LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

ADMINISTRATIVE RECORD

Volume 27

2018

Bate Stamp Numbers

00877593 - 00879442

Prepared for

Department of the Army
Longhorn Army Ammunition Plant

1976 – 2018

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

VOLUME 27

2018

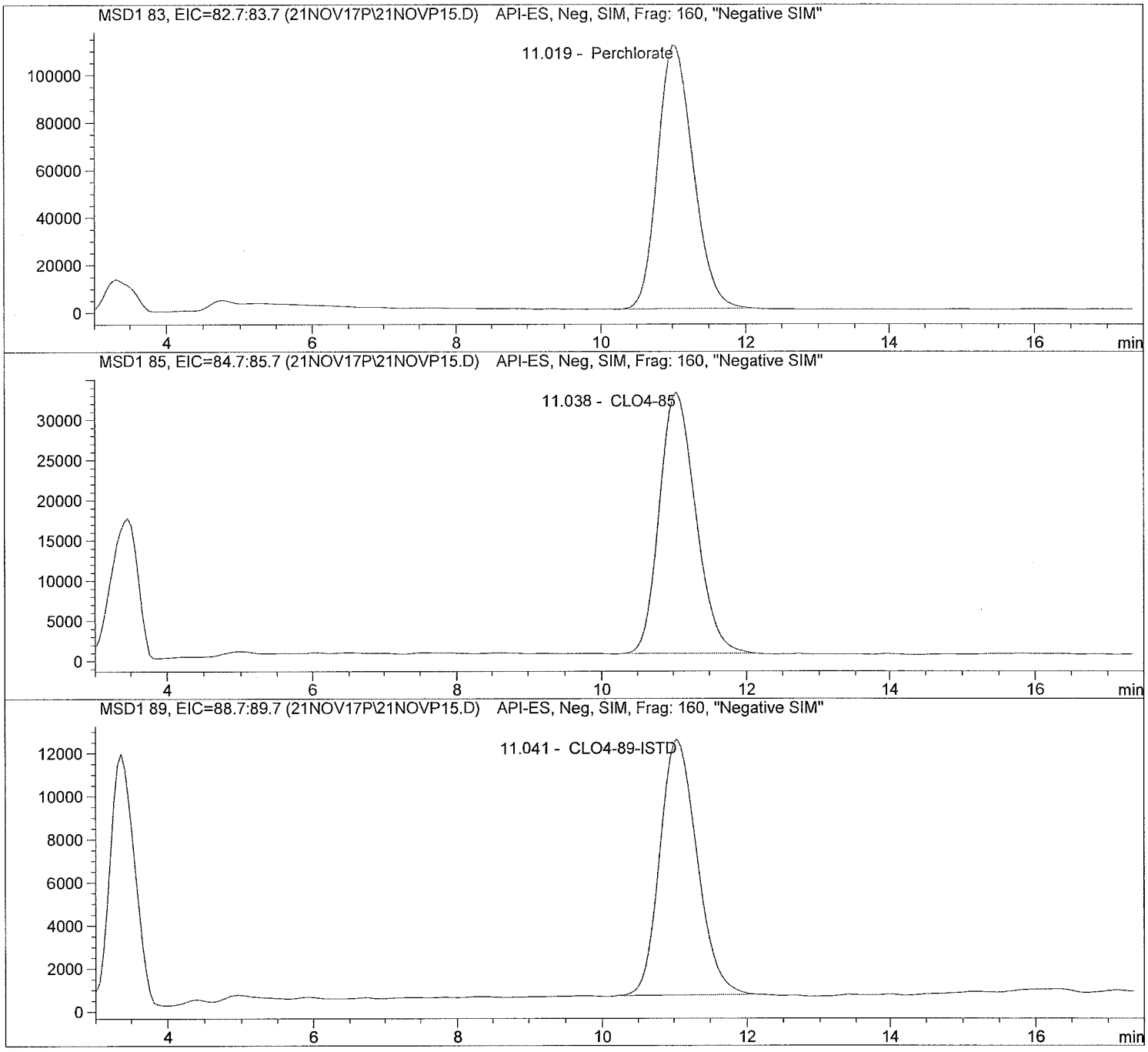
A. Title: Report (cont'd) – Draft Quarterly Evaluation Report 4th Quarter (October - December) 2017, Groundwater Treatment Plant, Longhorn Army Ammunition Plant, Karnack, Texas
Author(s): Bhate Environmental Associates, Inc.
Recipient: U. S. Army Corps of Engineers
Date: May 1, 2018
Bate Stamp: 00877593 – 00879442

Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP15.D Sample Name: 1732090007 MSD

Injection Date:	11/21/2017 13:25:37	Seq Line:	15
Sample Name:	1732090007 MSD	Location:	Vial 85
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP15.D Sample Name: 1732090007 MSD

Injection Date:	11/21/2017 13:25:37	Seq Line:	15
Sample Name:	1732090007 MSD	Location:	Vial 85
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.019	PBA	3805693.3	33.0468	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.038	PBA	1141517.7	32.7904	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.041	BBA	426154.9	5.0000	CLO4-89-ISTD

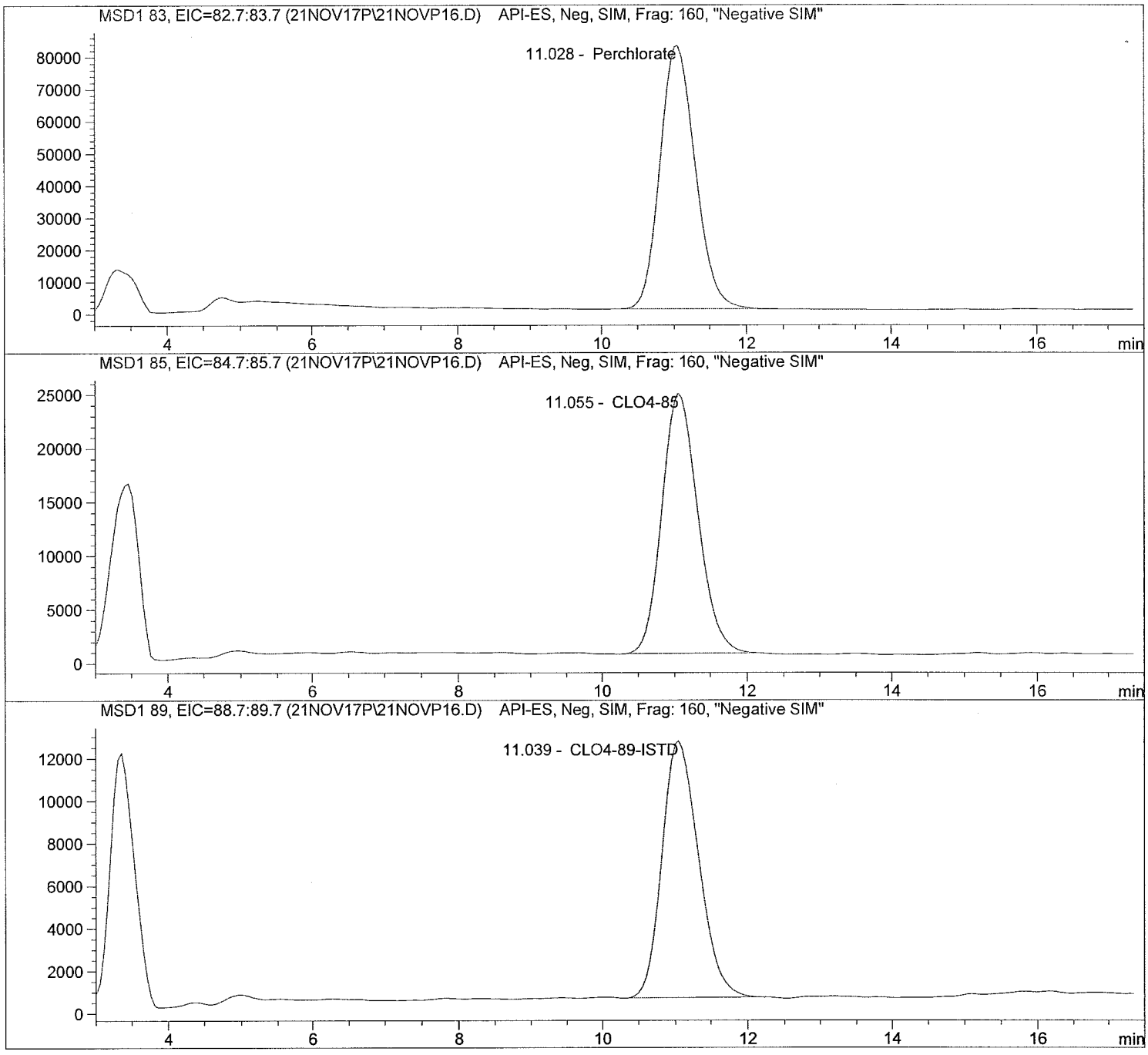
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Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP16.D Sample Name: 1732090008

Injection Date:	11/21/2017 13:45:00	Seq Line:	16
Sample Name:	1732090008	Location:	Vial 86
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP16.D Sample Name: 1732090008

Injection Date:	11/21/2017 13:45:00	Seq Line:	16
Sample Name:	1732090008	Location:	Vial 86
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.028	BBA	2821677.0	25.4571	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.055	PBA	850148.0	24.9782	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.039	PBA	430249.8	5.0000	CLO4-89-ISTD

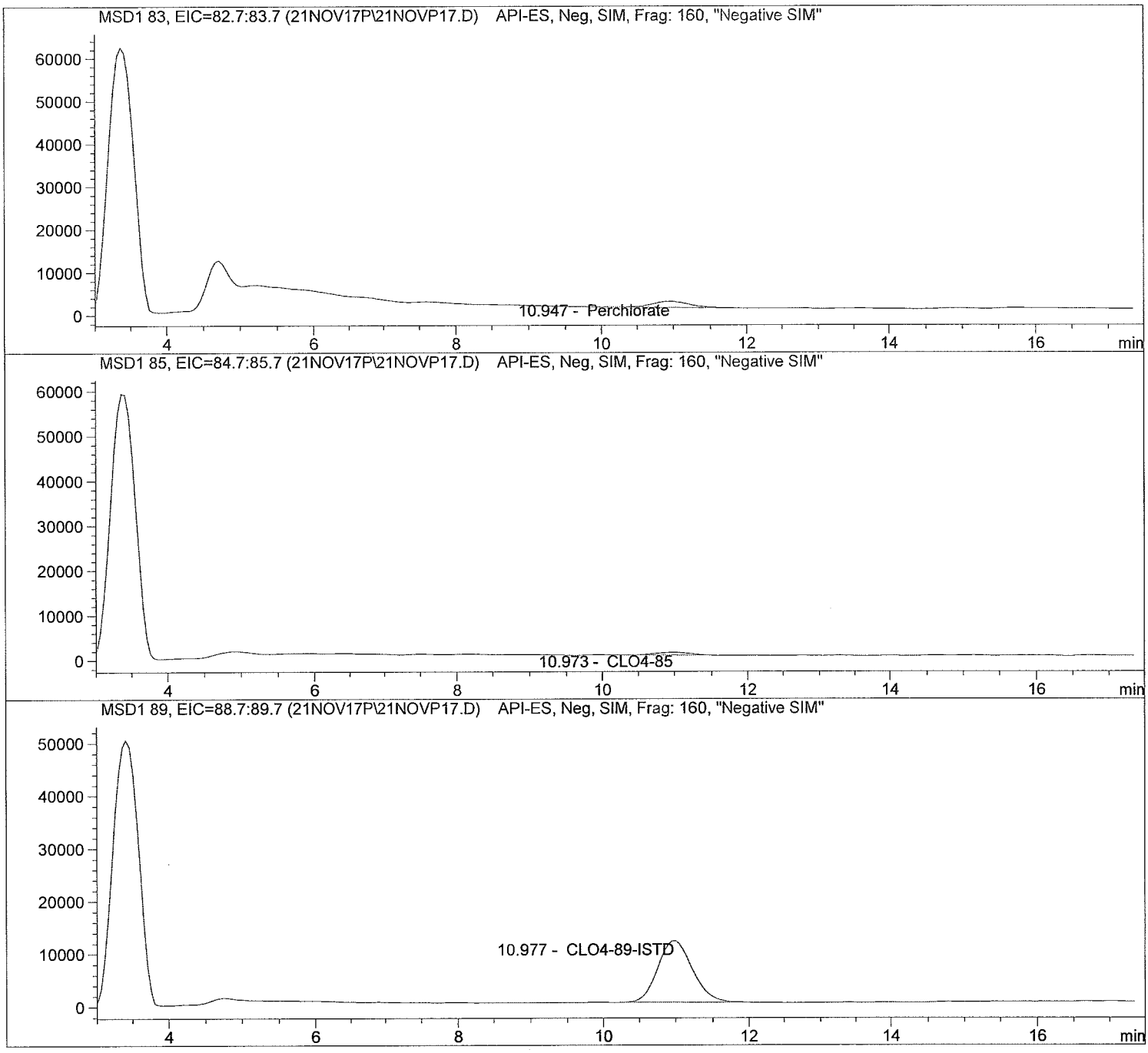
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Injection Date:	11/21/2017 14:04:23	Seq Line:	17
Sample Name:	1732090009	Location:	Vial 87
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP17.D Sample Name: 1732090009

Injection Date:	11/21/2017 14:04:23	Seq Line:	17
Sample Name:	1732090009	Location:	Vial 87
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method:	CLO4-AQN.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed:	10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.947	BBA	51483.1	0.6253	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.973	PBA	21592.0	0.7890	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.977	BBA	384879.7	5.0000	CLO4-89-ISTD

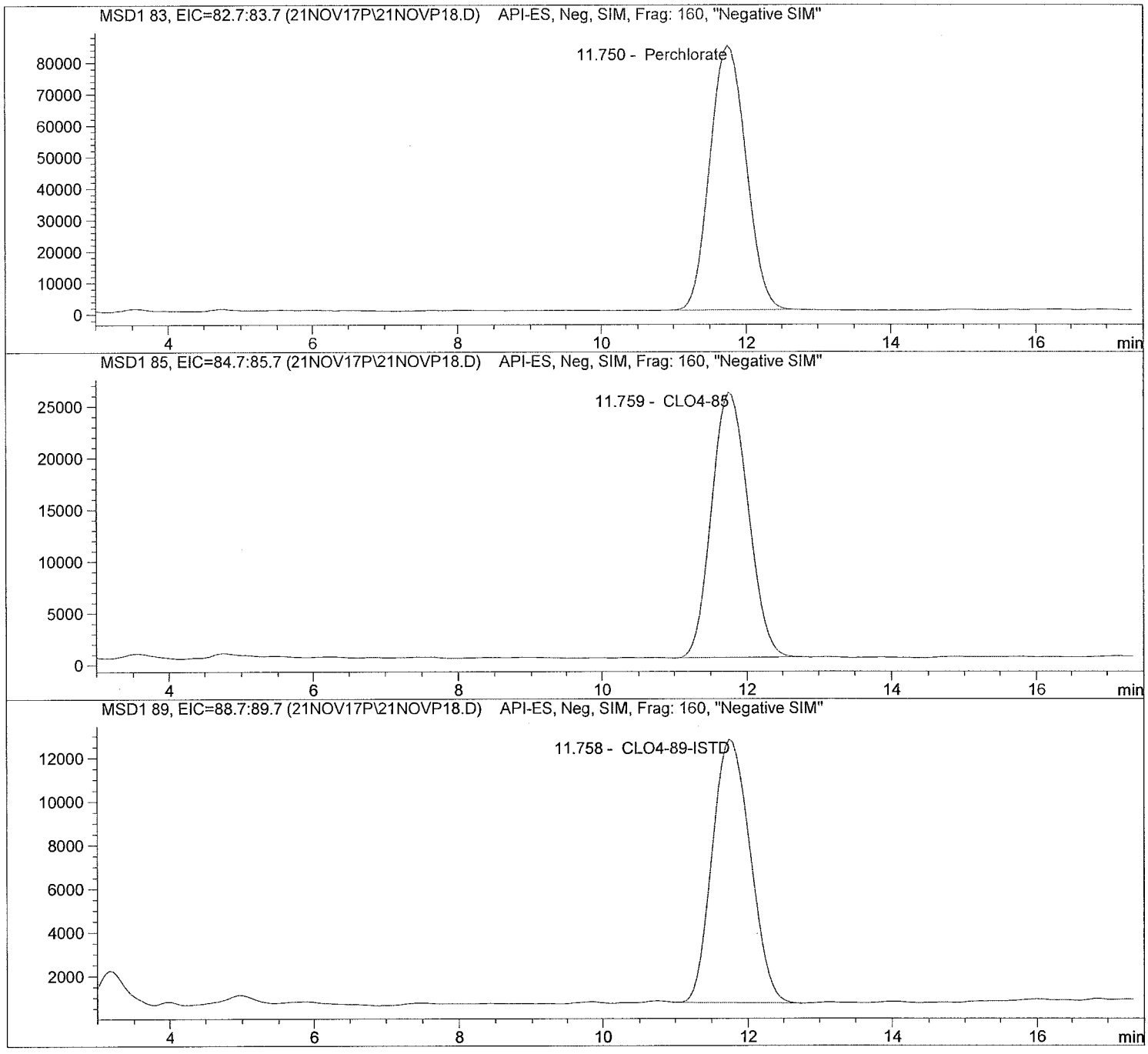
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Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP18.D Sample Name: 575298 CCV@25

Injection Date:	11/21/2017 14:23:47	Seq Line:	18
Sample Name:	575298 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP18.D Sample Name: 575298 CCV@25

Injection Date:	11/21/2017 14:23:47	Seq Line:	18
Sample Name:	575298 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.750	BBA	2905307.0	25.6866	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.759	PBA	898143.1	25.8086	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.758	BBA	438393.9	5.0000	CLO4-89-ISTD

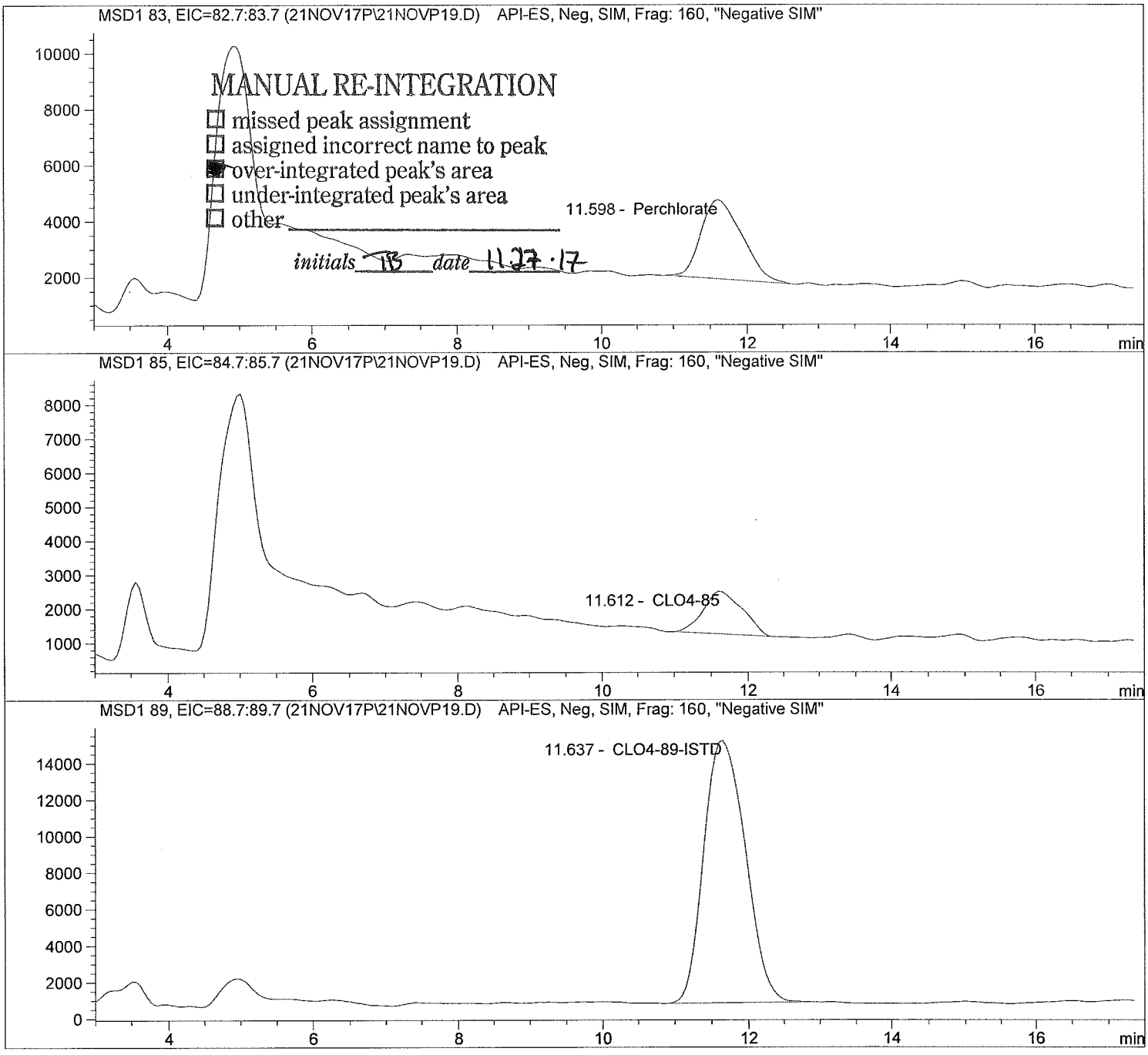
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP19.D Sample Name: 575299 LODV@1.

Injection Date:	11/21/2017 14:43:09	Seq Line:	19
Sample Name:	575299 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP19.D Sample Name: 575299 LODV@1.

Injection Date:	11/21/2017 14:43:09	Seq Line:	19
Sample Name:	575299 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.598	MM	109492.1	0.9032	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.612	PBA	46107.0	1.1489	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.637	PBA	563443.1	5.0000	CLO4-89-ISTD

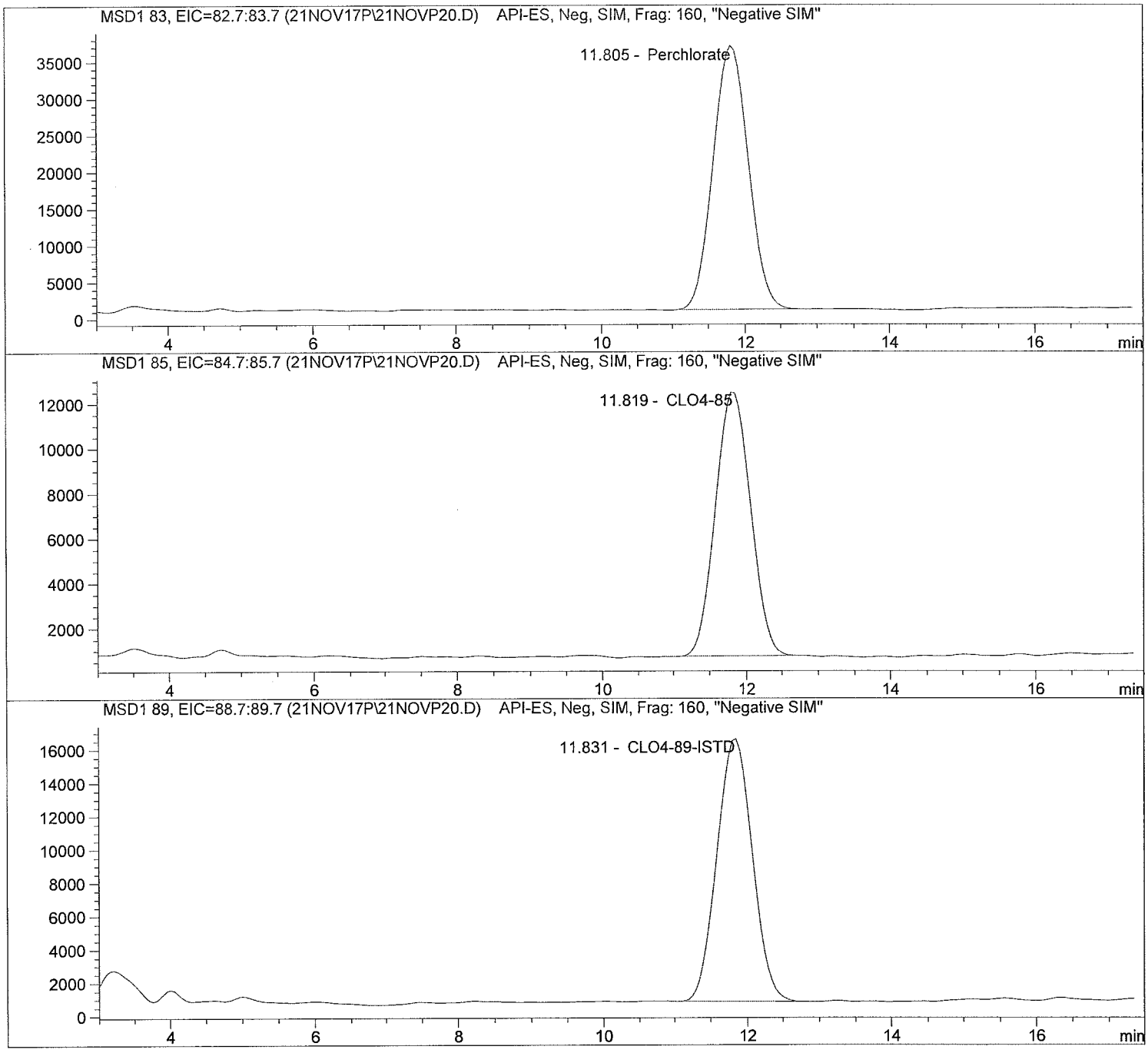
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Injection Date:	11/21/2017 15:02:33	Seq Line:	20
Sample Name:	1731766001 1K	Location:	Vial 88
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP20.D Sample Name: 1731766001 1K

Injection Date:	11/21/2017 15:02:33	Seq Line:	20
Sample Name:	1731766001 1K	Location:	Vial 88
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.805	PBA	1206275.2	9756.4257	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.819	PBA	394066.1	9950.5183	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.831	PBA	534179.2	5000.0000	CLO4-89-ISTD

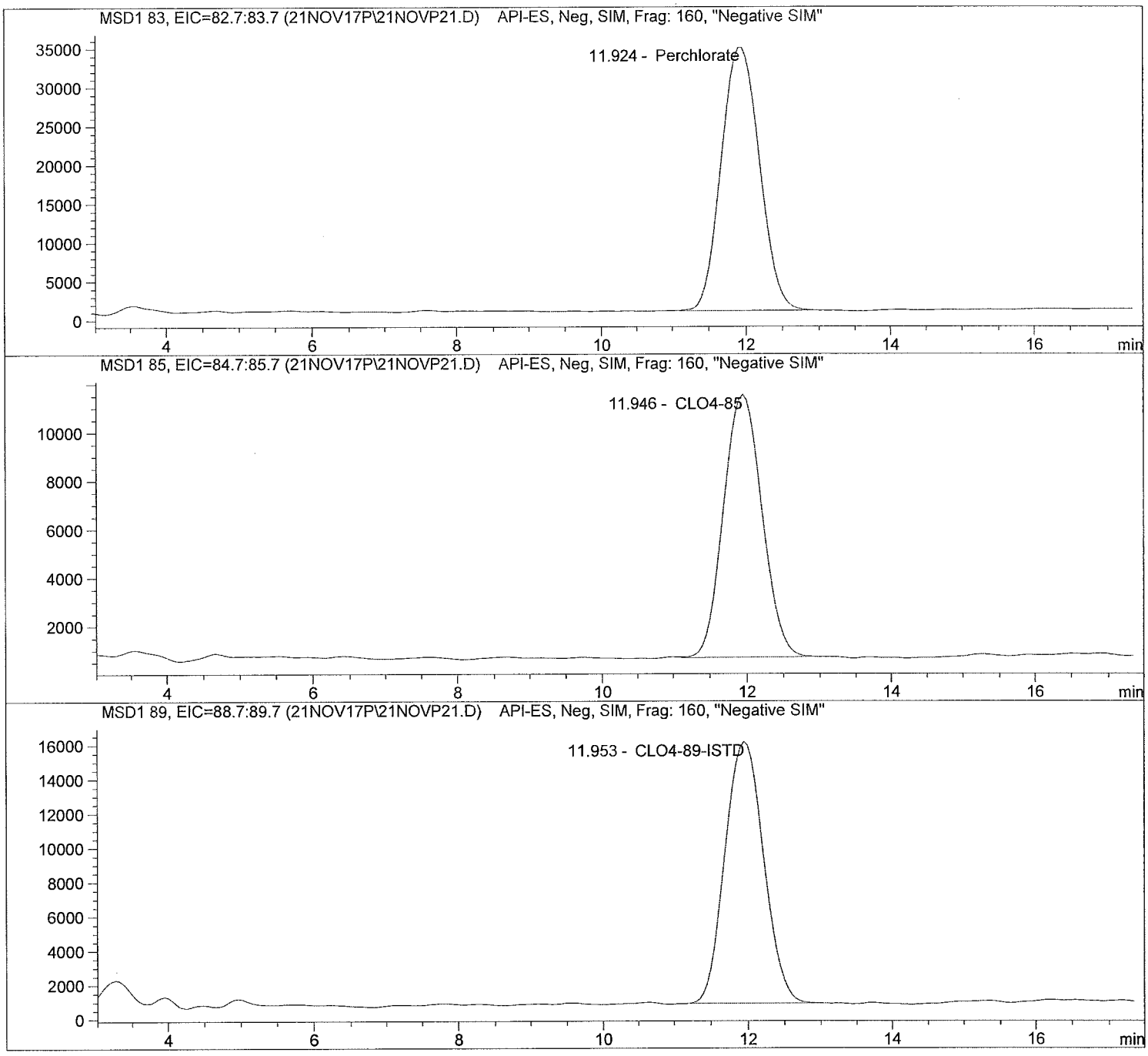
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Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP21.D Sample Name: 1732090001 100

Injection Date:	11/21/2017 15:21:57	Seq Line:	21
Sample Name:	1732090001 100	Location:	Vial 89
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP21.D Sample Name: 1732090001 100

Injection Date:	11/21/2017 15:21:57	Seq Line:	21
Sample Name:	1732090001 100	Location:	Vial 89
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.924	BBA	1227540.0	952.7269	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.946	BBA	393937.0	954.6697	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.953	PBA	557596.7	500.0000	CLO4-89-ISTD

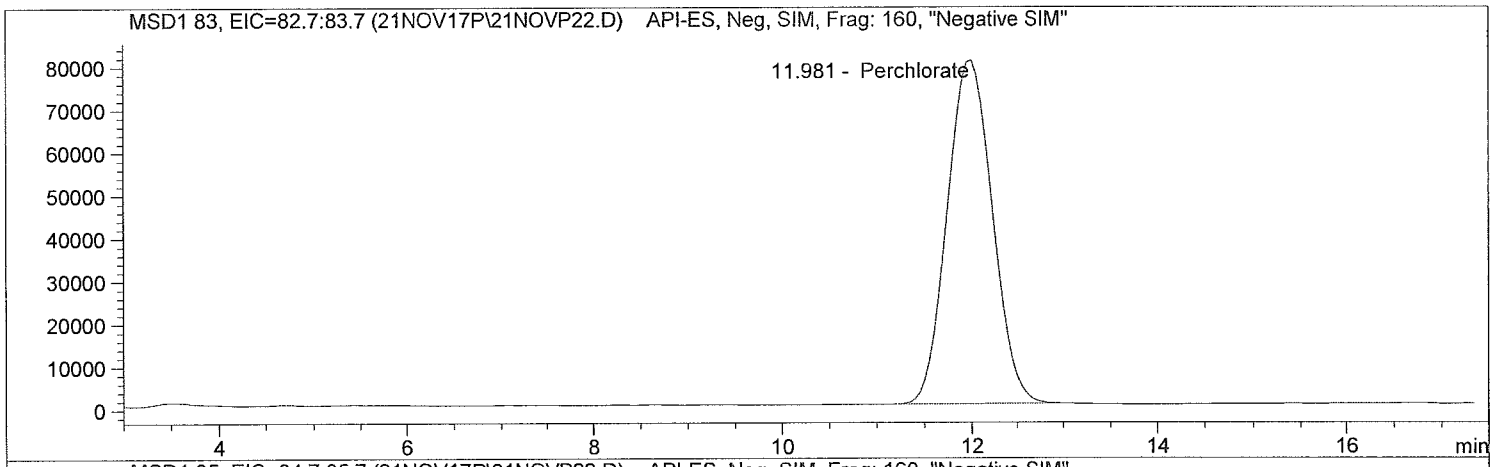
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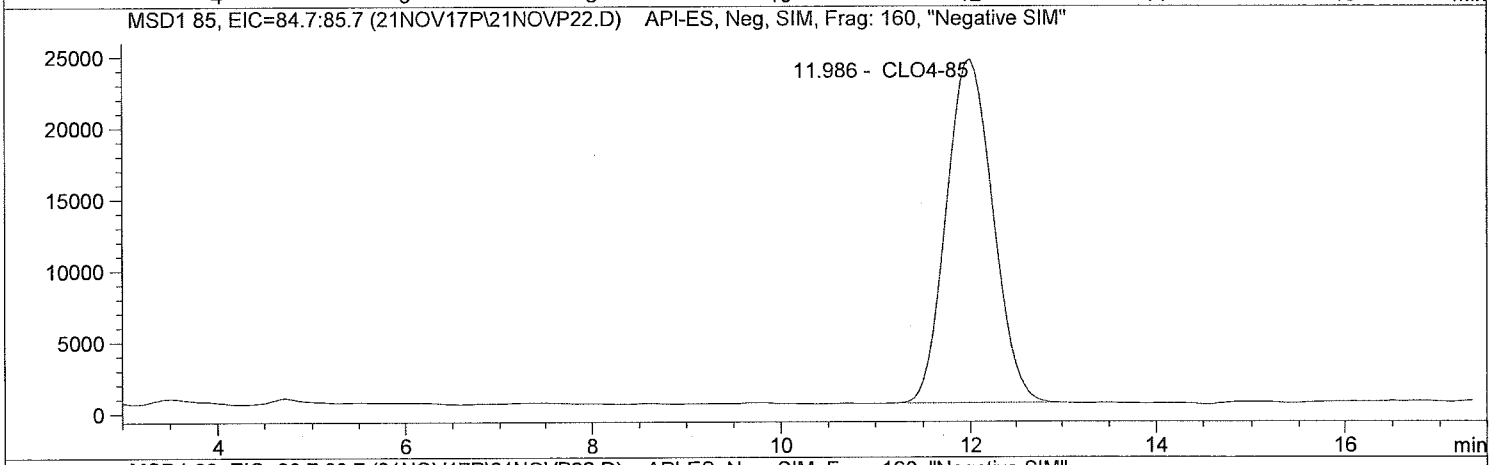
Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP22.D Sample Name: 1732090002 1K

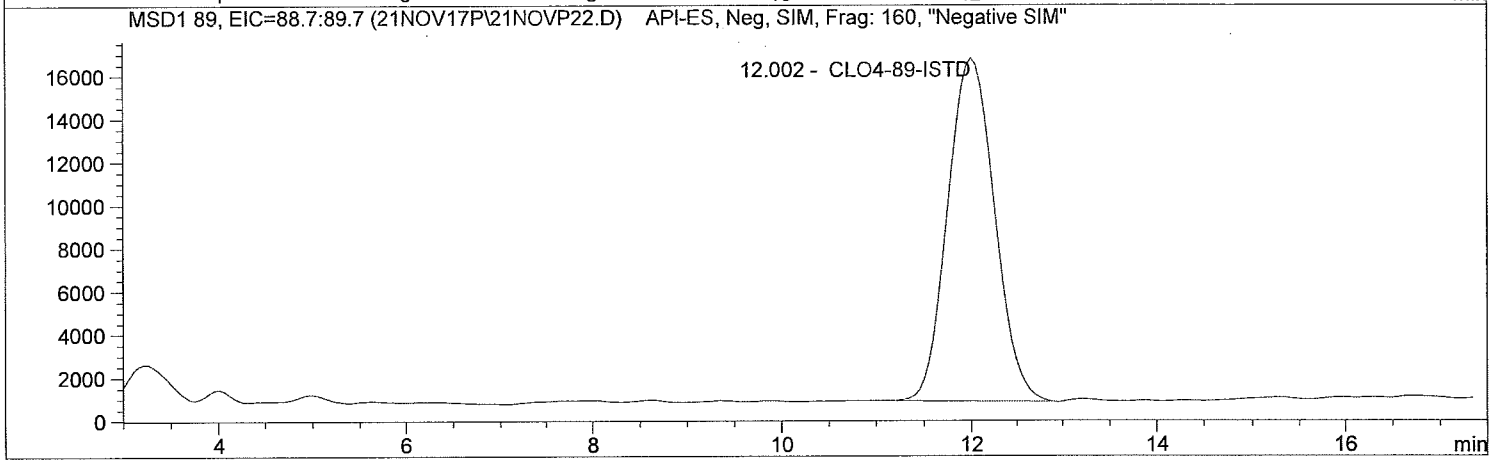
Injection Date:	11/21/2017 15:41:21	Seq Line:	22
Sample Name:	1732090002 1K	Location:	Vial 90
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP22.D Sample Name: 1732090002 1K

Injection Date:	11/21/2017 15:41:21	Seq Line:	22
Sample Name:	1732090002 1K	Location:	Vial 90
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.981	BBA	2701421.3	19523.5581	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.986	BBA	838229.5	19423.8152	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.002	BBA	558493.8	5000.0000	CLO4-89-ISTD

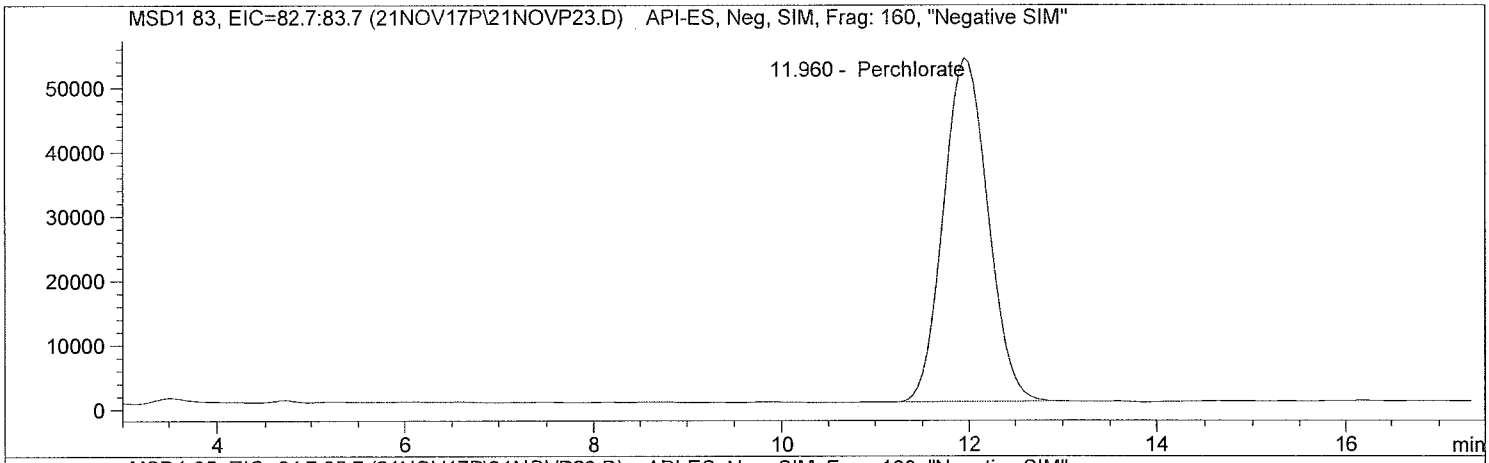
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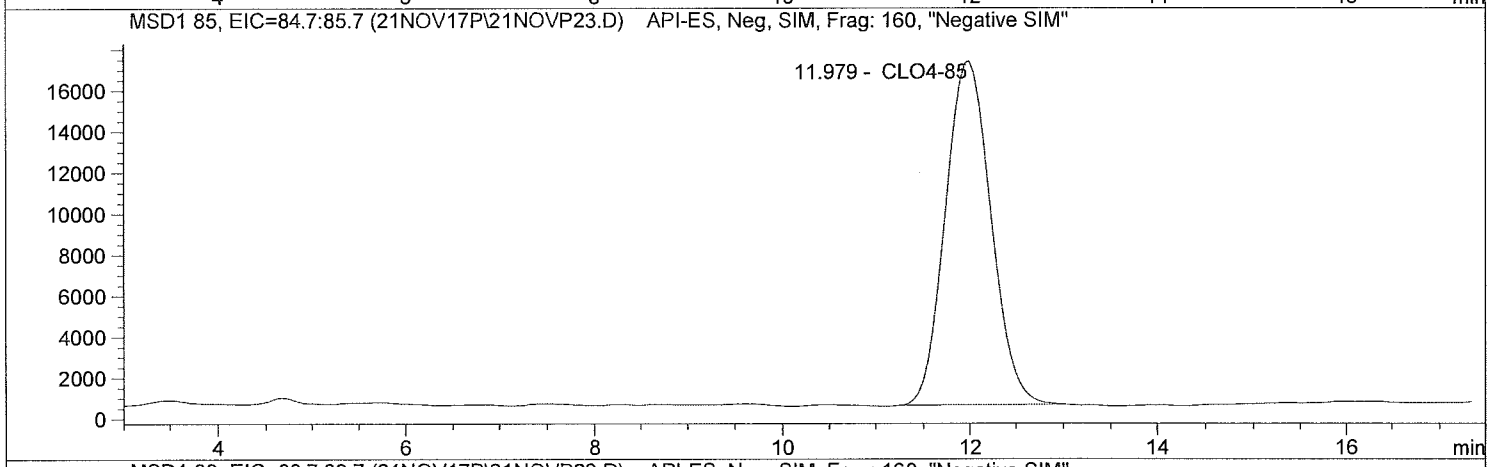
Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP23.D Sample Name: 1732090004 1K

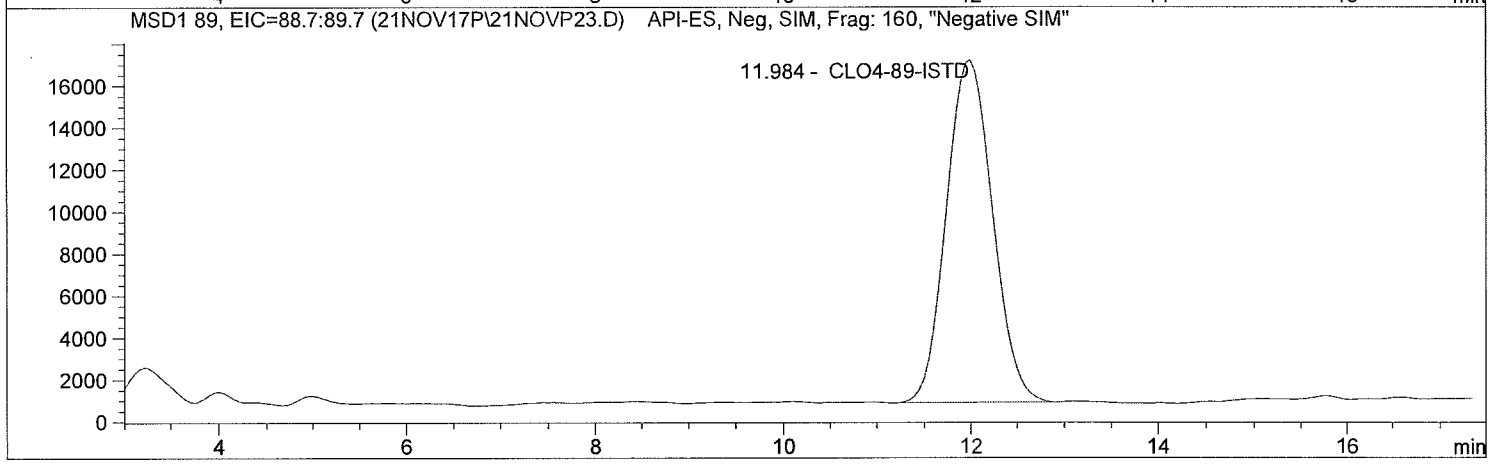
Injection Date:	11/21/2017 16:00:47	Seq Line:	23
Sample Name:	1732090004 1K	Location:	Vial 91
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP23.D Sample Name: 1732090004 1K

Injection Date:	11/21/2017 16:00:47	Seq Line:	23
Sample Name:	1732090004 1K	Location:	Vial 91
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.960	PBA	1788923.6	13308.0292	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.979	PBA	574994.3	13484.3199	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.984	PBA	566247.3	5000.0000	CLO4-89-ISTD

