ICAL5	12-19-2017 11:47 am	1.00	50 mL	50 mL	D121907.D	Liquid	Y	NA
	2 uL cal std/50 mL DI									
8	VSTD020	ICAL6	12-19-2017 12:14 pm	1.00	50 mL	50 mL	D121908.D	Liquid	Y	NA
	4 uL cal std/50 mL DI									
9	VSTD050	ICAL7	12-19-2017 12:39 pm	1.00	50 mL	50 mL	D121909.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
10	VSTD100	ICAL8	12-19-2017 01:03 pm	1.00	50 mL	50 mL	D121910.D	Liquid	Y	NA
	20 uL cal std/50 mL DI									
11	VSTD200	ICAL9	12-19-2017 01:27 pm	1.00	50 mL	50 mL	D121911.D	Liquid	Y	NA
	40 uL cal std/50 mL DI									
12	BLK	SAMP	12-19-2017 01:52 pm	1.00	50 mL	50 mL	D121912.D	Liquid	Y	NA
	Cleanup blk									
13	VSTD-ICV	ICV	12-19-2017 02:16 pm	1.00	50 mL	50 mL	D121913.D	Liquid	Y	NA
	10 uL ICV std/50 mL DI									
14	VLCSW-171219	LCS	12-19-2017 02:54 pm	1.00	50 mL	50 mL	D121914.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
15	BLK	SAMP	12-19-2017 03:18 pm	1.00	50 mL	50 mL	D121915.D	Liquid	Y	NA
16	VBLKW171202	MBLK	12-19-2017 03:43 pm	1.00	50 mL	50 mL	D121916.D	Liquid	Y	NA
17	HS17120758-10	SAMP	12-19-2017 04:08 pm	1.00	50 mL	50 mL	D121917.D	Liquid	Y	<2
18	HS17120999-01	SAMP	12-19-2017 04:32 pm	1.00	50 mL	50 mL	D121918.D	Liquid	Y	<2
19	HS17121026-03	SAMP	12-19-2017 04:57 pm	1.00	50 mL	50 mL	D121919.D	Liquid	Y	<2
20	HS17121026-01	SAMP	12-19-2017 05:21 pm	1.00	50 mL	50 mL	D121920.D	Liquid	Y	<2
21	HS17121026-02	SAMP	12-19-2017 05:46 pm	1.00	50 mL	50 mL	D121921.D	Liquid	Y	<2
22	HS17120806-02	SAMP	12-19-2017 06:10 pm	1.00	50 mL	50 mL	D121922.D	Liquid	Y	<2
23	HS17120282-02	SAMP	12-19-2017 06:35 pm	1.00	50 mL	50 mL	D121923.D	Liquid	Y	<2
24	HS17120282-01	SAMP	12-19-2017 07:00 pm	1000.0	50 µL	50 mL	D121924.D	Liquid	Y	<2
25	HS17120282-01	SAMP	12-19-2017 07:27 pm	10000.(	5 µL	50 mL	D121925.D	Liquid	Y	<2
26	HS17120806-02MS	MS	12-19-2017 07:52 pm	1.00	50 mL	50 mL	D121926.D	Liquid	Y	<2
	8 uL cal std/40 mL sample									
27	HS17120806-02MSD	MSD	12-19-2017 08:16 pm	1.00	50 mL	50 mL	D121927.D	Liquid	N	<2
	8 uL cal std/40 mL sample									
28	HS17120743-28	SAMP	12-19-2017 08:43 pm	5.00	10 mL	50 mL	D121928.D	Liquid	Y	<2
29	HS17120743-29	SAMP	12-19-2017 09:11 pm	5.00	10 mL	50 mL	D121929.D	Liquid	Y	<2
30	BLK	BLK	12-19-2017 09:35 pm	1.00	50 mL	50 mL	E121901.D	Liquid	Y	NA
	Cleanup blk									
31	BFB	TUNE	12-19-2017 10:00 pm	1.00	50 mL	50 mL	E121902.D	Liquid	Y	NA
	Auto find/purged									