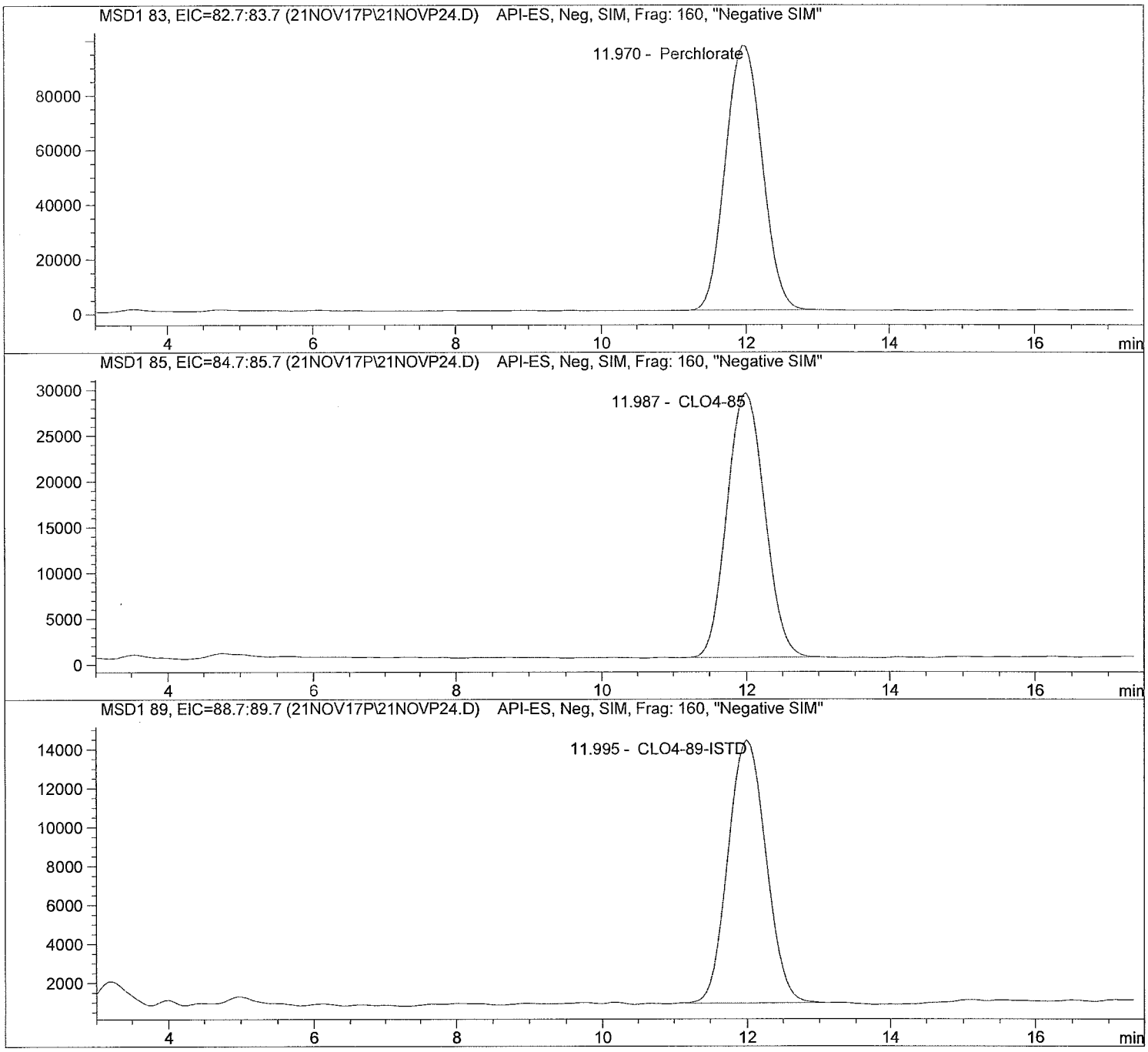
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP24.D Sample Name: 575300 CCV@25

Injection Date:	11/21/2017 16:20:10	Seq Line:	24
Sample Name:	575300 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP24.D Sample Name: 575300 CCV@25

Injection Date:	11/21/2017 16:20:10	Seq Line:	24
Sample Name:	575300 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.970	BBA	3386944.5	26.7050	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.987	BBA	1036548.5	26.6445	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.995	BBA	488376.1	5.0000	CLO4-89-ISTD

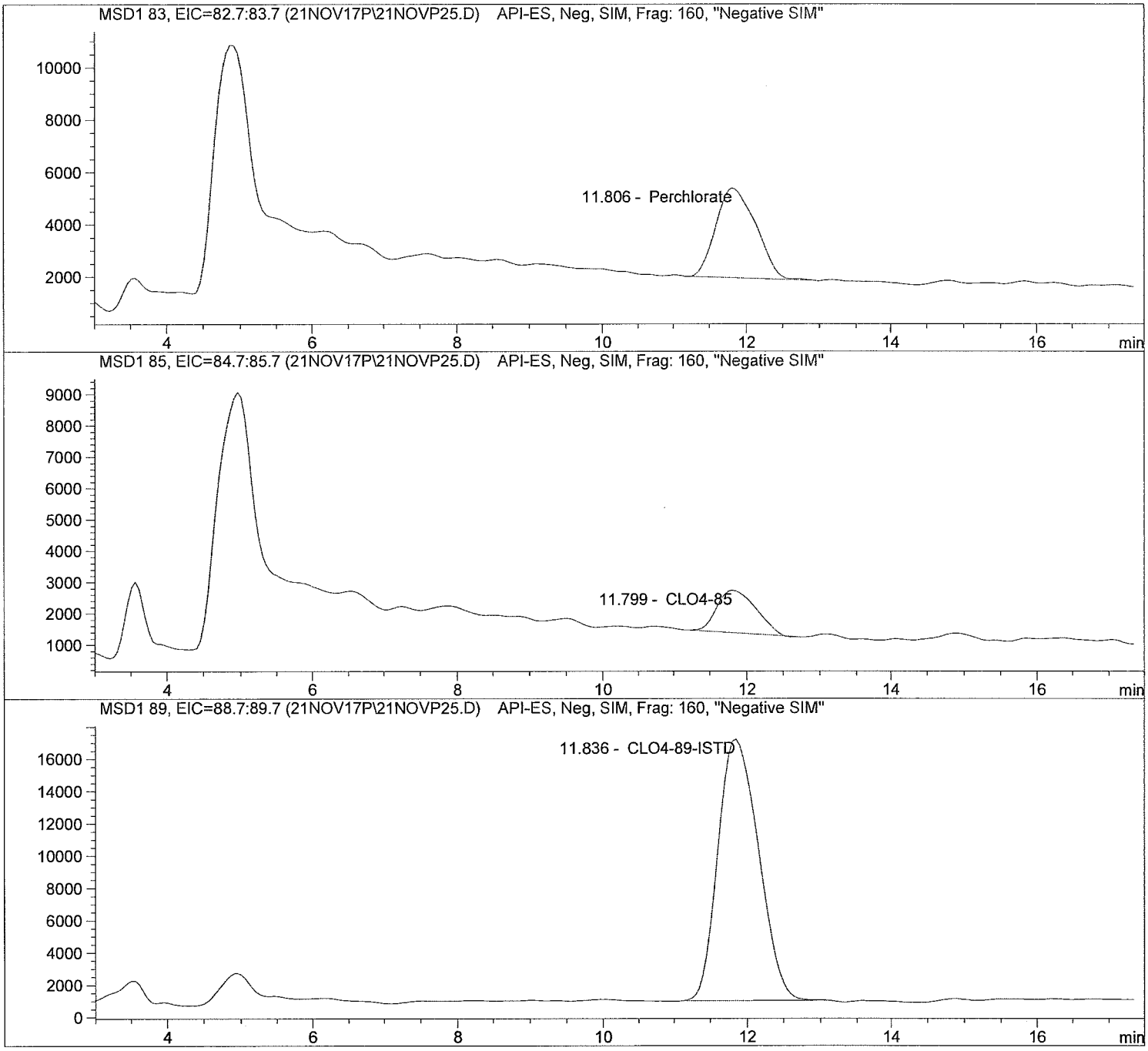
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP25.D Sample Name: 575301 LODV@1.

Injection Date:	11/21/2017 16:39:31	Seq Line:	25
Sample Name:	575301 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP25.D Sample Name: 575301 LODV@1.

Injection Date:	11/21/2017 16:39:31	Seq Line:	25
Sample Name:	575301 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.806	PBA	130116.4	0.9640	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.799	PBA	50238.5	1.1256	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.836	PBA	626702.6	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			

RetTime [min]	Lvl	Sig	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

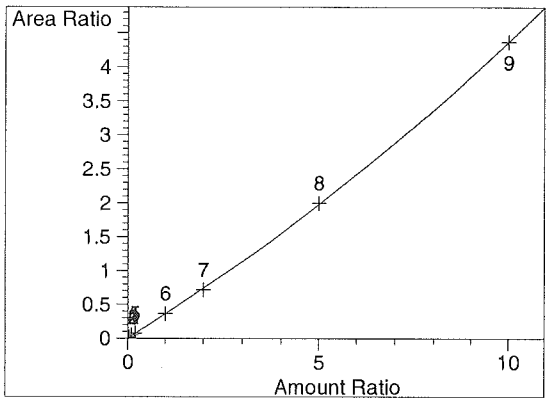
Peak Sum Table

No Entries in table

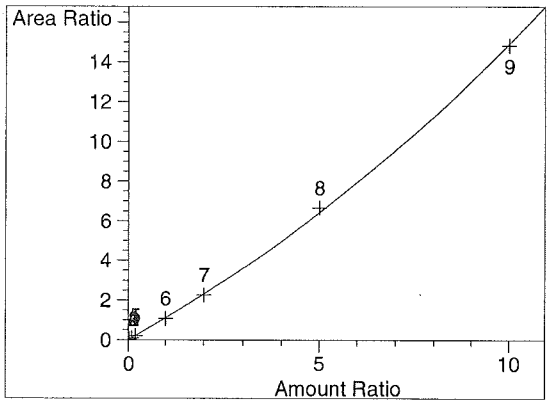
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Calibration Curves

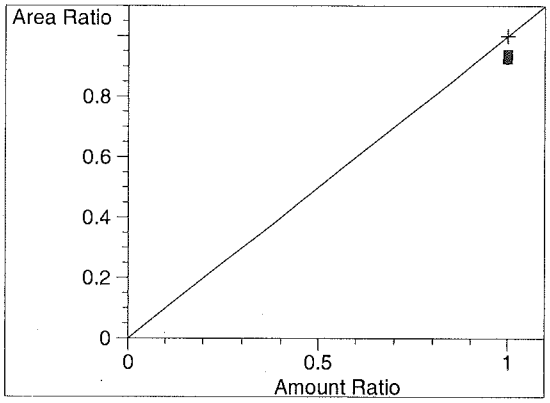
==========



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:

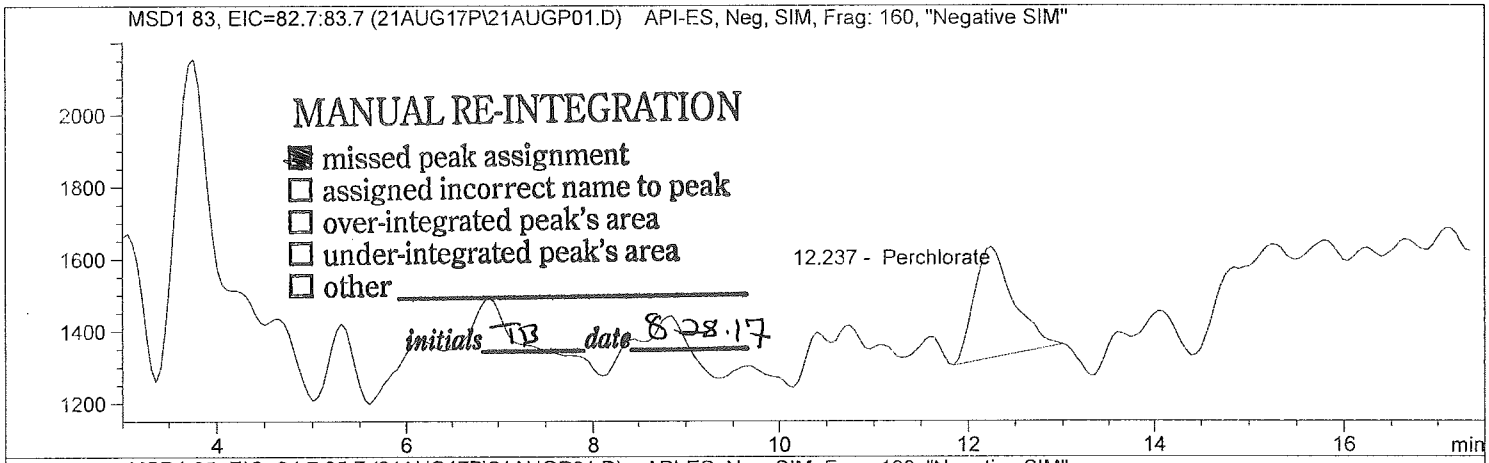
Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	ICAL1@ .05ug/L	CLO4-AQN	1	Ctrl Samp		
2	Vial 72	ICAL2@ .10ug/L	CLO4-AQN	1	Ctrl Samp		
3	Vial 73	ICAL3@ .20ug/L	CLO4-AQN	1	Ctrl Samp		
4	Vial 74	ICAL4@ 0.5ug/L	CLO4-AQN	1	Ctrl Samp		
5	Vial 75	ICAL5@ 1.0ug/L	CLO4-AQN	1	Ctrl Samp		
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		

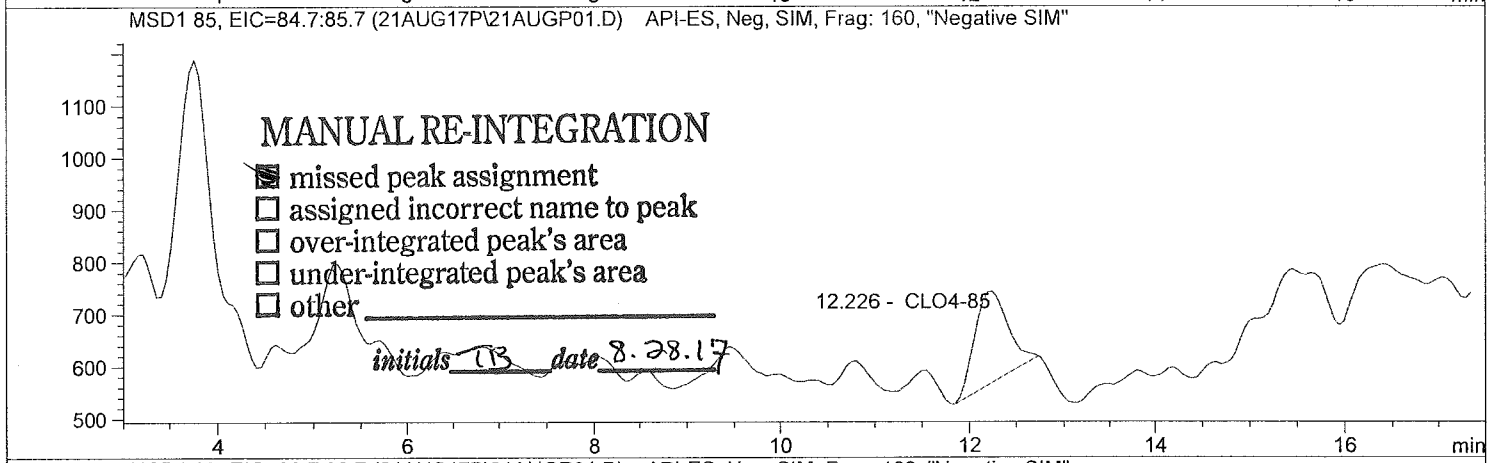
Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP01.D Sample Name: ICAL1@ .05ug/L

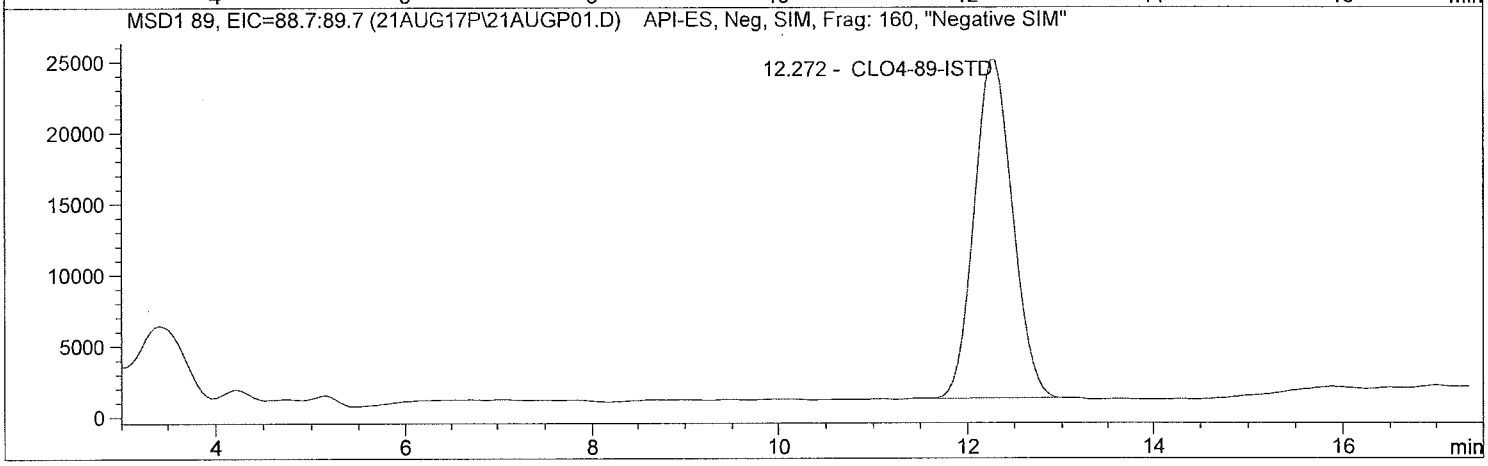
Injection Date:	8/21/2017 09:42:32	Seq Line:	1
Sample Name:	ICAL1@ .05ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

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

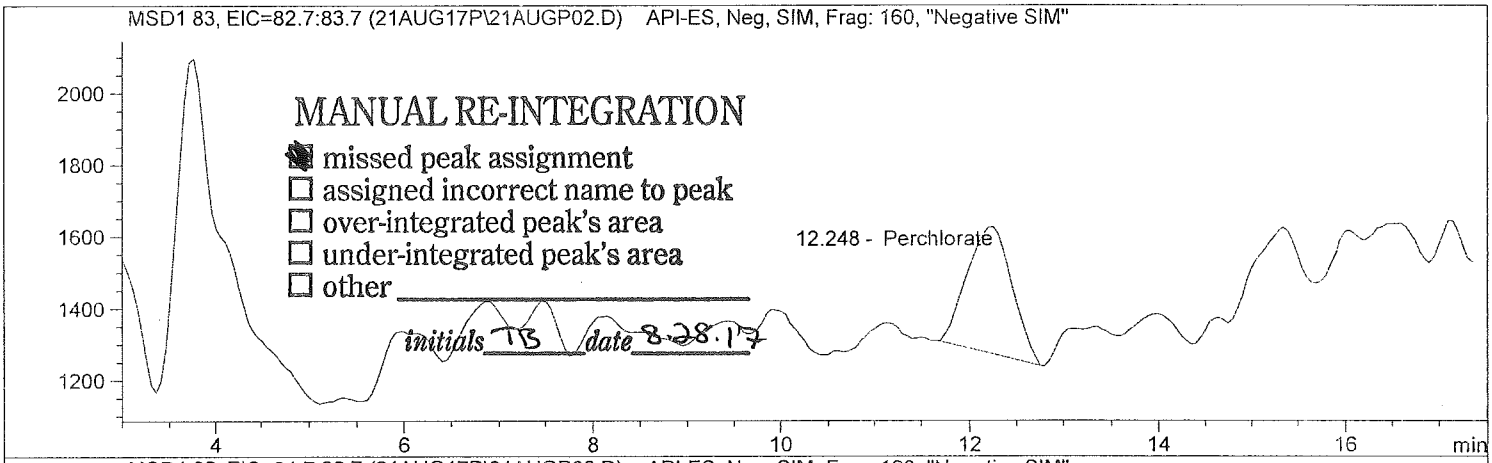
*** End of Report ***

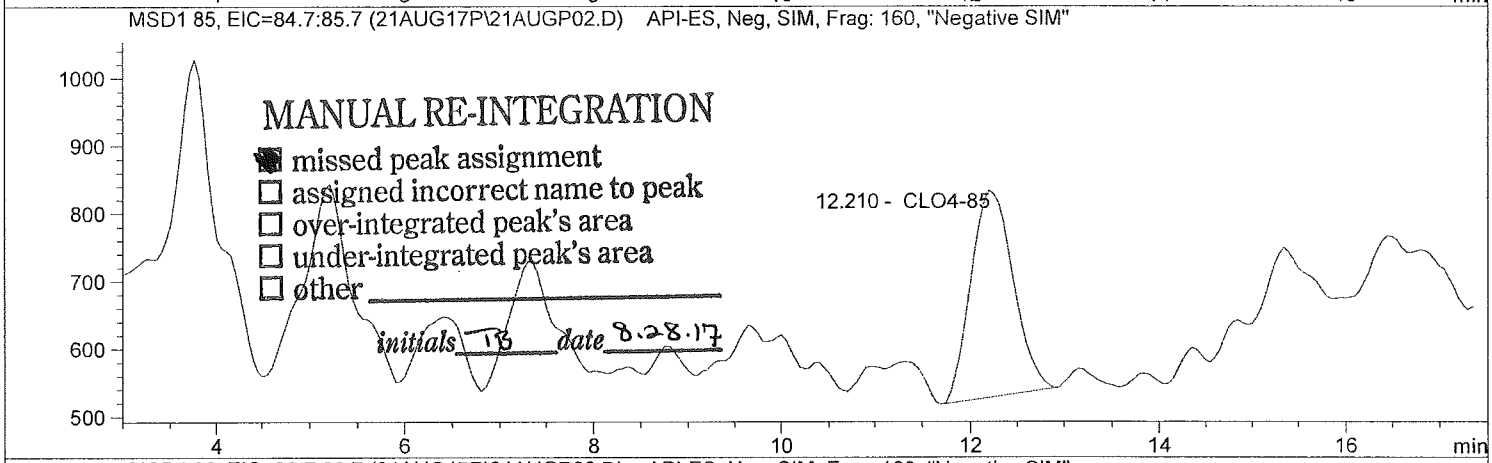
Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP02.D Sample Name: ICAL2@ .10ug/L

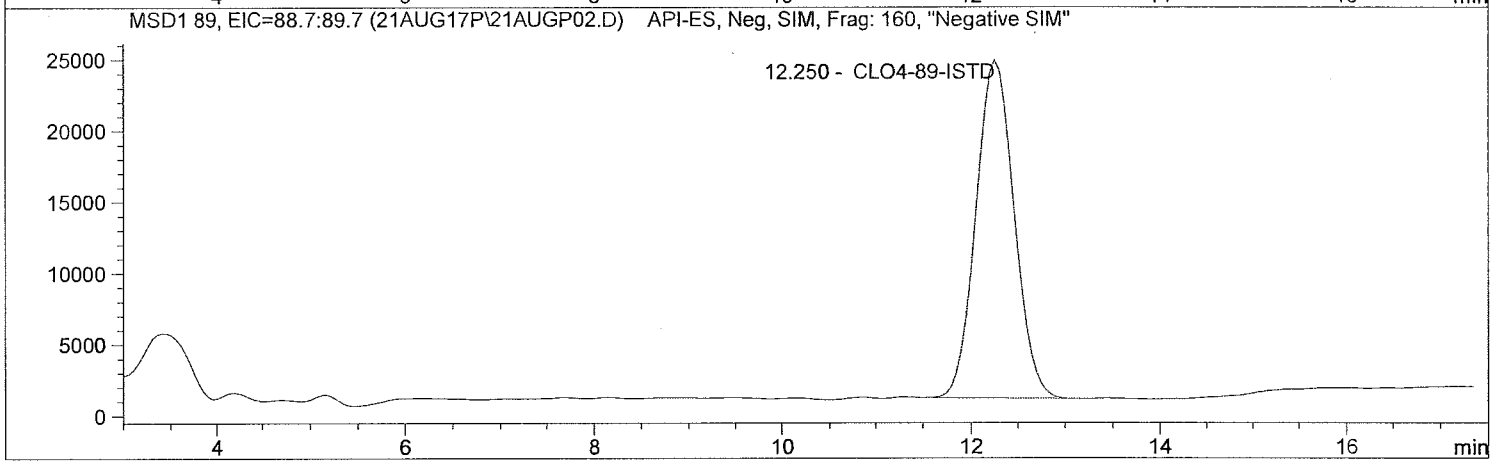
Injection Date:	8/21/2017 10:01:47	Seq Line:	2
Sample Name:	ICAL2@ .10ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

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

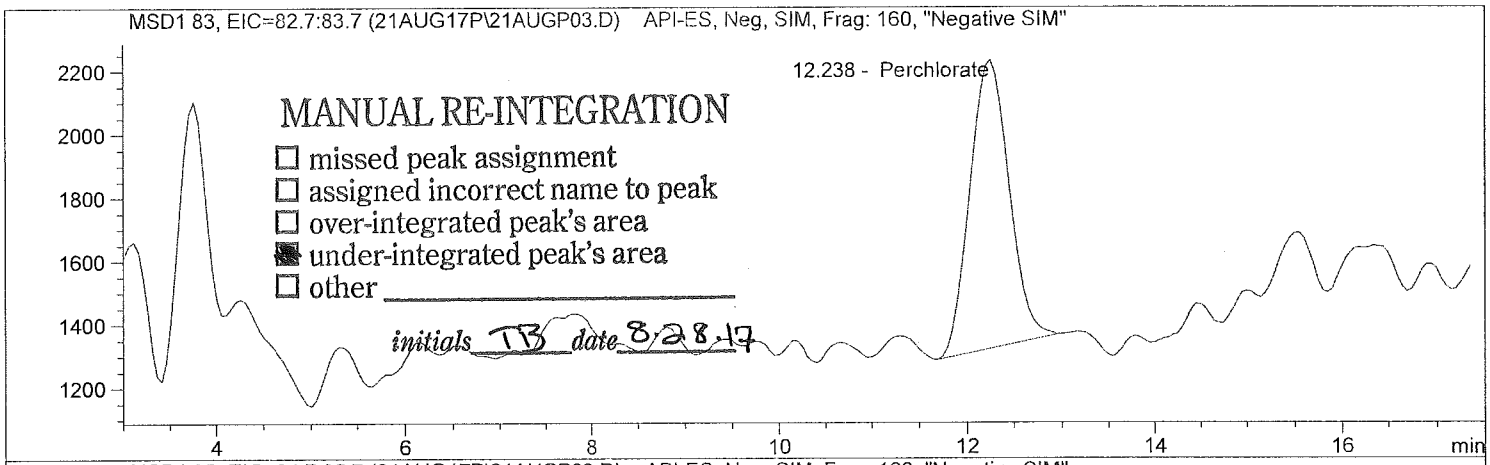
*** End of Report ***

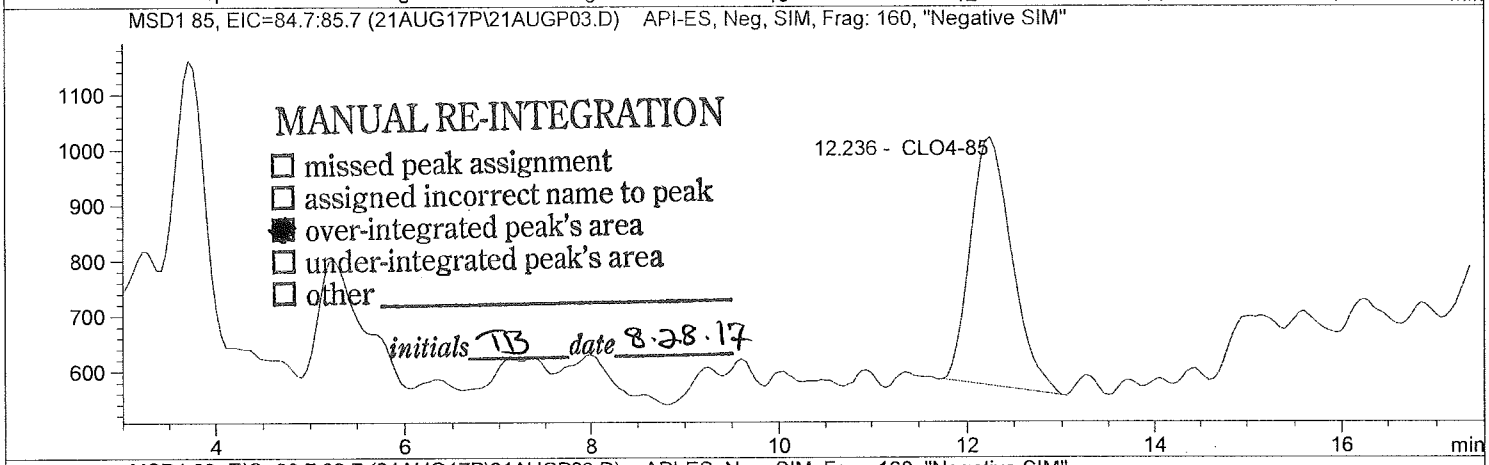
Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP03.D Sample Name: ICAL3@ .20ug/L

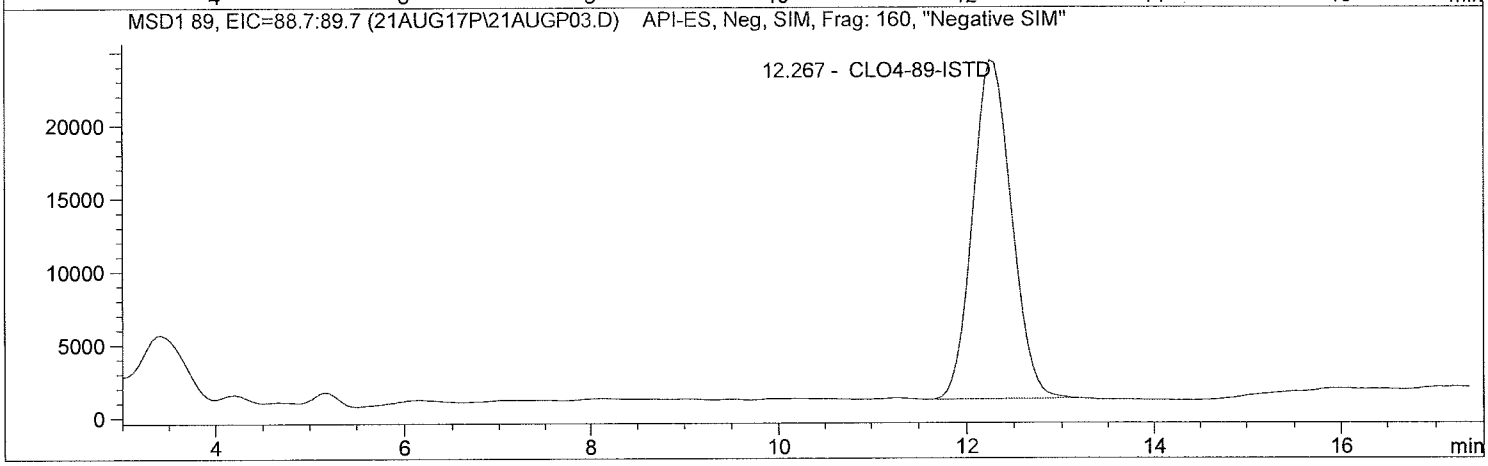
Injection Date:	8/21/2017 10:21:02	Seq Line:	3
Sample Name:	ICAL3@ .20ug/L	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

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

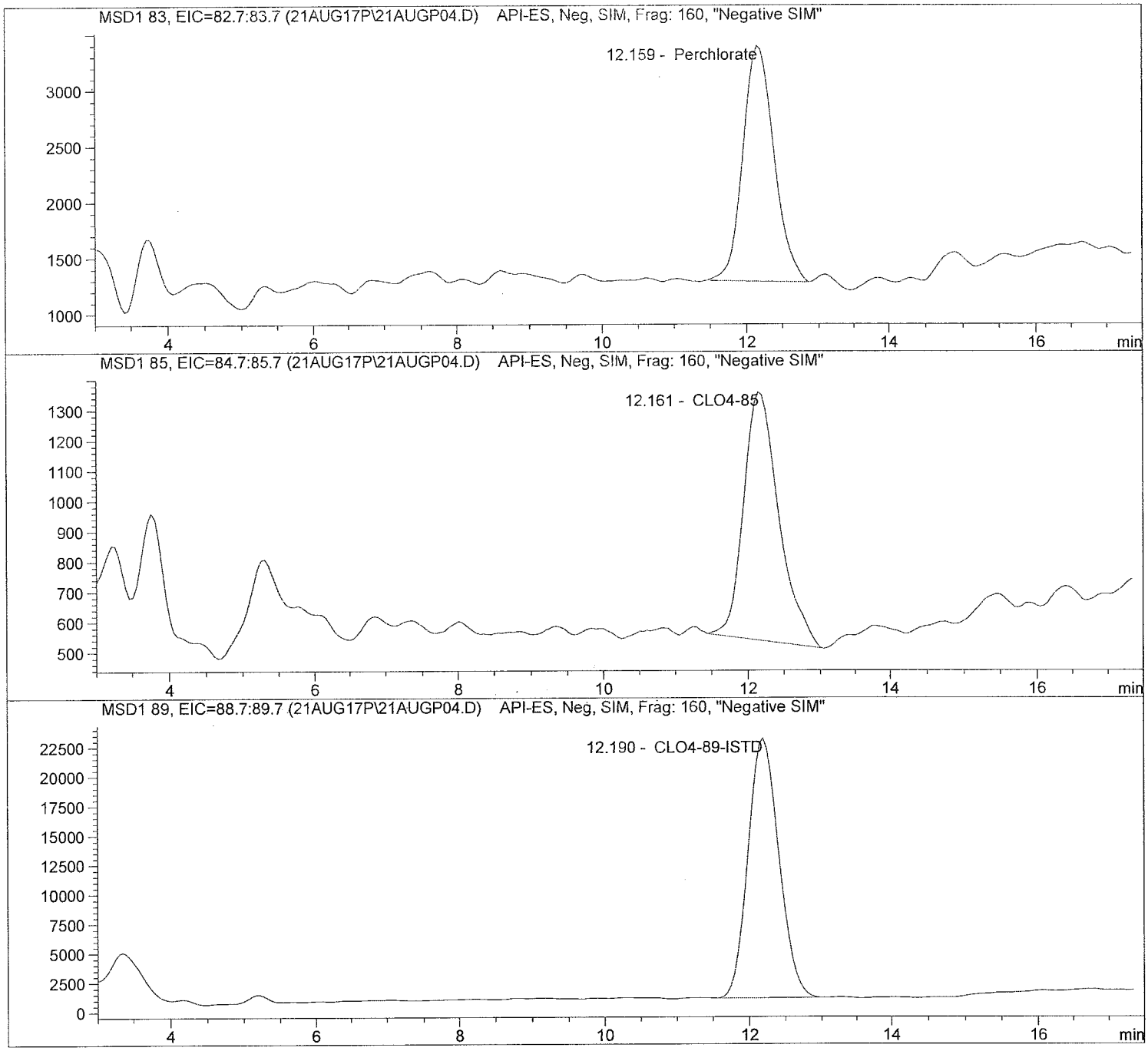
*** End of Report ***

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

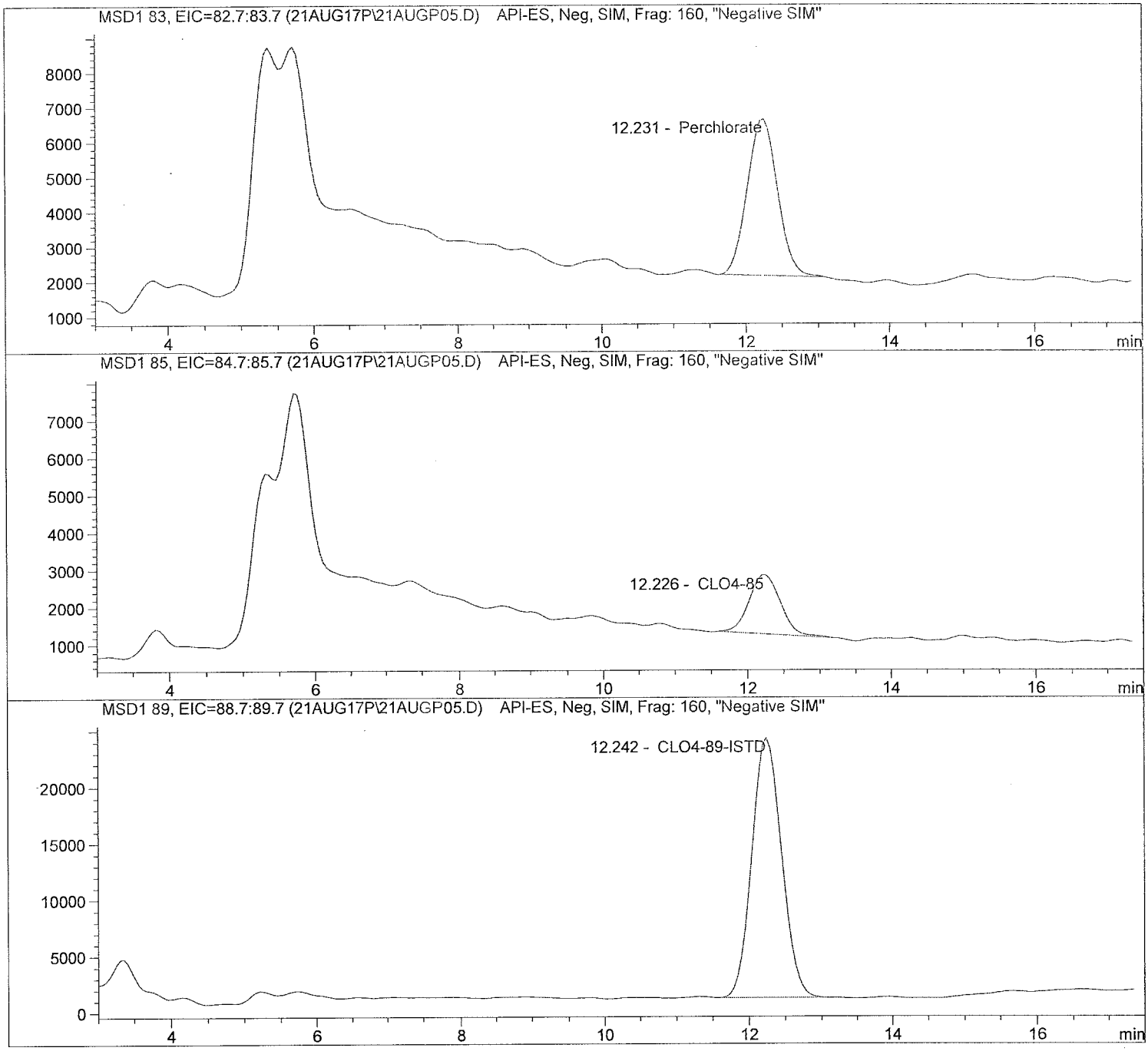
*** End of Report ***

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

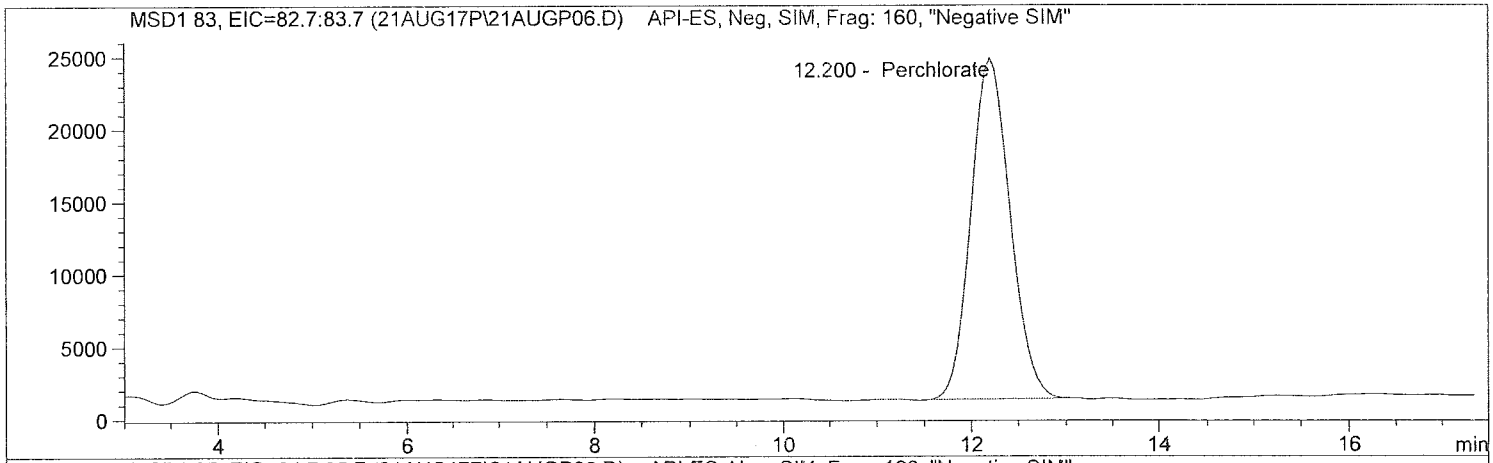
*** End of Report ***

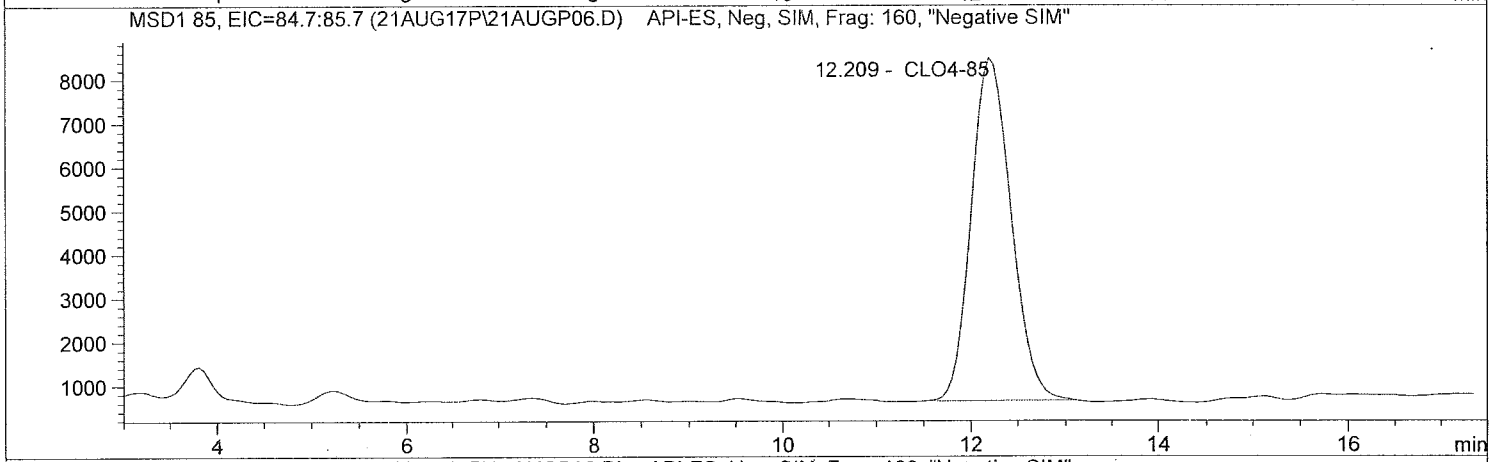
Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP06.D Sample Name: ICAL6@ 5.0ug/L

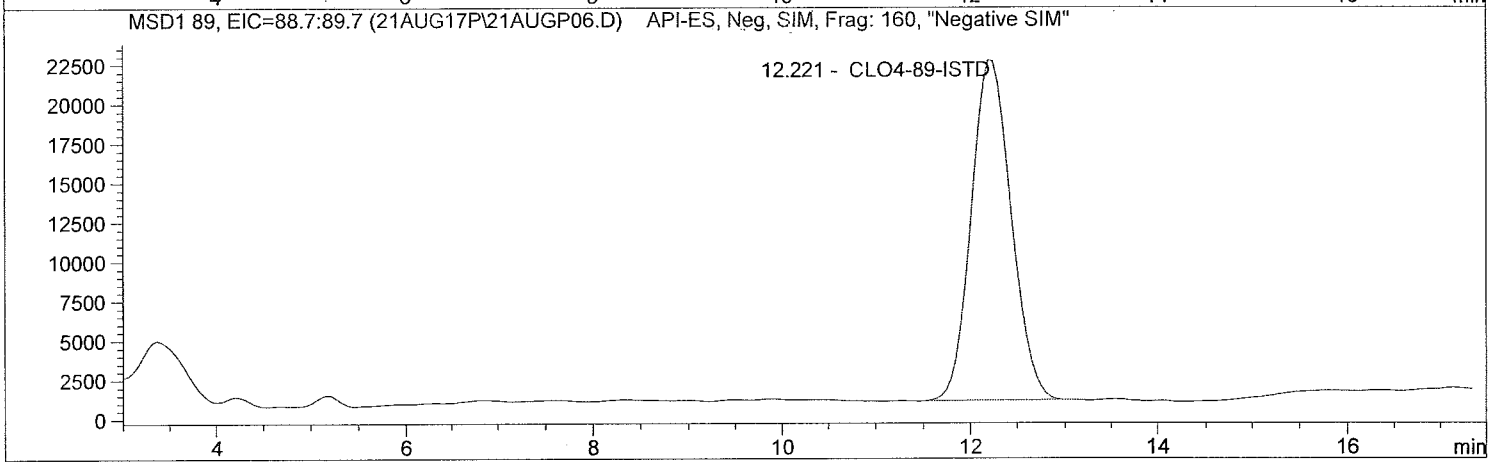
Injection Date:	8/21/2017 11:18:53	Seq Line:	6
Sample Name:	ICAL6@ 5.0ug/L	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

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

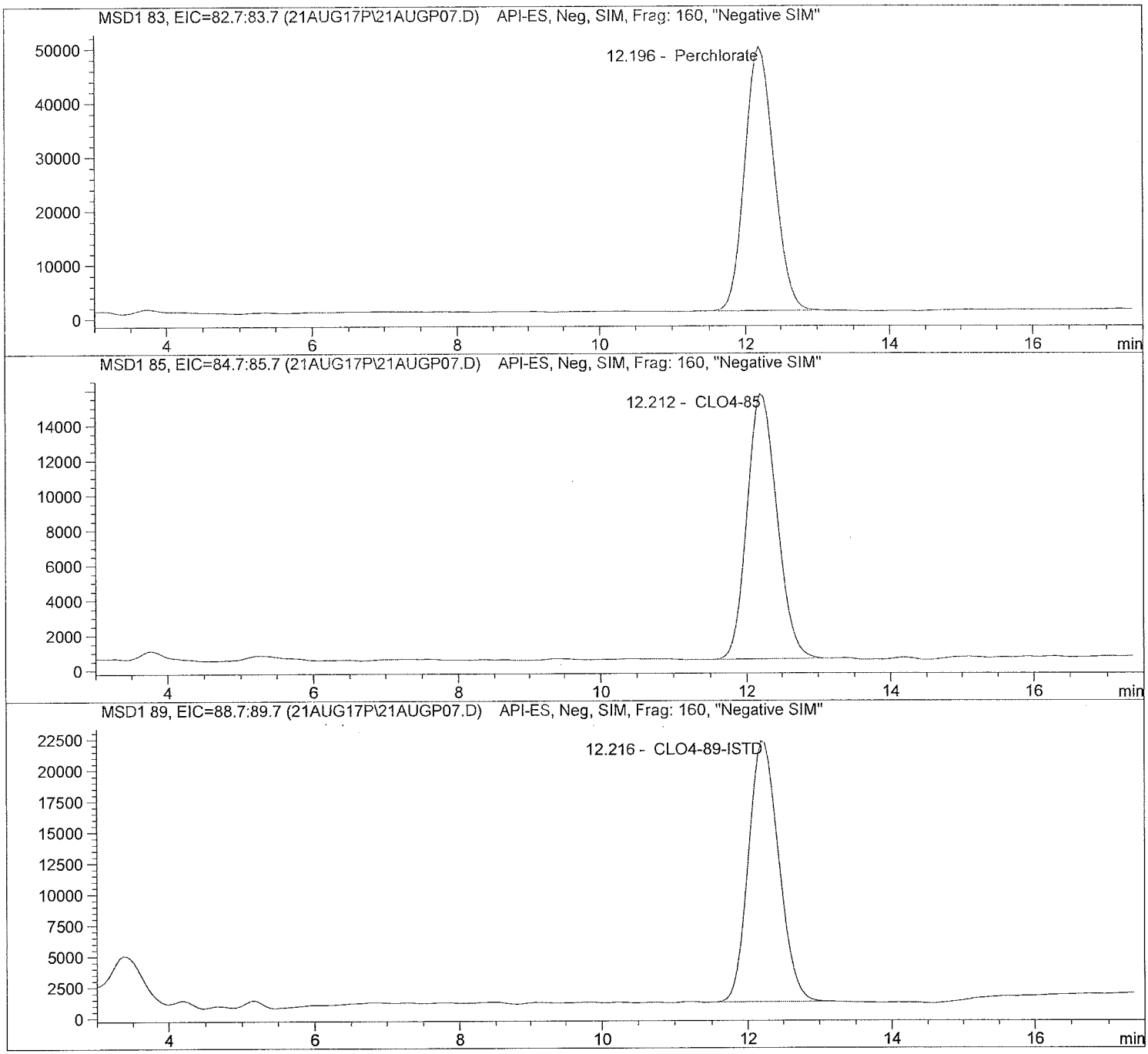
*** End of Report ***

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

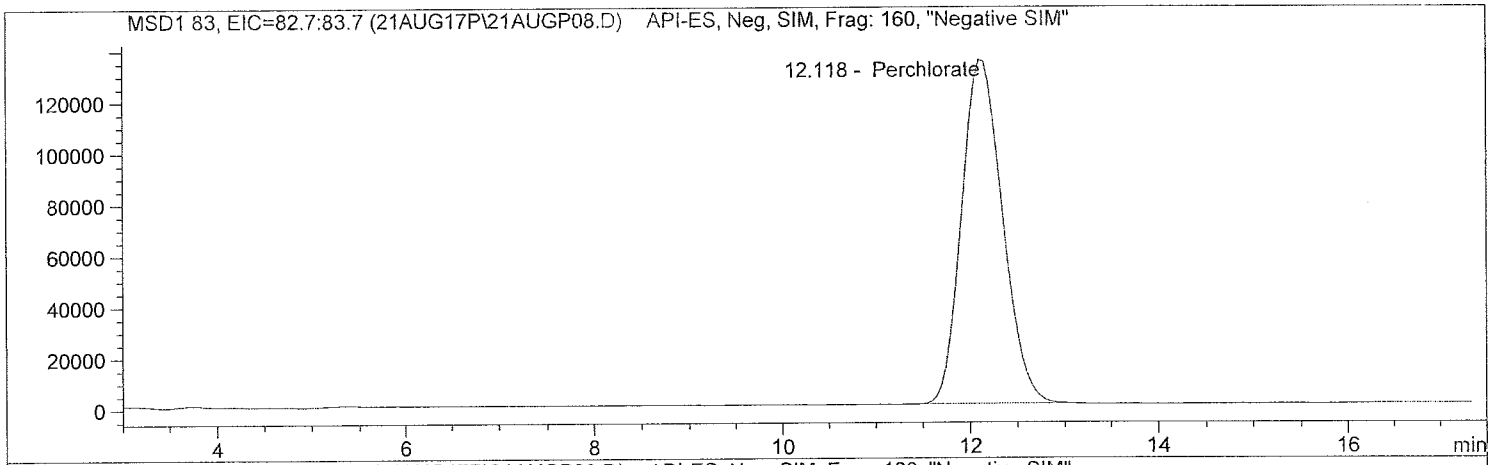
*** End of Report ***

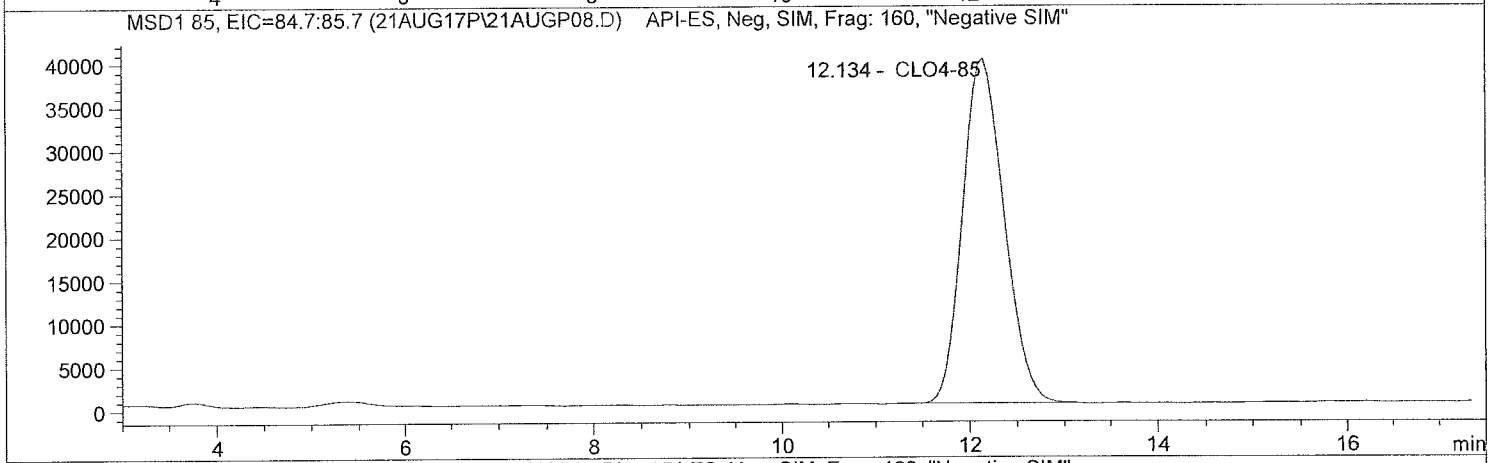
Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP08.D Sample Name: ICAL8@ 25.ug/L

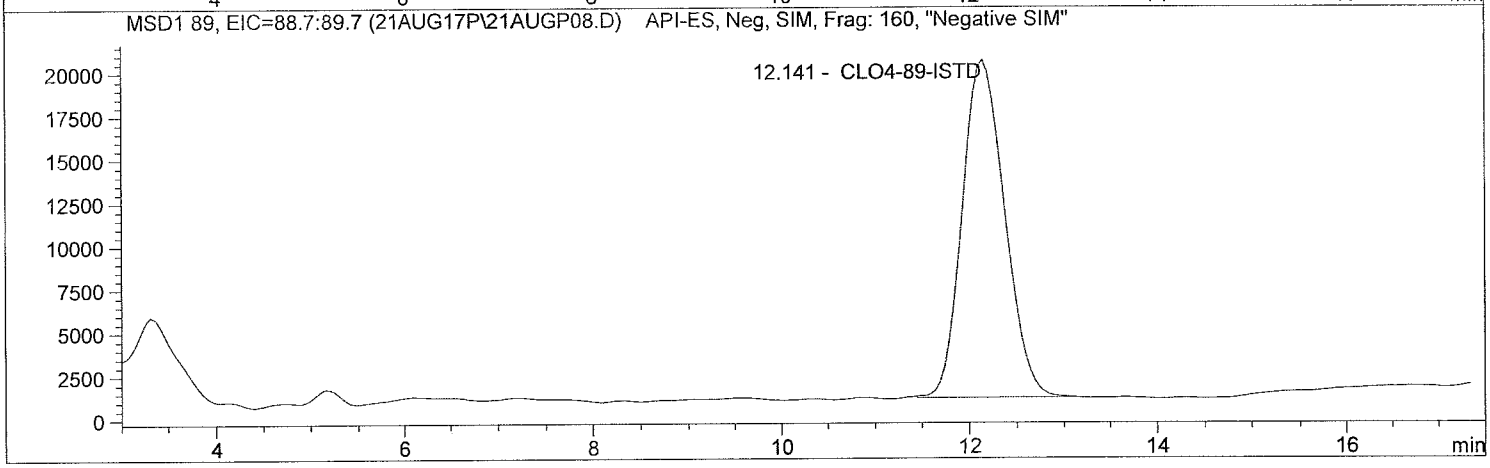
Injection Date:	8/21/2017 13:12:50	Seq Line:	8
Sample Name:	ICAL8@ 25.ug/L	Location:	Vial 78
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

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

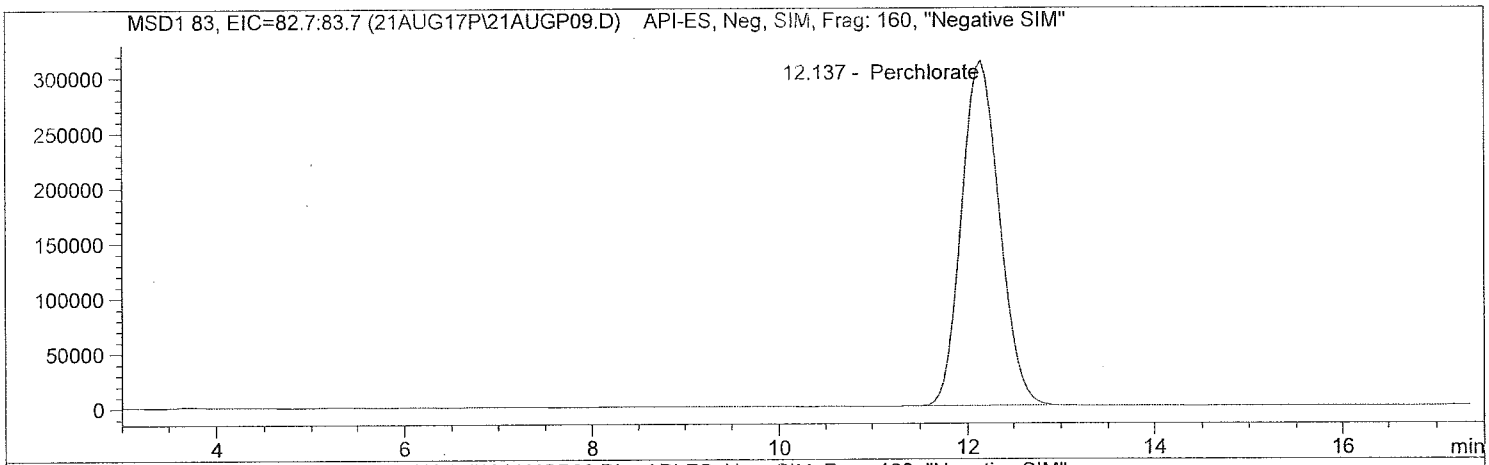
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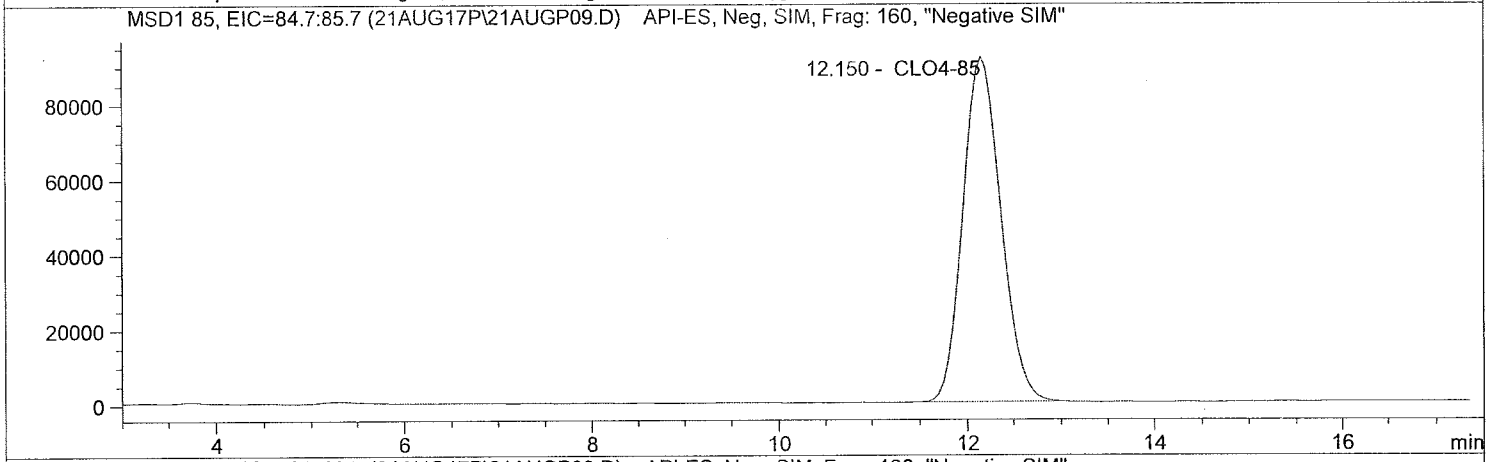
Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP09.D Sample Name: ICAL9@ 50.ug/L

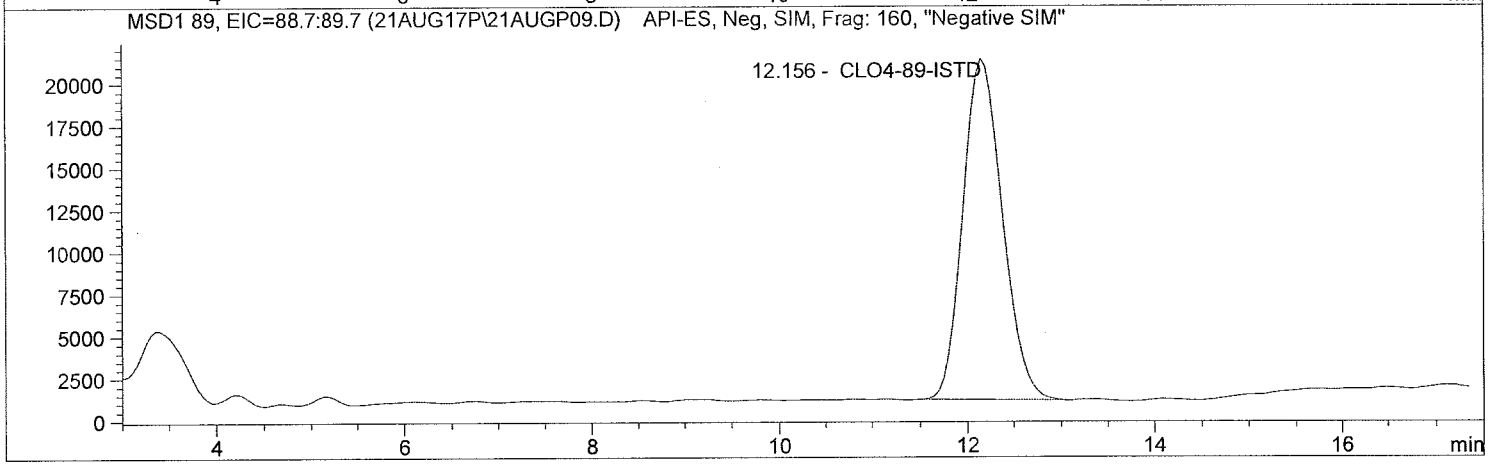
Injection Date:	8/21/2017 13:32:10	Seq Line:	9
Sample Name:	ICAL9@ 50.ug/L	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

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

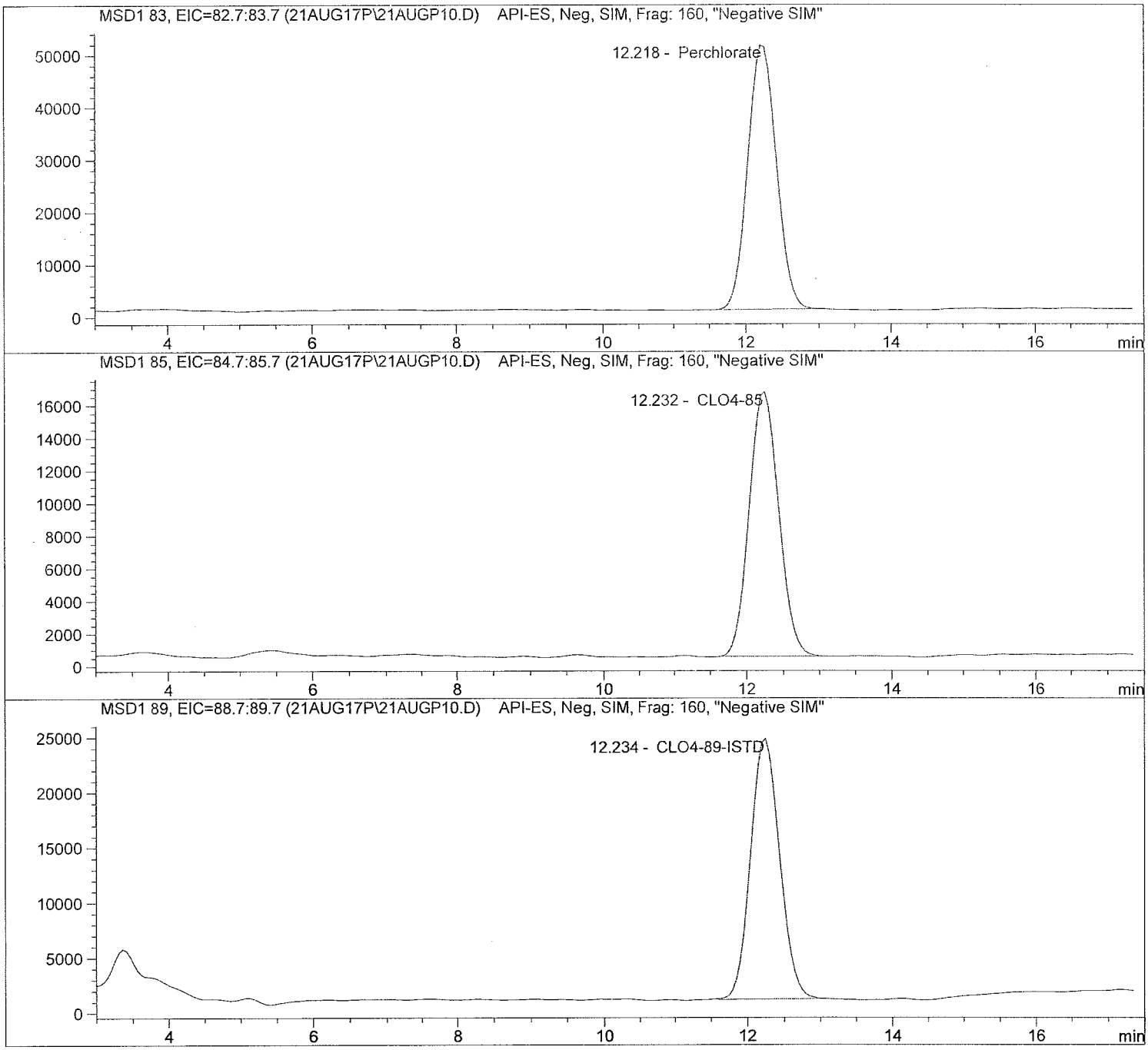
*** End of Report ***

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

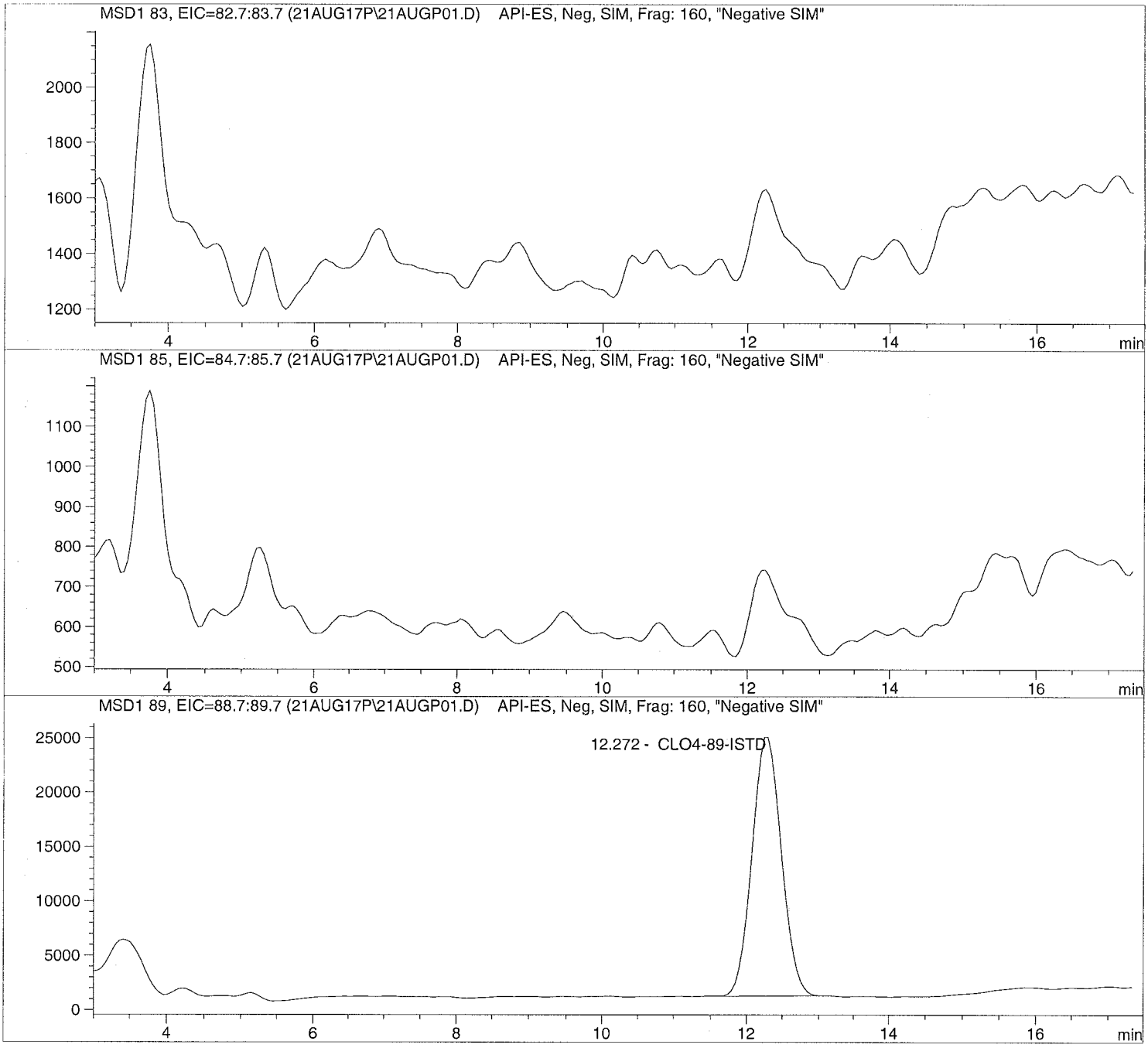
Unmodified

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

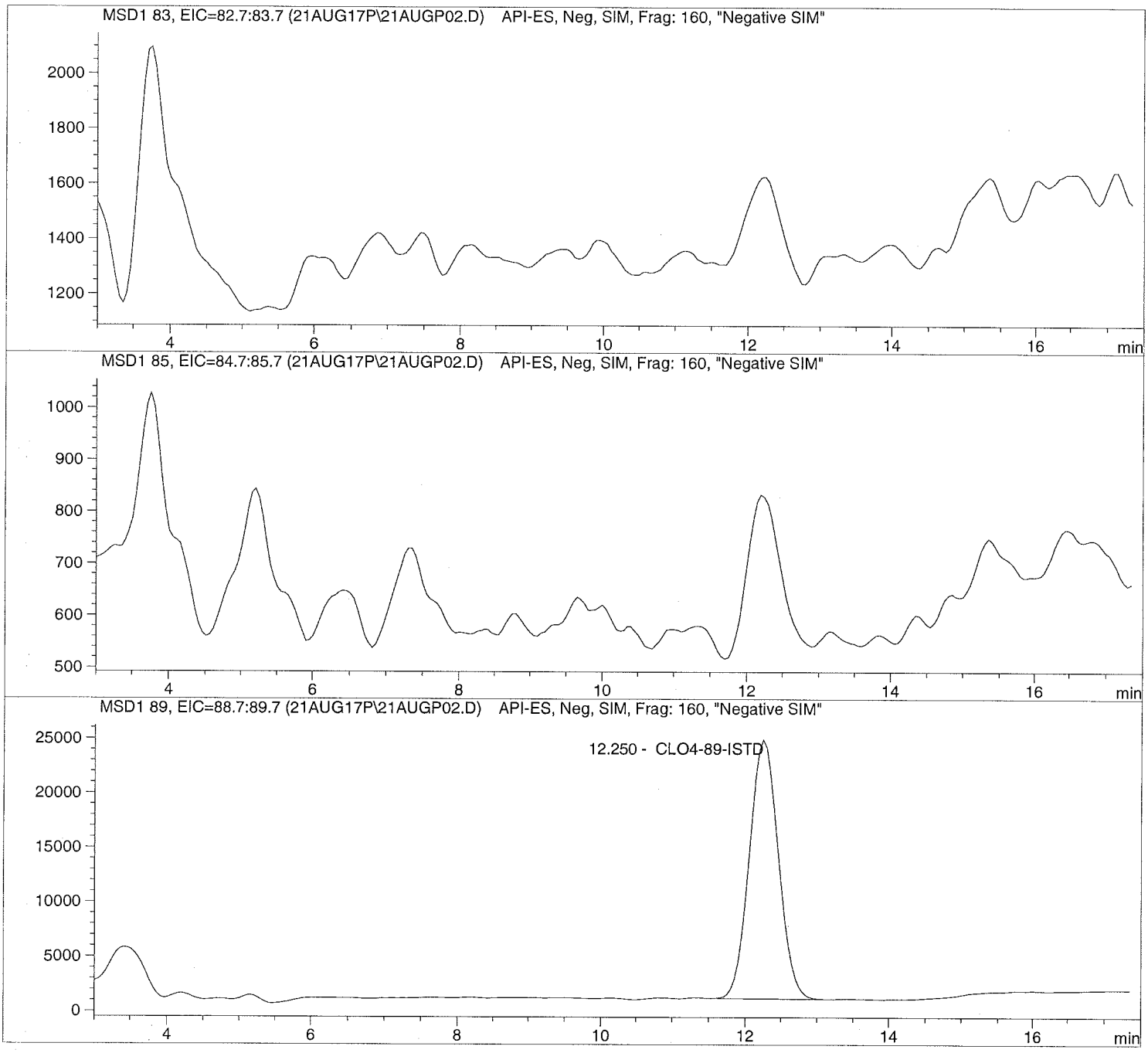
*** End of Report ***

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

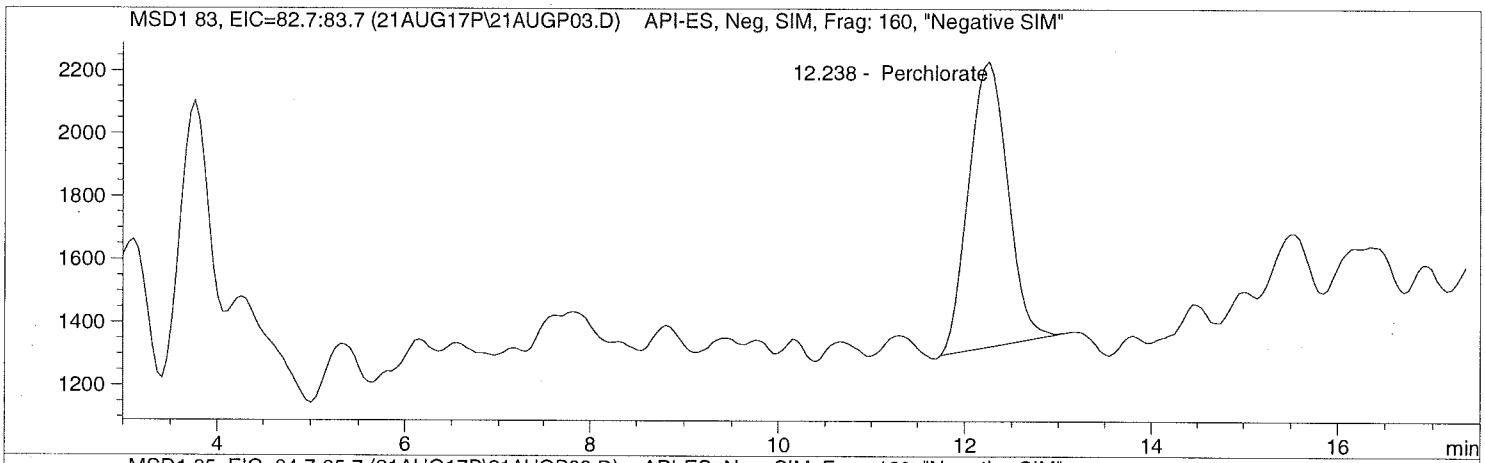
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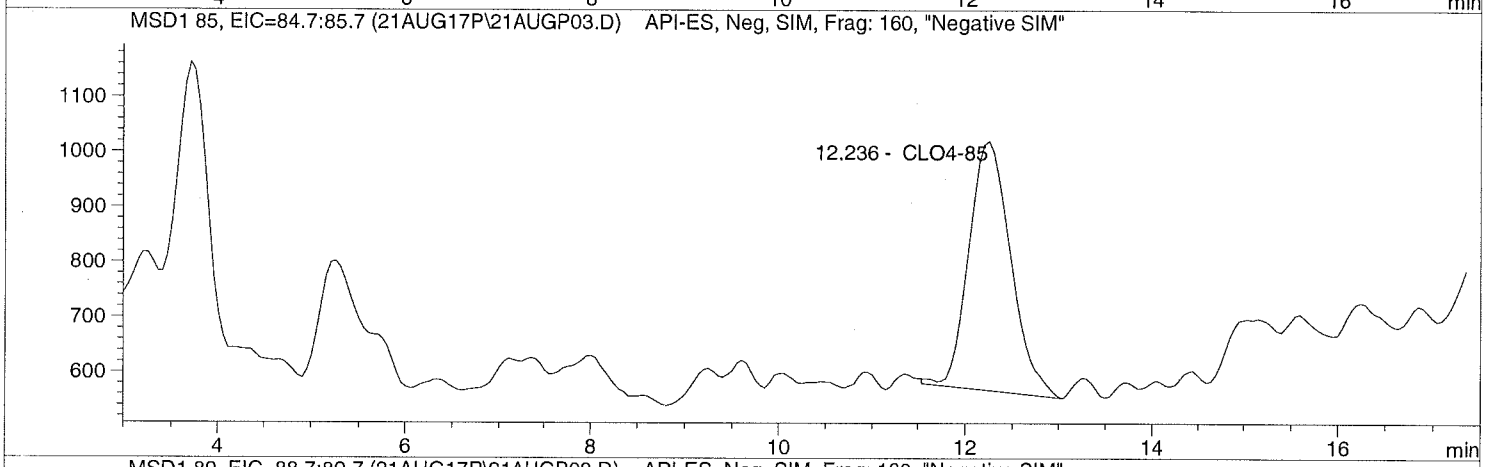
Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP03.D Sample Name: ICAL3@ .20ug/L

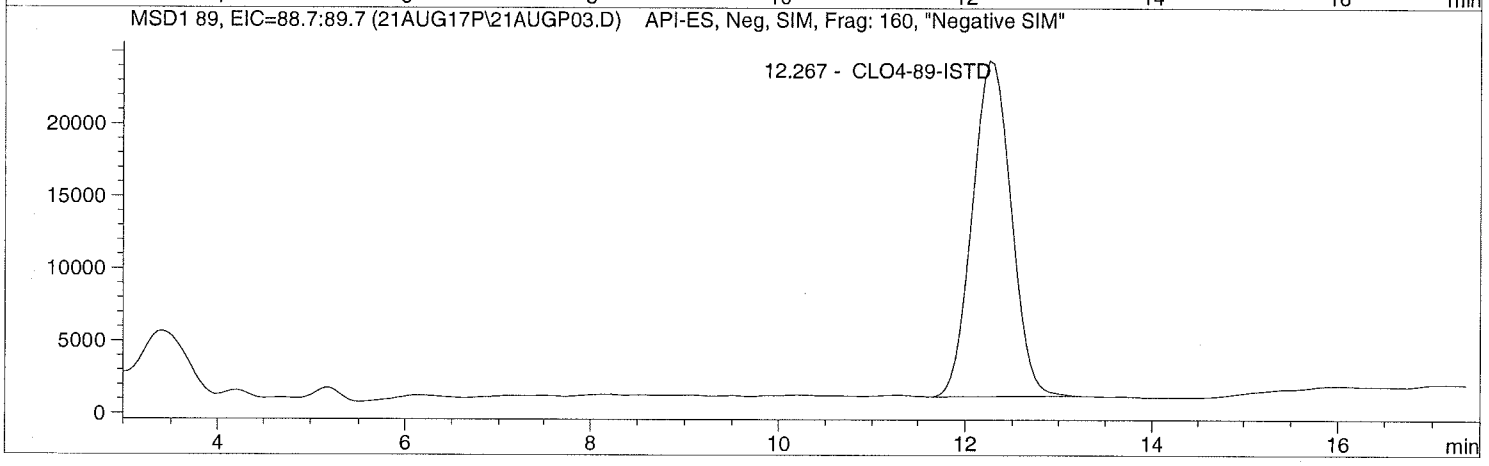
Injection Date:	8/21/2017 10:21:02	Seq Line:	3
Sample Name:	ICAL3@ .20ug/L	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

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

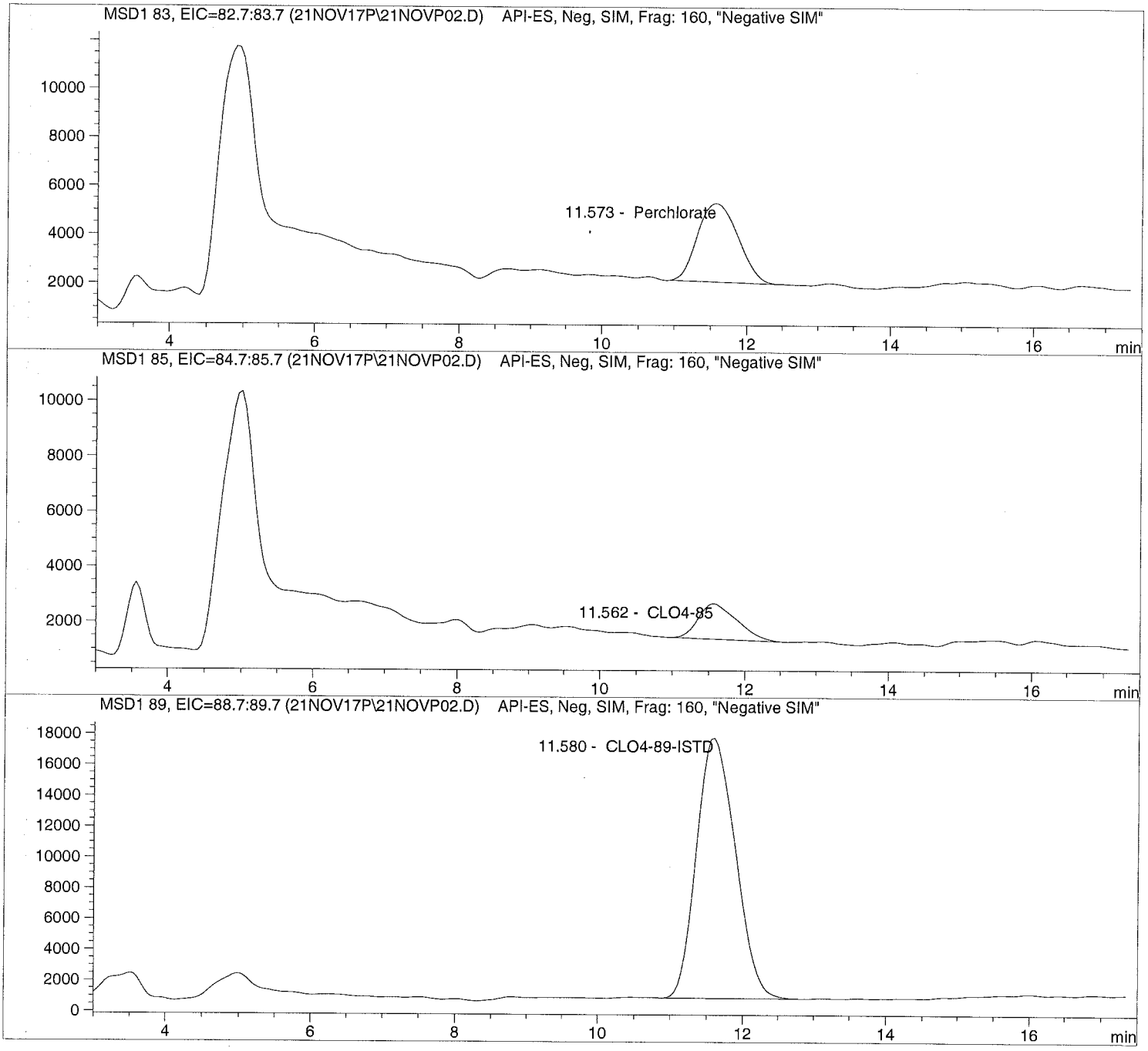
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP02.D Sample Name: 575294 LODV@1.

Injection Date:	11/21/2017 09:11:16	Seq Line:	2
Sample Name:	575294 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP02.D Sample Name: 575294 LODV@1.

Injection Date:	11/21/2017 09:11:16	Seq Line:	2
Sample Name:	575294 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.573	PBA	125210.5	0.9161	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.562	PBA	47999.9	1.0616	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.580	BBA	635086.8	5.0000	CLO4-89-ISTD

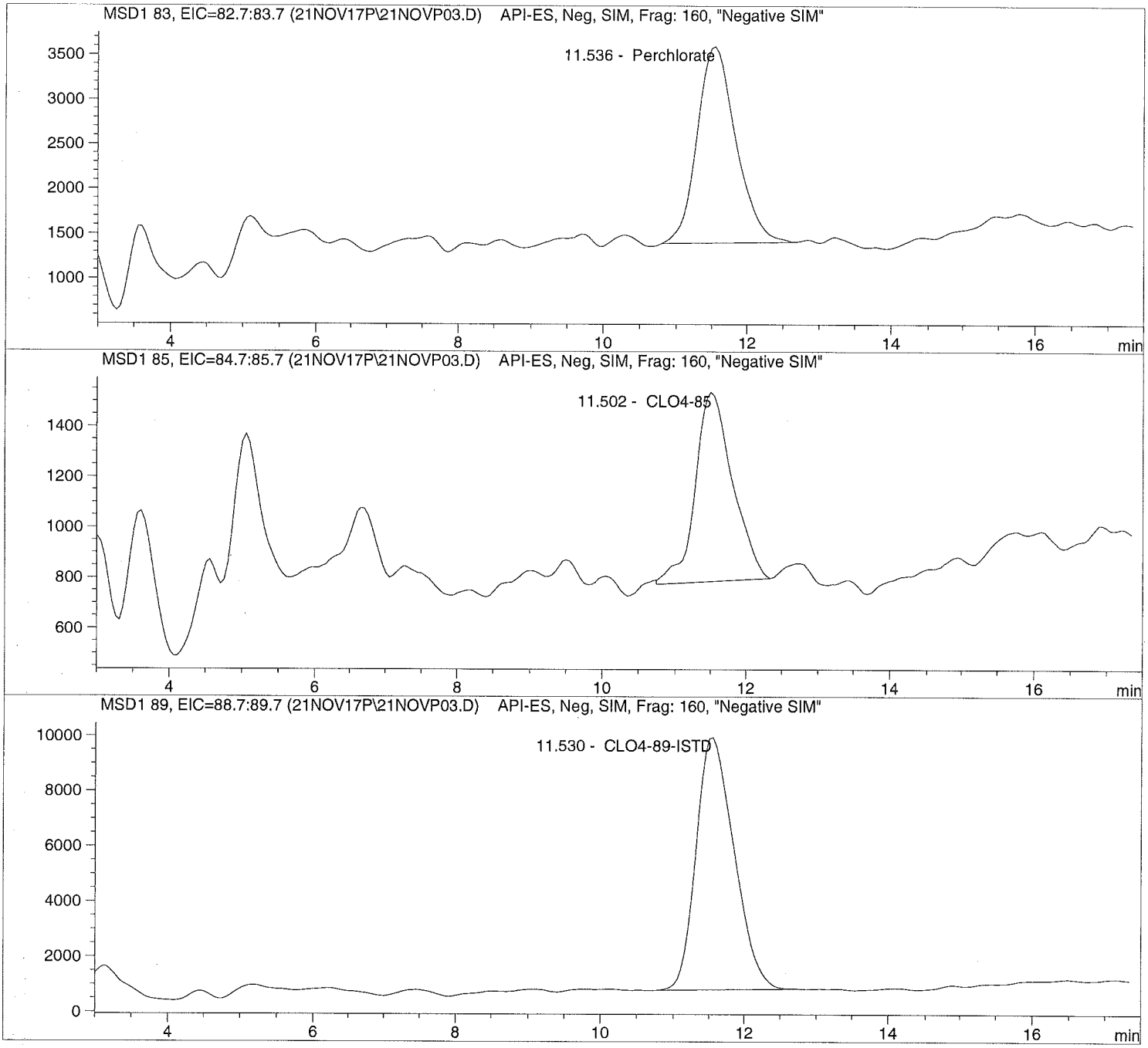
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP03.D Sample Name: 575295 ICS@1.

Injection Date:	11/21/2017 09:30:38	Seq Line:	3
Sample Name:	575295 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP03.D Sample Name: 575295 ICS@1.