MSVOA02 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
32	CCV	CCV	12-19-2017 10:24 pm	1.00	50 mL	50 mL	E121903.D	Liquid	Y	NA
33	*10 uL cal std/50 mL DI* VLCSW-171219	LCS	12-19-2017 10:49 pm	1.00	50 mL	50 mL	E121904.D	Liquid	Y	NA
34	*10 uL cal std/50 mL DI* BLK	SAMP	12-19-2017 11:13 pm	1.00	50 mL	50 mL	E121905.D	Liquid	Y	NA
35	*Cleanup blk* VBLKW-171219	MBLK	12-19-2017 11:38 pm	1.00	50 mL	50 mL	E121906.D	Liquid	Y	NA
36	HS17120806-14	SAMP	12-20-2017 12:02 am	1.00	50 mL	50 mL	E121907.D	Liquid	Y	<2
37	HS17120806-12	SAMP	12-20-2017 12:30 am	5.00	10 mL	50 mL	E121908.D	Liquid	Y	<2
38	HS17120806-14MS	MS	12-20-2017 12:54 am	1.00	50 mL	50 mL	E121909.D	Liquid	Y	<2
39	*8 uL cal std/40 mL sample* HS17120806-14MSD	MSD	12-20-2017 01:19 am	1.00	50 mL	50 mL	E121910.D	Liquid	Y	<2
40	*8 uL cal std/40 mL sample* BLK	SAMP	12-20-2017 01:43 am	1.00	50 mL	50 mL	E121911.D	Liquid	Y	NA
41	HS17120743-38	SAMP	12-20-2017 02:08 am	1.00	50 mL	50 mL	E121912.D	Liquid	Y	<2
42	HS17120743-38	SAMP	12-20-2017 02:35 am	5.00	10 mL	50 mL	E121913.D	Liquid	Y	<2
43	HS17120806-10	SAMP	12-20-2017 03:00 am	1.00	50 mL	50 mL	E121914.D	Liquid	Y	<2
44	HS17120806-10	SAMP	12-20-2017 03:27 am	5.00	10 mL	50 mL	E121915.D	Liquid	Y	<2
45	HS17120743-32	SAMP	12-20-2017 03:51 am	1.00	50 mL	50 mL	E121916.D	Liquid	Y	<2
46	HS17120743-32	SAMP	12-20-2017 04:18 am	10.00	5 mL	50 mL	E121917.D	Liquid	Y	<2
47	HS17120806-01	SAMP	12-20-2017 04:43 am	1.00	50 mL	50 mL	E121918.D	Liquid	Y	<2
48	HS17120806-01	SAMP	12-20-2017 05:10 am	10.00	5 mL	50 mL	E121919.D	Liquid	Y	<2
49	HS17120806-13	SAMP	12-20-2017 05:35 am	1.00	50 mL	50 mL	E121920.D	Liquid	Y	<2
50	HS17120806-13	SAMP	12-20-2017 06:02 am	10.00	5 mL	50 mL	E121921.D	Liquid	Y	<2
51	HS17120806-03	SAMP	12-20-2017 06:29 am	5.00	10 mL	50 mL	E121922.D	Liquid	Y	<2
52	HS17120806-03	SAMP	12-20-2017 06:56 am	25.00	2 mL	50 mL	E121923.D	Liquid	Y	<2
53	HS17120743-43	SAMP	12-20-2017 07:24 am	10.00	5 mL	50 mL	E121924.D	Liquid	Y	<2
54	HS17120743-43	SAMP	12-20-2017 07:51 am	100.0(	500 µL	50 mL	E121925.D	Liquid	Y	<2
55	HS17120743-34	SAMP	12-20-2017 08:18 am	10.00	5 mL	50 mL	E121926.D	Liquid	Y	<2
56	HS17120743-34	SAMP	12-20-2017 08:45 am	100.0(	500 µL	50 mL	E121927.D	Liquid	Y	<2
57	HS17120806-16	SAMP	12-20-2017 09:10 am	1.00	50 mL	50 mL	E121928.D	Liquid	Y	<2
58	HS17120806-16	SAMP	12-20-2017 09:37 am	10.00	5 mL	50 mL	E121929.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\D171219.b\D121901.D