Injection Date:	11/21/2017 09:30:38	Seq Line:	3
Sample Name:	575295 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.536	PBA	83947.2	1.1324	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.502	BBA	27699.4	1.1327	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.530	PBA	343352.6	5.0000	CLO4-89-ISTD

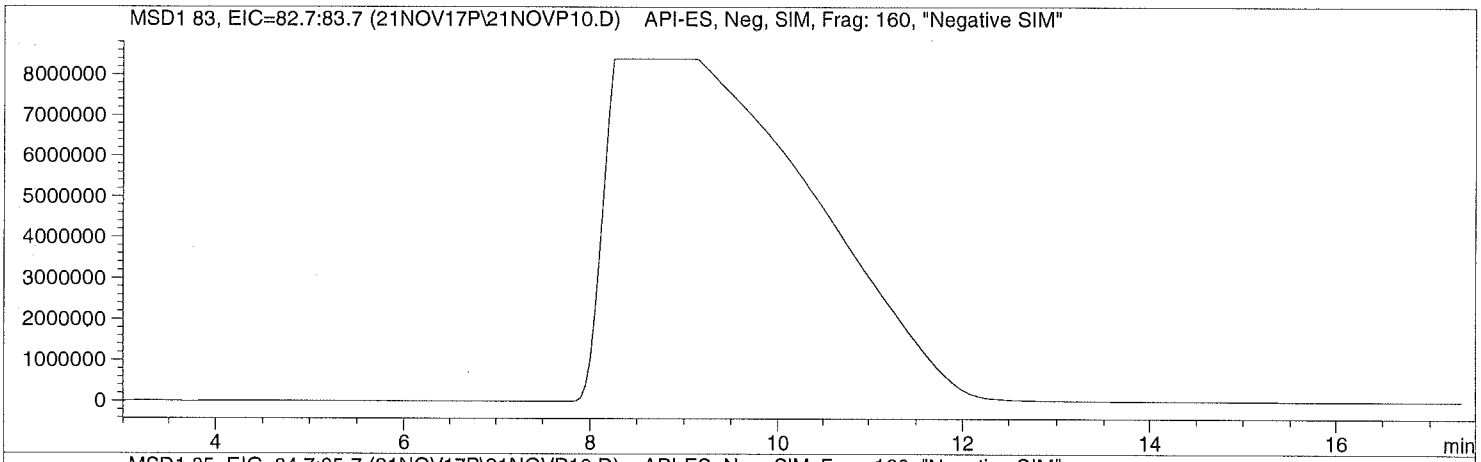
*** End of Report ***

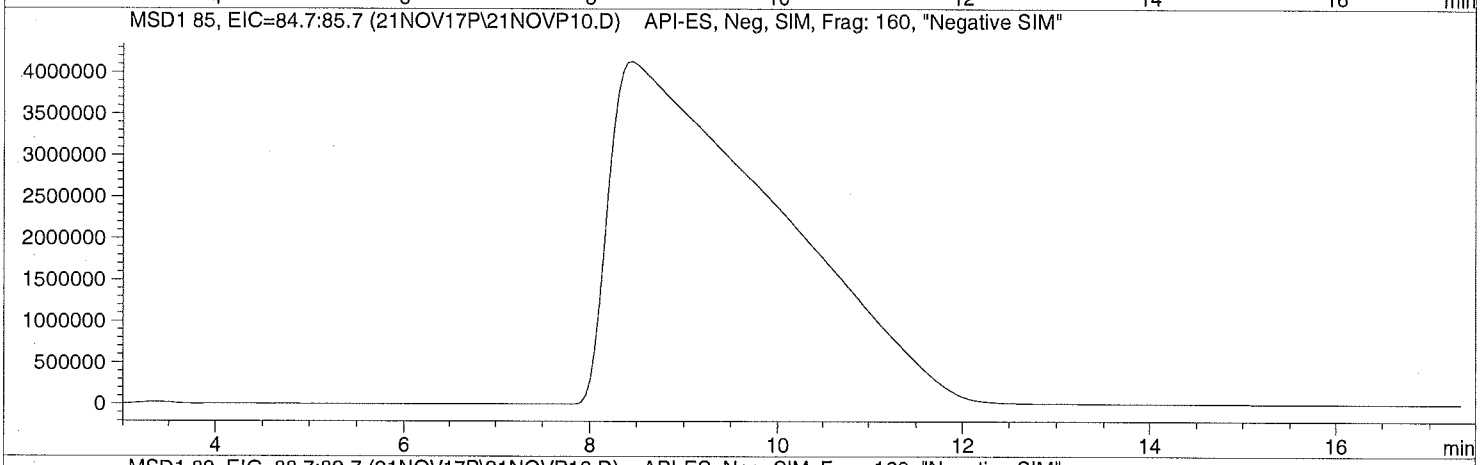
Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP10.D Sample Name: 1732090002

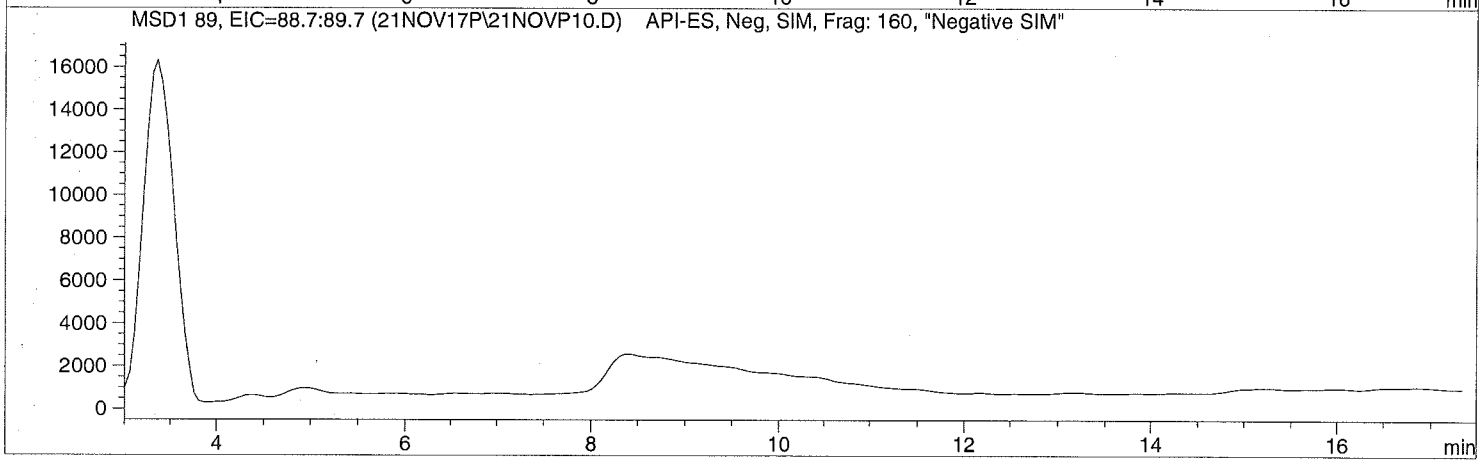
Injection Date:	11/21/2017 11:47:26	Seq Line:	10
Sample Name:	1732090002	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP10.D Sample Name: 1732090002

Injection Date:	11/21/2017 11:47:26	Seq Line:	10
Sample Name:	1732090002	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-89-ISTD

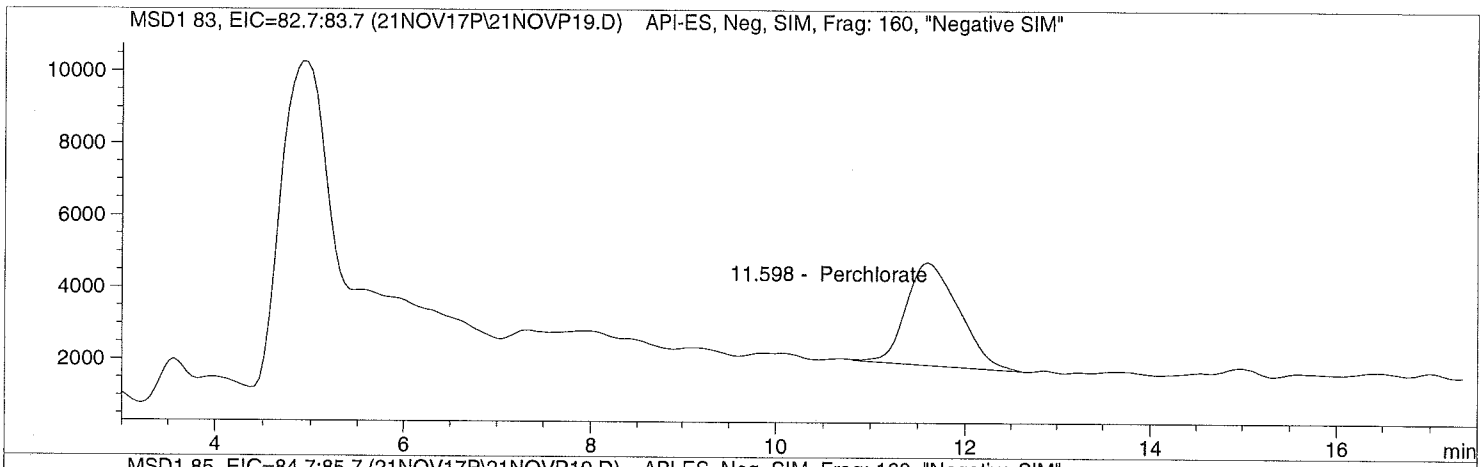
*** End of Report ***

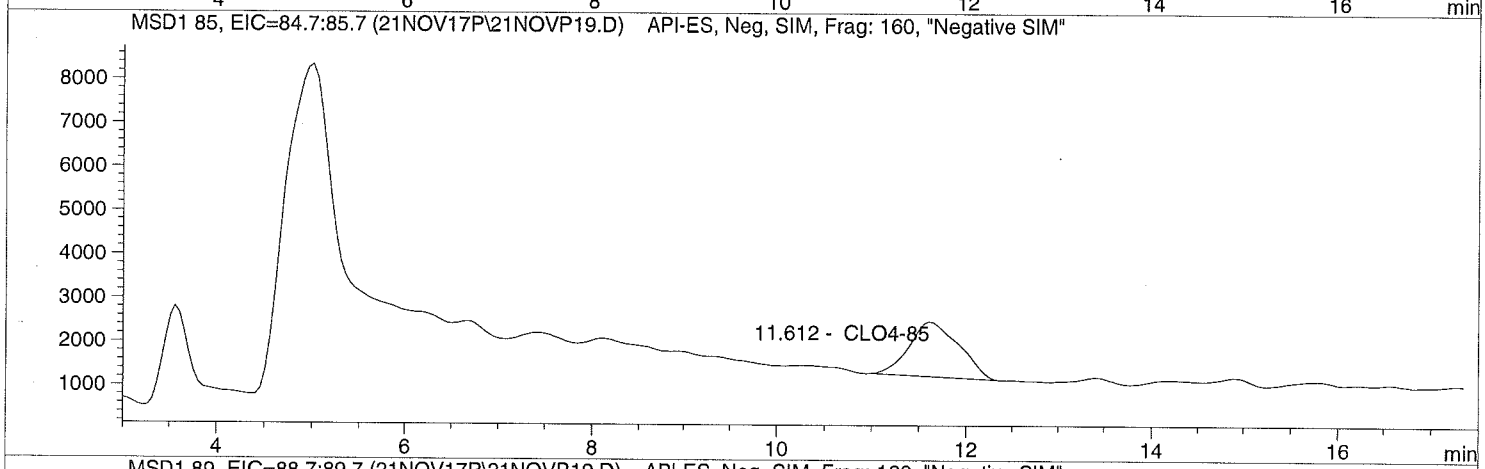
Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP19.D Sample Name: 575299 LODV@1.

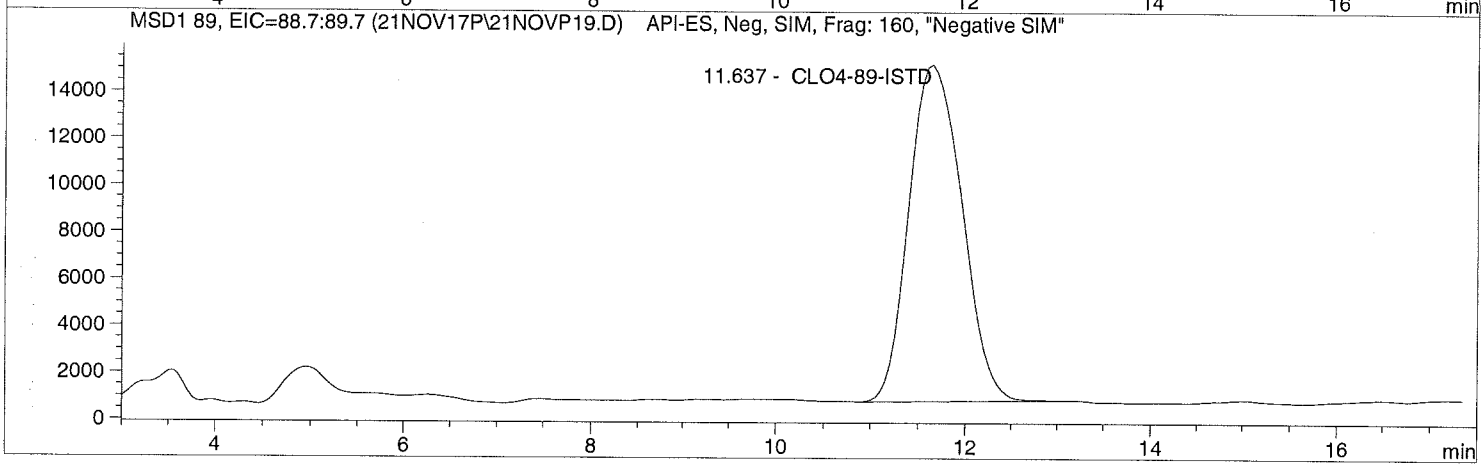
Injection Date:	11/21/2017 14:43:09	Seq Line:	19
Sample Name:	575299 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP19.D Sample Name: 575299 LODV@1.

Injection Date:	11/21/2017 14:43:09	Seq Line:	19
Sample Name:	575299 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.598	BBA	111562.0	0.9200	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.612	PBA	46107.0	1.1489	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.637	PBA	563443.1	5.0000	CLO4-89-ISTD

*** End of Report ***

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WorkOrder: HS17110496

Longhorn GW Treatment Plant Monthly Influent

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

20-Dec-2017

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

November 28, 2017

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

Work Order: **HS17110496**

Laboratory Results for: **Longhorn GW Treatment Plant Monthly Influent**

Dear Marcia,

ALS Environmental received 1 sample(s) on Nov 10, 2017 for the analysis presented in the following report.

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

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

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

Sincerely,

Sonia West

Generated By: Jumoke.Lawal
Sonia West
Project Manager

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

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent
Work Order: HS17110496

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS17110496-01	LH18/24-SP140_110917	Water		09-Nov-2017 14:00	10-Nov-2017 08:45	☐

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

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Monthly Influent
Work Order: HS17110496

Work Order Comments

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

Metals by Method SW6020

Batch ID: 122183

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

WetChemistry by Method SW7196

Batch ID: R305307

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

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

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Monthly Influent
WorkOrder:HS17110496
Sample ID: LH18/24-SP140_110917
Lab ID:HS17110496-01
Collection Date: 09-Nov-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 / 15-Nov-2017		Analyst: RPM
Selenium	0.00100	U	0.00110	0.00100	0.00200	mg/L	1	16-Nov-2017 15:38
Silver	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	16-Nov-2017 15:38
HEXAVALENT CHROMIUM BY SW7196A		**Method:SW7196**				Prep:SW7196		Analyst: JHD
Chromium, Hexavalent	0.00500	U	0.00600	0.00500	0.0100	mg/L	1	10-Nov-2017 12:32
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0			1	28-Nov-2017 16:53

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

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

WEIGHT LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent
WorkOrder: HS17110496

Batch ID: 122183 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS17110496-01	1	10	10 (mL)	1

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

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent
WorkOrder: HS17110496

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 122183	**Test Name :** ICP-MS METALS BY SW6020A			**Matrix:** Water		
HS17110496-01	LH18/24-SP140_110917	09 Nov 2017 14:00		15 Nov 2017 10:50	16 Nov 2017 15:38	1
Batch ID R305307	**Test Name :** HEXAVALENT CHROMIUM BY SW7196A			**Matrix:** Water		
HS17110496-01	LH18/24-SP140_110917	09 Nov 2017 14:00			10 Nov 2017 12:32	1
Batch ID R306179	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)			**Matrix:** Water		
HS17110496-01	LH18/24-SP140_110917	09 Nov 2017 14:00			28 Nov 2017 16:53	1

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

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent
WorkOrder: HS17110496

QC BATCH REPORT

Batch ID: 122183 **Instrument: ICPMS05** **Method: SW6020**

MBLK Sample ID: **MBLK-122183** Units: **mg/L** Analysis Date: **16-Nov-2017 14:27**
Client ID: Run ID: **ICPMS05_305556** SeqNo: **4312777** PrepDate: **15-Nov-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.00200	0.00200								U
Silver	0.00100	0.00200								U

LCS Sample ID: **LCS-122183** Units: **mg/L** Analysis Date: **16-Nov-2017 14:43**
Client ID: Run ID: **ICPMS05_305556** SeqNo: **4312785** PrepDate: **15-Nov-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.04507	0.00200	0.05	0	90.1	80 - 120				
Silver	0.04792	0.00200	0.05	0	95.8	80 - 120				

MS Sample ID: **HS17110570-05MS** Units: **mg/L** Analysis Date: **16-Nov-2017 14:51**
Client ID: Run ID: **ICPMS05_305556** SeqNo: **4312789** PrepDate: **15-Nov-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.04943	0.00200	0.05	0.003083	92.7	80 - 120				
Silver	0.04592	0.00200	0.05	0.000017	91.8	80 - 120				

MSD Sample ID: **HS17110570-05MSD** Units: **mg/L** Analysis Date: **16-Nov-2017 14:53**
Client ID: Run ID: **ICPMS05_305556** SeqNo: **4312790** PrepDate: **15-Nov-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.04878	0.00200	0.05	0.003083	91.4	80 - 120	0.04943	1.31	20	
Silver	0.0433	0.00200	0.05	0.000017	86.6	80 - 120	0.04592	5.86	20	

PDS Sample ID: **HS17110570-05PDS** Units: **mg/L** Analysis Date: **16-Nov-2017 14:55**
Client ID: Run ID: **ICPMS05_305556** SeqNo: **4312791** PrepDate: **15-Nov-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.09863	0.00200	0.1	0.003083	95.6	75 - 125				
Silver	0.08958	0.00200	0.1	0	89.6	75 - 125				

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

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

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent
WorkOrder: HS17110496

QC BATCH REPORT

Batch ID: 122183 **Instrument: ICPMS05** **Method: SW6020**

SD Sample ID: **HS17110570-05SD** Units: **mg/L** Analysis Date: **16-Nov-2017 14:49**
Client ID: Run ID: **ICPMS05_305556** SeqNo: **4312788** PrepDate: **15-Nov-2017** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Selenium	0.0100	0.0100					0.003083	0	10	U
Silver	0.00500	0.0100					0.000017	0	10	U

The following samples were analyzed in this batch: HS17110496-01

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

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

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent
WorkOrder: HS17110496

QC BATCH REPORT

Batch ID: R305307 **Instrument: UV-2450** **Method: SW7196**

MBLK Sample ID: **MBLK-305307** Units: **mg/L** Analysis Date: **10-Nov-2017 12:32**
Client ID: Run ID: **UV-2450_305307** SeqNo: **4306143** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.00500	0.0100								U

LCS Sample ID: **LCS-305307** Units: **mg/L** Analysis Date: **10-Nov-2017 12:32**
Client ID: Run ID: **UV-2450_305307** SeqNo: **4306144** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.232	0.0100	0.25	0	92.8	80 - 120				

LCSD Sample ID: **LCSD-305307** Units: **mg/L** Analysis Date: **10-Nov-2017 12:32**
Client ID: Run ID: **UV-2450_305307** SeqNo: **4306145** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.233	0.0100	0.25	0	93.2	80 - 120	0.232	0.43	20	

MS Sample ID: **HS17110496-01MS** Units: **mg/L** Analysis Date: **10-Nov-2017 12:32**
Client ID: **LH18/24-SP140_110917** Run ID: **UV-2450_305307** SeqNo: **4306147** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.225	0.0100	0.25	-0.002	90.8	75 - 125				

MSD Sample ID: **HS17110496-01MSD** Units: **mg/L** Analysis Date: **10-Nov-2017 12:32**
Client ID: **LH18/24-SP140_110917** Run ID: **UV-2450_305307** SeqNo: **4306148** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.215	0.0100	0.25	-0.002	86.8	75 - 125	0.225	4.55	20	

The following samples were analyzed in this batch: HS17110496-01

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

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

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent
WorkOrder: **HS17110496**

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 Carolina	624-2017	31-Dec-2017
North Dakota	R193 2017-2017	30-Apr-2018
Oklahoma	2017-088	31-Aug-2018
Texas	T104704231-17-19	30-Apr-2018

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

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent
Work Order: HS17110496

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS17110496-01	LH18/24-SP140_110917	Login	11/10/2017 11:04:06 AM	JRM	WET196
HS17110496-01	LH18/24-SP140_110917	Login	11/10/2017 11:04:06 AM	JRM	WET196
HS17110496-01	LH18/24-SP140_110917	Login	11/10/2017 11:04:06 AM	JRM	WET196
HS17110496-01	LH18/24-SP140_110917	Login	11/10/2017 11:04:06 AM	JRM	Sub

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

Sample Receipt Checklist

Client Name: Bhate Environmental
Work Order: HS17110496
Date/Time Received: **10-Nov-2017 08:45**
Received by: **JRM**

Checklist completed by: *Jared R. Makan* eSignature 10-Nov-2017 Date
Reviewed by: *Sonia West* eSignature 13-Nov-2017 Date

Matrices: **Water**
Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
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):	1.6c/1.9c UC/C	IR30	
Cooler(s)/Kit(s):	24028		
Date/Time sample(s) sent to storage:	11/10/2017 10:55		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

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

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: SILVER & SELENIUM	HEXAVALENT CHROMIUM	PERCHLORATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP140_110917	Water	11/09/17 / 14:00		1	X			HNO3	
LH18/24-SP140_110917	Water	11/09/17 / 14:00		2		X	X	NONE	

Additional Remarks: STANDARD TURN AROUND TIME

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	11/09/17	14:30	JM	11/10/17	09:45						

For Lab Use Only

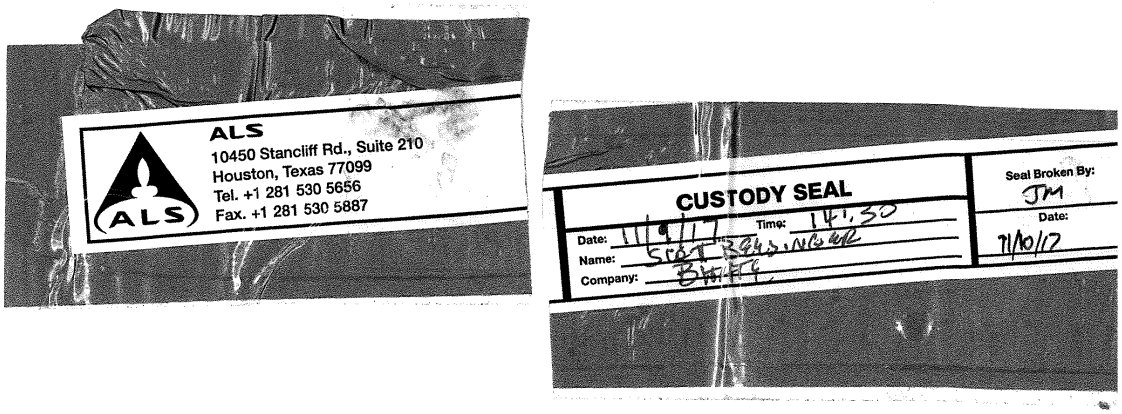
Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks: Cooler - 29028 IR30
Temp 1.6 CF-03

HS17110496

Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant

(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: 11/9/17
Time: 14:30
Name: SGRA
Company: BHI-FG
Seal Broken By:
JM
Date:
11/10/17


FedEx
TRK# 7376 9749 3265
0221
FRI - 10 NOV 10:30A
PRIORITY OVERNIGHT
AB SGRA
77099
TX-US
IAH
FID 162785 09NOV17 GGGA 546C3/F877/0C8A
RETURNS MON-SAT
PRIORITY OVERNIGHT

Metals Raw Data

Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent
ALS WO# HS17110496

ALS Group USA, Corp Date: 29-Nov-17

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent
WorkOrder: HS17110496

Run ID: ICPMS05_305556
Instrument: ICPMS05
Method: SW6020

ICV	Date: 16-Nov-2017 10:31		Seq: 4312161	ICV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	98.53	99	90-110	
Silver	100	98.437	98	90-110	
CCV1	Date: 16-Nov-2017 11:04		Seq: 4312177	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	103.653	104	90-110	
Silver	100	102.577	103	90-110	
CCV2	Date: 16-Nov-2017 11:28		Seq: 4312189	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	95.814	96	90-110	
Silver	100	99.648	100	90-110	
CCV3	Date: 16-Nov-2017 11:52		Seq: 4312201	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	99.906	100	90-110	
Silver	100	103.123	103	90-110	
CCV4	Date: 16-Nov-2017 12:16		Seq: 4312235	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	100.413	100	90-110	
Silver	100	102.076	102	90-110	
CCV5	Date: 16-Nov-2017 12:40		Seq: 4312250	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	95.506	96	90-110	
Silver	100	95.436	95	90-110	
CCV6	Date: 16-Nov-2017 13:04		Seq: 4312263	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	99.99	100	90-110	
Silver	100	102.422	102	90-110	
CCV7	Date: 16-Nov-2017 13:28		Seq: 4312453	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	91.12	91	90-110	
Silver	100	98.736	99	90-110	
CCV8	Date: 16-Nov-2017 13:53		Seq: 4312509	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	101.174	101	90-110	
Silver	100	102.41	102	90-110	
ICCV9	Date: 16-Nov-2017 14:17		Seq: 4312674	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	99.344	99	90-110	
Silver	100	105.408	105	90-110	
CCV10	Date: 16-Nov-2017 14:35		Seq: 4312781	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	97.591	98	90-110	
Silver	100	104.713	105	90-110	
CCV11	Date: 16-Nov-2017 14:59		Seq: 4312793	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	102.369	102	90-110	
Silver	100	104.102	104	90-110	

ALS Group USA, Corp Date: 29-Nov-17

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent
WorkOrder: HS17110496

Run ID: ICPMS05_305556
Instrument: ICPMS05
Method: SW6020

CCV12	Date: 16-Nov-2017 15:23		Seq: 4312964	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	100.621	101	90-110	
Silver	100	104.814	105	90-110	
CCV13	Date: 16-Nov-2017 15:48		Seq: 4312976	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	101.093	101	90-110	
Silver	100	100.828	101	90-110	
CCV14	Date: 16-Nov-2017 16:22		Seq: 4313183	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	102.966	103	90-110	
Silver	100	105.881	106	90-110	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent
WorkOrder: HS17110496

Run ID: ICPMS05_305556
Instrument: ICPMS05
Method: SW6020

ICB	Date: 16-Nov-2017 10:37		Seq: 4312164	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB1	Date: 16-Nov-2017 11:06		Seq: 4312178	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB2	Date: 16-Nov-2017 11:30		Seq: 4312190	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB3	Date: 16-Nov-2017 11:54		Seq: 4312202	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB4	Date: 16-Nov-2017 12:18		Seq: 4312236	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB5	Date: 16-Nov-2017 12:42		Seq: 4312251	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB6	Date: 16-Nov-2017 13:06		Seq: 4312264	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB7	Date: 16-Nov-2017 13:30		Seq: 4312454	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB8	Date: 16-Nov-2017 13:55		Seq: 4312510	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
ICCB9	Date: 16-Nov-2017 14:23		Seq: 4312677	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
MBLK-122183	Date: 16-Nov-2017 14:27		Seq: 4312777	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB10	Date: 16-Nov-2017 14:37		Seq: 4312782	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent
WorkOrder: HS17110496

Run ID: ICPMS05_305556
Instrument: ICPMS05
Method: SW6020

CCB11	Date: 16-Nov-2017 15:01		Seq: 4312794	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB12	Date: 16-Nov-2017 15:25		Seq: 4312965	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB13	Date: 16-Nov-2017 15:50		Seq: 4312977	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB14	Date: 16-Nov-2017 16:24		Seq: 4313184	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

ALS Group USA, Corp Date: 29-Nov-17

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc. Run ID:ICPMS05_305556

Project: Longhorn GW Treatment Plant Monthly Influent Instrument:ICPMS05

WorkOrder: HS17110496 Method:SW6020

ICSA	Date: 16-Nov-2017 10:39	Seq: 4312165	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Selenium		0.294	0	
Silver		0.035	0	
ICSAB	Date: 16-Nov-2017 10:41	Seq: 4312166	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Selenium	100	92.58	92.6	
Silver	100	90.02	90.0	
ICSA	Date: 16-Nov-2017 16:32	Seq: 4313188	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Selenium		-0.284	0	
Silver		0.023	0	
ICSAB	Date: 16-Nov-2017 16:34	Seq: 4313189	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Selenium	100	97.81	97.8	
Silver	100	94.02	94.0	

ALS Group USA, Corp Date: 29-Nov-17

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent
WorkOrder: HS17110496

Date Analyzed: 16-Nov-2017 14:53
Date Extracted: 15-Nov-2017 10:50
Units: ug/L

Matrix Spike: HS17110570-05MS
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Selenium	3.083	49.43	50.00	92.7	48.78	50.00	91.4	80-120	1.31	20
Silver	2.000	45.92	50.00	91.8	43.30	50.00	86.6	80-120	5.86	20

ALS Group USA, Corp Date: 29-Nov-17

Form 5B - Post Digest Sample Recovery

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent
WorkOrder: HS17110496

Date Analyzed: 16-Nov-2017 14:55
Date Extracted: 15-Nov-2017 10:50
Units: ug/L

Lab Sample ID: HS17110570-05PDS
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	PDS Result	Spike Amount	% Rec	% Rec Limits
Selenium	3.083	98.63	100	96	75-125
Silver	0	89.58	100	90	75-125

ALS Group USA, Corp

Date: 29-Nov-17

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent
WorkOrder: HS17110496

Date Analyzed: 16-Nov-2017 14:43
Date Extracted: 15-Nov-2017 10:50
Units: ug/L

Lab Sample ID: LCS-122183

Analysis Method: SW6020

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Selenium	50	45.07	90	80-120
Silver	50	47.92	96	80-120

ALS Group USA, Corp Date: 29-Nov-17

Form 8 - ICP Serial Dilutions

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent
WorkOrder: HS17110496

Date Analyzed: 16-Nov-2017 14:49
Date Extracted: 15-Nov-2017 10:50
Units: ug/L

Lab Sample ID: HS17110570-05SD
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	C	SD Result	C	RPD	Q
Selenium	3.083		0	U	0	
Silver	0	U	0	U	0	

ALS Group USA, Corp Date: 29-Nov-17

Form 11 - INTERNAL STANDARD ASSOCIATION

Client: Bhate Environmental Associates, Inc. Instrument:ICPMS05
Project: Longhorn GW Treatment Plant Monthly Influent
WorkOrder: HS17110496

Mass	Analyte	Assoc Int Standard 1	Assoc Int Standard 2	Mode
9	Beryllium	Lithium		Ar
11	Boron	Lithium		Ar
23	Sodium	Germanium		Ar
24	Magnesium	Germanium		Ar
27	Aluminum	Germanium		Ar
39	Potassium	Germanium		Ar
44	Calcium	Germanium		Ar
47	Titanium	Germanium		Ar
51	Vanadium	Germanium		ArHe
52	Chromium	Germanium		ArHe
55	Manganese	Germanium		ArHe
56	Iron	Germanium		ArHe
59	Cobalt	Germanium		ArHe
60	Nickel	Germanium		ArHe
63	Copper	Germanium		ArHe
66	Zinc	Germanium		ArHe
75	Arsenic	Germanium		ArHe
78	Selenium	Germanium		ArHe
88	Strontium	Germanium		Ar
95	Molybdenum	Germanium		Ar
105	Palladium	Germanium		Ar
107	Silver	Germanium		Ar
114	Cadmium	Indium		Ar
118	Tin	Germanium		Ar
121	Antimony	Germanium		ArHe
137	Barium	Indium		Ar
205	Thallium	Bismuth		Ar
208	Lead	Bismuth		Ar

ALS Group USA, Corp Date: 29-Nov-17

FORM 12 - PREPARATION LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent
WorkOrder: HS17110496
Start Date: 15-Nov-2017 10:50 End Date: 15-Nov-2017 15:00

Batch ID: 122183
Prep Code: 3010A
Method: SW3010A
Technician:

SampID	ClientID	Matrix	Init Wt	Init Vol	FinalVol (mL)	PrepFac
HS17110496-01	LH18/24-SP140_110917	Water		10	10	1
HS17110570-05MS				10	10	1
HS17110570-05MSD				10	10	1
HS17110570-05PDS				10	10	1
HS17110570-05SD				10	10	1
LCS-122183				10	10	1
MBLK-122183				10	10	1

ALS Group USA, Corp Date: 29-Nov-17

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent
WorkOrder: HS17110496
Start Date: 16-Nov-2017 End Date: 16-Nov-2017

Run ID:ICPMS05_305556
Instrument:ICPMS05
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS05_305556_Tune	1	16-Nov-2017 00:00	ICPMS05_305556_Tune_1	
CAL BLK	1	16-Nov-2017 10:17	010CALB.d_4312154	AG SE
2/10/200	1	16-Nov-2017 10:19	011CALS.d_4312155	AG SE
5/25/500	1	16-Nov-2017 10:21	012CALS.d_4312156	AG SE
10/50/1000	1	16-Nov-2017 10:23	013CALS.d_4312157	AG SE
100/500/10K	1	16-Nov-2017 10:25	014CALS.d_4312158	AG SE
200/1000/20K	1	16-Nov-2017 10:27	015CALS.d_4312159	AG SE
ICV	1	16-Nov-2017 10:31	017_ICV.d_4312161	AG SE
LLICV2	1	16-Nov-2017 10:33	018SMPL.d_4312162	AG SE
LLICV5	1	16-Nov-2017 10:35	019LICV.d_4312163	AG SE
ICB	1	16-Nov-2017 10:37	020_ICB.d_4312164	AG SE
ICSA	1	16-Nov-2017 10:39	021ICSA.d_4312165	AG SE
ICSAB	1	16-Nov-2017 10:41	022ICSB.d_4312166	AG SE
CCV 1	1	16-Nov-2017 11:04	033_CCV.d_4312177	AG SE
CCB 1	1	16-Nov-2017 11:06	034_CCB.d_4312178	AG SE
CCV 2	1	16-Nov-2017 11:28	045_CCV.d_4312189	AG SE
CCB 2	1	16-Nov-2017 11:30	046_CCB.d_4312190	AG SE
CCV 3	1	16-Nov-2017 11:52	057_CCV.d_4312201	AG SE
CCB 3	1	16-Nov-2017 11:54	058_CCB.d_4312202	AG SE
CCV 4	1	16-Nov-2017 12:16	069_CCV.d_4312235	AG SE
CCB 4	1	16-Nov-2017 12:18	070_CCB.d_4312236	AG SE
CCV 5	1	16-Nov-2017 12:40	081_CCV.d_4312250	AG SE
CCB 5	1	16-Nov-2017 12:42	082_CCB.d_4312251	AG SE
CCV 6	1	16-Nov-2017 13:04	093_CCV.d_4312263	AG SE
CCB 6	1	16-Nov-2017 13:06	094_CCB.d_4312264	AG SE
CCV 7	1	16-Nov-2017 13:28	105_CCV.d_4312453	AG SE
CCB 7	1	16-Nov-2017 13:30	106_CCB.d_4312454	AG SE
CCV 8	1	16-Nov-2017 13:53	117_CCV.d_4312509	AG SE
CCB 8	1	16-Nov-2017 13:55	118_CCB.d_4312510	AG SE
CAL BLK	1	16-Nov-2017 14:03	122CALB.d_4312667	AG SE
2/10/200	1	16-Nov-2017 14:05	123CALS.d_4312668	AG SE
5/25/500	1	16-Nov-2017 14:07	124CALS.d_4312669	AG SE
10/50/1000	1	16-Nov-2017 14:09	125CALS.d_4312670	AG SE
100/500/10K	1	16-Nov-2017 14:11	126CALS.d_4312671	AG SE
200/1000/20K	1	16-Nov-2017 14:13	127CALS.d_4312672	AG SE
ICCV 9	1	16-Nov-2017 14:17	129_ICV.d_4312674	AG SE
LLCCV2	1	16-Nov-2017 14:19	130SMPL.d_4312675	AG SE
LLCCV5	1	16-Nov-2017 14:21	131LICV.d_4312676	AG SE
ICCB 9	1	16-Nov-2017 14:23	132_ICB.d_4312677	AG SE
MBLK-122183	1	16-Nov-2017 14:27	134SMPL.d_4312777	AG SE
CCV 10	1	16-Nov-2017 14:35	138_CCV.d_4312781	AG SE
CCB 10	1	16-Nov-2017 14:37	139_CCB.d_4312782	AG SE
LCS-122183	1	16-Nov-2017 14:43	142SMPL.d_4312785	AG SE
ZZZZZZSD	5	16-Nov-2017 14:49	145SMPL.d_4312788	AG SE
ZZZZZZMS	1	16-Nov-2017 14:51	146SMPL.d_4312789	AG SE
ZZZZZZMSD	1	16-Nov-2017 14:53	147SMPL.d_4312790	AG SE
ZZZZZZPDS	1	16-Nov-2017 14:55	148SMPL.d_4312791	AG SE
CCV 11	1	16-Nov-2017 14:59	150_CCV.d_4312793	AG SE
CCB 11	1	16-Nov-2017 15:01	151_CCB.d_4312794	AG SE
CCV 12	1	16-Nov-2017 15:23	162_CCV.d_4312964	AG SE
CCB 12	1	16-Nov-2017 15:25	163_CCB.d_4312965	AG SE
LH18/24-SP140_110917	1	16-Nov-2017 15:38	169SMPL.d_4312971	AG SE
CCV 13	1	16-Nov-2017 15:48	174_CCV.d_4312976	AG SE
13	1	16-Nov-2017 15:50	175_CCB.d_4312977	AG SE

ALS Group USA, Corp

Date: 29-Nov-17

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent
WorkOrder: HS17110496
Start Date: 16-Nov-2017 End Date: 16-Nov-2017

Run ID:ICPMS05_305556
Instrument:ICPMS05
Method:

Sample No.	D/F	Time	FileID	Analytes
CCV 14	1	16-Nov-2017 16:22	186_CCV.d_4313183	AG SE
CCB 14	1	16-Nov-2017 16:24	187_CCB.d_4313184	AG SE
LLCCV5	1	16-Nov-2017 16:28	189LICV.d_4313186	AG SE
LLCCV2	1	16-Nov-2017 16:30	190SMPL.d_4313187	AG SE
ICSA	1	16-Nov-2017 16:32	191ICSA.d_4313188	AG SE
ICSAB	1	16-Nov-2017 16:34	192ICSB.d_4313189	AG SE

Tune Report

Batch Folder C:\Agilent\ICPMH\1\DATA\111617A.b
Report Comment
Instrument Name G3281A JP11080910

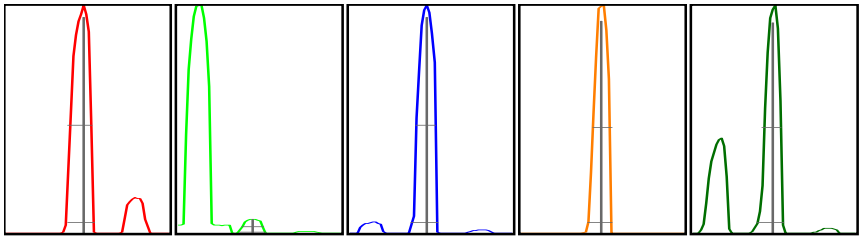
[nogas]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
9		6944				NaN	-	
24		23983				NaN	-	
59		37109				NaN	-	
115		43604				NaN	-	
208		28437				NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
9	1.52	5.00				
24	1.28	5.00				
59	1.03	5.00				
115	1.44	5.00				
208	0.78	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	6868	6909	7114	6973	6857
24	23568	23784	24044	24324	24194
59	37263	36568	37081	37014	37621
115	43221	42780	43602	44307	44108
208	28143	28363	28416	28510	28752

Integration Time [sec] 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
9	1773.86	8.95	8.9 - 9.1		0.40	0.494	0.750	
24	6309.75	23.90	23.9 - 24.1		0.39	0.490	0.750	
59	10357.61	58.95	58.9 - 59.1		0.37	0.466	0.750	
115	13132.25	115.00	114.9 - 115.1		0.33	0.451	0.750	
208	8560.55	208.00	207.9 - 208.1		0.32	0.495	0.750	

X = 5 **Integration Time [sec]** 0.1 **Acquisition Time [sec]** 168.5 **Y Axis** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.35 L/min	S/C Temp	2 ℃
RF Matching	1.70 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.50 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	8.0 V	Deflect	15.6 V
Extract 2	-200.0 V	Cell Entrance	-38 V	Plate Bias	-50 V
Omega Bias	-100 V	Cell Exit	-58 V		

Cell Parameters

OctP Bias	-8.0 V	He Flow	0.0 mL/min	Energy Discrimination	5.0 V
OctP RF	190 V	H2 Flow	0.0 mL/min		
Use Gas	true	3rd Gas Flow	0 %		

[He]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
9		68				NaN	-	
24		471				NaN	-	
59		9453				NaN	-	

Tune Report

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
9	5.81	5.00	[F]			
24	3.98	5.00				
59	1.97	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	74	69	63	66	67
24	446	463	485	468	494
59	9140	9437	9612	9523	9552

Integration Time [sec] 0.1

Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
9	17.04	8.90	8.9 - 9.1		0.41	0.494	0.750	
24	124.77	23.90	23.9 - 24.1		0.39	0.488	0.750	
59	2746.18	58.95	58.9 - 59.1		0.35	0.445	0.750	

X = 5 **Integration Time [sec]** 0.1 **Acquisition Time [sec]** 100.6 **Y Axis** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.35 L/min	S/C Temp	2 ℃
RF Matching	1.70 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.50 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	8.0 V	Deflect	2.0 V
Extract 2	-200.0 V	Cell Entrance	-32 V	Plate Bias	-60 V
Omega Bias	-100 V	Cell Exit	-70 V		

Cell Parameters

OctP Bias	-18.0 V	He Flow	5.5 mL/min	Energy Discrimination	5.0 V
OctP RF	190 V	H2 Flow	0.0 mL/min		
Use Gas	true	3rd Gas Flow	0 %		

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	010CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T10:17:55-06:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	27	324.76
Na	23	1	nogas	1507881	0.00
Mg	24	1	nogas	6569	0.22
Al	27	1	nogas	10476	0.01
K	39	1	nogas	4093480	0.00
Ti	47	1	nogas	340	6.53
V	51	1	nogas	1487659	0.00
Cr	52	1	nogas	43254	0.01
Mn	55	1	nogas	10603	0.03
Co	59	1	nogas	613	3.06
Ni	60	1	nogas	1190	1.66
Cu	63	1	nogas	6908	0.08
Zn	66	1	nogas	870	0.92
As	75	1	nogas	249820	0.00
Sr	88	1	nogas	920	1.32
Ag	107	1	nogas	260	5.92
Cd	111	1	nogas	13	859.23
Sb	121	1	nogas	1830	0.52
Tl	205	1	nogas	100	40.00
Pb	208	1	nogas	430	3.79
[Pb]	206	1	nogas	137	30.45
[Pb]	207	1	nogas	100	10.00
Na	23	2	He	42822	0.00
Mg	24	2	He	260	6.45
Al	27	2	He	90	37.04
K	39	2	He	10917	0.03
Ca	43	2	He	20	0.00
Ca	44	2	He	100	51.96
V	51	2	He	681	0.48
Cr	52	2	He	1707	0.83
Mn	55	2	He	327	8.71
Fe	56	2	He	6258	0.04
Co	59	2	He	130	38.80
Ni	60	2	He	240	10.42
Cu	63	2	He	1347	1.26
Zn	66	2	He	147	16.33
As	75	2	He	24	275.18
Se	78	2	He	5	1074.04
B	11	1	nogas	29159	0.01
Si	28	1	nogas	762079	0.00
Ca	43	1	nogas	467	1.40
Ca	44	1	nogas	123961	0.00

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	763433	0.00
Se	77	1	nogas	82051	0.01
Se	82	1	nogas	393	4.59
Mo	95	1	nogas	3414	0.31
Sn	118	1	nogas	647	2.27
Ba	137	1	nogas	450	5.57
Sb	121	2	He	237	19.67
Li	7	1	nogas	22737	0.03
P	31	1	nogas	39522	0.00
La	139	1	nogas	133	30.98

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	6	1	nogas	252377	1.68
Ge	72	1	nogas	1286445	3.04
In	115	1	nogas	1344417	1.88
Bi	209	1	nogas	1284048	1.93
Ge	72	2	He	111777	1.53

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	011CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T10:19:55-06:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	4141	0.05
Na	23	1	nogas	3410812	0.00
Mg	24	1	nogas	1298559	0.00
Al	27	1	nogas	28445	0.01
K	39	1	nogas	5658858	0.00
Ti	47	1	nogas	1850	0.31
V	51	1	nogas	1572885	0.00
Cr	52	1	nogas	62843	0.01
Mn	55	1	nogas	37639	0.00
Co	59	1	nogas	24911	0.01
Ni	60	1	nogas	6435	0.06
Cu	63	1	nogas	19567	0.01
Zn	66	1	nogas	5521	0.04
As	75	1	nogas	259262	0.00
Sr	88	1	nogas	30236	0.01
Ag	107	1	nogas	17139	0.04
Cd	111	1	nogas	3447	0.23
Sb	121	1	nogas	17860	0.00
Tl	205	1	nogas	30145	0.00
Pb	208	1	nogas	43683	0.01
[Pb]	206	1	nogas	10994	0.02
[Pb]	207	1	nogas	10037	0.03
Na	23	2	He	82347	0.00
Mg	24	2	He	19967	0.01
Al	27	2	He	127	38.08
K	39	2	He	21179	0.01
Ca	43	2	He	37	281.60
Ca	44	2	He	763	2.50
V	51	2	He	3004	0.01
Cr	52	2	He	4914	0.22
Mn	55	2	He	1543	0.35
Fe	56	2	He	248771	0.00
Co	59	2	He	5668	0.12
Ni	60	2	He	1957	0.16
Cu	63	2	He	5628	0.06
Zn	66	2	He	800	2.05
As	75	2	He	434	2.74
Se	78	2	He	20	50.00
B	11	1	nogas	39916	0.01
Si	28	1	nogas	1240690	0.00

Calibration Standard Report

Ca	43	1	nogas	3767	0.06
Ca	44	1	nogas	175986	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	3144986	0.00
Se	77	1	nogas	85443	0.01
Se	82	1	nogas	667	2.87
Mo	95	1	nogas	8952	0.03
Sn	118	1	nogas	9129	0.08
Ba	137	1	nogas	5421	0.05
Sb	121	2	He	2097	0.80
P	31	1	nogas	44666	0.00
La	139	1	nogas	67	12.99

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	250322	3.50	252377	99.19	70	125	
Ge	72	1	nogas	1323967	0.79	1286445	102.92	70	125	
In	115	1	nogas	1322322	2.25	1344417	98.36	70	125	
Bi	209	1	nogas	1227697	4.29	1284048	95.61	70	125	
Ge	72	2	He	112618	1.96	111777	100.75	70	125	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	012CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T10:21:56-06:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	10707	0.03
Na	23	1	nogas	6283908	0.00
Mg	24	1	nogas	3315780	0.00
Al	27	1	nogas	51812	0.00
K	39	1	nogas	7883778	0.00
Ti	47	1	nogas	4041	0.17
V	51	1	nogas	1719321	0.00
Cr	52	1	nogas	99695	0.00
Mn	55	1	nogas	77135	0.00
Co	59	1	nogas	60491	0.01
Ni	60	1	nogas	14726	0.02
Cu	63	1	nogas	39944	0.00
Zn	66	1	nogas	11814	0.04
As	75	1	nogas	285673	0.00
Sr	88	1	nogas	74957	0.00
Ag	107	1	nogas	44043	0.01
Cd	111	1	nogas	9086	0.04
Sb	121	1	nogas	41817	0.00
Tl	205	1	nogas	74735	0.00
Pb	208	1	nogas	107719	0.00
[Pb]	206	1	nogas	26128	0.01
[Pb]	207	1	nogas	24085	0.01
Na	23	2	He	143906	0.00
Mg	24	2	He	48623	0.01
Al	27	2	He	220	5.47
K	39	2	He	36576	0.01
Ca	43	2	He	63	51.90
Ca	44	2	He	1643	0.12
V	51	2	He	6525	0.08
Cr	52	2	He	9463	0.04
Mn	55	2	He	3350	0.22
Fe	56	2	He	608305	0.00
Co	59	2	He	13362	0.01
Ni	60	2	He	3830	0.13
Cu	63	2	He	12388	0.01
Zn	66	2	He	1803	0.45
As	75	2	He	1123	0.65
Se	78	2	He	49	25.11
B	11	1	nogas	59303	0.01
Si	28	1	nogas	1811179	0.00

Calibration Standard Report

Ca	43	1	nogas	8219	0.03
Ca	44	1	nogas	252065	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	6473358	0.00
Se	77	1	nogas	91686	0.00
Se	82	1	nogas	1183	1.04
Mo	95	1	nogas	18403	0.03
Sn	118	1	nogas	22562	0.00
Ba	137	1	nogas	13005	0.04
Sb	121	2	He	4931	0.12
P	31	1	nogas	53135	0.00
La	139	1	nogas	80	15.63

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	251495	2.75	252377	99.65	70	125	
Ge	72	1	nogas	1292186	3.69	1286445	100.45	70	125	
In	115	1	nogas	1293948	1.39	1344417	96.25	70	125	
Bi	209	1	nogas	1255523	4.48	1284048	97.78	70	125	
Ge	72	2	He	112845	3.02	111777	100.96	70	125	

Calibration Standard Report

Sample Table

Sample Name	10/50/1000
Data File Name	013CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T10:23:55-06:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	21376	0.02
Na	23	1	nogas	11158698	0.00
Mg	24	1	nogas	6572611	0.00
Al	27	1	nogas	88339	0.00
K	39	1	nogas	11901930	0.00
Ti	47	1	nogas	8099	0.04
V	51	1	nogas	1887037	0.00
Cr	52	1	nogas	151952	0.00
Mn	55	1	nogas	144935	0.00
Co	59	1	nogas	120211	0.00
Ni	60	1	nogas	28423	0.01
Cu	63	1	nogas	73154	0.00
Zn	66	1	nogas	23102	0.01
As	75	1	nogas	323069	0.00
Sr	88	1	nogas	150769	0.00
Ag	107	1	nogas	86888	0.00
Cd	111	1	nogas	18403	0.02
Sb	121	1	nogas	86474	0.00
Tl	205	1	nogas	153133	0.00
Pb	208	1	nogas	219002	0.00
[Pb]	206	1	nogas	54368	0.01
[Pb]	207	1	nogas	49372	0.01
Na	23	2	He	246469	0.00
Mg	24	2	He	99180	0.00
Al	27	2	He	287	3.72
K	39	2	He	63304	0.01
Ca	43	2	He	223	8.10
Ca	44	2	He	3317	0.11
V	51	2	He	12445	0.02
Cr	52	2	He	17232	0.03
Mn	55	2	He	6295	0.04
Fe	56	2	He	1177370	0.00
Co	59	2	He	28015	0.00
Ni	60	2	He	8029	0.03
Cu	63	2	He	22901	0.02
Zn	66	2	He	3314	0.26
As	75	2	He	2302	0.20
Se	78	2	He	101	9.74
B	11	1	nogas	90202	0.00
Si	28	1	nogas	2729444	0.00

Calibration Standard Report

Ca	43	1	nogas	17158	0.01
Ca	44	1	nogas	391931	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	12378134	0.00
Se	77	1	nogas	100232	0.01
Se	82	1	nogas	1703	0.78
Mo	95	1	nogas	34130	0.00
Sn	118	1	nogas	45774	0.01
Ba	137	1	nogas	23970	0.02
Sb	121	2	He	10080	0.02
P	31	1	nogas	71937	0.00
La	139	1	nogas	127	9.52

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	253627	2.19	252377	100.50	70	125	
Ge	72	1	nogas	1289446	3.19	1286445	100.23	70	125	
In	115	1	nogas	1339917	3.20	1344417	99.67	70	125	
Bi	209	1	nogas	1247565	1.40	1284048	97.16	70	125	
Ge	72	2	He	110294	1.85	111777	98.67	70	125	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	014CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T10:25:53-06:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	199379	0.00
Na	23	1	nogas	92897667	0.00
Mg	24	1	nogas	62579243	0.00
Al	27	1	nogas	782920	0.00
K	39	1	nogas	75436587	0.00
Ti	47	1	nogas	76612	0.00
V	51	1	nogas	2745776	0.00
Cr	52	1	nogas	1019642	0.00
Mn	55	1	nogas	1232973	0.00
Co	59	1	nogas	1118466	0.00
Ni	60	1	nogas	256318	0.00
Cu	63	1	nogas	633973	0.00
Zn	66	1	nogas	206564	0.00
As	75	1	nogas	509864	0.00
Sr	88	1	nogas	1288472	0.00
Ag	107	1	nogas	823285	0.00
Cd	111	1	nogas	173207	0.00
Sb	121	1	nogas	762858	0.00
Tl	205	1	nogas	1334187	0.00
Pb	208	1	nogas	2039338	0.00
[Pb]	206	1	nogas	496742	0.00
[Pb]	207	1	nogas	454378	0.00
Na	23	2	He	1919447	0.00
Mg	24	2	He	888340	0.00
Al	27	2	He	2604	0.44
K	39	2	He	500184	0.00
Ca	43	2	He	1747	0.33
Ca	44	2	He	28783	0.01
V	51	2	He	108103	0.00
Cr	52	2	He	148716	0.00
Mn	55	2	He	59112	0.00
Fe	56	2	He	10358588	0.00
Co	59	2	He	251017	0.00
Ni	60	2	He	73070	0.00
Cu	63	2	He	202551	0.00
Zn	66	2	He	30416	0.00
As	75	2	He	21389	0.02
Se	78	2	He	833	0.49
B	11	1	nogas	650108	0.00
Si	28	1	nogas	17621215	0.00

Calibration Standard Report

Ca	43	1	nogas	152056	0.00
Ca	44	1	nogas	2444938	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	106874004	0.00
Se	77	1	nogas	103121	0.00
Se	82	1	nogas	12168	0.04
Mo	95	1	nogas	297805	0.00
Sn	118	1	nogas	450923	0.00
Ba	137	1	nogas	228187	0.00
Sb	121	2	He	92016	0.00
P	31	1	nogas	304585	0.00
La	139	1	nogas	433	4.43

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	230581	2.23	252377	91.36	70	125	
Ge	72	1	nogas	1236356	5.03	1286445	96.11	70	125	
In	115	1	nogas	1282329	0.53	1344417	95.38	70	125	
Bi	209	1	nogas	1307461	2.16	1284048	101.82	70	125	
Ge	72	2	He	110754	0.23	111777	99.08	70	125	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	015CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T10:27:54-06:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	390687	0.00
Na	23	1	nogas	184999542	0.00
Mg	24	1	nogas	120384269	0.00
Al	27	1	nogas	1430936	0.00
K	39	1	nogas	148819045	0.00
Ti	47	1	nogas	145148	0.00
V	51	1	nogas	4006244	0.00
Cr	52	1	nogas	1870445	0.00
Mn	55	1	nogas	2422709	0.00
Co	59	1	nogas	2066313	0.00
Ni	60	1	nogas	485293	0.00
Cu	63	1	nogas	1212130	0.00
Zn	66	1	nogas	406972	0.00
As	75	1	nogas	781937	0.00
Sr	88	1	nogas	2598884	0.00
Ag	107	1	nogas	1561978	0.00
Cd	111	1	nogas	340995	0.00
Sb	121	1	nogas	1453933	0.00
Tl	205	1	nogas	2678813	0.00
Pb	208	1	nogas	3871310	0.00
[Pb]	206	1	nogas	983183	0.00
[Pb]	207	1	nogas	897512	0.00
Na	23	2	He	3727490	0.00
Mg	24	2	He	1743377	0.00
Al	27	2	He	4977	0.03
K	39	2	He	963133	0.00
Ca	43	2	He	3237	0.24
Ca	44	2	He	55868	0.00
V	51	2	He	215061	0.00
Cr	52	2	He	288786	0.00
Mn	55	2	He	113502	0.00
Fe	56	2	He	20694328	0.00
Co	59	2	He	489277	0.00
Ni	60	2	He	141818	0.00
Cu	63	2	He	402329	0.00
Zn	66	2	He	60367	0.00
As	75	2	He	41318	0.00
Se	78	2	He	1573	0.50
B	11	1	nogas	1321625	0.00
Si	28	1	nogas	33093971	0.00

Calibration Standard Report

Ca	43	1	nogas	300886	0.00
Ca	44	1	nogas	4735924	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	210747376	0.00
Se	77	1	nogas	128711	0.00
Se	82	1	nogas	23793	0.02
Mo	95	1	nogas	581129	0.00
Sn	118	1	nogas	815513	0.00
Ba	137	1	nogas	447362	0.00
Sb	121	2	He	182492	0.00
P	31	1	nogas	567703	0.00
La	139	1	nogas	447	8.39

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	207782	3.50	252377	82.33	70	125	
Ge	72	1	nogas	1232716	2.08	1286445	95.82	70	125	
In	115	1	nogas	1234982	5.06	1344417	91.86	70	125	
Bi	209	1	nogas	1230348	2.86	1284048	95.82	70	125	
Ge	72	2	He	104406	0.16	111777	93.41	70	125	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	017_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T10:31:52-06:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	93.635	2.483	198423	2.26	100	93.6	90	110	
Na	23	1	nogas	9839.796	2.565	92308931	1.93	10000	98.4	90	110	
Mg	24	1	nogas	9985.271	3.926	60965749	2.83	10000	99.9	90	110	
Al	27	1	nogas	102.500	1.438	770060	1.60	100	102.5	90	110	
K	39	1	nogas	9589.912	3.042	75039054	1.53	10000	95.9	90	110	
Ti	47	1	nogas	98.575	2.096	74277	1.24	100	98.6	90	110	
V	51	1	nogas	88.074	6.704	2637298	1.40	100	88.1	90	110	ICV Main CR1 Failed
Cr	52	1	nogas	103.434	2.352	1025488	1.35	100	103.4	90	110	
Mn	55	1	nogas	98.118	1.054	1227180	2.25	100	98.1	90	110	
Co	59	1	nogas	102.367	4.216	1102086	2.25	100	102.4	90	110	
Ni	60	1	nogas	100.903	4.915	254912	2.92	100	100.9	90	110	
Cu	63	1	nogas	98.446	4.380	619700	2.11	100	98.4	90	110	
Zn	66	1	nogas	97.852	3.658	205127	0.85	100	97.9	90	110	
As	75	1	nogas	85.783	10.298	490853	2.69	100	85.8	90	110	ICV Main CR1 Failed
Sr	88	1	nogas	94.961	1.575	1263585	2.17	100	95.0	90	110	
Ag	107	1	nogas	98.437	4.535	795957	1.88	100	98.4	90	110	
Cd	111	1	nogas	98.387	2.476	169141	2.51	100	98.4	90	110	
Sb	121	1	nogas	100.660	3.440	758182	1.26	100	100.7	90	110	
Tl	205	1	nogas	102.647	11.511	1375999	3.63	100	102.6	90	110	
Pb	208	1	nogas	103.811	9.661	2033204	1.53	100	103.8	90	110	
U	238	1	nogas	102.681	7.385	1937843	1.74	100	102.7	90	110	
[Pb]	206	1	nogas	100.474	10.138	495695	1.93	100	100.5	90	110	
[Pb]	207	1	nogas	99.455	10.716	447793	2.57	100	99.5	90	110	
Na	23	2	He	10100.752	0.624	1891801	1.73	10000	101.0	90	110	
Mg	24	2	He	10151.211	1.445	880069	1.18	10000	101.5	90	110	
Al	27	2	He	99.663	9.516	2504	9.99	100	99.7	90	110	
K	39	2	He	9816.233	1.978	480967	1.93	10000	98.2	90	110	
Ca	43	2	He	9831.581	13.622	1610	14.65	10000	98.3	90	110	
Ca	44	2	He	10179.569	2.710	28372	1.48	10000	101.8	90	110	
V	51	2	He	99.442	1.591	106146	1.20	100	99.4	90	110	
Cr	52	2	He	99.802	3.149	144197	1.70	100	99.8	90	110	
Mn	55	2	He	100.067	4.427	56815	3.50	100	100.1	90	110	
Fe	56	2	He	10115.439	4.096	10375086	3.82	10000	101.2	90	110	
Co	59	2	He	103.880	3.206	253062	2.04	100	103.9	90	110	
Ni	60	2	He	102.853	3.095	72702	1.75	100	102.9	90	110	
Cu	63	2	He	102.372	1.207	204496	1.87	100	102.4	90	110	
Zn	66	2	He	100.814	1.283	30199	2.37	100	100.8	90	110	
As	75	2	He	100.713	5.104	20754	3.66	100	100.7	90	110	
Se	78	2	He	96.490	8.252	763	7.21	100	96.5	90	110	
B	11	1	nogas	456.197	3.417	661270	4.20	500	91.2	90	110	
Si	28	1	nogas	4968.692	5.271	17370779	2.91	5000	99.4	90	110	
Ca	43	1	nogas	9572.321	5.867	148089	4.00	10000	95.7	90	110	
Ca	44	1	nogas	9625.718	5.674	2402534	3.72	10000	96.3	90	110	
Fe	56	1	nogas	9828.667	3.006	106718532	0.75	10000	98.3	90	110	
Se	77	1	nogas	70.226	32.050	98844	4.71	100	70.2	90	110	ICV Main CR1 Failed
Se	82	1	nogas	98.530	1.955	12234	2.48	100	98.5	90	110	
Mo	95	1	nogas	96.628	2.124	290742	3.71	100	96.6	90	110	
Sn	118	1	nogas	105.464	1.227	441252	0.61	100	105.5	90	110	
Ba	137	1	nogas	99.254	0.593	224270	0.45	100	99.3	90	110	
Sb	121	2	He	97.339	3.255	88219	2.63	100	97.3	90	110	
Li	7	1	nogas	92.727	5.604	487378	4.97	100	92.7	90	110	
P	31	1	nogas	483.826	4.591	301835	1.63	500	96.8	90	110	
La	139	1	nogas	225.592	6.241	557	4.52	100	225.6	90	110	ICV Main CR1 Failed
Au	197	1	nogas	277.556	169.579	3	173.21	100	277.6	90	110	ICV Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	229066	0.94	252377	90.76	70	125	
Ge	72	1	nogas	1264026	2.83	1286445	98.26	70	125	
In	115	1	nogas	1248901	0.75	1344417	92.90	70	125	
Bi	209	1	nogas	1252535	7.81	1284048	97.55	70	125	

Initial Calibration Verification (ICV) Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	104641	1.40	111777	93.62	70	125	

Sample Report

Sample Table

Sample Name	LLICV2
Data File Name	018SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T10:33:49-06:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	010CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	1.969	1.969	5.86	4694	0.04	2000	
Na	23	1	nogas	197.667	197.667	7.03	3296656	0.01	200000	
Mg	24	1	nogas	221.169	221.169	6.89	1361365	0.02	200000	
Al	27	1	nogas	2.780	2.780	7.12	29397	0.01	2000	
K	39	1	nogas	222.140	222.140	0.39	5394460	0.00	200000	
Ti	47	1	nogas	2.304	2.304	10.39	1963	0.12	2000	
V	51	1	nogas	14.571	14.571	24.92	1577287	0.00	2000	
Cr	52	1	nogas	2.354	2.354	7.69	61770	0.00	2000	
Mn	55	1	nogas	2.313	2.313	2.09	37195	0.01	2000	
Co	59	1	nogas	2.381	2.381	3.30	24964	0.01	2000	
Ni	60	1	nogas	1.469	1.469	12.54	6388	0.02	2000	
Cu	63	1	nogas	1.966	1.966	5.25	18123	0.01	2000	
Zn	66	1	nogas	2.253	2.253	2.43	5814	0.04	2000	
As	75	1	nogas	7.781	7.781	69.77	267067	0.00	2000	
Sr	88	1	nogas	2.388	2.388	1.63	31074	0.01	2000	
Ag	107	1	nogas	2.246	2.246	2.84	17529	0.01	2000	
Cd	111	1	nogas	2.031	2.031	12.79	3590	0.06	2000	
Sb	121	1	nogas	2.433	2.433	3.82	19114	0.01	2000	
Tl	205	1	nogas	2.638	2.638	10.39	36184	0.01	2000	
Pb	208	1	nogas	2.189	2.189	1.21	44134	0.00	2000	
U	238	1	nogas	2.398	2.398	3.28	46526	0.01	2000	
[Pb]	206	1	nogas	2.146	2.146	2.05	10931	0.02	2000	
[Pb]	207	1	nogas	2.149	2.149	5.56	9970	0.02	2000	
Na	23	2	He	189.805	189.805	5.40	78049	0.24	200000	
Mg	24	2	He	208.849	208.849	8.97	19087	1.09	200000	
Al	27	2	He	3.544	3.544	32.34	153	2.31	2000	
K	39	2	He	188.594	188.594	2.34	19948	0.95	200000	
Ca	43	2	He	322.821	322.821	42.76	73	440.21	200000	
Ca	44	2	He	202.959	202.959	10.25	687	29.56	200000	
V	51	2	He	2.345	2.345	1.81	2816	0.08	2000	
Cr	52	2	He	1.848	1.848	2.53	4421	0.04	2000	
Mn	55	2	He	1.946	1.946	5.35	1467	0.13	2000	
Fe	56	2	He	224.288	224.288	4.95	245638	0.09	200000	
Co	59	2	He	2.065	2.065	5.47	5368	0.04	2000	
Ni	60	2	He	2.111	2.111	7.25	1650	0.13	2000	
Cu	63	2	He	2.386	2.386	6.84	5351	0.04	2000	
Zn	66	2	He	2.244	2.244	11.06	697	0.32	2000	
As	75	2	He	2.176	2.176	10.36	491	0.44	2000	
Se	78	2	He	1.004	1.004	105.80	16	6.28	2000	
B	11	1	nogas	27.604	27.604	15.30	72546	0.04	2000	

Sample Report

Si	28	1	nogas	200.487	200.487	6.04	1351328	0.01	2000	
Ca	43	1	nogas	222.913	222.913	0.80	3710	6.01	200000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ca	44	1	nogas	226.104	226.104	1.33	166961	0.14	200000	
Fe	56	1	nogas	225.869	225.869	2.15	3032245	0.01	200000	
Se	77	1	nogas	42.912	42.912	40.06	87379	0.05	2000	
Se	82	1	nogas	2.398	2.398	10.62	643	0.37	2000	
Mo	95	1	nogas	1.986	1.986	5.01	8809	0.02	2000	
Sn	118	1	nogas	2.080	2.080	3.56	9529	0.02	2000	
Ba	137	1	nogas	2.164	2.164	8.01	5428	0.04	2000	
Sb	121	2	He	2.148	2.148	18.53	2257	0.10	2000	
La	139	1	nogas	-27.438	-27.438	-88.06	73	-37.42	2000	
Au	197	1	nogas	549.300	549.300	0.00	0	#DIV/0!	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	256429	2.31	252377	101.61	70	125	
Ge	72	1	nogas	1202425	0.81	1286445	93.47	70	125	
In	115	1	nogas	1281874	3.88	1344417	95.35	70	125	
Bi	209	1	nogas	1270835	0.31	1284048	98.97	70	125	
Ge	72	2	He	109131	4.20	111777	97.63	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	LLICV5
Data File Name	019LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T10:35:49-06:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	4.425	3.756	10396	1.37	5	88.5	70	130	
Na	23	1	nogas	501.784	5.416	6212334	2.10	500	100.4	70	130	
Mg	24	1	nogas	524.050	3.284	3270286	1.99	500	104.8	70	130	
Al	27	1	nogas	5.849	5.663	52093	2.21	5	117.0	70	130	
K	39	1	nogas	522.936	4.630	7670981	0.98	500	104.6	70	130	
Ti	47	1	nogas	5.154	10.041	4077	6.91	5	103.1	70	130	
V	51	1	nogas	25.430	29.386	1749974	3.17	5	508.6	70	130	LLICV Main CR1 Failed
Cr	52	1	nogas	5.837	5.655	95208	1.40	5	116.7	70	130	
Mn	55	1	nogas	5.504	4.190	76392	1.81	5	110.1	70	130	
Co	59	1	nogas	5.659	6.469	59715	4.02	5	113.2	70	130	
Ni	60	1	nogas	4.644	3.468	14222	1.70	5	92.9	70	130	
Cu	63	1	nogas	5.188	3.246	37986	0.26	5	103.8	70	130	
Zn	66	1	nogas	5.059	3.890	11617	4.31	5	101.2	70	130	
As	75	1	nogas	16.142	48.161	294348	4.51	5	322.8	70	130	LLICV Main CR1 Failed
Sr	88	1	nogas	5.737	3.342	74951	0.92	5	114.7	70	130	
Ag	107	1	nogas	5.568	2.704	43989	1.10	5	111.4	70	130	
Cd	111	1	nogas	5.077	5.384	9056	5.35	5	101.5	70	130	
Sb	121	1	nogas	5.444	5.457	41473	2.84	5	108.9	70	130	
Tl	205	1	nogas	5.398	0.473	74819	1.27	5	108.0	70	130	
Pb	208	1	nogas	5.206	3.951	105562	2.28	5	104.1	70	130	
U	238	1	nogas	5.617	1.773	109656	1.68	5	112.3	70	130	
[Pb]	206	1	nogas	5.162	4.988	26398	3.33	5	103.2	70	130	
[Pb]	207	1	nogas	4.936	5.424	23030	4.63	5	98.7	70	130	
Na	23	2	He	539.151	5.781	139642	2.26	500	107.8	70	130	
Mg	24	2	He	540.853	5.821	47371	4.96	500	108.2	70	130	
Al	27	2	He	4.331	12.913	167	9.17	5	86.6	70	130	
K	39	2	He	518.698	1.713	35755	1.19	500	103.7	70	130	
Ca	43	2	He	581.296	16.241	113	13.48	500	116.3	70	130	
Ca	44	2	He	564.056	1.354	1670	3.17	500	112.8	70	130	
V	51	2	He	5.638	3.184	6242	1.26	5	112.8	70	130	
Cr	52	2	He	5.254	6.283	9152	3.94	5	105.1	70	130	
Mn	55	2	He	5.002	7.644	3147	5.23	5	100.0	70	130	
Fe	56	2	He	581.315	1.759	605111	0.48	500	116.3	70	130	
Co	59	2	He	5.388	3.384	13325	5.14	5	107.8	70	130	
Ni	60	2	He	5.772	5.937	4187	5.29	5	115.4	70	130	
Cu	63	2	He	5.400	2.532	11207	0.57	5	108.0	70	130	
Zn	66	2	He	5.821	18.472	1750	18.26	5	116.4	70	130	
As	75	2	He	4.969	5.236	1052	5.67	5	99.4	70	130	
Se	78	2	He	5.501	11.454	51	8.22	5	110.0	70	130	
B	11	1	nogas	27.504	10.024	71582	3.94	25	110.0	70	130	
Si	28	1	nogas	339.753	6.858	1831785	2.50	25	1359.0	70	130	LLICV Main CR1 Failed
Ca	43	1	nogas	511.719	3.759	8119	3.91	500	102.3	70	130	
Ca	44	1	nogas	534.524	6.840	241414	1.44	500	106.9	70	130	
Fe	56	1	nogas	533.139	5.285	6311780	2.38	500	106.6	70	130	
Se	77	1	nogas	60.943	38.511	93667	4.03	5	1218.9	70	130	LLICV Main CR1 Failed
Se	82	1	nogas	5.275	4.346	993	4.76	5	105.5	70	130	
Mo	95	1	nogas	5.020	3.924	17752	1.42	5	100.4	70	130	
Sn	118	1	nogas	4.800	4.511	21400	3.88	5	96.0	70	130	
Ba	137	1	nogas	5.019	6.087	12158	5.09	5	100.4	70	130	
Sb	121	2	He	5.219	2.190	4967	0.58	5	104.4	70	130	
Li	7	1	nogas	4.607	5.436	48523	5.20	5	92.1	70	130	
P	31	1	nogas	30.231	13.637	53693	1.68	25	120.9	70	130	
La	139	1	nogas	-27.807	-56.251	73	43.83	5	-556.1	70	130	LLICV Main CR1 Failed
Au	197	1	nogas	-538.193	-175.016	13	86.60	5	-10763.9	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
Li	6	1	nogas	253642	4.83	252377	100.50	70	125	
Ge	72	1	nogas	1227893	2.44	1286445	95.45	70	125	
In	115	1	nogas	1294152	1.23	1344417	96.26	70	125	
Bi	209	1	nogas	1285924	1.66	1284048	100.15	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Ge	72	2	He	105231	1.89	111777	94.14	70	125	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	020_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T10:37:48-06:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.049	25.3	140	18.9	1	
Na	23	1	nogas	-16.674	-24.5	1361381	1.7	100	
Mg	24	1	nogas	1.390	34.9	15442	18.3	100	
Al	27	1	nogas	-0.087	-117.6	9376	6.7	5	
K	39	1	nogas	-1.532	-999.5	3898928	1.1	100	
Ti	47	1	nogas	-0.120	-64.1	240	25.3	2.5	
V	51	1	nogas	16.694	45.8	1638049	5.0	2.5	ICB Main CR1 Failed
Cr	52	1	nogas	0.134	160.1	42579	3.2	2.5	
Mn	55	1	nogas	-0.018	-284.4	9903	3.8	2.5	
Co	59	1	nogas	0.005	113.0	637	7.1	2.5	
Ni	60	1	nogas	-0.869	-0.8	850	4.2	2.5	
Cu	63	1	nogas	-0.373	-9.5	4347	2.5	2.5	
Zn	66	1	nogas	-0.400	-7.5	570	10.5	2.5	
As	75	1	nogas	5.339	94.0	266359	4.2	2.5	ICB Main CR1 Failed
Sr	88	1	nogas	0.045	4.6	1460	0.7	2.5	
Ag	107	1	nogas	0.027	21.2	463	8.2	2.5	
Cd	111	1	nogas	0.017	20.3	43	13.3	1	
Sb	121	1	nogas	-0.073	-19.5	1213	7.5	2.5	
Tl	205	1	nogas	0.088	27.2	1293	26.0	1	
Pb	208	1	nogas	0.018	28.6	773	16.9	2.5	
U	238	1	nogas	-0.003	-206.1	397	27.8	2.5	
[Pb]	206	1	nogas	0.005	105.7	157	19.5	2.5	
[Pb]	207	1	nogas	0.023	66.9	203	36.9	2.5	
Na	23	2	He	-10.543	-95.4	39368	3.1	100	
Mg	24	2	He	1.317	29.0	370	11.8	100	
Al	27	2	He	0.618	157.5	77	30.1	5	
K	39	2	He	-19.155	-44.2	9999	4.1	100	
Ca	43	2	He	-53.896	-199.0	10	173.2	100	
Ca	44	2	He	5.644	291.9	113	44.4	100	
V	51	2	He	0.529	7.2	789	4.5	2.5	
Cr	52	2	He	0.151	69.1	1867	5.4	2.5	
Mn	55	2	He	-0.033	-420.4	297	27.5	2.5	
Fe	56	2	He	1.012	33.9	7115	4.4	100	
Co	59	2	He	-0.020	-26.2	77	19.9	2.5	
Ni	60	2	He	0.206	71.7	240	41.7	2.5	
Cu	63	2	He	0.252	9.3	910	3.8	2.5	
Zn	66	2	He	0.150	31.9	43	35.3	2.5	
As	75	2	He	0.029	182.8	30	40.1	2.5	
Se	78	2	He	-0.682	-37.5	2	100.0	2.5	
B	11	1	nogas	5.181	14.4	36809	1.9	10	
Si	28	1	nogas	9.451	50.1	758606	0.7	5	ICB Main CR1 Failed
Ca	43	1	nogas	2.420	419.0	483	32.5	100	
Ca	44	1	nogas	-37.483	-33.9	109783	0.9	100	
Fe	56	1	nogas	-6.679	-18.5	659684	0.5	100	
Se	77	1	nogas	36.037	66.4	87510	6.3	2.5	ICB Main CR1 Failed
Se	82	1	nogas	-0.605	-49.5	307	13.2	2.5	

Initial Calibration Blank (ICB) Report

Mo	95	1	nogas	-0.468	-9.1	1907	7.0	2.5	
Sn	118	1	nogas	0.061	71.9	913	20.6	5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Ba	137	1	nogas	-0.070	-9.9	277	5.5	2.5	
Sb	121	2	He	-0.095	-46.1	140	25.8	2.5	
P	31	1	nogas	1.169	182.9	38373	1.7	10	
La	139	1	nogas	-35.311	-13.4	60	16.7	2.5	
Au	197	1	nogas	-1363.555	-149.5	23	107.9	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	250413	2.14	252377	99.22	70	125	
Ge	72	1	nogas	1228388	2.39	1286445	95.49	70	125	
In	115	1	nogas	1333788	0.81	1344417	99.21	70	125	
Bi	209	1	nogas	1254938	3.88	1284048	97.73	70	125	
Ge	72	2	He	108032	3.02	111777	96.65	70	125	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	021ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T10:39:50-06:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.030	30.7	90	22.2	0	ICSA Main CR1 Failed
Na	23	1	nogas	104001.355	2.5	920255554	2.0	0	
Mg	24	1	nogas	105817.716	2.4	618211730	0.6	0	
Al	27	1	nogas	99127.478	2.5	693464910	3.5	0	
K	39	1	nogas	102863.007	1.4	722779916	2.2	0	
Ti	47	1	nogas	2141.535	2.5	1516530	3.6	0	
V	51	1	nogas	-1.950	-173.3	1356234	2.4	0	ICSA Main CR1 Failed
Cr	52	1	nogas	1.447	4.4	53130	1.5	0	ICSA Main CR1 Failed
Mn	55	1	nogas	0.192	13.3	12074	3.5	0	ICSA Main CR1 Failed
Co	59	1	nogas	0.101	11.6	1593	6.7	0	ICSA Main CR1 Failed
Ni	60	1	nogas	-0.293	-27.9	2184	9.9	0	ICSA Main CR1 Failed
Cu	63	1	nogas	0.292	16.8	8129	3.2	0	ICSA Main CR1 Failed
Zn	66	1	nogas	1.489	11.4	4264	7.2	0	ICSA Main CR1 Failed
As	75	1	nogas	-0.821	-302.9	242953	1.6	0	ICSA Main CR1 Failed
Sr	88	1	nogas	0.996	4.4	13342	3.2	0	ICSA Main CR1 Failed
Ag	107	1	nogas	0.035	24.4	510	11.9	0	ICSA Main CR1 Failed
Cd	111	1	nogas	1.039	3.0	1743	5.7	0	ICSA Main CR1 Failed
Sb	121	1	nogas	0.039	40.8	1973	6.4	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.037	13.7	580	10.3	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.097	7.2	2277	6.6	0	ICSA Main CR1 Failed
[Pb]	206	1	nogas	0.099	16.5	613	13.9	0	ICSA Main CR1 Failed
[Pb]	207	1	nogas	0.078	8.4	440	6.0	0	ICSA Main CR1 Failed
Na	23	2	He	102578.703	2.4	18337268	0.9	0	
Mg	24	2	He	97573.183	3.6	8228619	1.6	0	
Al	27	2	He	88825.894	3.2	2118620	1.3	0	
K	39	2	He	95931.820	0.5	4604612	0.5	0	
Ca	43	2	He	93805.027	2.1	14783	3.7	0	
Ca	44	2	He	98233.705	1.3	265737	1.3	0	
V	51	2	He	0.345	18.8	555	13.5	0	ICSA Main CR1 Failed
Cr	52	2	He	1.521	8.0	3670	6.4	0	ICSA Main CR1 Failed
Mn	55	2	He	0.151	122.1	380	25.4	0	ICSA Main CR1 Failed
Fe	56	2	He	98989.395	1.7	98767069	0.5	0	
Co	59	2	He	-0.014	-68.9	87	24.0	0	ICSA Main CR1 Failed
Ni	60	2	He	0.309	35.9	300	26.5	0	ICSA Main CR1 Failed
Cu	63	2	He	0.597	11.6	1530	10.2	0	ICSA Main CR1 Failed
Zn	66	2	He	0.961	31.5	277	30.7	0	ICSA Main CR1 Failed
As	75	2	He	0.093	98.4	41	46.8	0	ICSA Main CR1 Failed
Se	78	2	He	-0.149	-461.9	6	88.2	0	ICSA Main CR1 Failed
B	11	1	nogas	6.117	33.7	36075	8.1	0	ICSA Main CR1 Failed
Si	28	1	nogas	140.725	1.8	1151337	1.7	0	
Ca	43	1	nogas	95640.157	2.2	1392989	1.4	0	
Ca	44	1	nogas	98122.905	2.4	22062981	1.9	0	
Fe	56	1	nogas	101167.110	3.0	1030287490	3.4	0	
Se	77	1	nogas	15.992	52.5	80099	1.8	0	
Se	82	1	nogas	0.294	303.5	400	26.3	0	ICSA Main CR1 Failed
Mo	95	1	nogas	2018.589	4.1	5665009	3.0	0	
Sn	118	1	nogas	0.055	46.3	807	15.0	0	ICSA Main CR1 Failed
Ba	137	1	nogas	0.028	81.3	467	12.4	0	ICSA Main CR1 Failed
Sb	121	2	He	-0.060	-67.9	163	23.2	0	ICSA Main CR1 Failed