Date : 19-DEC-2017 09:21

Client ID: BFB

Instrument: VOA2.i

Sample Info: BFB;BFB;3;;BFB

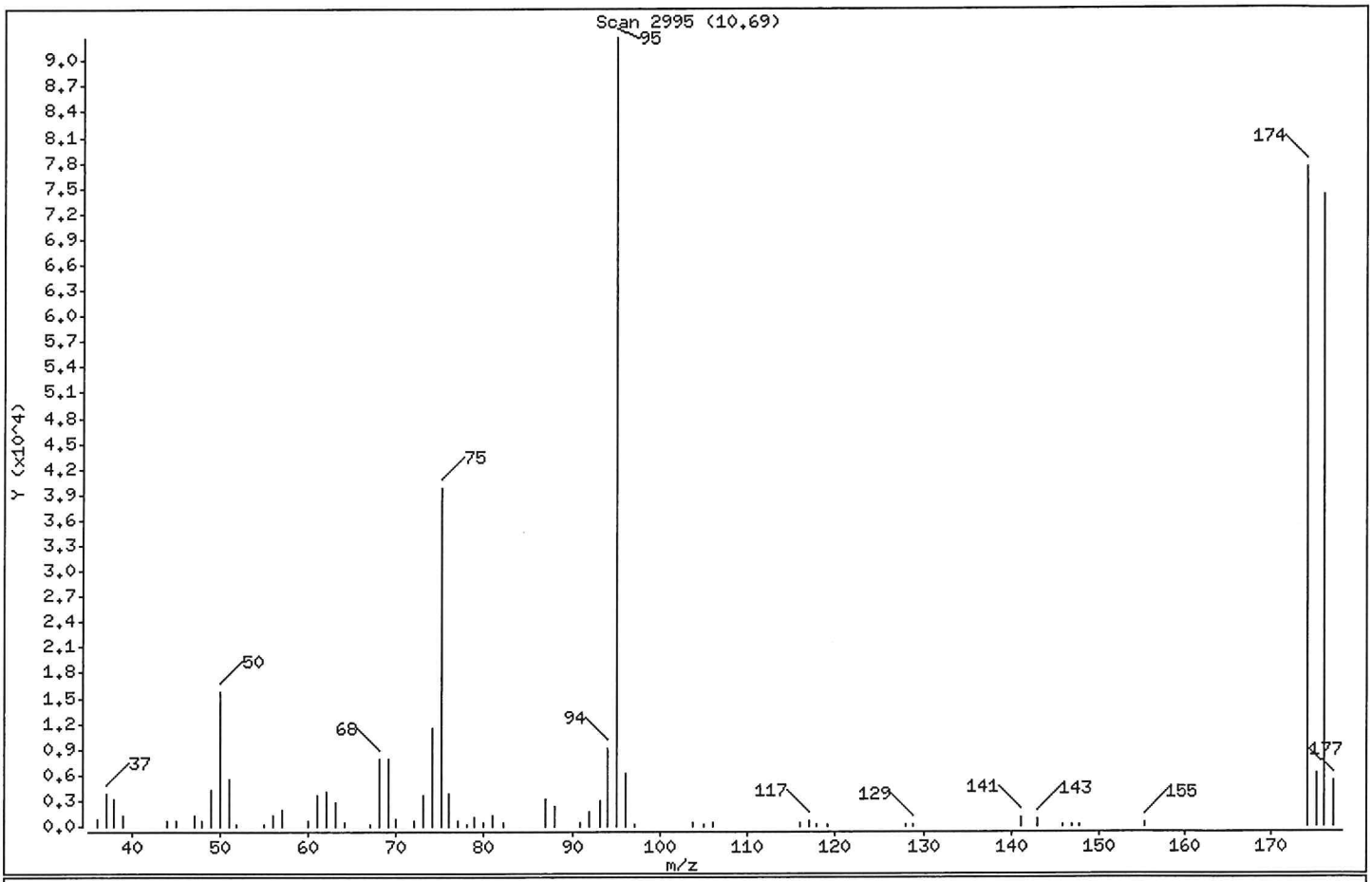
Volume Injected (uL): 2.0

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