Interference Check Solution A (ICS-A) Report

P	31	1	nogas	95791.867	0.8	49195829	1.8	0	
La	139	1	nogas	122.582	29.3	347	15.9	0	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	236214	0.15	252377	93.60	70	125	
Ge	72	1	nogas	1192451	1.06	1286445	92.69	70	125	
In	115	1	nogas	1211272	4.82	1344417	90.10	70	125	
Bi	209	1	nogas	1229091	1.13	1284048	95.72	70	125	
Ge	72	2	He	101852	1.95	111777	91.12	70	125	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	022ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T10:41:55-06:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	88.376	1.137	186583	0.23	100	88.4	80	120	
Na	23	1	nogas	115889.963	3.273	996621656	4.12	100	115890.0	80	120	
Mg	24	1	nogas	118397.233	5.503	672107548	4.67	100	118397.2	80	120	ICSB Main CR1 Failed
Al	27	1	nogas	98913.218	3.916	708919269	0.80	100	98913.2	80	120	ICSB Main CR1 Failed
K	39	1	nogas	106573.510	3.609	767238917	1.40	100	106573.5	80	120	ICSB Main CR1 Failed
Ti	47	1	nogas	2139.590	4.336	1552120	1.14	100	2139.6	80	120	ICSB Main CR1 Failed
V	51	1	nogas	65.904	11.178	2264754	1.65	100	65.9	80	120	ICSB Main CR1 Failed
Cr	52	1	nogas	95.020	5.192	914117	1.64	100	95.0	80	120	
Mn	55	1	nogas	92.704	3.735	1121663	1.80	100	92.7	80	120	
Co	59	1	nogas	92.099	4.255	959114	0.89	100	92.1	80	120	
Ni	60	1	nogas	89.168	3.493	218287	0.27	100	89.2	80	120	
Cu	63	1	nogas	89.201	5.424	543611	1.89	100	89.2	80	120	
Zn	66	1	nogas	92.091	4.983	186770	1.45	100	92.1	80	120	
As	75	1	nogas	76.964	8.904	451885	1.49	100	77.0	80	120	ICSB Main CR1 Failed
Sr	88	1	nogas	95.522	3.557	1228990	0.15	100	95.5	80	120	
Ag	107	1	nogas	90.022	3.413	704322	0.38	100	90.0	80	120	
Cd	111	1	nogas	91.184	5.559	152876	1.39	100	91.2	80	120	
Sb	121	1	nogas	93.511	4.834	681248	1.59	100	93.5	80	120	
Tl	205	1	nogas	96.565	3.330	1271745	1.23	100	96.6	80	120	
Pb	208	1	nogas	94.402	2.897	1814916	0.56	100	94.4	80	120	
U	238	1	nogas	98.217	1.773	1817788	2.32	100	98.2	80	120	
[Pb]	206	1	nogas	91.476	3.708	443064	1.50	100	91.5	80	120	
[Pb]	207	1	nogas	91.595	3.274	405015	0.92	100	91.6	80	120	
Na	23	2	He	113821.450	3.704	20059400	1.20	100	113821.4	80	120	
Mg	24	2	He	108054.377	5.090	8984856	2.42	100	108054.4	80	120	
Al	27	2	He	92640.163	2.657	2179520	1.04	100	92640.2	80	120	ICSB Main CR1 Failed
K	39	2	He	100633.413	0.696	4829747	0.69	100	100633.4	80	120	ICSB Main CR1 Failed
Ca	43	2	He	101604.965	3.640	15780	1.41	100	101605.0	80	120	ICSB Main CR1 Failed
Ca	44	2	He	104325.257	2.463	278370	2.92	100	104325.3	80	120	ICSB Main CR1 Failed
V	51	2	He	93.623	3.367	95914	0.78	100	93.6	80	120	
Cr	52	2	He	92.296	4.294	128107	2.58	100	92.3	80	120	
Mn	55	2	He	89.877	3.746	49009	1.41	100	89.9	80	120	
Fe	56	2	He	111989.125	4.426	110158678	1.86	100	111989.1	80	120	ICSB Main CR1 Failed
Co	59	2	He	95.210	4.065	222610	1.74	100	95.2	80	120	
Ni	60	2	He	91.060	1.087	61829	3.08	100	91.1	80	120	
Cu	63	2	He	90.991	1.862	174513	1.84	100	91.0	80	120	
Zn	66	2	He	91.514	1.592	26316	2.77	100	91.5	80	120	
As	75	2	He	91.287	2.727	18063	0.36	100	91.3	80	120	
Se	78	2	He	95.224	3.954	723	1.88	100	95.2	80	120	
B	11	1	nogas	433.480	2.712	627186	2.66	100	433.5	80	120	
Si	28	1	nogas	4931.945	4.247	16690639	2.96	100	4931.9	80	120	ICSB Main CR1 Failed
Ca	43	1	nogas	101917.809	2.314	1521766	1.23	100	101917.8	80	120	ICSB Main CR1 Failed
Ca	44	1	nogas	102840.298	4.455	23688625	1.52	100	102840.3	80	120	ICSB Main CR1 Failed
Fe	56	1	nogas	110260.465	5.577	1150013526	2.09	100	110260.5	80	120	
Se	77	1	nogas	50.989	40.282	90792	3.10	100	51.0	80	120	ICSB Main CR1 Failed
Se	82	1	nogas	92.579	3.183	11150	5.55	100	92.6	80	120	
Mo	95	1	nogas	2054.072	6.167	5905198	2.67	100	2054.1	80	120	ICSB Main CR1 Failed
Sn	118	1	nogas	90.703	5.049	370277	1.58	100	90.7	80	120	
Ba	137	1	nogas	92.170	4.573	203196	0.41	100	92.2	80	120	
Sb	121	2	He	91.489	2.532	79608	1.31	100	91.5	80	120	
La	139	1	nogas	312.053	14.761	703	8.09	100	312.1	80	120	ICSB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	228215	0.93	252377	90.43	70	125	
Ge	72	1	nogas	1222991	3.57	1286445	95.07	70	125	
In	115	1	nogas	1219933	4.38	1344417	90.74	70	125	
Bi	209	1	nogas	1223837	2.31	1284048	95.31	70	125	
Ge	72	2	He	100468	2.62	111777	89.88	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	033_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T11:04:06-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	97.008	6.717	195808	2.52	100	97.0	90	110	
Na	23	1	nogas	9854.812	2.766	94286635	1.78	10000	98.5	90	110	
Mg	24	1	nogas	10188.879	1.700	63464862	1.61	10000	101.9	90	110	
Al	27	1	nogas	105.163	2.452	775765	2.67	100	105.2	90	110	
K	39	1	nogas	9583.355	2.040	73666022	1.33	10000	95.8	90	110	
Ti	47	1	nogas	103.241	4.088	76375	2.64	100	103.2	90	110	
V	51	1	nogas	123.771	10.146	3056101	2.38	100	123.8	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	106.123	6.493	1031426	2.94	100	106.1	90	110	
Mn	55	1	nogas	100.313	5.299	1231011	2.29	100	100.3	90	110	
Co	59	1	nogas	101.642	4.049	1074842	2.03	100	101.6	90	110	
Ni	60	1	nogas	100.340	3.281	249037	0.44	100	100.3	90	110	
Cu	63	1	nogas	100.505	3.128	621418	1.70	100	100.5	90	110	
Zn	66	1	nogas	99.804	4.733	205439	2.42	100	99.8	90	110	
As	75	1	nogas	92.479	10.924	499748	2.57	100	92.5	90	110	
Sr	88	1	nogas	97.014	2.837	1268127	3.92	100	97.0	90	110	
Ag	107	1	nogas	102.577	4.870	814565	1.79	100	102.6	90	110	
Cd	111	1	nogas	95.407	1.190	170053	0.79	100	95.4	90	110	
Sb	121	1	nogas	103.294	4.187	763973	1.06	100	103.3	90	110	
Tl	205	1	nogas	101.284	5.471	1367560	1.85	100	101.3	90	110	
Pb	208	1	nogas	102.372	2.438	2019200	1.39	100	102.4	90	110	
U	238	1	nogas	101.775	1.670	1932259	2.15	100	101.8	90	110	
[Pb]	206	1	nogas	100.204	2.140	498031	1.79	100	100.2	90	110	
[Pb]	207	1	nogas	99.573	2.568	451735	1.42	100	99.6	90	110	
Na	23	2	He	10068.155	0.946	1894415	0.50	10000	100.7	90	110	
Mg	24	2	He	9577.274	0.515	834220	0.61	10000	95.8	90	110	
Al	27	2	He	102.641	7.233	2587	6.59	100	102.6	90	110	
K	39	2	He	9515.114	0.388	466548	0.38	10000	95.2	90	110	
Ca	43	2	He	10187.016	9.638	1673	9.61	10000	101.9	90	110	
Ca	44	2	He	9905.036	1.873	27744	2.26	10000	99.1	90	110	
V	51	2	He	96.328	0.482	103312	0.67	100	96.3	90	110	
Cr	52	2	He	96.824	2.557	140636	2.95	100	96.8	90	110	
Mn	55	2	He	96.044	1.074	54812	1.42	100	96.0	90	110	
Fe	56	2	He	9675.906	1.729	9972216	2.20	10000	96.8	90	110	
Co	59	2	He	99.325	1.846	243164	2.30	100	99.3	90	110	
Ni	60	2	He	97.987	1.767	69606	2.02	100	98.0	90	110	
Cu	63	2	He	100.011	2.678	200692	2.27	100	100.0	90	110	
Zn	66	2	He	96.848	2.492	29140	2.10	100	96.8	90	110	
As	75	2	He	98.323	2.256	20364	1.78	100	98.3	90	110	
Se	78	2	He	96.069	3.997	764	4.11	100	96.1	90	110	
B	11	1	nogas	498.420	5.502	655976	0.42	500	99.7	90	110	
Si	28	1	nogas	5223.820	4.162	17904657	2.70	5000	104.5	90	110	
Ca	43	1	nogas	9571.319	2.860	145495	1.13	10000	95.7	90	110	
Ca	44	1	nogas	9697.421	2.962	2377119	0.78	10000	97.0	90	110	
Fe	56	1	nogas	9927.667	5.321	105832904	3.03	10000	99.3	90	110	
Se	77	1	nogas	90.731	27.601	102239	3.83	100	90.7	90	110	
Se	82	1	nogas	103.653	5.640	12611	2.87	100	103.7	90	110	
Mo	95	1	nogas	98.570	3.063	291111	2.26	100	98.6	90	110	
Sn	118	1	nogas	101.522	2.795	440351	1.24	100	101.5	90	110	
Ba	137	1	nogas	96.157	4.502	225190	2.63	100	96.2	90	110	
Sb	121	2	He	97.919	1.872	89164	1.39	100	97.9	90	110	
Li	7	1	nogas	100.901	6.599	493295	1.94	100	100.9	90	110	
P	31	1	nogas	505.262	2.760	307991	0.84	500	101.1	90	110	
La	139	1	nogas	190.558	19.669	507	12.69	100	190.6	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-293.141	-11.004	10	0.00	100	-293.1	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	233975	4.95	252377	92.71	70	125	
Ge	72	1	nogas	1241634	3.24	1286445	96.52	70	125	
In	115	1	nogas	1295036	1.92	1344417	96.33	70	125	
Bi	209	1	nogas	1255834	3.82	1284048	97.80	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	105123	0.48	111777	94.05	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	034_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T11:06:04-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.108	66.6	267	60.3	1	
Na	23	1	nogas	31.934	8.9	1791883	2.4	100	
Mg	24	1	nogas	13.899	59.4	93843	56.9	100	
Al	27	1	nogas	0.823	12.3	16114	1.6	5	
K	39	1	nogas	0.292	11205.4	3953953	0.4	100	
Ti	47	1	nogas	0.267	65.8	533	31.2	2.5	
V	51	1	nogas	34.282	44.6	1882721	4.8	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.196	158.9	43611	1.5	2.5	
Mn	55	1	nogas	0.126	18.5	11787	4.7	2.5	
Co	59	1	nogas	0.096	70.8	1643	51.6	2.5	
Ni	60	1	nogas	-0.564	-10.7	1617	15.7	2.5	
Cu	63	1	nogas	-0.096	-5.8	6104	6.6	2.5	
Zn	66	1	nogas	-0.137	-87.8	1127	28.7	2.5	
As	75	1	nogas	6.727	144.3	272498	3.4	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	0.154	37.3	2934	32.6	2.5	
Ag	107	1	nogas	0.065	39.2	777	33.1	2.5	
Cd	111	1	nogas	0.123	74.4	230	72.4	1	
Sb	121	1	nogas	0.130	68.7	2757	30.5	2.5	
Tl	205	1	nogas	0.615	54.6	8313	55.2	1	
Pb	208	1	nogas	0.122	65.1	2787	56.7	2.5	
U	238	1	nogas	0.160	74.4	3451	66.2	2.5	
[Pb]	206	1	nogas	0.120	76.1	723	63.5	2.5	
[Pb]	207	1	nogas	0.115	57.0	613	49.4	2.5	
Na	23	2	He	38.560	25.1	48292	3.5	100	
Mg	24	2	He	4.079	63.4	610	36.3	100	
Al	27	2	He	0.360	291.9	70	37.8	5	
K	39	2	He	-2.369	-427.3	10803	4.5	100	
Ca	43	2	He	4.988	34.7	20	0.0	100	
Ca	44	2	He	28.816	96.5	177	43.2	100	
V	51	2	He	0.679	7.8	947	6.6	2.5	
Cr	52	2	He	-0.062	-93.5	1543	5.9	2.5	
Mn	55	2	He	-0.071	-198.3	273	31.1	2.5	
Fe	56	2	He	4.388	21.6	10603	9.0	100	
Co	59	2	He	0.024	69.7	187	24.2	2.5	
Ni	60	2	He	0.298	10.9	307	7.5	2.5	
Cu	63	2	He	0.516	6.1	1443	5.8	2.5	
Zn	66	2	He	0.391	27.2	117	27.6	2.5	
As	75	2	He	0.100	18.6	44	8.7	2.5	
Se	78	2	He	-0.518	-55.6	3	69.3	2.5	
B	11	1	nogas	12.296	28.9	46728	9.2	10	CCB Main CR1 Failed
Si	28	1	nogas	118.696	16.3	1129309	9.3	5	CCB Main CR1 Failed
Ca	43	1	nogas	25.746	20.1	847	15.9	100	
Ca	44	1	nogas	-120.760	-17.7	91593	1.0	100	
Fe	56	1	nogas	16.794	27.6	919664	11.8	100	
Se	77	1	nogas	40.589	90.3	89443	4.4	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.388	-127.0	337	19.8	2.5	
Mo	95	1	nogas	-0.488	-18.0	1880	20.0	2.5	
Sn	118	1	nogas	0.279	41.8	1807	29.6	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.014	734.7	457	51.4	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.028	143.8	253	16.0	2.5	
P	31	1	nogas	-0.148	-2857.0	38085	1.8	10	
La	139	1	nogas	-23.652	-57.0	80	33.1	2.5	
Au	197	1	nogas	-12.044	-8073.0	7	173.2	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	257085	3.19	252377	101.87	70	125	
Ge	72	1	nogas	1244166	6.31	1286445	96.71	70	125	
In	115	1	nogas	1272936	2.50	1344417	94.68	70	125	
Bi	209	1	nogas	1237236	1.55	1284048	96.35	70	125	
Ge	72	2	He	107159	1.43	111777	95.87	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	045_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T11:28:22-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	92.960	6.847	189860	0.15	100	93.0	90	110	
Na	23	1	nogas	10303.491	7.779	94119075	3.27	10000	103.0	90	110	
Mg	24	1	nogas	9912.417	8.451	58970037	4.19	10000	99.1	90	110	
Al	27	1	nogas	102.850	4.843	750665	1.57	100	102.8	90	110	
K	39	1	nogas	9681.468	8.166	73502981	2.69	10000	96.8	90	110	
Ti	47	1	nogas	100.274	7.025	73349	1.70	100	100.3	90	110	
V	51	1	nogas	107.199	18.076	2807789	5.29	100	107.2	90	110	
Cr	52	1	nogas	102.073	3.646	984272	2.01	100	102.1	90	110	
Mn	55	1	nogas	101.129	4.536	1229237	4.62	100	101.1	90	110	
Co	59	1	nogas	99.425	5.696	1040220	2.54	100	99.4	90	110	
Ni	60	1	nogas	98.149	6.564	240956	1.52	100	98.1	90	110	
Cu	63	1	nogas	95.940	6.506	586844	1.49	100	95.9	90	110	
Zn	66	1	nogas	98.418	3.500	200610	2.29	100	98.4	90	110	
As	75	1	nogas	76.995	19.924	453577	4.53	100	77.0	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	104.786	5.445	1354199	1.80	100	104.8	90	110	
Ag	107	1	nogas	99.648	4.459	783306	0.83	100	99.6	90	110	
Cd	111	1	nogas	95.461	2.889	166671	0.83	100	95.5	90	110	
Sb	121	1	nogas	101.358	6.983	741360	1.65	100	101.4	90	110	
Tl	205	1	nogas	97.640	8.397	1293211	3.83	100	97.6	90	110	
Pb	208	1	nogas	100.329	2.617	1943121	2.33	100	100.3	90	110	
U	238	1	nogas	97.847	5.106	1823054	3.72	100	97.8	90	110	
[Pb]	206	1	nogas	97.391	3.072	475173	1.65	100	97.4	90	110	
[Pb]	207	1	nogas	96.755	2.813	431021	2.60	100	96.8	90	110	
Na	23	2	He	10648.916	3.105	1889173	2.09	10000	106.5	90	110	
Mg	24	2	He	9509.970	1.972	781944	0.80	10000	95.1	90	110	
Al	27	2	He	95.351	4.631	2274	4.85	100	95.4	90	110	
K	39	2	He	9009.277	1.874	442326	1.83	10000	90.1	90	110	
Ca	43	2	He	9703.403	9.519	1507	10.59	10000	97.0	90	110	
Ca	44	2	He	9577.584	0.908	25328	0.44	10000	95.8	90	110	
V	51	2	He	98.281	1.096	99508	1.16	100	98.3	90	110	
Cr	52	2	He	94.997	2.475	130288	2.61	100	95.0	90	110	
Mn	55	2	He	93.783	3.006	50527	2.14	100	93.8	90	110	
Fe	56	2	He	9608.123	3.717	9345729	2.55	10000	96.1	90	110	
Co	59	2	He	101.815	2.869	235261	1.78	100	101.8	90	110	
Ni	60	2	He	99.718	2.893	66859	1.79	100	99.7	90	110	
Cu	63	2	He	97.534	2.342	184779	1.54	100	97.5	90	110	
Zn	66	2	He	96.996	2.509	27551	1.68	100	97.0	90	110	
As	75	2	He	100.235	3.500	19595	2.39	100	100.2	90	110	
Se	78	2	He	87.931	5.667	661	5.29	100	87.9	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	493.854	7.547	657567	0.65	500	98.8	90	110	
Si	28	1	nogas	6515.483	4.151	21926096	3.05	5000	130.3	90	110	CCV Main CR1-2 Failed
Ca	43	1	nogas	10197.249	7.003	153211	1.70	10000	102.0	90	110	
Ca	44	1	nogas	9743.530	11.282	2357780	5.51	10000	97.4	90	110	
Fe	56	1	nogas	9916.908	3.259	104727586	4.05	10000	99.2	90	110	
Se	77	1	nogas	45.644	87.066	89744	6.55	100	45.6	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	95.814	7.181	11561	2.75	100	95.8	90	110	
Mo	95	1	nogas	95.508	7.125	278923	2.05	100	95.5	90	110	
Sn	118	1	nogas	102.961	1.575	437647	1.45	100	103.0	90	110	
Ba	137	1	nogas	94.564	2.596	217036	0.31	100	94.6	90	110	
Sb	121	2	He	97.062	2.184	83436	1.01	100	97.1	90	110	
Li	7	1	nogas	99.219	1.422	492406	5.67	100	99.2	90	110	
P	31	1	nogas	512.266	7.393	308221	1.73	500	102.5	90	110	
La	139	1	nogas	171.841	32.539	460	22.90	100	171.8	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-606.714	-165.426	13	86.60	100	-606.7	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	237015	7.08	252377	93.91	70	125	
Ge	72	1	nogas	1229673	5.13	1286445	95.59	70	125	
In	115	1	nogas	1268951	2.41	1344417	94.39	70	125	
Bi	209	1	nogas	1233215	4.41	1284048	96.04	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	99247	1.18	111777	88.79	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	046_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T11:30:21-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.108	76.6	273	65.5	1	
Na	23	1	nogas	308.119	2.8	4247634	0.7	100	CCB Main CR1 Failed
Mg	24	1	nogas	20.386	44.6	129634	44.3	100	
Al	27	1	nogas	0.939	7.2	16865	3.2	5	
K	39	1	nogas	23.334	30.7	4102213	1.0	100	
Ti	47	1	nogas	2.722	10.3	2324	8.7	2.5	CCB Main CR1 Failed
V	51	1	nogas	43.617	13.2	1998838	3.3	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.090	105.8	42422	1.6	2.5	
Mn	55	1	nogas	0.346	7.9	14379	2.7	2.5	
Co	59	1	nogas	0.112	80.8	1767	54.1	2.5	
Ni	60	1	nogas	0.369	25.2	3877	6.1	2.5	
Cu	63	1	nogas	0.033	349.8	6845	10.5	2.5	
Zn	66	1	nogas	0.380	27.3	2160	10.0	2.5	
As	75	1	nogas	6.869	59.7	271966	3.6	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	0.624	10.8	8999	10.1	2.5	
Ag	107	1	nogas	0.076	45.3	850	32.2	2.5	
Cd	111	1	nogas	0.103	61.3	197	58.9	1	
Sb	121	1	nogas	0.109	57.4	2557	18.3	2.5	
Tl	205	1	nogas	0.532	53.6	7512	56.2	1	
Pb	208	1	nogas	0.116	63.0	2794	56.6	2.5	
U	238	1	nogas	0.159	59.4	3564	55.1	2.5	
[Pb]	206	1	nogas	0.112	61.6	710	53.2	2.5	
[Pb]	207	1	nogas	0.122	47.7	670	43.3	2.5	
Na	23	2	He	360.547	3.5	102715	1.1	100	CCB Main CR1 Failed
Mg	24	2	He	12.518	22.0	1287	19.0	100	
Al	27	2	He	2.524	96.2	117	47.2	5	
K	39	2	He	20.199	60.5	11884	4.9	100	
Ca	43	2	He	-31.623	-230.6	13	86.6	100	
Ca	44	2	He	49.566	30.2	223	18.1	100	
V	51	2	He	0.821	8.6	1041	4.8	2.5	
Cr	52	2	He	0.130	33.0	1723	2.2	2.5	
Mn	55	2	He	0.252	18.0	433	3.5	2.5	
Fe	56	2	He	6.070	3.2	11687	1.3	100	
Co	59	2	He	-0.013	-151.1	87	52.0	2.5	
Ni	60	2	He	0.601	12.3	497	8.1	2.5	
Cu	63	2	He	0.385	12.7	1110	6.2	2.5	
Zn	66	2	He	0.323	49.2	90	48.4	2.5	
As	75	2	He	0.056	133.6	33	45.8	2.5	
Se	78	2	He	-0.325	-166.3	5	89.2	2.5	
B	11	1	nogas	25.289	16.7	67320	5.6	10	CCB Main CR1 Failed
Si	28	1	nogas	1053.722	1.1	4179851	1.1	5	CCB Main CR1 Failed
Ca	43	1	nogas	48.853	39.5	1187	24.9	100	
Ca	44	1	nogas	-159.812	-5.2	82096	2.7	100	
Fe	56	1	nogas	22.686	47.8	973363	12.1	100	
Se	77	1	nogas	41.444	27.6	89395	2.8	2.5	CCB Main CR1 Failed
Se	82	1	nogas	0.038	1393.5	383	15.7	2.5	
Mo	95	1	nogas	-0.539	-30.4	1710	28.2	2.5	
Sn	118	1	nogas	0.301	37.8	1917	27.5	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.029	303.1	497	42.4	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	-0.035	-181.1	183	28.0	2.5	
P	31	1	nogas	8.697	24.5	42602	2.5	10	
La	139	1	nogas	-15.791	-97.1	97	33.3	2.5	
Au	197	1	nogas	267.340	182.7	3	173.2	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	267444	3.31	252377	105.97	70	125	
Ge	72	1	nogas	1235230	0.45	1286445	96.02	70	125	
In	115	1	nogas	1283202	2.57	1344417	95.45	70	125	
Bi	209	1	nogas	1280163	3.35	1284048	99.70	70	125	
Ge	72	2	He	101245	2.15	111777	90.58	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	057_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T11:52:36-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	90.645	3.676	196065	1.85	100	90.6	90	110	
Na	23	1	nogas	10504.811	2.676	96587731	3.28	10000	105.0	90	110	
Mg	24	1	nogas	10111.317	2.488	60575335	2.94	10000	101.1	90	110	
Al	27	1	nogas	104.211	1.701	734486	0.55	100	104.2	90	110	
K	39	1	nogas	10254.127	0.779	75057827	1.84	10000	102.5	90	110	
Ti	47	1	nogas	102.396	4.154	72382	3.02	100	102.4	90	110	
V	51	1	nogas	141.423	4.936	3142577	1.65	100	141.4	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	105.310	1.711	979158	1.21	100	105.3	90	110	
Mn	55	1	nogas	105.319	2.479	1235418	3.09	100	105.3	90	110	
Co	59	1	nogas	102.560	0.723	1036624	0.57	100	102.6	90	110	
Ni	60	1	nogas	100.098	3.681	237402	2.60	100	100.1	90	110	
Cu	63	1	nogas	98.952	3.574	584657	2.40	100	99.0	90	110	
Zn	66	1	nogas	102.877	4.320	202348	3.33	100	102.9	90	110	
As	75	1	nogas	99.557	7.172	495641	2.53	100	99.6	90	110	
Sr	88	1	nogas	100.760	3.735	1257897	3.11	100	100.8	90	110	
Ag	107	1	nogas	103.123	2.123	782862	1.08	100	103.1	90	110	
Cd	111	1	nogas	96.856	3.029	167946	1.45	100	96.9	90	110	
Sb	121	1	nogas	107.522	2.566	760058	1.64	100	107.5	90	110	
Tl	205	1	nogas	97.524	1.657	1325226	2.16	100	97.5	90	110	
Pb	208	1	nogas	100.294	3.148	1989076	2.67	100	100.3	90	110	
U	238	1	nogas	98.318	3.264	1876675	3.21	100	98.3	90	110	
[Pb]	206	1	nogas	96.698	2.210	483228	1.89	100	96.7	90	110	
[Pb]	207	1	nogas	95.755	4.040	436794	3.55	100	95.8	90	110	
Na	23	2	He	10454.182	5.061	1851380	2.12	10000	104.5	90	110	
Mg	24	2	He	9703.419	3.604	796391	1.88	10000	97.0	90	110	
Al	27	2	He	92.732	5.660	2210	7.11	100	92.7	90	110	
K	39	2	He	8460.867	0.969	416065	0.94	10000	84.6	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	8191.967	5.616	1273	8.25	10000	81.9	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	8825.601	2.347	23305	0.78	10000	88.3	90	110	CCV Main CR1-2 Failed
V	51	2	He	98.205	3.063	99240	0.46	100	98.2	90	110	
Cr	52	2	He	97.201	1.563	133063	2.04	100	97.2	90	110	
Mn	55	2	He	92.644	1.646	49845	1.97	100	92.6	90	110	
Fe	56	2	He	9523.176	1.743	9252316	3.04	10000	95.2	90	110	
Co	59	2	He	100.763	4.141	232380	1.53	100	100.8	90	110	
Ni	60	2	He	98.139	5.334	65661	2.69	100	98.1	90	110	
Cu	63	2	He	100.193	4.972	189402	2.45	100	100.2	90	110	
Zn	66	2	He	98.664	1.208	27995	3.86	100	98.7	90	110	
As	75	2	He	99.834	3.309	19483	0.85	100	99.8	90	110	
Se	78	2	He	93.992	3.867	705	6.57	100	94.0	90	110	
B	11	1	nogas	509.100	7.901	716380	4.04	500	101.8	90	110	
Si	28	1	nogas	5345.185	1.446	17495186	2.29	5000	106.9	90	110	
Ca	43	1	nogas	10019.724	3.276	145512	2.32	10000	100.2	90	110	
Ca	44	1	nogas	9680.304	3.941	2267406	2.61	10000	96.8	90	110	
Fe	56	1	nogas	10344.333	1.644	105391092	1.15	10000	103.4	90	110	
Se	77	1	nogas	104.021	26.449	100935	5.48	100	104.0	90	110	
Se	82	1	nogas	99.906	3.627	11634	2.88	100	99.9	90	110	
Mo	95	1	nogas	99.609	2.079	281048	0.95	100	99.6	90	110	
Sn	118	1	nogas	104.088	1.607	439355	0.73	100	104.1	90	110	
Ba	137	1	nogas	94.592	3.622	215611	2.70	100	94.6	90	110	
Sb	121	2	He	93.517	4.752	80231	2.28	100	93.5	90	110	
Li	7	1	nogas	97.081	3.102	509463	1.50	100	97.1	90	110	
P	31	1	nogas	491.452	4.025	287232	2.91	500	98.3	90	110	
La	139	1	nogas	196.765	19.235	507	15.95	100	196.8	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-2524.900	-116.977	37	95.78	100	-2524.9	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	250452	4.52	252377	99.24	70	125	
Ge	72	1	nogas	1185945	1.13	1286445	92.19	70	125	
In	115	1	nogas	1260062	1.56	1344417	93.73	70	125	
Bi	209	1	nogas	1262071	0.50	1284048	98.29	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	99108	2.80	111777	88.67	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	058_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T11:54:34-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.151	74.4	393	68.9	1	
Na	23	1	nogas	202.127	8.3	3358465	2.7	100	CCB Main CR1 Failed
Mg	24	1	nogas	18.540	57.8	120016	52.6	100	
Al	27	1	nogas	0.618	26.1	14783	4.1	5	
K	39	1	nogas	5.390	546.7	4041093	1.5	100	
Ti	47	1	nogas	1.007	29.4	1087	21.2	2.5	
V	51	1	nogas	47.457	10.6	2086601	3.8	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.158	157.6	43809	2.5	2.5	
Mn	55	1	nogas	0.187	60.0	12651	7.0	2.5	
Co	59	1	nogas	0.118	80.5	1843	50.8	2.5	
Ni	60	1	nogas	0.114	30.3	3317	5.7	2.5	
Cu	63	1	nogas	-0.107	-71.8	6094	4.1	2.5	
Zn	66	1	nogas	0.127	53.3	1673	4.8	2.5	
As	75	1	nogas	2.754	93.0	265921	3.3	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	0.217	43.2	3737	29.1	2.5	
Ag	107	1	nogas	0.092	55.7	983	37.5	2.5	
Cd	111	1	nogas	0.137	72.2	260	69.6	1	
Sb	121	1	nogas	0.141	81.0	2830	26.7	2.5	
Tl	205	1	nogas	0.617	53.5	8713	54.4	1	
Pb	208	1	nogas	0.163	58.7	3757	53.7	2.5	
U	238	1	nogas	0.162	81.2	3637	72.6	2.5	
[Pb]	206	1	nogas	0.168	60.6	1000	54.0	2.5	
[Pb]	207	1	nogas	0.144	56.4	773	50.8	2.5	
Na	23	2	He	287.010	1.0	87570	1.1	100	CCB Main CR1 Failed
Mg	24	2	He	7.580	13.8	850	8.5	100	
Al	27	2	He	0.307	448.9	63	50.8	5	
K	39	2	He	6.616	109.0	11234	3.1	100	
Ca	43	2	He	-6.595	-578.4	17	34.6	100	
Ca	44	2	He	11.008	78.8	117	17.8	100	
V	51	2	He	0.848	8.0	1044	7.4	2.5	
Cr	52	2	He	-0.006	-1632.6	1500	9.2	2.5	
Mn	55	2	He	0.046	279.2	313	20.8	2.5	
Fe	56	2	He	6.214	20.0	11557	11.3	100	
Co	59	2	He	0.040	126.0	207	54.4	2.5	
Ni	60	2	He	0.562	22.0	460	19.3	2.5	
Cu	63	2	He	0.264	16.8	857	9.4	2.5	
Zn	66	2	He	0.317	35.8	87	37.1	2.5	
As	75	2	He	0.113	98.5	43	48.0	2.5	
Se	78	2	He	0.053	1546.5	7	83.3	2.5	
B	11	1	nogas	26.043	9.5	71321	4.7	10	CCB Main CR1 Failed
Si	28	1	nogas	246.715	13.4	1565377	3.3	5	CCB Main CR1 Failed
Ca	43	1	nogas	35.094	24.3	997	14.1	100	
Ca	44	1	nogas	-204.044	-11.3	73046	3.5	100	
Fe	56	1	nogas	26.007	56.5	1023156	11.5	100	
Se	77	1	nogas	31.628	40.6	88548	5.2	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.469	-84.5	330	15.2	2.5	
Mo	95	1	nogas	-0.486	-35.0	1887	22.8	2.5	
Sn	118	1	nogas	0.357	36.8	2190	27.4	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.043	257.1	540	50.1	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	-0.027	-148.6	187	17.2	2.5	
P	31	1	nogas	-1.835	-163.3	37655	1.0	10	
La	139	1	nogas	-36.227	-17.1	57	20.4	2.5	
Au	197	1	nogas	-263.862	-305.2	10	100.0	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	278339	0.90	252377	110.29	70	125	
Ge	72	1	nogas	1258304	3.85	1286445	97.81	70	125	
In	115	1	nogas	1303827	1.45	1344417	96.98	70	125	
Bi	209	1	nogas	1288743	1.63	1284048	100.37	70	125	
Ge	72	2	He	98846	1.56	111777	88.43	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	069_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T12:16:42-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	82.842	2.041	196805	2.10	100	82.8	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	10379.450	5.320	93961083	3.30	10000	103.8	90	110	
Mg	24	1	nogas	10378.700	6.823	61196747	4.89	10000	103.8	90	110	
Al	27	1	nogas	108.338	2.944	787193	2.38	100	108.3	90	110	
K	39	1	nogas	9728.403	9.137	73489543	3.83	10000	97.3	90	110	
Ti	47	1	nogas	98.698	5.250	71927	0.28	100	98.7	90	110	
V	51	1	nogas	97.273	12.825	2669503	2.74	100	97.3	90	110	
Cr	52	1	nogas	104.700	4.379	1003949	2.17	100	104.7	90	110	
Mn	55	1	nogas	105.898	5.252	1279953	1.10	100	105.9	90	110	
Co	59	1	nogas	100.866	7.403	1049843	2.44	100	100.9	90	110	
Ni	60	1	nogas	98.363	7.695	240336	2.96	100	98.4	90	110	
Cu	63	1	nogas	96.555	6.791	587935	2.13	100	96.6	90	110	
Zn	66	1	nogas	100.661	4.846	204140	0.49	100	100.7	90	110	
As	75	1	nogas	70.991	17.169	436090	2.89	100	71.0	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	100.019	6.086	1286643	1.66	100	100.0	90	110	
Ag	107	1	nogas	102.076	3.361	799156	1.69	100	102.1	90	110	
Cd	111	1	nogas	97.225	2.710	172523	3.09	100	97.2	90	110	
Sb	121	1	nogas	106.187	8.159	772924	3.60	100	106.2	90	110	
Tl	205	1	nogas	101.764	2.839	1351526	1.75	100	101.8	90	110	
Pb	208	1	nogas	103.779	3.704	2011329	0.61	100	103.8	90	110	
U	238	1	nogas	103.759	2.912	1935578	0.52	100	103.8	90	110	
[Pb]	206	1	nogas	100.413	3.596	490363	0.90	100	100.4	90	110	
[Pb]	207	1	nogas	99.472	3.679	443432	0.66	100	99.5	90	110	
Na	23	2	He	10592.096	1.366	1862387	0.29	10000	105.9	90	110	
Mg	24	2	He	9673.142	1.749	788157	1.10	10000	96.7	90	110	
Al	27	2	He	84.379	8.239	2000	8.26	100	84.4	90	110	CCV Main CR1-2 Failed
K	39	2	He	8545.509	1.197	420118	1.17	10000	85.5	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	8150.501	10.144	1257	10.80	10000	81.5	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	8844.968	2.643	23182	1.70	10000	88.4	90	110	CCV Main CR1-2 Failed
V	51	2	He	99.186	1.553	99509	1.61	100	99.2	90	110	
Cr	52	2	He	99.976	1.278	135794	1.76	100	100.0	90	110	
Mn	55	2	He	89.323	1.800	47702	0.72	100	89.3	90	110	CCV Main CR1-2 Failed
Fe	56	2	He	9429.173	2.467	9089922	2.03	10000	94.3	90	110	
Co	59	2	He	103.742	2.664	237553	2.23	100	103.7	90	110	
Ni	60	2	He	102.624	1.363	68194	1.72	100	102.6	90	110	
Cu	63	2	He	103.194	1.607	193717	1.38	100	103.2	90	110	
Zn	66	2	He	98.437	1.188	27708	0.62	100	98.4	90	110	
As	75	2	He	101.019	2.435	19573	2.45	100	101.0	90	110	
Se	78	2	He	92.532	4.009	689	4.21	100	92.5	90	110	
B	11	1	nogas	456.831	2.120	709955	1.24	500	91.4	90	110	
Si	28	1	nogas	5361.634	4.668	18086615	1.72	5000	107.2	90	110	
Ca	43	1	nogas	9657.897	7.402	144479	2.59	10000	96.6	90	110	
Ca	44	1	nogas	9334.836	7.292	2257050	2.81	10000	93.3	90	110	
Fe	56	1	nogas	10241.789	3.542	107608107	1.82	10000	102.4	90	110	
Se	77	1	nogas	13.640	221.174	81442	5.79	100	13.6	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	100.413	5.950	12048	1.27	100	100.4	90	110	
Mo	95	1	nogas	96.704	7.976	281046	2.96	100	96.7	90	110	
Sn	118	1	nogas	101.121	2.707	436702	2.51	100	101.1	90	110	
Ba	137	1	nogas	94.656	1.451	220764	1.11	100	94.7	90	110	
Sb	121	2	He	94.811	3.729	80768	3.39	100	94.8	90	110	
Li	7	1	nogas	91.686	4.367	529844	4.68	100	91.7	90	110	
P	31	1	nogas	492.798	6.906	296696	2.22	500	98.6	90	110	
La	139	1	nogas	185.961	32.697	497	24.85	100	186.0	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-2038.804	-125.267	30	100.00	100	-2038.8	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	274808	1.19	252377	108.89	70	125	
Ge	72	1	nogas	1224256	5.11	1286445	95.17	70	125	
In	115	1	nogas	1289014	0.67	1344417	95.88	70	125	
Bi	209	1	nogas	1234147	3.07	1284048	96.11	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	98343	1.08	111777	87.98	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	070_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T12:18:41-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.125	54.7	340	48.1	1	
Na	23	1	nogas	148.978	2.1	2907727	1.3	100	CCB Main CR1 Failed
Mg	24	1	nogas	18.613	58.1	123296	56.0	100	
Al	27	1	nogas	0.935	12.4	17275	4.1	5	
K	39	1	nogas	-21.855	-37.4	3874329	0.8	100	
Ti	47	1	nogas	0.425	17.7	657	7.8	2.5	
V	51	1	nogas	10.599	42.5	1609949	3.6	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	-0.372	-9.2	39145	0.7	2.5	
Mn	55	1	nogas	0.099	172.5	11674	17.5	2.5	
Co	59	1	nogas	0.127	88.3	1970	60.5	2.5	
Ni	60	1	nogas	0.218	33.9	3600	4.4	2.5	
Cu	63	1	nogas	0.059	126.5	7188	5.7	2.5	
Zn	66	1	nogas	-0.027	-475.0	1367	19.7	2.5	
As	75	1	nogas	-16.429	-22.6	216117	4.8	2.5	
Sr	88	1	nogas	0.221	42.4	3844	31.6	2.5	
Ag	107	1	nogas	0.094	54.2	1020	39.8	2.5	
Cd	111	1	nogas	0.142	100.6	277	96.3	1	
Sb	121	1	nogas	0.173	64.0	3104	26.2	2.5	
Tl	205	1	nogas	0.607	58.1	8083	57.8	1	
Pb	208	1	nogas	0.168	58.5	3637	52.4	2.5	
U	238	1	nogas	0.179	73.8	3751	65.7	2.5	
[Pb]	206	1	nogas	0.187	55.3	1033	48.7	2.5	
[Pb]	207	1	nogas	0.144	67.1	733	58.8	2.5	
Na	23	2	He	243.260	6.5	80319	1.1	100	CCB Main CR1 Failed
Mg	24	2	He	7.936	8.2	883	4.3	100	
Al	27	2	He	1.972	96.8	103	45.7	5	
K	39	2	He	-1.044	-932.6	10867	4.3	100	
Ca	43	2	He	-94.839	-38.3	3	173.2	100	
Ca	44	2	He	38.931	45.6	190	21.1	100	
V	51	2	He	0.560	5.3	757	0.4	2.5	
Cr	52	2	He	0.286	24.5	1903	6.8	2.5	
Mn	55	2	He	-0.038	-151.1	270	9.8	2.5	
Fe	56	2	He	6.910	18.6	12261	7.5	100	
Co	59	2	He	0.032	98.5	190	39.7	2.5	
Ni	60	2	He	0.628	24.2	503	16.7	2.5	
Cu	63	2	He	0.380	12.4	1080	8.1	2.5	
Zn	66	2	He	0.302	23.6	83	27.7	2.5	
As	75	2	He	0.060	79.1	33	26.5	2.5	
Se	78	2	He	0.226	296.4	9	58.1	2.5	
B	11	1	nogas	15.779	13.9	57972	4.0	10	CCB Main CR1 Failed
Si	28	1	nogas	111.650	19.9	1126478	6.8	5	CCB Main CR1 Failed
Ca	43	1	nogas	18.107	79.8	740	29.3	100	
Ca	44	1	nogas	-175.842	-7.7	80429	3.3	100	
Fe	56	1	nogas	10.997	115.6	871700	15.0	100	
Se	77	1	nogas	-39.032	-24.5	70935	3.7	2.5	
Se	82	1	nogas	-0.687	-83.1	307	23.6	2.5	
Mo	95	1	nogas	-0.575	-26.5	1647	27.0	2.5	
Sn	118	1	nogas	0.361	25.1	2277	18.0	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.031	241.1	527	35.1	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	-0.031	-306.9	183	40.9	2.5	
P	31	1	nogas	-5.684	-58.2	35871	4.3	10	
La	139	1	nogas	-25.992	-31.9	80	21.7	2.5	
Au	197	1	nogas	549.300	0.0	0	#DIV/0!	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	288885	2.00	252377	114.47	70	125	
Ge	72	1	nogas	1267805	1.05	1286445	98.55	70	125	
In	115	1	nogas	1349721	2.55	1344417	100.39	70	125	
Bi	209	1	nogas	1221521	0.38	1284048	95.13	70	125	
Ge	72	2	He	99318	3.53	111777	88.85	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	081_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T12:40:45-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	86.353	1.436	195096	2.68	100	86.4	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	10026.321	3.785	93097429	3.74	10000	100.3	90	110	
Mg	24	1	nogas	9731.575	2.338	58839739	2.70	10000	97.3	90	110	
Al	27	1	nogas	98.206	4.137	726219	2.98	100	98.2	90	110	
K	39	1	nogas	9598.763	2.931	73904964	1.62	10000	96.0	90	110	
Ti	47	1	nogas	95.324	5.077	70662	3.41	100	95.3	90	110	
V	51	1	nogas	84.655	11.870	2549361	3.13	100	84.7	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	96.876	4.744	947485	2.99	100	96.9	90	110	
Mn	55	1	nogas	96.769	4.746	1190476	3.29	100	96.8	90	110	
Co	59	1	nogas	96.959	4.514	1027179	2.73	100	97.0	90	110	
Ni	60	1	nogas	94.140	5.192	234204	2.99	100	94.1	90	110	
Cu	63	1	nogas	94.375	4.207	584867	2.10	100	94.4	90	110	
Zn	66	1	nogas	96.608	4.175	199284	1.82	100	96.6	90	110	
As	75	1	nogas	66.980	13.688	433040	3.24	100	67.0	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	98.958	5.583	1294693	3.38	100	99.0	90	110	
Ag	107	1	nogas	95.436	3.755	759996	4.73	100	95.4	90	110	
Cd	111	1	nogas	97.029	4.439	168532	3.29	100	97.0	90	110	
Sb	121	1	nogas	103.718	4.177	768577	2.03	100	103.7	90	110	
Tl	205	1	nogas	100.133	9.241	1322658	6.83	100	100.1	90	110	
Pb	208	1	nogas	103.843	2.243	2004511	1.16	100	103.8	90	110	
U	238	1	nogas	101.628	2.274	1888418	3.04	100	101.6	90	110	
[Pb]	206	1	nogas	101.347	5.685	492566	2.57	100	101.3	90	110	
[Pb]	207	1	nogas	100.742	3.293	447198	0.80	100	100.7	90	110	
Na	23	2	He	10028.976	4.450	1733864	4.58	10000	100.3	90	110	
Mg	24	2	He	9487.623	3.677	759018	2.59	10000	94.9	90	110	
Al	27	2	He	81.559	5.652	1900	5.57	100	81.6	90	110	CCV Main CR1-2 Failed
K	39	2	He	8411.359	0.030	413695	0.03	10000	84.1	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	9454.073	8.141	1427	6.28	10000	94.5	90	110	
Ca	44	2	He	8785.597	3.947	22608	2.14	10000	87.9	90	110	CCV Main CR1-2 Failed
V	51	2	He	97.446	1.839	96000	0.94	100	97.4	90	110	
Cr	52	2	He	97.989	0.165	130741	1.92	100	98.0	90	110	
Mn	55	2	He	89.947	2.073	47168	0.28	100	89.9	90	110	CCV Main CR1-2 Failed
Fe	56	2	He	9347.592	2.923	8848119	1.58	10000	93.5	90	110	
Co	59	2	He	101.175	5.594	227403	3.84	100	101.2	90	110	
Ni	60	2	He	101.340	4.934	66103	3.62	100	101.3	90	110	
Cu	63	2	He	101.691	2.520	187441	1.02	100	101.7	90	110	
Zn	66	2	He	95.956	2.484	26536	4.34	100	96.0	90	110	
As	75	2	He	99.928	2.943	19009	1.07	100	99.9	90	110	
Se	78	2	He	93.881	1.154	686	1.01	100	93.9	90	110	
B	11	1	nogas	497.853	2.910	732873	0.85	500	99.6	90	110	
Si	28	1	nogas	4870.888	5.996	16773465	4.54	5000	97.4	90	110	
Ca	43	1	nogas	9584.140	5.122	145919	3.42	10000	95.8	90	110	
Ca	44	1	nogas	9491.380	4.402	2333490	3.31	10000	94.9	90	110	
Fe	56	1	nogas	9738.585	3.679	104044629	1.48	10000	97.4	90	110	
Se	77	1	nogas	8.006	328.931	81418	5.87	100	8.0	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	95.506	2.601	11677	0.28	100	95.5	90	110	
Mo	95	1	nogas	96.432	5.670	285233	3.39	100	96.4	90	110	
Sn	118	1	nogas	105.234	5.054	445010	5.15	100	105.2	90	110	
Ba	137	1	nogas	93.960	3.977	214579	3.76	100	94.0	90	110	
Sb	121	2	He	92.395	1.886	77301	1.24	100	92.4	90	110	
Li	7	1	nogas	94.530	2.787	519150	6.08	100	94.5	90	110	
P	31	1	nogas	453.134	4.060	280616	1.52	500	90.6	90	110	
La	139	1	nogas	174.497	17.548	463	12.27	100	174.5	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-15.653	-6251.210	7	173.21	100	-15.7	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	261400	3.47	252377	103.58	70	125	
Ge	72	1	nogas	1243709	2.46	1286445	96.68	70	125	
In	115	1	nogas	1262239	1.19	1344417	93.89	70	125	
Bi	209	1	nogas	1228853	3.21	1284048	95.70	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	96584	1.93	111777	86.41	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	082_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T12:42:44-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.225	47.5	597	47.8	1	
Na	23	1	nogas	173.669	6.7	3083173	1.9	100	CCB Main CR1 Failed
Mg	24	1	nogas	23.200	39.7	148673	36.6	100	
Al	27	1	nogas	0.707	23.7	15153	4.9	5	
K	39	1	nogas	1.512	1752.5	3938441	1.9	100	
Ti	47	1	nogas	0.235	99.5	503	36.1	2.5	
V	51	1	nogas	12.199	32.9	1588189	3.1	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	-0.195	-116.3	39720	2.9	2.5	
Mn	55	1	nogas	0.105	116.0	11440	12.8	2.5	
Co	59	1	nogas	0.188	42.8	2567	32.9	2.5	
Ni	60	1	nogas	0.076	62.1	3160	4.2	2.5	
Cu	63	1	nogas	-0.060	-315.3	6271	17.7	2.5	
Zn	66	1	nogas	0.010	578.2	1403	5.0	2.5	
As	75	1	nogas	-12.153	-39.5	221641	5.5	2.5	
Sr	88	1	nogas	0.300	32.0	4771	25.5	2.5	
Ag	107	1	nogas	0.149	31.9	1427	26.3	2.5	
Cd	111	1	nogas	0.206	45.2	377	44.5	1	
Sb	121	1	nogas	0.278	33.9	3794	17.3	2.5	
Tl	205	1	nogas	0.596	62.9	8096	60.8	1	
Pb	208	1	nogas	0.213	48.5	4590	43.0	2.5	
U	238	1	nogas	0.227	55.6	4728	49.5	2.5	
[Pb]	206	1	nogas	0.216	64.8	1190	56.2	2.5	
[Pb]	207	1	nogas	0.185	50.2	930	43.9	2.5	
Na	23	2	He	242.191	1.4	78792	1.4	100	CCB Main CR1 Failed
Mg	24	2	He	13.776	9.4	1340	6.6	100	
Al	27	2	He	2.368	109.9	110	55.3	5	
K	39	2	He	-3.343	-241.0	10757	3.6	100	
Ca	43	2	He	-72.068	-105.2	7	173.2	100	
Ca	44	2	He	33.304	34.0	173	17.6	100	
V	51	2	He	0.583	9.0	767	6.0	2.5	
Cr	52	2	He	0.319	14.9	1913	2.5	2.5	
Mn	55	2	He	0.035	212.1	303	11.6	2.5	
Fe	56	2	He	11.618	3.8	16568	1.6	100	
Co	59	2	He	0.073	22.6	280	12.9	2.5	
Ni	60	2	He	0.759	13.4	583	12.2	2.5	
Cu	63	2	He	0.428	6.3	1150	4.0	2.5	
Zn	66	2	He	0.322	53.9	87	54.5	2.5	
As	75	2	He	0.137	49.2	48	28.2	2.5	
Se	78	2	He	-0.292	-195.5	5	89.2	2.5	
B	11	1	nogas	33.339	6.2	85543	5.8	10	CCB Main CR1 Failed
Si	28	1	nogas	68.761	27.7	955419	3.8	5	CCB Main CR1 Failed
Ca	43	1	nogas	38.072	41.9	1017	20.2	100	
Ca	44	1	nogas	-189.585	-8.2	75077	1.2	100	
Fe	56	1	nogas	14.170	84.7	880951	12.5	100	
Se	77	1	nogas	-24.571	-77.9	72685	6.2	2.5	
Se	82	1	nogas	-0.327	-57.0	340	2.9	2.5	
Mo	95	1	nogas	-0.419	-30.6	2050	15.1	2.5	
Sn	118	1	nogas	0.460	24.2	2587	18.9	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.106	66.3	673	24.7	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.201	39.4	377	17.7	2.5	
P	31	1	nogas	-3.089	-51.4	36309	2.4	10	
La	139	1	nogas	-18.813	-25.8	90	11.1	2.5	
Au	197	1	nogas	549.300	0.0	0	#DIV/0!	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	289162	2.62	252377	114.58	70	125	
Ge	72	1	nogas	1234996	4.31	1286445	96.00	70	125	
In	115	1	nogas	1279697	0.88	1344417	95.19	70	125	
Bi	209	1	nogas	1250427	5.74	1284048	97.38	70	125	
Ge	72	2	He	97582	1.13	111777	87.30	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	093_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T13:04:54-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	92.255	2.312	199499	1.59	100	92.3	90	110	
Na	23	1	nogas	10310.071	0.317	96819742	3.45	10000	103.1	90	110	
Mg	24	1	nogas	10095.633	1.780	61732056	1.69	10000	101.0	90	110	
Al	27	1	nogas	104.281	2.045	757943	2.02	100	104.3	90	110	
K	39	1	nogas	9769.423	8.316	73813514	4.58	10000	97.7	90	110	
Ti	47	1	nogas	99.458	3.065	72503	0.59	100	99.5	90	110	
V	51	1	nogas	92.466	13.963	2606593	3.07	100	92.5	90	110	
Cr	52	1	nogas	103.142	5.875	988987	2.74	100	103.1	90	110	
Mn	55	1	nogas	102.746	7.397	1241645	4.74	100	102.7	90	110	
Co	59	1	nogas	100.299	7.194	1044115	3.91	100	100.3	90	110	
Ni	60	1	nogas	98.447	5.720	240671	2.91	100	98.4	90	110	
Cu	63	1	nogas	97.335	4.878	592930	2.60	100	97.3	90	110	
Zn	66	1	nogas	100.372	3.570	203614	2.45	100	100.4	90	110	
As	75	1	nogas	70.583	14.017	435159	2.63	100	70.6	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	98.391	8.723	1264817	5.55	100	98.4	90	110	
Ag	107	1	nogas	102.422	2.808	801670	0.89	100	102.4	90	110	
Cd	111	1	nogas	97.447	1.535	169652	1.56	100	97.4	90	110	
Sb	121	1	nogas	107.340	6.572	781684	3.31	100	107.3	90	110	
Tl	205	1	nogas	95.824	1.982	1307952	0.74	100	95.8	90	110	
Pb	208	1	nogas	100.847	0.236	2009599	1.09	100	100.8	90	110	
U	238	1	nogas	100.230	3.533	1921602	2.24	100	100.2	90	110	
[Pb]	206	1	nogas	96.034	0.867	482153	0.42	100	96.0	90	110	
[Pb]	207	1	nogas	97.688	0.828	447760	1.48	100	97.7	90	110	
Na	23	2	He	10658.516	5.040	1867989	4.03	10000	106.6	90	110	
Mg	24	2	He	9609.409	2.602	780618	1.39	10000	96.1	90	110	
Al	27	2	He	88.402	8.819	2087	8.97	100	88.4	90	110	CCV Main CR1-2 Failed
K	39	2	He	8858.193	0.298	435091	0.29	10000	88.6	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	10388.332	10.498	1590	9.14	10000	103.9	90	110	
Ca	44	2	He	9394.683	3.732	24547	3.37	10000	93.9	90	110	
V	51	2	He	98.874	3.068	98886	1.65	100	98.9	90	110	
Cr	52	2	He	100.748	0.782	136433	1.40	100	100.7	90	110	
Mn	55	2	He	92.225	0.431	49109	1.75	100	92.2	90	110	
Fe	56	2	He	9465.767	1.388	9098775	0.32	10000	94.7	90	110	
Co	59	2	He	102.413	0.729	233848	0.66	100	102.4	90	110	
Ni	60	2	He	100.643	3.017	66669	1.73	100	100.6	90	110	
Cu	63	2	He	101.972	2.267	190872	2.07	100	102.0	90	110	
Zn	66	2	He	97.309	1.202	27311	0.41	100	97.3	90	110	
As	75	2	He	99.942	3.963	19303	2.57	100	99.9	90	110	
Se	78	2	He	92.149	2.981	684	4.13	100	92.1	90	110	
B	11	1	nogas	571.974	5.804	801267	2.07	500	114.4	90	110	CCV Main CR1-2 Failed
Si	28	1	nogas	5084.298	1.217	17195384	2.20	5000	101.7	90	110	
Ca	43	1	nogas	9727.364	5.957	145580	3.13	10000	97.3	90	110	
Ca	44	1	nogas	9487.817	5.554	2293346	3.66	10000	94.9	90	110	
Fe	56	1	nogas	10053.500	7.049	105524098	3.80	10000	100.5	90	110	
Se	77	1	nogas	15.188	199.693	81814	5.96	100	15.2	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	99.990	4.499	12011	5.14	100	100.0	90	110	
Mo	95	1	nogas	97.122	5.935	282439	3.04	100	97.1	90	110	
Sn	118	1	nogas	104.345	4.597	442166	4.84	100	104.3	90	110	
Ba	137	1	nogas	97.470	6.983	222808	4.00	100	97.5	90	110	
Sb	121	2	He	97.675	3.263	82951	2.20	100	97.7	90	110	
Li	7	1	nogas	99.145	1.886	520101	5.26	100	99.1	90	110	
P	31	1	nogas	484.531	5.388	292430	2.48	500	96.9	90	110	
La	139	1	nogas	164.270	23.486	443	13.78	100	164.3	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-286.933	-289.884	10	100.00	100	-286.9	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	250275	3.65	252377	99.17	70	125	
Ge	72	1	nogas	1223316	3.37	1286445	95.09	70	125	
In	115	1	nogas	1265129	3.01	1344417	94.10	70	125	
Bi	209	1	nogas	1267993	1.29	1284048	98.75	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	98061	1.38	111777	87.73	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	094_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T13:06:53-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.145	31.8	390	30.2	1	
Na	23	1	nogas	276.529	2.2	4081780	1.1	100	CCB Main CR1 Failed
Mg	24	1	nogas	21.776	48.9	141974	47.1	100	
Al	27	1	nogas	0.682	15.1	15146	4.3	5	
K	39	1	nogas	9.344	49.2	4039287	1.2	100	
Ti	47	1	nogas	0.300	27.9	553	10.6	2.5	
V	51	1	nogas	11.812	49.6	1599901	5.4	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	-0.410	-14.1	38146	2.1	2.5	
Mn	55	1	nogas	0.067	169.9	11094	12.2	2.5	
Co	59	1	nogas	0.129	73.7	1960	51.2	2.5	
Ni	60	1	nogas	-0.042	-392.5	2900	14.2	2.5	
Cu	63	1	nogas	-0.108	-147.3	6044	15.8	2.5	
Zn	66	1	nogas	-0.092	-114.8	1210	17.7	2.5	
As	75	1	nogas	-11.094	-35.7	226800	5.0	2.5	
Sr	88	1	nogas	0.353	19.2	5524	15.8	2.5	
Ag	107	1	nogas	0.087	85.8	947	62.7	2.5	
Cd	111	1	nogas	0.155	52.5	290	49.7	1	
Sb	121	1	nogas	0.245	49.0	3594	24.7	2.5	
Tl	205	1	nogas	0.574	63.9	8009	63.6	1	
Pb	208	1	nogas	0.153	73.4	3500	64.8	2.5	
U	238	1	nogas	0.175	84.6	3837	74.8	2.5	
[Pb]	206	1	nogas	0.139	78.1	840	65.9	2.5	
[Pb]	207	1	nogas	0.160	79.0	840	70.0	2.5	
Na	23	2	He	336.300	3.1	99401	0.9	100	CCB Main CR1 Failed
Mg	24	2	He	9.552	10.9	1047	7.7	100	
Al	27	2	He	2.161	56.5	110	27.3	5	
K	39	2	He	2.437	189.2	11033	2.0	100	
Ca	43	2	He	74.336	225.3	30	88.2	100	
Ca	44	2	He	41.256	39.7	203	22.7	100	
V	51	2	He	0.519	9.2	737	5.7	2.5	
Cr	52	2	He	0.049	294.4	1627	11.3	2.5	
Mn	55	2	He	0.013	910.1	307	22.2	2.5	
Fe	56	2	He	6.123	10.1	11854	4.3	100	
Co	59	2	He	0.015	230.0	157	54.3	2.5	
Ni	60	2	He	0.473	27.4	413	21.7	2.5	
Cu	63	2	He	0.317	23.9	990	15.1	2.5	
Zn	66	2	He	0.262	50.0	73	51.6	2.5	
As	75	2	He	0.088	94.9	40	41.7	2.5	
Se	78	2	He	-0.324	-46.6	5	24.7	2.5	
B	11	1	nogas	57.239	5.9	121649	3.8	10	CCB Main CR1 Failed
Si	28	1	nogas	57.442	17.1	928756	2.9	5	CCB Main CR1 Failed
Ca	43	1	nogas	40.312	22.0	1067	12.2	100	
Ca	44	1	nogas	-222.291	-3.4	68258	2.5	100	
Fe	56	1	nogas	16.335	77.2	914500	14.3	100	
Se	77	1	nogas	-19.980	-79.5	74633	5.9	2.5	
Se	82	1	nogas	-0.331	-63.7	343	6.7	2.5	
Mo	95	1	nogas	-0.539	-25.1	1727	22.7	2.5	
Sn	118	1	nogas	0.344	34.5	2117	24.2	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.076	124.3	610	35.5	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.056	88.1	267	16.9	2.5	
P	31	1	nogas	0.424	714.1	38563	3.6	10	
La	139	1	nogas	-5.946	-224.9	117	21.6	2.5	
Au	197	1	nogas	273.215	175.0	3	173.2	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	286487	3.22	252377	113.52	70	125	
Ge	72	1	nogas	1247034	0.72	1286445	96.94	70	125	
In	115	1	nogas	1298032	1.45	1344417	96.55	70	125	
Bi	209	1	nogas	1271411	5.99	1284048	99.02	70	125	
Ge	72	2	He	102245	1.15	111777	91.47	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	105_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T13:28:56-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	90.585	3.550	195846	1.26	100	90.6	90	110	
Na	23	1	nogas	9827.936	4.006	89767462	1.73	10000	98.3	90	110	
Mg	24	1	nogas	9835.445	1.556	58497991	0.79	10000	98.4	90	110	
Al	27	1	nogas	98.858	5.666	711938	1.74	100	98.9	90	110	
K	39	1	nogas	9454.494	7.955	70892820	2.31	10000	94.5	90	110	
Ti	47	1	nogas	96.655	5.062	69799	0.48	100	96.7	90	110	
V	51	1	nogas	53.804	22.898	2088062	2.81	100	53.8	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	97.804	6.353	931163	1.53	100	97.8	90	110	
Mn	55	1	nogas	96.113	7.951	1150744	2.76	100	96.1	90	110	
Co	59	1	nogas	94.986	4.682	980527	1.40	100	95.0	90	110	
Ni	60	1	nogas	94.487	3.850	229132	1.54	100	94.5	90	110	
Cu	63	1	nogas	95.863	5.321	578631	0.67	100	95.9	90	110	
Zn	66	1	nogas	98.703	6.160	198256	0.85	100	98.7	90	110	
As	75	1	nogas	46.797	24.169	369460	2.75	100	46.8	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	98.651	6.024	1257259	0.90	100	98.7	90	110	
Ag	107	1	nogas	98.736	7.141	764874	2.10	100	98.7	90	110	
Cd	111	1	nogas	94.425	2.286	163047	1.94	100	94.4	90	110	
Sb	121	1	nogas	102.757	7.375	741234	2.30	100	102.8	90	110	
Tl	205	1	nogas	97.603	3.602	1287454	3.01	100	97.6	90	110	
Pb	208	1	nogas	100.562	2.742	1936140	1.27	100	100.6	90	110	
U	238	1	nogas	97.546	3.694	1807257	2.33	100	97.5	90	110	
[Pb]	206	1	nogas	97.280	2.813	471917	1.49	100	97.3	90	110	
[Pb]	207	1	nogas	97.175	2.453	430350	1.03	100	97.2	90	110	
Na	23	2	He	10287.868	3.748	1700173	2.37	10000	102.9	90	110	
Mg	24	2	He	9444.048	2.412	722901	1.20	10000	94.4	90	110	
Al	27	2	He	81.294	8.875	1813	9.89	100	81.3	90	110	CCV Main CR1-2 Failed
K	39	2	He	7835.882	3.781	386138	3.67	10000	78.4	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	8672.506	11.393	1253	9.98	10000	86.7	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	8971.701	4.649	22090	4.11	10000	89.7	90	110	CCV Main CR1-2 Failed
V	51	2	He	97.230	3.050	91634	1.95	100	97.2	90	110	
Cr	52	2	He	100.672	1.539	128459	1.85	100	100.7	90	110	
Mn	55	2	He	90.202	1.247	45266	2.39	100	90.2	90	110	
Fe	56	2	He	9603.659	2.220	8699216	2.53	10000	96.0	90	110	
Co	59	2	He	103.680	2.787	223095	3.27	100	103.7	90	110	
Ni	60	2	He	101.083	4.601	63100	4.20	100	101.1	90	110	
Cu	63	2	He	100.123	4.907	176537	3.69	100	100.1	90	110	
Zn	66	2	He	99.718	5.207	26366	4.48	100	99.7	90	110	
As	75	2	He	98.833	0.424	17992	1.06	100	98.8	90	110	
Se	78	2	He	87.739	10.242	613	9.02	100	87.7	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	503.407	2.468	709238	0.27	500	100.7	90	110	
Si	28	1	nogas	4862.299	7.466	16300650	1.90	5000	97.2	90	110	
Ca	43	1	nogas	10025.119	3.710	148762	2.03	10000	100.3	90	110	
Ca	44	1	nogas	10059.022	3.004	2403714	2.67	10000	100.6	90	110	
Fe	56	1	nogas	9552.313	5.542	99417075	1.01	10000	95.5	90	110	
Se	77	1	nogas	-53.919	-48.353	63953	4.88	100	-53.9	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	91.120	11.574	10847	6.68	100	91.1	90	110	
Mo	95	1	nogas	95.512	5.451	275340	2.13	100	95.5	90	110	
Sn	118	1	nogas	99.475	2.743	418028	1.23	100	99.5	90	110	
Ba	137	1	nogas	94.045	1.750	213463	1.15	100	94.0	90	110	
Sb	121	2	He	95.644	3.683	76535	2.43	100	95.6	90	110	
Li	7	1	nogas	99.695	4.796	522196	2.36	100	99.7	90	110	
P	31	1	nogas	464.735	8.598	279179	2.54	500	92.9	90	110	
La	139	1	nogas	185.821	28.087	483	21.73	100	185.8	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-1175.611	-127.018	20	86.60	100	-1175.6	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	250230	2.48	252377	99.15	70	125	
Ge	72	1	nogas	1213070	5.39	1286445	94.30	70	125	
In	115	1	nogas	1254658	2.09	1344417	93.32	70	125	
Bi	209	1	nogas	1225414	1.48	1284048	95.43	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	92398	1.32	111777	82.66	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	106_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T13:30:57-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.153	54.5	413	50.4	1	
Na	23	1	nogas	137.457	4.6	2678870	3.4	100	CCB Main CR1 Failed
Mg	24	1	nogas	20.273	52.2	128283	51.1	100	
Al	27	1	nogas	0.695	14.5	14519	2.7	5	
K	39	1	nogas	7.503	166.2	3835868	0.1	100	
Ti	47	1	nogas	1.251	14.5	1200	12.8	2.5	
V	51	1	nogas	-15.259	-64.4	1183331	8.3	2.5	
Cr	52	1	nogas	-1.029	-14.8	30809	2.4	2.5	
Mn	55	1	nogas	0.054	184.3	10446	13.5	2.5	
Co	59	1	nogas	0.143	82.8	2030	61.9	2.5	
Ni	60	1	nogas	-0.098	-27.5	2634	4.2	2.5	
Cu	63	1	nogas	-0.142	-24.0	5564	5.9	2.5	
Zn	66	1	nogas	-0.069	-194.3	1203	24.3	2.5	
As	75	1	nogas	-29.352	-16.3	169655	5.1	2.5	
Sr	88	1	nogas	0.495	13.4	7048	14.1	2.5	
Ag	107	1	nogas	0.099	38.5	997	31.6	2.5	
Cd	111	1	nogas	0.134	27.4	247	27.0	1	
Sb	121	1	nogas	0.180	46.3	2970	22.2	2.5	
Tl	205	1	nogas	0.600	61.3	8296	61.6	1	
Pb	208	1	nogas	0.160	70.4	3617	63.2	2.5	
U	238	1	nogas	0.195	60.0	4191	54.7	2.5	
[Pb]	206	1	nogas	0.147	85.7	873	73.6	2.5	
[Pb]	207	1	nogas	0.168	58.5	867	53.0	2.5	
Na	23	2	He	214.797	6.0	71922	1.8	100	CCB Main CR1 Failed
Mg	24	2	He	9.686	10.1	980	6.7	100	
Al	27	2	He	2.386	72.5	107	35.5	5	
K	39	2	He	-16.229	-59.0	10140	4.5	100	
Ca	43	2	He	44.837	319.1	23	89.2	100	
Ca	44	2	He	57.937	8.1	230	4.3	100	
V	51	2	He	0.431	8.0	599	6.5	2.5	
Cr	52	2	He	0.221	33.5	1730	4.0	2.5	
Mn	55	2	He	-0.106	-145.4	223	36.5	2.5	
Fe	56	2	He	8.176	12.4	12881	5.8	100	
Co	59	2	He	0.051	36.6	223	18.1	2.5	
Ni	60	2	He	0.732	39.3	547	32.1	2.5	
Cu	63	2	He	0.334	25.1	947	15.3	2.5	
Zn	66	2	He	0.293	62.2	77	64.3	2.5	
As	75	2	He	0.014	448.5	23	49.5	2.5	
Se	78	2	He	-0.366	-79.1	4	50.0	2.5	
B	11	1	nogas	33.953	5.8	86225	2.4	10	CCB Main CR1 Failed
Si	28	1	nogas	32.702	9.7	807470	2.6	5	CCB Main CR1 Failed
Ca	43	1	nogas	54.673	16.5	1227	12.0	100	
Ca	44	1	nogas	-197.427	-2.1	70620	3.6	100	
Fe	56	1	nogas	13.256	71.4	842117	13.7	100	
Se	77	1	nogas	-79.707	-21.9	56582	5.8	2.5	
Se	82	1	nogas	-0.134	-187.8	350	10.3	2.5	
Mo	95	1	nogas	-0.507	-35.3	1743	31.2	2.5	
Sn	118	1	nogas	0.320	45.8	1970	32.5	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.082	140.5	613	44.2	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	-0.029	-279.8	177	36.4	2.5	
P	31	1	nogas	3.208	33.7	38179	0.9	10	
La	139	1	nogas	-28.508	-33.2	70	24.7	2.5	
Au	197	1	nogas	-4.915	-9765.4	7	86.6	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	288446	1.79	252377	114.29	70	125	
Ge	72	1	nogas	1188601	2.25	1286445	92.39	70	125	
In	115	1	nogas	1266373	1.36	1344417	94.20	70	125	
Bi	209	1	nogas	1262978	1.28	1284048	98.36	70	125	
Ge	72	2	He	94727	1.54	111777	84.75	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	117_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T13:53:15-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	82.430	7.407	189860	4.37	100	82.4	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	10153.045	1.770	90437467	1.45	10000	101.5	90	110	
Mg	24	1	nogas	10059.063	2.173	58360264	2.76	10000	100.6	90	110	
Al	27	1	nogas	107.205	6.409	742370	3.84	100	107.2	90	110	
K	39	1	nogas	10022.394	2.876	72250358	3.55	10000	100.2	90	110	
Ti	47	1	nogas	97.672	3.999	67912	1.26	100	97.7	90	110	
V	51	1	nogas	66.102	11.595	2163787	2.90	100	66.1	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	103.234	3.350	944983	3.30	100	103.2	90	110	
Mn	55	1	nogas	107.135	7.952	1234571	5.64	100	107.1	90	110	
Co	59	1	nogas	101.584	3.477	1009705	2.13	100	101.6	90	110	
Ni	60	1	nogas	98.830	4.943	230476	1.51	100	98.8	90	110	
Cu	63	1	nogas	96.369	2.581	560255	1.01	100	96.4	90	110	
Zn	66	1	nogas	100.063	0.273	193758	3.62	100	100.1	90	110	
As	75	1	nogas	53.978	11.045	374108	3.48	100	54.0	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	102.729	6.539	1260488	3.98	100	102.7	90	110	
Ag	107	1	nogas	102.410	4.120	764393	1.10	100	102.4	90	110	
Cd	111	1	nogas	95.470	3.266	167625	2.57	100	95.5	90	110	
Sb	121	1	nogas	105.738	1.950	735288	1.50	100	105.7	90	110	
Tl	205	1	nogas	100.818	6.616	1308099	5.01	100	100.8	90	110	
Pb	208	1	nogas	102.379	4.415	1939250	2.21	100	102.4	90	110	
U	238	1	nogas	103.426	1.426	1886378	2.03	100	103.4	90	110	
[Pb]	206	1	nogas	98.356	6.474	469214	3.71	100	98.4	90	110	
[Pb]	207	1	nogas	98.038	4.253	427125	1.60	100	98.0	90	110	
Na	23	2	He	10496.704	0.231	1731781	1.03	10000	105.0	90	110	
Mg	24	2	He	9616.489	0.521	735089	1.24	10000	96.2	90	110	
Al	27	2	He	85.313	6.324	1897	6.96	100	85.3	90	110	CCV Main CR1-2 Failed
K	39	2	He	7914.357	0.372	389896	0.36	10000	79.1	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	8403.388	17.191	1213	16.37	10000	84.0	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9020.056	1.557	22180	2.44	10000	90.2	90	110	
V	51	2	He	97.362	0.874	91631	0.62	100	97.4	90	110	
Cr	52	2	He	99.470	3.121	126725	2.48	100	99.5	90	110	
Mn	55	2	He	91.365	1.607	45767	1.24	100	91.4	90	110	
Fe	56	2	He	9612.320	0.691	8692931	0.32	10000	96.1	90	110	
Co	59	2	He	104.276	1.782	224031	2.66	100	104.3	90	110	
Ni	60	2	He	103.179	0.637	64317	1.39	100	103.2	90	110	
Cu	63	2	He	100.606	2.504	177154	1.63	100	100.6	90	110	
Zn	66	2	He	95.498	2.549	25214	1.94	100	95.5	90	110	
As	75	2	He	98.958	2.234	17989	3.07	100	99.0	90	110	
Se	78	2	He	93.675	7.139	654	7.44	100	93.7	90	110	
B	11	1	nogas	463.460	5.268	698259	2.07	500	92.7	90	110	
Si	28	1	nogas	5228.812	6.703	16834966	4.41	5000	104.6	90	110	
Ca	43	1	nogas	10126.100	3.224	144635	1.73	10000	101.3	90	110	
Ca	44	1	nogas	9819.632	3.495	2261013	2.65	10000	98.2	90	110	
Fe	56	1	nogas	10225.906	3.194	102480113	2.60	10000	102.3	90	110	
Se	77	1	nogas	-42.291	-35.405	64484	5.30	100	-42.3	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	101.174	0.225	11591	3.61	100	101.2	90	110	
Mo	95	1	nogas	97.921	1.947	271856	2.30	100	97.9	90	110	
Sn	118	1	nogas	100.557	2.977	429816	3.18	100	100.6	90	110	
Ba	137	1	nogas	91.020	0.607	210129	1.58	100	91.0	90	110	
Sb	121	2	He	97.145	1.286	77629	0.67	100	97.1	90	110	
Li	7	1	nogas	91.062	4.943	510567	1.72	100	91.1	90	110	
P	31	1	nogas	487.439	5.912	280381	2.89	500	97.5	90	110	
La	139	1	nogas	155.212	41.039	430	28.29	100	155.2	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-1517.279	-92.990	23	65.47	100	-1517.3	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	266832	3.31	252377	105.73	70	125	
Ge	72	1	nogas	1166939	3.48	1286445	90.71	70	125	
In	115	1	nogas	1275725	0.99	1344417	94.89	70	125	
Bi	209	1	nogas	1206232	3.10	1284048	93.94	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	92251	0.88	111777	82.53	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	118_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T13:55:14-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.114	70.2	317	64.4	1	
Na	23	1	nogas	159.798	10.9	2850902	2.5	100	CCB Main CR1 Failed
Mg	24	1	nogas	16.984	57.9	107398	56.6	100	
Al	27	1	nogas	0.261	35.2	12144	6.8	5	
K	39	1	nogas	-27.706	-69.5	3789442	1.9	100	
Ti	47	1	nogas	0.441	17.8	663	13.0	2.5	
V	51	1	nogas	-25.736	-39.3	1108323	7.0	2.5	
Cr	52	1	nogas	-1.521	-7.8	27875	2.1	2.5	
Mn	55	1	nogas	-0.069	-104.6	9526	14.0	2.5	
Co	59	1	nogas	0.109	86.1	1797	62.8	2.5	
Ni	60	1	nogas	-0.299	-9.1	2287	8.7	2.5	
Cu	63	1	nogas	-0.171	-45.2	5684	4.8	2.5	
Zn	66	1	nogas	-0.213	-67.9	980	36.5	2.5	
As	75	1	nogas	-35.374	-18.5	162623	5.6	2.5	
Sr	88	1	nogas	0.264	20.6	4401	21.0	2.5	
Ag	107	1	nogas	0.076	51.1	873	41.5	2.5	
Cd	111	1	nogas	0.111	73.3	203	70.3	1	
Sb	121	1	nogas	0.212	22.8	3380	15.9	2.5	
Tl	205	1	nogas	0.589	61.2	7979	60.5	1	
Pb	208	1	nogas	0.119	76.4	2737	64.9	2.5	
U	238	1	nogas	0.152	71.2	3301	61.8	2.5	
[Pb]	206	1	nogas	0.130	71.1	770	59.0	2.5	
[Pb]	207	1	nogas	0.125	91.1	657	77.8	2.5	
Na	23	2	He	228.073	0.4	74807	0.8	100	CCB Main CR1 Failed
Mg	24	2	He	7.199	21.5	793	16.5	100	
Al	27	2	He	0.099	1432.8	57	56.7	5	
K	39	2	He	-13.374	-50.0	10276	3.1	100	
Ca	43	2	He	-70.833	-55.0	7	86.6	100	
Ca	44	2	He	47.891	26.3	207	15.6	100	
V	51	2	He	0.365	10.8	539	7.4	2.5	
Cr	52	2	He	0.100	186.7	1587	14.6	2.5	
Mn	55	2	He	-0.154	-21.1	200	8.7	2.5	
Fe	56	2	He	4.639	10.4	9696	5.1	100	
Co	59	2	He	0.016	188.2	147	45.4	2.5	
Ni	60	2	He	0.437	12.5	363	9.7	2.5	
Cu	63	2	He	0.267	9.1	833	5.5	2.5	
Zn	66	2	He	0.169	33.8	43	35.3	2.5	
As	75	2	He	0.060	103.5	32	36.3	2.5	
Se	78	2	He	-0.372	-150.9	4	100.0	2.5	
B	11	1	nogas	36.126	3.4	89781	2.8	10	CCB Main CR1 Failed
Si	28	1	nogas	17.827	42.7	802834	3.6	5	CCB Main CR1 Failed
Ca	43	1	nogas	39.456	37.5	1070	27.5	100	
Ca	44	1	nogas	-256.798	-2.4	60555	3.3	100	
Fe	56	1	nogas	4.580	170.1	798080	16.1	100	
Se	77	1	nogas	-103.682	-21.3	53489	6.1	2.5	
Se	82	1	nogas	-0.225	-204.7	357	11.3	2.5	
Mo	95	1	nogas	-0.631	-17.3	1477	27.3	2.5	
Sn	118	1	nogas	0.267	37.2	1720	25.4	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	-0.017	-429.3	380	45.7	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.073	162.7	263	37.5	2.5	
P	31	1	nogas	-3.405	-83.9	36713	1.4	10	
La	139	1	nogas	-10.849	-237.5	103	48.7	2.5	
Au	197	1	nogas	-580.173	-222.8	13	114.6	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	288905	1.79	252377	114.47	70	125	
Ge	72	1	nogas	1255773	5.74	1286445	97.62	70	125	
In	115	1	nogas	1250610	1.88	1344417	93.02	70	125	
Bi	209	1	nogas	1243292	0.49	1284048	96.83	70	125	
Ge	72	2	He	95574	0.95	111777	85.50	70	125	

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	122CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T14:03:18-06:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	60	27.78
Na	23	1	nogas	2389593	0.00
Mg	24	1	nogas	18746	0.03
Al	27	1	nogas	10106	0.02
K	39	1	nogas	3753762	0.00
Ti	47	1	nogas	607	3.96
V	51	1	nogas	1239093	0.00
Cr	52	1	nogas	30706	0.01
Mn	55	1	nogas	7528	0.05
Co	59	1	nogas	293	3.55
Ni	60	1	nogas	2013	0.47
Cu	63	1	nogas	4664	0.05
Zn	66	1	nogas	743	1.79
As	75	1	nogas	175056	0.00
Sr	88	1	nogas	1440	0.84
Ag	107	1	nogas	283	8.29
Cd	111	1	nogas	13	324.76
Sb	121	1	nogas	1057	1.63
Tl	205	1	nogas	193	10.13
Pb	208	1	nogas	273	3.37
[Pb]	206	1	nogas	60	48.11
[Pb]	207	1	nogas	70	40.82
Na	23	2	He	67011	0.00
Mg	24	2	He	327	5.16
Al	27	2	He	103	60.93
K	39	2	He	9919	0.03
Ca	43	2	He	7	2598.08
Ca	44	2	He	117	22.45
V	51	2	He	484	1.52
Cr	52	2	He	1677	0.98
Mn	55	2	He	190	14.39
Fe	56	2	He	6401	0.05
Co	59	2	He	57	89.90
Ni	60	2	He	443	3.89
Cu	63	2	He	817	1.86
Zn	66	2	He	80	71.60
As	75	2	He	31	71.72
Se	78	2	He	2	8660.25
B	11	1	nogas	57901	0.00
Si	28	1	nogas	636348	0.00
Ca	43	1	nogas	630	2.15
Ca	44	1	nogas	56077	0.00

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	658953	0.00
Se	77	1	nogas	57996	0.01
Se	82	1	nogas	367	3.82
Mo	95	1	nogas	933	1.19
Sn	118	1	nogas	537	1.97
Ba	137	1	nogas	327	4.43
Sb	121	2	He	87	40.67
Li	7	1	nogas	26198	0.02
P	31	1	nogas	37093	0.01
La	139	1	nogas	183	25.65

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	6	1	nogas	296893	2.79
Ge	72	1	nogas	1226431	3.39
In	115	1	nogas	1308607	4.61
Bi	209	1	nogas	1207116	2.43
Ge	72	2	He	95588	2.86

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	123CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T14:05:19-06:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	122CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	4394	0.16
Na	23	1	nogas	4209589	0.00
Mg	24	1	nogas	1333198	0.00
Al	27	1	nogas	27294	0.01
K	39	1	nogas	5216119	0.00
Ti	47	1	nogas	2060	0.19
V	51	1	nogas	1287138	0.00
Cr	52	1	nogas	49590	0.01
Mn	55	1	nogas	34065	0.01
Co	59	1	nogas	21890	0.01
Ni	60	1	nogas	6661	0.06
Cu	63	1	nogas	16221	0.02
Zn	66	1	nogas	5421	0.18
As	75	1	nogas	182647	0.00
Sr	88	1	nogas	30413	0.00
Ag	107	1	nogas	16748	0.02
Cd	111	1	nogas	3357	0.11
Sb	121	1	nogas	17089	0.02
Tl	205	1	nogas	29828	0.02
Pb	208	1	nogas	41835	0.01
[Pb]	206	1	nogas	10197	0.05
[Pb]	207	1	nogas	9276	0.07
Na	23	2	He	101247	0.00
Mg	24	2	He	16164	0.02
Al	27	2	He	147	9.68
K	39	2	He	18810	0.03
Ca	43	2	He	33	137.48
Ca	44	2	He	623	0.54
V	51	2	He	2472	0.29
Cr	52	2	He	4464	0.15
Mn	55	2	He	1300	0.65
Fe	56	2	He	206470	0.00
Co	59	2	He	5034	0.08
Ni	60	2	He	1847	0.28
Cu	63	2	He	4667	0.23
Zn	66	2	He	733	1.14
As	75	2	He	386	3.25
Se	78	2	He	19	231.97
B	11	1	nogas	70140	0.01
Si	28	1	nogas	973915	0.00

Calibration Standard Report

Ca	43	1	nogas	3500	0.11
Ca	44	1	nogas	106288	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	2944159	0.00
Se	77	1	nogas	57411	0.01
Se	82	1	nogas	580	3.13
Mo	95	1	nogas	6685	0.06
Sn	118	1	nogas	9396	0.04
Ba	137	1	nogas	5071	0.12
Sb	121	2	He	1783	0.83
P	31	1	nogas	43497	0.00
La	139	1	nogas	77	35.42

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	299892	0.94	296893	101.01	70	125	
Ge	72	1	nogas	1218304	2.69	1226431	99.34	70	125	
In	115	1	nogas	1281110	5.08	1308607	97.90	70	125	
Bi	209	1	nogas	1219545	3.72	1207116	101.03	70	125	
Ge	72	2	He	94968	1.38	95588	99.35	70	125	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	124CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T14:07:20-06:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	122CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	10570	0.03
Na	23	1	nogas	7152639	0.00
Mg	24	1	nogas	3304047	0.00
Al	27	1	nogas	48988	0.01
K	39	1	nogas	7444487	0.00
Ti	47	1	nogas	4601	0.11
V	51	1	nogas	1393000	0.00
Cr	52	1	nogas	81470	0.00
Mn	55	1	nogas	72681	0.00
Co	59	1	nogas	54572	0.00
Ni	60	1	nogas	14022	0.03
Cu	63	1	nogas	35545	0.01
Zn	66	1	nogas	11801	0.01
As	75	1	nogas	196680	0.00
Sr	88	1	nogas	70928	0.00
Ag	107	1	nogas	42198	0.01
Cd	111	1	nogas	8766	0.04
Sb	121	1	nogas	41193	0.01
Tl	205	1	nogas	74112	0.00
Pb	208	1	nogas	104278	0.00
[Pb]	206	1	nogas	26198	0.01
[Pb]	207	1	nogas	22926	0.01
Na	23	2	He	153429	0.00
Mg	24	2	He	39562	0.00
Al	27	2	He	177	19.58
K	39	2	He	31109	0.00
Ca	43	2	He	87	20.34
Ca	44	2	He	1137	0.82
V	51	2	He	5561	0.01
Cr	52	2	He	8926	0.04
Mn	55	2	He	2714	0.06
Fe	56	2	He	500592	0.00
Co	59	2	He	12391	0.03
Ni	60	2	He	3817	0.17
Cu	63	2	He	10597	0.02
Zn	66	2	He	1480	0.32
As	75	2	He	917	0.24
Se	78	2	He	41	68.77
B	11	1	nogas	89735	0.00
Si	28	1	nogas	1593973	0.00

Calibration Standard Report

Ca	43	1	nogas	8292	0.08
Ca	44	1	nogas	182191	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	6273194	0.00
Se	77	1	nogas	62487	0.01
Se	82	1	nogas	990	1.02
Mo	95	1	nogas	15440	0.01
Sn	118	1	nogas	22048	0.01
Ba	137	1	nogas	11861	0.04
Sb	121	2	He	4034	0.15
P	31	1	nogas	52503	0.00
La	139	1	nogas	57	95.14

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	292906	2.46	296893	98.66	70	125	
Ge	72	1	nogas	1258587	2.53	1226431	102.62	70	125	
In	115	1	nogas	1253598	1.92	1308607	95.80	70	125	
Bi	209	1	nogas	1240820	1.52	1207116	102.79	70	125	
Ge	72	2	He	95804	0.92	95588	100.23	70	125	

Calibration Standard Report

Sample Table

Sample Name	10/50/1000
Data File Name	125CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T14:09:20-06:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	122CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	21960	0.01
Na	23	1	nogas	12434642	0.00
Mg	24	1	nogas	6611697	0.00
Al	27	1	nogas	87598	0.00
K	39	1	nogas	11421311	0.00
Ti	47	1	nogas	8535	0.08
V	51	1	nogas	1512710	0.00
Cr	52	1	nogas	133098	0.00
Mn	55	1	nogas	142413	0.00
Co	59	1	nogas	107409	0.00
Ni	60	1	nogas	25809	0.02
Cu	63	1	nogas	65712	0.00
Zn	66	1	nogas	22321	0.02
As	75	1	nogas	222383	0.00
Sr	88	1	nogas	144415	0.00
Ag	107	1	nogas	83934	0.00
Cd	111	1	nogas	17686	0.03
Sb	121	1	nogas	82006	0.00
Tl	205	1	nogas	148668	0.00
Pb	208	1	nogas	213229	0.00
[Pb]	206	1	nogas	52863	0.00
[Pb]	207	1	nogas	47253	0.00
Na	23	2	He	247148	0.00
Mg	24	2	He	83113	0.00
Al	27	2	He	243	5.43
K	39	2	He	50796	0.01
Ca	43	2	He	93	43.46
Ca	44	2	He	2414	0.25
V	51	2	He	10556	0.01
Cr	52	2	He	15440	0.01
Mn	55	2	He	4811	0.06
Fe	56	2	He	1012374	0.00
Co	59	2	He	24931	0.00
Ni	60	2	He	7582	0.05
Cu	63	2	He	20342	0.01
Zn	66	2	He	2854	0.21
As	75	2	He	2009	0.11
Se	78	2	He	65	49.66
B	11	1	nogas	124493	0.00
Si	28	1	nogas	2469072	0.00

Calibration Standard Report

Ca	43	1	nogas	16548	0.01
Ca	44	1	nogas	314961	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	11914399	0.00
Se	77	1	nogas	65909	0.01
Se	82	1	nogas	1540	0.78
Mo	95	1	nogas	30233	0.01
Sn	118	1	nogas	44774	0.00
Ba	137	1	nogas	22992	0.01
Sb	121	2	He	8179	0.07
P	31	1	nogas	66363	0.00
La	139	1	nogas	83	8.31

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	294923	3.00	296893	99.34	70	125	
Ge	72	1	nogas	1253131	3.53	1226431	102.18	70	125	
In	115	1	nogas	1297549	3.34	1308607	99.15	70	125	
Bi	209	1	nogas	1255611	0.16	1207116	104.02	70	125	
Ge	72	2	He	94464	2.77	95588	98.82	70	125	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	126CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T14:11:19-06:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	122CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	203476	0.00
Na	23	1	nogas	93544388	0.00
Mg	24	1	nogas	59870389	0.00
Al	27	1	nogas	743004	0.00
K	39	1	nogas	72477850	0.00
Ti	47	1	nogas	70692	0.00
V	51	1	nogas	2407819	0.00
Cr	52	1	nogas	970954	0.00
Mn	55	1	nogas	1194546	0.00
Co	59	1	nogas	1012267	0.00
Ni	60	1	nogas	236273	0.00
Cu	63	1	nogas	568547	0.00
Zn	66	1	nogas	198218	0.00
As	75	1	nogas	407459	0.00
Sr	88	1	nogas	1284834	0.00
Ag	107	1	nogas	773885	0.00
Cd	111	1	nogas	165646	0.00
Sb	121	1	nogas	759435	0.00
Tl	205	1	nogas	1320217	0.00
Pb	208	1	nogas	1982483	0.00
[Pb]	206	1	nogas	481930	0.00
[Pb]	207	1	nogas	438435	0.00
Na	23	2	He	1749188	0.00
Mg	24	2	He	758986	0.00
Al	27	2	He	2060	0.11
K	39	2	He	391274	0.00
Ca	43	2	He	1250	1.06
Ca	44	2	He	22411	0.01
V	51	2	He	95359	0.00
Cr	52	2	He	128756	0.00
Mn	55	2	He	46155	0.00
Fe	56	2	He	8785055	0.00
Co	59	2	He	228528	0.00
Ni	60	2	He	65933	0.00
Cu	63	2	He	183464	0.00
Zn	66	2	He	26409	0.02
As	75	2	He	17944	0.02
Se	78	2	He	641	1.70
B	11	1	nogas	717426	0.00
Si	28	1	nogas	16839737	0.00

Calibration Standard Report

Ca	43	1	nogas	147170	0.00
Ca	44	1	nogas	2391646	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	105899802	0.00
Se	77	1	nogas	75115	0.01
Se	82	1	nogas	11767	0.04
Mo	95	1	nogas	274915	0.00
Sn	118	1	nogas	421874	0.00
Ba	137	1	nogas	218725	0.00
Sb	121	2	He	76696	0.00
P	31	1	nogas	284429	0.00
La	139	1	nogas	400	4.37

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	269959	5.21	296893	90.93	70	125	
Ge	72	1	nogas	1165218	2.91	1226431	95.01	70	125	
In	115	1	nogas	1241731	6.19	1308607	94.89	70	125	
Bi	209	1	nogas	1232931	1.77	1207116	102.14	70	125	
Ge	72	2	He	90412	5.91	95588	94.59	70	125	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	127CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T14:13:18-06:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	122CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	387377	0.00
Na	23	1	nogas	180949346	0.00
Mg	24	1	nogas	118090369	0.00
Al	27	1	nogas	1366073	0.00
K	39	1	nogas	137780757	0.00
Ti	47	1	nogas	137516	0.00
V	51	1	nogas	3389310	0.00
Cr	52	1	nogas	1800859	0.00
Mn	55	1	nogas	2384023	0.00
Co	59	1	nogas	1890671	0.00
Ni	60	1	nogas	440083	0.00
Cu	63	1	nogas	1085789	0.00
Zn	66	1	nogas	387041	0.00
As	75	1	nogas	625132	0.00
Sr	88	1	nogas	2508964	0.00
Ag	107	1	nogas	1447737	0.00
Cd	111	1	nogas	323204	0.00
Sb	121	1	nogas	1491930	0.00
Tl	205	1	nogas	2609232	0.00
Pb	208	1	nogas	3858733	0.00
[Pb]	206	1	nogas	953137	0.00
[Pb]	207	1	nogas	882784	0.00
Na	23	2	He	3356067	0.00
Mg	24	2	He	1422335	0.00
Al	27	2	He	3707	0.15
K	39	2	He	772983	0.00
Ca	43	2	He	2260	0.35
Ca	44	2	He	42853	0.01
V	51	2	He	186495	0.00
Cr	52	2	He	246274	0.00
Mn	55	2	He	86772	0.00
Fe	56	2	He	16963663	0.00
Co	59	2	He	444497	0.00
Ni	60	2	He	127927	0.00
Cu	63	2	He	361869	0.00
Zn	66	2	He	51396	0.00
As	75	2	He	35894	0.00
Se	78	2	He	1200	0.38
B	11	1	nogas	1415758	0.00
Si	28	1	nogas	30573565	0.00

Calibration Standard Report

Ca	43	1	nogas	286088	0.00
Ca	44	1	nogas	4484381	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	208679000	0.00
Se	77	1	nogas	88742	0.00
Se	82	1	nogas	21847	0.01
Mo	95	1	nogas	544706	0.00
Sn	118	1	nogas	816303	0.00
Ba	137	1	nogas	427704	0.00
Sb	121	2	He	149961	0.00
P	31	1	nogas	507226	0.00
La	139	1	nogas	397	1.32

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	239920	2.87	296893	80.81	70	125	
Ge	72	1	nogas	1183160	1.29	1226431	96.47	70	125	
In	115	1	nogas	1238472	1.25	1308607	94.64	70	125	
Bi	209	1	nogas	1203693	0.62	1207116	99.72	70	125	
Ge	72	2	He	88763	2.72	95588	92.86	70	125	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICCV
Data File Name	129_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T14:17:20-06:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	122CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	99.915	6.320	197681	1.30	100	99.9	90	110	
Na	23	1	nogas	9620.729	0.835	91375315	1.53	10000	96.2	90	110	
Mg	24	1	nogas	9804.200	1.329	59893260	1.78	10000	98.0	90	110	
Al	27	1	nogas	105.571	0.949	730868	1.26	100	105.6	90	110	
K	39	1	nogas	10307.341	2.048	72471297	0.28	10000	103.1	90	110	
Ti	47	1	nogas	102.527	4.178	70489	3.47	100	102.5	90	110	
V	51	1	nogas	99.369	10.300	2290948	4.23	100	99.4	90	110	
Cr	52	1	nogas	104.008	4.764	953528	3.34	100	104.0	90	110	
Mn	55	1	nogas	100.838	2.185	1195132	3.33	100	100.8	90	110	
Co	59	1	nogas	105.021	1.997	998167	2.02	100	105.0	90	110	
Ni	60	1	nogas	101.063	1.290	225131	0.85	100	101.1	90	110	
Cu	63	1	nogas	103.278	2.104	562635	1.10	100	103.3	90	110	
Zn	66	1	nogas	101.738	3.386	196775	2.56	100	101.7	90	110	
As	75	1	nogas	96.413	3.184	390859	2.41	100	96.4	90	110	
Sr	88	1	nogas	104.798	3.905	1309530	1.99	100	104.8	90	110	
Ag	107	1	nogas	105.408	3.821	766582	2.18	100	105.4	90	110	
Cd	111	1	nogas	100.855	0.991	166870	1.74	100	100.9	90	110	
Sb	121	1	nogas	103.939	1.950	771674	1.59	100	103.9	90	110	
Tl	205	1	nogas	97.737	3.404	1297551	4.25	100	97.7	90	110	
Pb	208	1	nogas	102.631	2.317	2020212	1.23	100	102.6	90	110	
U	238	1	nogas	105.431	1.468	1957601	2.94	100	105.4	90	110	
[Pb]	206	1	nogas	99.916	3.167	484301	2.55	100	99.9	90	110	
[Pb]	207	1	nogas	100.811	2.509	450951	2.06	100	100.8	90	110	
Na	23	2	He	9923.803	1.988	1734569	0.58	10000	99.2	90	110	
Mg	24	2	He	10020.036	0.322	735345	1.95	10000	100.2	90	110	
Al	27	2	He	97.259	4.369	1913	3.15	100	97.3	90	110	
K	39	2	He	9985.412	2.734	390940	2.66	10000	99.9	90	110	
Ca	43	2	He	10921.572	10.894	1283	10.17	10000	109.2	90	110	
Ca	44	2	He	10179.840	2.056	22434	3.14	10000	101.8	90	110	
V	51	2	He	96.675	2.773	92369	1.24	100	96.7	90	110	
Cr	52	2	He	98.056	1.364	124657	0.32	100	98.1	90	110	
Mn	55	2	He	100.302	0.386	44932	1.54	100	100.3	90	110	
Fe	56	2	He	9892.947	2.109	8606052	2.38	10000	98.9	90	110	
Co	59	2	He	99.132	1.567	225504	1.36	100	99.1	90	110	
Ni	60	2	He	97.954	0.388	64384	2.00	100	98.0	90	110	
Cu	63	2	He	99.032	0.669	183124	0.99	100	99.0	90	110	
Zn	66	2	He	97.224	2.433	25598	0.94	100	97.2	90	110	
As	75	2	He	98.321	2.635	17963	1.95	100	98.3	90	110	
Se	78	2	He	97.203	5.529	605	6.36	100	97.2	90	110	
B	11	1	nogas	526.630	8.626	730796	2.94	500	105.3	90	110	
Si	28	1	nogas	5309.459	1.552	16640581	0.60	5000	106.2	90	110	
Ca	43	1	nogas	10179.940	1.691	145435	2.81	10000	101.8	90	110	
Ca	44	1	nogas	10171.633	0.356	2312161	1.90	10000	101.7	90	110	
Fe	56	1	nogas	9878.221	2.641	102691215	2.21	10000	98.8	90	110	
Se	77	1	nogas	89.231	26.963	70567	5.71	100	89.2	90	110	ICV Main CR1 Failed
Se	82	1	nogas	99.344	1.290	11067	3.01	100	99.3	90	110	
Mo	95	1	nogas	102.557	5.177	277740	5.56	100	102.6	90	110	
Sn	118	1	nogas	100.849	1.772	422312	0.99	100	100.8	90	110	
Ba	137	1	nogas	99.703	4.074	218310	3.38	100	99.7	90	110	
Sb	121	2	He	99.634	2.279	76391	1.29	100	99.6	90	110	
Li	7	1	nogas	99.397	5.309	529721	0.85	100	99.4	90	110	
P	31	1	nogas	514.206	1.484	278442	1.84	500	102.8	90	110	
La	139	1	nogas	58.798	31.920	253	9.93	100	58.8	90	110	ICV Main CR1 Failed
Au	197	1	nogas	568.386	201.576	20	132.29	100	568.4	90	110	ICV Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	262437	4.96	296893	88.39	70	125	
Ge	72	1	nogas	1168762	2.02	1226431	95.30	70	125	
In	115	1	nogas	1261639	0.79	1308607	96.41	70	125	
Bi	209	1	nogas	1227353	2.07	1207116	101.68	70	125	

Initial Calibration Verification (ICV) Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	90597	1.63	95588	94.78	70	125	

Sample Report

Sample Table

Sample Name	LLCCV2
Data File Name	130SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T14:19:20-06:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	122CALB.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	2.005	2.005	7.38	4377	0.05	2000	
Na	23	1	nogas	180.587	180.587	9.46	4052464	0.00	200000	
Mg	24	1	nogas	222.220	222.220	2.41	1391863	0.02	200000	
Al	27	1	nogas	2.537	2.537	5.75	27915	0.01	2000	
K	39	1	nogas	188.002	188.002	7.66	5000368	0.00	200000	
Ti	47	1	nogas	2.049	2.049	17.21	2043	0.10	2000	
V	51	1	nogas	-0.666	-0.666	-938.85	1214315	0.00	2000	
Cr	52	1	nogas	2.238	2.238	2.68	50877	0.00	2000	
Mn	55	1	nogas	2.250	2.250	4.57	34857	0.01	2000	
Co	59	1	nogas	2.275	2.275	2.34	22658	0.01	2000	
Ni	60	1	nogas	1.255	1.255	7.19	6861	0.02	2000	
Cu	63	1	nogas	2.111	2.111	5.40	16398	0.01	2000	
Zn	66	1	nogas	1.715	1.715	13.60	5431	0.03	2000	
As	75	1	nogas	0.713	0.713	809.47	182252	0.00	2000	
Sr	88	1	nogas	2.205	2.205	4.10	29879	0.01	2000	
Ag	107	1	nogas	2.241	2.241	1.13	17142	0.01	2000	
Cd	111	1	nogas	2.222	2.222	11.80	3677	0.06	2000	
Sb	121	1	nogas	2.101	2.101	2.15	17159	0.01	2000	
Tl	205	1	nogas	2.850	2.850	13.33	39423	0.01	2000	
Pb	208	1	nogas	2.204	2.204	3.47	45252	0.00	2000	
U	238	1	nogas	2.319	2.319	2.09	44741	0.01	2000	
[Pb]	206	1	nogas	2.203	2.203	1.19	11131	0.02	2000	
[Pb]	207	1	nogas	2.125	2.125	3.39	9927	0.02	2000	
Na	23	2	He	170.723	170.723	16.27	97712	0.17	200000	
Mg	24	2	He	207.652	207.652	6.39	16447	1.26	200000	
Al	27	2	He	0.044	0.044	746.50	100	0.04	2000	
K	39	2	He	196.000	196.000	4.35	17398	1.13	200000	
Ca	43	2	He	28.545	28.545	279.83	10	285.45	200000	
Ca	44	2	He	170.985	170.985	8.69	513	33.31	200000	
V	51	2	He	1.844	1.844	6.45	2429	0.08	2000	
Cr	52	2	He	2.036	2.036	6.21	4391	0.05	2000	
Mn	55	2	He	2.104	2.104	20.17	1187	0.18	2000	
Fe	56	2	He	213.832	213.832	3.54	203297	0.11	200000	
Co	59	2	He	2.016	2.016	5.52	4911	0.04	2000	
Ni	60	2	He	1.578	1.578	19.73	1683	0.09	2000	
Cu	63	2	He	1.958	1.958	6.74	4641	0.04	2000	
Zn	66	2	He	1.612	1.612	21.91	587	0.27	2000	
As	75	2	He	1.924	1.924	1.98	403	0.48	2000	
Se	78	2	He	0.856	0.856	47.27	13	6.76	2000	
B	11	1	nogas	32.140	32.140	6.51	100863	0.03	2000	

Sample Report

Si	28	1	nogas	182.813	182.813	6.89	1197877	0.02	2000	
Ca	43	1	nogas	212.378	212.378	11.90	3754	5.66	200000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ca	44	1	nogas	240.105	240.105	10.55	110422	0.22	200000	
Fe	56	1	nogas	209.279	209.279	1.68	2886333	0.01	200000	
Se	77	1	nogas	5.067	5.067	485.29	58080	0.01	2000	
Se	82	1	nogas	1.693	1.693	18.59	550	0.31	2000	
Mo	95	1	nogas	2.247	2.247	8.79	7192	0.03	2000	
Sn	118	1	nogas	2.285	2.285	6.79	10066	0.02	2000	
Ba	137	1	nogas	2.109	2.109	10.75	4917	0.04	2000	
Sb	121	2	He	1.900	1.900	9.57	1627	0.12	2000	
La	139	1	nogas	-67.892	-67.892	-3.61	83	-81.47	2000	
Au	197	1	nogas	-18.578	-18.578	-2663.73	7	-278.67	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	285277	0.44	296893	96.09	70	125	
Ge	72	1	nogas	1208730	2.83	1226431	98.56	70	125	
In	115	1	nogas	1261028	3.30	1308607	96.36	70	125	
Bi	209	1	nogas	1271669	1.62	1207116	105.35	70	125	
Ge	72	2	He	96020	3.66	95588	100.45	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	LLCCV5
Data File Name	131LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T14:21:21-06:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	122CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	4.720	7.861	10646	3.16	5	94.4	70	130	
Na	23	1	nogas	480.219	3.472	6851631	2.73	500	96.0	70	130	
Mg	24	1	nogas	514.331	0.462	3193241	2.51	500	102.9	70	130	
Al	27	1	nogas	5.652	3.664	49543	3.35	5	113.0	70	130	
K	39	1	nogas	527.893	4.106	7297467	1.77	500	105.6	70	130	
Ti	47	1	nogas	5.243	4.603	4264	1.33	5	104.9	70	130	
V	51	1	nogas	7.803	42.315	1304091	4.33	5	156.1	70	130	LLICV Main CR1 Failed
Cr	52	1	nogas	5.261	1.850	78111	2.62	5	105.2	70	130	
Mn	55	1	nogas	5.384	1.376	72486	2.02	5	107.7	70	130	
Co	59	1	nogas	5.390	2.559	52857	1.06	5	107.8	70	130	
Ni	60	1	nogas	4.364	4.996	13792	1.51	5	87.3	70	130	
Cu	63	1	nogas	5.337	6.601	34156	2.56	5	106.7	70	130	
Zn	66	1	nogas	4.517	4.110	10893	1.21	5	90.3	70	130	
As	75	1	nogas	6.836	41.242	195306	4.88	5	136.7	70	130	LLICV Main CR1 Failed
Sr	88	1	nogas	5.554	2.559	72594	0.66	5	111.1	70	130	
Ag	107	1	nogas	5.495	5.793	41272	2.98	5	109.9	70	130	
Cd	111	1	nogas	5.065	6.623	8325	4.47	5	101.3	70	130	
Sb	121	1	nogas	5.159	3.283	40311	2.93	5	103.2	70	130	
Tl	205	1	nogas	5.547	1.960	74474	1.03	5	110.9	70	130	
Pb	208	1	nogas	5.234	1.385	104235	1.54	5	104.7	70	130	
U	238	1	nogas	5.420	4.321	101618	2.99	5	108.4	70	130	
[Pb]	206	1	nogas	5.268	1.342	25827	1.12	5	105.4	70	130	
[Pb]	207	1	nogas	5.220	6.705	23638	7.36	5	104.4	70	130	
Na	23	2	He	496.070	6.332	148658	1.37	500	99.2	70	130	
Mg	24	2	He	531.776	2.139	39742	0.47	500	106.4	70	130	
Al	27	2	He	3.133	52.947	153	18.83	5	62.7	70	130	LLICV Main CR1 Failed
K	39	2	He	520.243	4.790	29771	3.19	500	104.0	70	130	
Ca	43	2	He	566.467	21.986	73	20.83	500	113.3	70	130	
Ca	44	2	He	518.171	7.409	1260	6.92	500	103.6	70	130	
V	51	2	He	4.918	1.491	5274	2.62	5	98.4	70	130	
Cr	52	2	He	5.458	0.903	8532	2.23	5	109.2	70	130	
Mn	55	2	He	5.327	3.865	2584	2.64	5	106.5	70	130	
Fe	56	2	He	553.115	3.130	492118	1.18	500	110.6	70	130	
Co	59	2	He	5.309	3.377	12258	1.84	5	106.2	70	130	
Ni	60	2	He	4.761	10.660	3704	9.04	5	95.2	70	130	
Cu	63	2	He	5.144	2.166	10360	4.05	5	102.9	70	130	
Zn	66	2	He	4.427	1.175	1307	1.17	5	88.5	70	130	
As	75	2	He	5.382	8.681	1022	8.15	5	107.6	70	130	
Se	78	2	He	5.330	9.428	40	10.00	5	106.6	70	130	
B	11	1	nogas	31.232	23.257	103588	5.75	25	124.9	70	130	
Si	28	1	nogas	324.318	3.765	1628277	1.00	25	1297.3	70	130	LLICV Main CR1 Failed
Ca	43	1	nogas	516.748	2.240	8165	2.19	500	103.3	70	130	
Ca	44	1	nogas	566.111	4.946	183890	0.37	500	113.2	70	130	
Fe	56	1	nogas	516.400	1.430	6124811	2.90	500	103.3	70	130	
Se	77	1	nogas	25.293	40.841	61293	4.62	5	505.9	70	130	LLICV Main CR1 Failed
Se	82	1	nogas	4.116	9.018	813	1.88	5	82.3	70	130	
Mo	95	1	nogas	5.440	3.798	15981	0.44	5	108.8	70	130	
Sn	118	1	nogas	5.153	0.468	21917	2.72	5	103.1	70	130	
Ba	137	1	nogas	5.195	2.203	11594	2.99	5	103.9	70	130	
Sb	121	2	He	5.054	8.128	3994	5.79	5	101.1	70	130	
Li	7	1	nogas	4.949	1.244	54920	4.52	5	99.0	70	130	
P	31	1	nogas	32.635	9.335	52163	0.67	25	130.5	70	130	LLICV Main CR1 Failed
La	139	1	nogas	-72.143	-23.931	77	27.15	5	-1442.9	70	130	LLICV Main CR1 Failed
Au	197	1	nogas	134.662	323.160	10	100.00	5	2693.2	70	130	LLICV Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	297751	5.10	296893	100.29	70	125	
Ge	72	1	nogas	1200188	3.12	1226431	97.86	70	125	

Low Level Initial Calibration Verification (LLICV) Report

In	115	1	nogas	1252888	2.84	1308607	95.74	70	125	
Bi	209	1	nogas	1238368	1.32	1207116	102.59	70	125	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	91604	2.21	95588	95.83	70	125	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICCB
Data File Name	132_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T14:23:24-06:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	122CALB.d
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	107.3	83	27.7	1	
Na	23	1	nogas	-34.070	-7.4	2090507	0.9	100	
Mg	24	1	nogas	0.996	43.3	25222	10.1	100	
Al	27	1	nogas	0.024	321.7	10043	3.9	5	
K	39	1	nogas	-7.784	-39.9	3614101	1.6	100	
Ti	47	1	nogas	-0.056	-239.7	553	15.4	2.5	
V	51	1	nogas	1.055	500.8	1224546	6.5	2.5	
Cr	52	1	nogas	0.021	136.5	30215	0.8	2.5	
Mn	55	1	nogas	0.059	62.9	8072	4.4	2.5	
Co	59	1	nogas	0.029	31.0	567	15.9	2.5	
Ni	60	1	nogas	-0.981	-3.6	1780	6.1	2.5	
Cu	63	1	nogas	-0.143	-58.1	3767	13.0	2.5	
Zn	66	1	nogas	-0.699	-5.8	640	11.8	2.5	
As	75	1	nogas	-1.665	-128.8	175372	4.4	2.5	
Sr	88	1	nogas	-0.002	-590.0	1377	11.2	2.5	
Ag	107	1	nogas	0.019	54.3	423	19.8	2.5	
Cd	111	1	nogas	0.023	29.2	50	20.0	1	
Sb	121	1	nogas	-0.027	-95.5	833	23.3	2.5	
Tl	205	1	nogas	0.080	41.5	1260	37.0	1	
Pb	208	1	nogas	0.017	23.2	613	14.2	2.5	
U	238	1	nogas	0.015	49.7	403	38.1	2.5	
[Pb]	206	1	nogas	0.022	28.9	167	12.5	2.5	
[Pb]	207	1	nogas	0.016	46.1	143	24.5	2.5	
Na	23	2	He	-37.407	-38.8	60352	4.0	100	
Mg	24	2	He	0.013	11200.5	327	33.9	100	
Al	27	2	He	-2.958	-52.0	40	75.0	5	
K	39	2	He	0.962	1240.2	9956	4.6	100	
Ca	43	2	He	1.751	2692.0	7	86.6	100	
Ca	44	2	He	-16.958	-66.6	77	32.8	100	
V	51	2	He	-0.041	-108.9	532	9.8	2.5	
Cr	52	2	He	-0.002	-4526.2	1670	8.4	2.5	
Mn	55	2	He	0.079	144.7	227	25.1	2.5	
Fe	56	2	He	0.487	95.2	6845	7.0	100	
Co	59	2	He	0.014	54.0	90	19.2	2.5	
Ni	60	2	He	-0.373	-46.9	337	35.4	2.5	
Cu	63	2	He	-0.006	-236.0	800	4.3	2.5	
Zn	66	2	He	-0.349	-16.1	43	35.3	2.5	
As	75	2	He	-0.016	-376.7	28	42.1	2.5	
Se	78	2	He	0.248	382.8	9	70.5	2.5	
B	11	1	nogas	3.504	29.9	63078	3.3	10	
Si	28	1	nogas	5.610	72.4	638896	0.3	5	ICB Main CR1 Failed
Ca	43	1	nogas	0.687	348.3	627	4.0	100	
Ca	44	1	nogas	14.701	90.1	58120	3.8	100	
Fe	56	1	nogas	-5.768	-37.4	582595	2.3	100	

Initial Calibration Blank (ICB) Report

Se	77	1	nogas	0.815	1371.3	56892	5.0	2.5	
Se	82	1	nogas	-0.793	-78.1	270	25.9	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Mo	95	1	nogas	0.004	1455.5	920	16.4	2.5	
Sn	118	1	nogas	0.098	22.8	917	10.8	5	
Ba	137	1	nogas	0.000	77922.4	313	8.0	2.5	
Sb	121	2	He	0.020	251.3	103	39.1	2.5	
P	31	1	nogas	4.857	40.4	38610	1.1	10	
La	139	1	nogas	-97.558	-24.3	43	74.2	2.5	
Au	197	1	nogas	449.478	158.2	17	91.7	2.5	ICB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	297056	2.12	296893	100.05	70	125	
Ge	72	1	nogas	1197410	1.62	1226431	97.63	70	125	
In	115	1	nogas	1249249	1.94	1308607	95.46	70	125	
Bi	209	1	nogas	1234136	5.47	1207116	102.24	70	125	
Ge	72	2	He	95515	1.34	95588	99.92	70	125	

Sample Report

Sample Table

Sample Name	MBLK-122183
Data File Name	134SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T14:27:24-06:00
Sample Type	Sample
Dilution	1
Comment	B122183 TW
ISTD Ref FileName	122CALB.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	-0.011	-0.011	-63.34	37	-0.03	2000	
Na	23	1	nogas	-44.123	-44.123	-15.22	2020712	0.00	200000	
Mg	24	1	nogas	9.768	9.768	1.62	81789	0.01	200000	
Al	27	1	nogas	4.612	4.612	2.29	43945	0.01	2000	
K	39	1	nogas	-20.065	-20.065	-36.85	3679070	0.00	200000	
Ti	47	1	nogas	-0.259	-0.259	-44.78	430	-0.06	2000	
V	51	1	nogas	-19.089	-19.089	-24.37	1035347	0.00	2000	
Cr	52	1	nogas	-0.486	-0.486	-26.45	26676	0.00	2000	
Mn	55	1	nogas	-0.015	-0.015	-220.40	7478	0.00	2000	
Co	59	1	nogas	0.011	0.011	87.84	410	0.00	2000	
Ni	60	1	nogas	-1.101	-1.101	-1.30	1573	-0.07	2000	
Cu	63	1	nogas	-0.232	-0.232	-15.39	3410	-0.01	2000	
Zn	66	1	nogas	-0.528	-0.528	-13.08	1017	-0.05	2000	
As	75	1	nogas	-12.934	-12.934	-34.28	155724	-0.01	2000	
Sr	88	1	nogas	-0.031	-0.031	-8.10	1057	0.00	2000	
Ag	107	1	nogas	0.009	0.009	98.29	357	0.00	2000	
Cd	111	1	nogas	0.005	0.005	163.63	23	0.02	2000	
Sb	121	1	nogas	-0.018	-0.018	-62.41	940	0.00	2000	
Tl	205	1	nogas	0.009	0.009	100.98	330	0.00	2000	
Pb	208	1	nogas	0.008	0.008	50.94	453	0.00	2000	
U	238	1	nogas	0.004	0.004	82.24	210	0.00	2000	
[Pb]	206	1	nogas	0.013	0.013	74.05	130	0.01	2000	
[Pb]	207	1	nogas	0.002	0.002	160.22	83	0.00	2000	
Na	23	2	He	-33.241	-33.241	-8.60	61216	-0.05	200000	
Mg	24	2	He	8.487	8.487	35.21	983	0.86	200000	
Al	27	2	He	2.473	2.473	118.40	147	1.69	2000	
K	39	2	He	-12.324	-12.324	-67.48	9449	-0.13	200000	
Ca	43	2	He	-25.356	-25.356	-186.73	3	-760.69	200000	
Ca	44	2	He	13.008	13.008	161.35	147	8.87	200000	
V	51	2	He	-0.110	-0.110	-36.35	463	-0.02	2000	
Cr	52	2	He	-0.051	-0.051	-177.13	1607	0.00	2000	
Mn	55	2	He	0.229	0.229	33.42	297	0.08	2000	
Fe	56	2	He	-0.070	-0.070	-402.47	6341	0.00	200000	
Co	59	2	He	-0.003	-0.003	-137.59	50	-0.01	2000	
Ni	60	2	He	-0.365	-0.365	-17.05	343	-0.11	2000	
Cu	63	2	He	-0.072	-0.072	-95.15	673	-0.01	2000	
Zn	66	2	He	0.001	0.001	10359.08	140	0.00	2000	
As	75	2	He	-0.005	-0.005	-1395.82	30	-0.02	2000	
Se	78	2	He	-0.075	-0.075	-1173.53	7	-1.13	2000	
B	11	1	nogas	-3.355	-3.355	-13.74	53141	-0.01	2000	

Sample Report

Si	28	1	nogas	22.848	22.848	6.21	721615	0.00	2000	
Ca	43	1	nogas	-4.158	-4.158	-37.20	580	-0.72	200000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ca	44	1	nogas	-4.731	-4.731	-42.31	55997	-0.01	200000	
Fe	56	1	nogas	-8.332	-8.332	-18.20	579107	0.00	200000	
Se	77	1	nogas	-48.413	-48.413	-40.54	50303	-0.10	2000	
Se	82	1	nogas	-0.687	-0.687	-91.12	293	-0.23	2000	
Mo	95	1	nogas	-0.065	-0.065	-74.63	760	-0.01	2000	
Sn	118	1	nogas	-0.001	-0.001	-855.52	553	0.00	2000	
Ba	137	1	nogas	-0.047	-0.047	-71.96	230	-0.02	2000	
Sb	121	2	He	0.004	0.004	994.11	90	0.00	2000	
La	139	1	nogas	-93.192	-93.192	-14.96	53	-174.74	2000	
Au	197	1	nogas	-29.011	-29.011	-822.02	7	-435.16	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	297689	1.01	296893	100.27	70	125	
Ge	72	1	nogas	1248006	0.60	1226431	101.76	70	125	
In	115	1	nogas	1359829	3.09	1308607	103.91	70	125	
Bi	209	1	nogas	1307680	2.25	1207116	108.33	70	125	
Ge	72	2	He	95682	2.46	95588	100.10	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\111
Acq Date Time	2017-11-16T14:35:29-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	122CALB.d
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	102.601	1.172	208337	1.20	100	102.6	90	110	
Na	23	1	nogas	10319.294	4.053	102020644	3.32	10000	103.2	90	110	
Mg	24	1	nogas	10391.243	2.039	66196214	1.38	10000	103.9	90	110	
Al	27	1	nogas	104.443	1.943	776720	0.94	100	104.4	90	110	
K	39	1	nogas	9846.310	3.546	74519473	0.51	10000	98.5	90	110	
Ti	47	1	nogas	101.460	4.169	74942	3.82	100	101.5	90	110	
V	51	1	nogas	108.811	10.949	2573387	4.07	100	108.8	90	110	
Cr	52	1	nogas	102.366	2.622	1008891	2.32	100	102.4	90	110	
Mn	55	1	nogas	97.597	1.228	1243036	3.75	100	97.6	90	110	
Co	59	1	nogas	101.511	2.547	1036163	0.48	100	101.5	90	110	
Ni	60	1	nogas	100.506	2.514	240483	0.68	100	100.5	90	110	
Cu	63	1	nogas	103.682	4.683	606416	1.81	100	103.7	90	110	
Zn	66	1	nogas	100.519	3.599	208843	2.23	100	100.5	90	110	
As	75	1	nogas	103.114	10.226	435692	4.06	100	103.1	90	110	
Sr	88	1	nogas	101.961	3.456	1368702	1.49	100	102.0	90	110	
Ag	107	1	nogas	104.713	0.970	818448	2.60	100	104.7	90	110	
Cd	111	1	nogas	103.677	4.746	170585	1.39	100	103.7	90	110	
Sb	121	1	nogas	100.054	3.891	797690	1.77	100	100.1	90	110	
Tl	205	1	nogas	99.910	3.973	1399190	2.06	100	99.9	90	110	
Pb	208	1	nogas	101.870	3.503	2116063	1.17	100	101.9	90	110	
U	238	1	nogas	104.088	2.570	2039532	2.56	100	104.1	90	110	
[Pb]	206	1	nogas	100.023	3.956	511597	1.94	100	100.0	90	110	
[Pb]	207	1	nogas	100.494	3.657	474371	1.96	100	100.5	90	110	
Na	23	2	He	10142.406	3.258	1861462	2.03	10000	101.4	90	110	
Mg	24	2	He	10379.305	2.404	800275	0.98	10000	103.8	90	110	
Al	27	2	He	105.901	7.529	2180	5.86	100	105.9	90	110	
K	39	2	He	10626.039	0.556	415384	0.54	10000	106.3	90	110	
Ca	43	2	He	11725.022	13.037	1447	11.59	10000	117.3	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	10566.923	4.216	24457	2.85	10000	105.7	90	110	
V	51	2	He	96.845	2.850	97244	1.42	100	96.8	90	110	
Cr	52	2	He	99.931	4.479	133445	3.16	100	99.9	90	110	
Mn	55	2	He	102.601	2.786	48290	2.14	100	102.6	90	110	
Fe	56	2	He	10102.244	1.795	9234379	0.53	10000	101.0	90	110	
Co	59	2	He	99.250	1.612	237288	1.98	100	99.2	90	110	
Ni	60	2	He	97.013	1.572	67013	1.93	100	97.0	90	110	
Cu	63	2	He	99.467	1.161	193283	0.54	100	99.5	90	110	
Zn	66	2	He	98.504	3.788	27254	2.96	100	98.5	90	110	
As	75	2	He	99.503	2.031	19105	0.63	100	99.5	90	110	
Se	78	2	He	101.482	4.792	663	3.39	100	101.5	90	110	
B	11	1	nogas	530.686	0.913	755818	0.45	500	106.1	90	110	
Si	28	1	nogas	5290.130	3.629	17808345	1.90	5000	105.8	90	110	
Ca	43	1	nogas	9802.186	3.513	150391	2.38	10000	98.0	90	110	
Ca	44	1	nogas	9966.174	4.421	2433248	2.13	10000	99.7	90	110	
Fe	56	1	nogas	9637.830	1.340	107655644	1.98	10000	96.4	90	110	
Se	77	1	nogas	119.379	17.793	81284	3.06	100	119.4	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	97.591	3.603	11677	0.67	100	97.6	90	110	
Mo	95	1	nogas	98.873	6.417	287348	3.51	100	98.9	90	110	
Sn	118	1	nogas	103.149	1.387	429991	3.10	100	103.1	90	110	
Ba	137	1	nogas	104.585	5.298	227736	1.76	100	104.6	90	110	
Sb	121	2	He	101.763	0.838	82006	1.10	100	101.8	90	110	
Li	7	1	nogas	100.818	3.981	550713	2.58	100	100.8	90	110	
P	31	1	nogas	513.405	2.812	298633	1.41	500	102.7	90	110	
La	139	1	nogas	103.156	68.147	310	28.12	100	103.2	90	110	
Au	197	1	nogas	665.314	129.332	23	89.21	100	665.3	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	268796	1.25	296893	90.54	70	125	
Ge	72	1	nogas	1255627	2.81	1226431	102.38	70	125	
In	115	1	nogas	1256077	3.57	1308607	95.99	70	125	
Bi	209	1	nogas	1295554	2.37	1207116	107.33	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	95210	1.42	95588	99.60	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\111
Acq Date Time	2017-11-16T14:37:27-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	122CALB.d
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	0.157	81.4	407	66.7	1	
Na	23	1	nogas	26.472	16.6	2751315	2.8	100	
Mg	24	1	nogas	16.987	71.0	131498	63.5	100	
Al	27	1	nogas	0.295	67.2	12678	11.1	5	
K	39	1	nogas	-8.273	-185.0	3834501	1.3	100	
Ti	47	1	nogas	-0.356	-26.0	367	20.1	2.5	
V	51	1	nogas	5.650	110.1	1355511	5.0	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.089	98.8	32743	1.4	2.5	
Mn	55	1	nogas	0.174	60.5	10036	12.4	2.5	
Co	59	1	nogas	0.151	67.3	1867	57.1	2.5	
Ni	60	1	nogas	-0.702	-6.6	2557	6.7	2.5	
Cu	63	1	nogas	0.009	1792.8	4891	18.3	2.5	
Zn	66	1	nogas	-0.645	-16.7	793	28.9	2.5	
As	75	1	nogas	-0.840	-458.0	188204	4.5	2.5	
Sr	88	1	nogas	0.237	47.1	4711	32.8	2.5	
Ag	107	1	nogas	0.086	62.0	977	44.2	2.5	
Cd	111	1	nogas	0.166	93.2	297	92.5	1	
Sb	121	1	nogas	0.107	90.5	1967	40.5	2.5	
Tl	205	1	nogas	0.741	60.3	10892	61.0	1	
Pb	208	1	nogas	0.136	74.4	3214	69.2	2.5	
U	238	1	nogas	0.184	67.9	3841	67.2	2.5	
[Pb]	206	1	nogas	0.140	78.0	807	73.2	2.5	
[Pb]	207	1	nogas	0.131	82.2	713	74.9	2.5	
Na	23	2	He	22.181	74.4	71167	3.1	100	
Mg	24	2	He	6.492	32.1	830	18.7	100	
Al	27	2	He	-0.601	-572.9	87	78.5	5	
K	39	2	He	1.398	797.7	9973	4.3	100	
Ca	43	2	He	0.984	9445.1	7	173.2	100	
Ca	44	2	He	4.479	349.6	127	27.7	100	
V	51	2	He	0.099	53.4	674	6.9	2.5	
Cr	52	2	He	-0.128	-97.6	1510	11.3	2.5	
Mn	55	2	He	-0.091	-86.5	147	25.8	2.5	
Fe	56	2	He	3.269	15.3	9423	4.1	100	
Co	59	2	He	0.029	58.2	127	32.9	2.5	
Ni	60	2	He	-0.259	-45.0	417	20.1	2.5	
Cu	63	2	He	-0.024	-207.2	767	12.3	2.5	
Zn	66	2	He	-0.362	-9.8	40	25.0	2.5	
As	75	2	He	-0.035	-185.2	24	51.6	2.5	
Se	78	2	He	-0.483	-219.9	4	173.2	2.5	
B	11	1	nogas	13.741	52.5	77888	10.8	10	CCB Main CR1 Failed
Si	28	1	nogas	31.412	33.0	763437	3.8	5	CCB Main CR1 Failed
Ca	43	1	nogas	12.275	95.7	843	19.9	100	
Ca	44	1	nogas	5.619	240.9	59572	5.5	100	
Fe	56	1	nogas	15.549	80.1	858727	16.4	100	
Se	77	1	nogas	6.453	237.5	61444	4.1	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.224	-100.9	353	7.1	2.5	

Continuing Calibration Blank (CCB) Report

Mo	95	1	nogas	0.259	58.7	1727	26.2	2.5	
Sn	118	1	nogas	0.316	36.1	1870	29.5	5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Ba	137	1	nogas	0.102	85.1	550	38.9	2.5	
Sb	121	2	He	0.007	421.6	93	27.0	2.5	
P	31	1	nogas	-0.155	-1765.7	38430	1.7	10	
La	139	1	nogas	-92.507	-29.5	50	72.1	2.5	
Au	197	1	nogas	931.666	153.1	30	115.5	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	297050	2.65	296893	100.05	70	125	
Ge	72	1	nogas	1272172	2.56	1226431	103.73	70	125	
In	115	1	nogas	1274737	3.63	1308607	97.41	70	125	
Bi	209	1	nogas	1322845	2.05	1207116	109.59	70	125	
Ge	72	2	He	95844	0.99	95588	100.27	70	125	

Sample Report

Sample Table

Sample Name	LCS-122183
Data File Name	142SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T14:43:31-06:00
Sample Type	Sample
Dilution	1
Comment	B122183 TW
ISTD Ref FileName	122CALB.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	49.578	49.578	6.44	106954	0.05	2000	
Na	23	1	nogas	4486.022	4486.022	1.48	49851313	0.01	200000	
Mg	24	1	nogas	4759.947	4759.947	0.70	33067333	0.01	200000	
Al	27	1	nogas	98.701	98.701	3.15	789961	0.01	2000	
K	39	1	nogas	4586.740	4586.740	6.06	39526435	0.01	200000	
Ti	47	1	nogas	139.611	139.611	2.33	110664	0.13	2000	
V	51	1	nogas	33.004	33.004	35.98	1788742	0.00	2000	
Cr	52	1	nogas	45.985	45.985	4.12	505868	0.01	2000	
Mn	55	1	nogas	46.189	46.189	5.08	636328	0.01	2000	
Co	59	1	nogas	47.394	47.394	4.99	520204	0.01	2000	
Ni	60	1	nogas	45.484	45.484	4.17	119468	0.04	2000	
Cu	63	1	nogas	46.592	46.592	4.18	295939	0.02	2000	
Zn	66	1	nogas	45.902	45.902	1.64	103849	0.04	2000	
As	75	1	nogas	30.458	30.458	27.36	280400	0.01	2000	
Sr	88	1	nogas	97.888	97.888	3.09	1413536	0.01	2000	
Ag	107	1	nogas	47.922	47.922	3.39	402837	0.01	2000	
Cd	111	1	nogas	47.150	47.150	0.23	84594	0.06	2000	
Sb	121	1	nogas	46.381	46.381	5.28	398183	0.01	2000	
Tl	205	1	nogas	47.233	47.233	5.46	711167	0.01	2000	
Pb	208	1	nogas	46.626	46.626	2.76	1041847	0.00	2000	
U	238	1	nogas	90.400	90.400	3.78	1904821	0.00	2000	
[Pb]	206	1	nogas	46.086	46.086	4.45	253480	0.02	2000	
[Pb]	207	1	nogas	46.372	46.372	2.77	235458	0.02	2000	
Na	23	2	He	4503.858	4503.858	0.68	909924	0.49	200000	
Mg	24	2	He	4909.129	4909.129	1.78	398928	1.23	200000	
Al	27	2	He	81.568	81.568	17.17	1793	4.55	2000	
K	39	2	He	5217.494	5217.494	1.72	209007	2.50	200000	
Ca	43	2	He	5687.635	5687.635	31.38	743	765.13	200000	
Ca	44	2	He	5003.079	5003.079	1.22	12264	40.79	200000	
V	51	2	He	45.140	45.140	0.64	48071	0.09	2000	
Cr	52	2	He	46.647	46.647	1.45	66567	0.07	2000	
Mn	55	2	He	46.531	46.531	1.09	23178	0.20	2000	
Fe	56	2	He	4603.984	4603.984	1.58	4436819	0.10	200000	
Co	59	2	He	46.009	46.009	1.42	115889	0.04	2000	
Ni	60	2	He	45.385	45.385	0.73	33351	0.14	2000	
Cu	63	2	He	46.212	46.212	1.08	95044	0.05	2000	
Zn	66	2	He	47.238	47.238	1.96	13845	0.34	2000	
As	75	2	He	46.190	46.190	4.65	9359	0.49	2000	
Se	78	2	He	56.790	56.790	5.03	394	14.41	2000	
B	11	1	nogas	487.785	487.785	6.46	742506	0.07	2000	
Si	28	1	nogas	4735.482	4735.482	1.49	17227806	0.03	2000	>LDR
Ca	43	1	nogas	4877.034	4877.034	1.64	80856	6.03	200000	
Ca	44	1	nogas	4836.322	4836.322	2.98	1303589	0.37	200000	
Fe	56	1	nogas	4368.864	4368.864	6.31	52825607	0.01	200000	

Sample Report

Se	77	1	nogas	-12.948	-12.948	-189.64	61320	-0.02	2000	
Se	82	1	nogas	45.070	45.070	2.85	6024	0.75	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	44.563	44.563	4.10	139910	0.03	2000	
Sn	118	1	nogas	101.385	101.385	4.18	460208	0.02	2000	
Ba	137	1	nogas	48.774	48.774	2.72	115961	0.04	2000	
Sb	121	2	He	47.075	47.075	4.91	40003	0.12	2000	
La	139	1	nogas	-47.528	-47.528	-43.58	120	-39.61	2000	
Au	197	1	nogas	2450.747	2450.747	30.67	70	3501.07	2000	>LDR

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	286169	5.67	296893	96.39	70	125	
Ge	72	1	nogas	1350854	4.01	1226431	110.15	70	125	
In	115	1	nogas	1368036	2.48	1308607	104.54	70	125	
Bi	209	1	nogas	1393456	3.18	1207116	115.44	70	125	
Ge	72	2	He	100276	0.19	95588	104.90	70	125	

Sample Report

Sample Table

Sample Name	HS17110570-05SD
Data File Name	145SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T14:49:33-06:00
Sample Type	Sample
Dilution	5
Comment	B122183 TW
ISTD Ref FileName	122CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.000	-0.001	-8824.52	57	0.00	2000	
Na	23	1	nogas	176316.867	881584.333	0.29	1679272504	0.01	200000	
Mg	24	1	nogas	55991.090	279955.449	2.32	351327566	0.02	200000	
Al	27	1	nogas	2.825	14.125	7.15	30993	0.01	2000	
K	39	1	nogas	218.740	1093.701	4.43	5400680	0.00	200000	
Ti	47	1	nogas	-0.334	-1.670	-34.50	377	-0.09	2000	
V	51	1	nogas	-22.525	-112.627	-13.94	997785	0.00	2000	
Cr	52	1	nogas	-0.796	-3.979	-18.36	23819	0.00	2000	
Mn	55	1	nogas	760.394	3801.969	0.76	9603058	0.01	2000	
Co	59	1	nogas	0.296	1.478	9.81	3307	0.01	2000	
Ni	60	1	nogas	0.995	4.973	5.04	6495	0.02	2000	
Cu	63	1	nogas	0.564	2.820	3.75	8035	0.01	2000	
Zn	66	1	nogas	1.764	8.822	6.22	5724	0.03	2000	
As	75	1	nogas	-23.081	-115.407	-12.20	131904	-0.02	2000	
Sr	88	1	nogas	1831.169	9155.844	2.78	24492780	0.01	2000	>LDR
Ag	107	1	nogas	0.004	0.019	12.44	320	0.00	2000	
Cd	111	1	nogas	-0.004	-0.019	-87.99	7	-0.06	2000	
Sb	121	1	nogas	-0.050	-0.251	-22.97	683	-0.01	2000	
Tl	205	1	nogas	0.001	0.006	237.78	220	0.00	2000	
Pb	208	1	nogas	0.035	0.174	3.65	990	0.00	2000	
U	238	1	nogas	5.255	26.275	4.59	100357	0.01	2000	
[Pb]	206	1	nogas	0.036	0.181	9.64	243	0.01	2000	
[Pb]	207	1	nogas	0.027	0.137	28.29	200	0.01	2000	
Na	23	2	He	167962.277	839811.387	2.46	30948165	0.54	200000	
Mg	24	2	He	52706.531	263532.655	3.52	4219801	1.25	200000	
Al	27	2	He	0.047	0.234	3818.51	103	0.05	2000	
K	39	2	He	237.712	1188.560	7.19	18990	1.25	200000	
Ca	43	2	He	121114.960	605574.798	1.71	15480	782.39	200000	
Ca	44	2	He	105390.030	526950.150	1.54	252404	41.75	200000	
V	51	2	He	0.350	1.748	9.39	955	0.04	2000	
Cr	52	2	He	-0.103	-0.515	-138.30	1593	-0.01	2000	
Mn	55	2	He	780.173	3900.866	0.50	380301	0.21	2000	
Fe	56	2	He	155.215	776.075	1.91	153919	0.10	200000	
Co	59	2	He	0.218	1.091	5.15	600	0.04	2000	
Ni	60	2	He	0.145	0.725	70.62	717	0.02	2000	
Cu	63	2	He	0.259	1.294	19.39	1360	0.02	2000	
Zn	66	2	He	0.509	2.544	21.84	290	0.18	2000	
As	75	2	He	0.896	4.481	21.89	211	0.42	2000	
Se	78	2	He	0.306	1.532	318.69	9	3.28	2000	
B	11	1	nogas	308.577	1542.883	4.24	487623	0.06	2000	
Si	28	1	nogas	2583.273	12916.367	5.00	9003739	0.03	2000	>LDR
Ca	43	1	nogas	97877.649	489388.245	3.76	1492136	6.56	200000	
Ca	44	1	nogas	98778.695	493893.476	4.11	23553920	0.42	200000	
Fe	56	1	nogas	170.567	852.833	0.93	2561594	0.01	200000	

Sample Report

Se	77	1	nogas	-82.598	-412.990	-17.79	44237	-0.19	2000	
Se	82	1	nogas	-0.148	-0.742	-136.99	357	-0.04	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	2.824	14.121	2.55	9116	0.03	2000	
Sn	118	1	nogas	-0.002	-0.009	-1689.05	530	0.00	2000	
Ba	137	1	nogas	2.286	11.428	2.94	5524	0.04	2000	
Sb	121	2	He	0.024	0.118	86.82	110	0.02	2000	
La	139	1	nogas	-12.844	-64.221	-121.92	163	-7.86	2000	
Au	197	1	nogas	572.381	2861.905	153.21	20	2861.91	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	284129	1.51	296893	95.70	70	125	
Ge	72	1	nogas	1252087	1.98	1226431	102.09	70	125	
In	115	1	nogas	1311709	1.92	1308607	100.24	70	125	
Bi	209	1	nogas	1261880	2.44	1207116	104.54	70	125	
Ge	72	2	He	98919	2.02	95588	103.49	70	125	

Sample Report

Sample Table

Sample Name	HS17110570-05MS
Data File Name	146SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T14:51:35-06:00
Sample Type	Sample
Dilution	1
Comment	B122183 TW
ISTD Ref FileName	122CALB.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	54.975	54.975	3.95	94959	0.06	2000	
Na	23	1	nogas	OR	OR	#VALUE!	OR	#VALUE!	200000	
Mg	24	1	nogas	247062.401	247062.401	5.69	1595744436	0.02	200000	>LDR
Al	27	1	nogas	106.920	106.920	7.16	764787	0.01	2000	
K	39	1	nogas	5539.121	5539.121	5.78	41983828	0.01	200000	
Ti	47	1	nogas	148.663	148.663	4.24	105448	0.14	2000	
V	51	1	nogas	33.878	33.878	30.88	1612645	0.00	2000	
Cr	52	1	nogas	46.028	46.028	5.87	453331	0.01	2000	
Mn	55	1	nogas	3603.690	3603.690	6.98	43876133	0.01	2000	>LDR
Co	59	1	nogas	48.857	48.857	6.11	480155	0.01	2000	
Ni	60	1	nogas	51.097	51.097	6.84	119627	0.04	2000	
Cu	63	1	nogas	49.319	49.319	6.14	280155	0.02	2000	
Zn	66	1	nogas	52.631	52.631	5.52	106234	0.05	2000	
As	75	1	nogas	30.010	30.010	20.57	250232	0.01	2000	
Sr	88	1	nogas	8814.512	8814.512	6.23	113771708	0.01	2000	>LDR
Ag	107	1	nogas	45.920	45.920	5.53	345526	0.01	2000	
Cd	111	1	nogas	44.285	44.285	2.93	75324	0.06	2000	
Sb	121	1	nogas	47.451	47.451	4.92	364852	0.01	2000	
Tl	205	1	nogas	47.565	47.565	5.07	637410	0.01	2000	
Pb	208	1	nogas	45.402	45.402	3.68	902656	0.01	2000	
U	238	1	nogas	116.433	116.433	4.43	2182476	0.01	2000	
[Pb]	206	1	nogas	44.978	44.978	4.82	220126	0.02	2000	
[Pb]	207	1	nogas	44.340	44.340	3.02	200350	0.02	2000	
Na	23	2	He	802803.313	802803.313	1.90	144300288	0.56	200000	>LDR
Mg	24	2	He	250869.435	250869.435	0.62	19633951	1.28	200000	>LDR
Al	27	2	He	84.633	84.633	0.96	1790	4.73	2000	
K	39	2	He	5899.317	5899.317	2.29	235024	2.51	200000	
Ca	43	2	He	570476.768	570476.768	3.08	71214	801.08	200000	>LDR
Ca	44	2	He	490868.825	490868.825	1.37	1148484	42.74	200000	>LDR
V	51	2	He	47.525	47.525	0.63	48757	0.10	2000	
Cr	52	2	He	45.797	45.797	0.88	63038	0.07	2000	
Mn	55	2	He	3726.397	3726.397	2.60	1773685	0.21	2000	>LDR
Fe	56	2	He	5116.858	5116.858	1.89	4751666	0.11	200000	
Co	59	2	He	44.758	44.758	3.67	108638	0.04	2000	
Ni	60	2	He	43.581	43.581	2.72	30900	0.14	2000	
Cu	63	2	He	43.196	43.196	1.98	85685	0.05	2000	
Zn	66	2	He	45.377	45.377	3.35	12821	0.35	2000	
As	75	2	He	51.219	51.219	2.74	9998	0.51	2000	
Se	78	2	He	50.001	50.001	6.62	335	14.91	2000	
B	11	1	nogas	2200.611	2200.611	8.66	2520916	0.09	2000	>LDR
Si	28	1	nogas	17310.020	17310.020	5.99	54670814	0.03	2000	>LDR
Ca	43	1	nogas	477349.332	477349.332	5.02	7022721	6.80	200000	>LDR
Ca	44	1	nogas	487465.367	487465.367	4.63	111980518	0.44	200000	>LDR
Fe	56	1	nogas	5106.590	5106.590	6.39	55187870	0.01	200000	
Se	77	1	nogas	-36.802	-36.802	-60.35	50728	-0.07	2000	
Se	82	1	nogas	49.428	49.428	4.32	5874	0.84	2000	

Sample Report

Mo	95	1	nogas	60.807	60.807	5.58	170586	0.04	2000	
Sn	118	1	nogas	97.788	97.788	3.69	420954	0.02	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ba	137	1	nogas	54.691	54.691	5.51	123211	0.04	2000	
Sb	121	2	He	45.919	45.919	1.41	37624	0.12	2000	
La	139	1	nogas	399.675	399.675	11.36	730	54.75	2000	
Au	197	1	nogas	140.619	140.619	313.09	10	1406.19	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	228938	5.75	296893	77.11	70	125	
Ge	72	1	nogas	1209785	3.79	1226431	98.64	70	125	
In	115	1	nogas	1297749	3.35	1308607	99.17	70	125	
Bi	209	1	nogas	1240057	3.28	1207116	102.73	70	125	
Ge	72	2	He	96664	1.71	95588	101.13	70	125	

Sample Report

Sample Table

Sample Name	HS17110570-05MSD
Data File Name	147SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T14:53:35-06:00
Sample Type	Sample
Dilution	1
Comment	B122183 TW
ISTD Ref FileName	122CALB.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	53.066	53.066	4.97	92501	0.06	2000	
Na	23	1	nogas	OR	OR	#VALUE!	OR	#VALUE!	200000	
Mg	24	1	nogas	256293.391	256293.391	2.58	1627965770	0.02	200000	>LDR
Al	27	1	nogas	99.993	99.993	5.23	747213	0.01	2000	
K	39	1	nogas	5232.518	5232.518	6.16	41583059	0.01	200000	
Ti	47	1	nogas	139.344	139.344	3.69	103161	0.14	2000	
V	51	1	nogas	28.135	28.135	28.96	1613892	0.00	2000	
Cr	52	1	nogas	44.454	44.454	6.19	457763	0.01	2000	
Mn	55	1	nogas	3615.114	3615.114	2.69	45966211	0.01	2000	>LDR
Co	59	1	nogas	46.969	46.969	3.16	481911	0.01	2000	
Ni	60	1	nogas	49.122	49.122	7.11	120133	0.04	2000	
Cu	63	1	nogas	46.225	46.225	5.61	274272	0.02	2000	
Zn	66	1	nogas	49.509	49.509	6.74	104349	0.05	2000	
As	75	1	nogas	24.156	24.156	27.91	246858	0.01	2000	
Sr	88	1	nogas	8627.497	8627.497	3.56	116249935	0.01	2000	>LDR
Ag	107	1	nogas	43.304	43.304	2.98	340152	0.01	2000	
Cd	111	1	nogas	44.719	44.719	1.55	74860	0.06	2000	
Sb	121	1	nogas	44.466	44.466	3.89	356823	0.01	2000	
Tl	205	1	nogas	48.065	48.065	2.66	631901	0.01	2000	
Pb	208	1	nogas	46.412	46.412	3.40	904751	0.01	2000	
U	238	1	nogas	117.001	117.001	6.64	2148761	0.01	2000	
[Pb]	206	1	nogas	45.441	45.441	2.93	218181	0.02	2000	
[Pb]	207	1	nogas	45.857	45.857	3.62	203124	0.02	2000	
Na	23	2	He	830040.601	830040.601	1.43	145648281	0.57	200000	>LDR
Mg	24	2	He	261578.763	261578.763	0.71	19982294	1.31	200000	>LDR
Al	27	2	He	102.402	102.402	6.03	2094	4.89	2000	
K	39	2	He	6015.005	6015.005	4.09	239438	2.51	200000	
Ca	43	2	He	604155.059	604155.059	2.33	73630	820.53	200000	>LDR
Ca	44	2	He	517727.931	517727.931	3.77	1182358	43.79	200000	>LDR
V	51	2	He	47.289	47.289	2.12	47354	0.10	2000	
Cr	52	2	He	45.819	45.819	2.51	61550	0.07	2000	
Mn	55	2	He	3886.874	3886.874	1.88	1806248	0.22	2000	>LDR
Fe	56	2	He	5297.265	5297.265	1.09	4802038	0.11	200000	
Co	59	2	He	45.547	45.547	1.34	107938	0.04	2000	
Ni	60	2	He	44.547	44.547	3.19	30810	0.14	2000	
Cu	63	2	He	45.327	45.327	1.31	87724	0.05	2000	
Zn	66	2	He	45.729	45.729	1.77	12615	0.36	2000	
As	75	2	He	51.781	51.781	0.43	9868	0.52	2000	
Se	78	2	He	50.848	50.848	2.64	333	15.29	2000	
B	11	1	nogas	2207.230	2207.230	3.51	2556251	0.09	2000	>LDR
Si	28	1	nogas	16533.792	16533.792	6.08	54503088	0.03	2000	>LDR
Ca	43	1	nogas	467160.650	467160.650	4.38	7169663	6.52	200000	>LDR
Ca	44	1	nogas	477051.356	477051.356	5.77	114288312	0.42	200000	>LDR
Fe	56	1	nogas	4927.970	4927.970	3.03	55630020	0.01	200000	
Se	77	1	nogas	-50.366	-50.366	-44.78	50423	-0.10	2000	
Se	82	1	nogas	48.785	48.785	4.30	6054	0.81	2000	

Sample Report

Mo	95	1	nogas	57.601	57.601	4.53	168677	0.03	2000	
Sn	118	1	nogas	98.609	98.609	2.92	417745	0.02	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ba	137	1	nogas	56.343	56.343	2.41	124963	0.05	2000	
Sb	121	2	He	46.009	46.009	1.41	36789	0.13	2000	
La	139	1	nogas	340.796	340.796	19.55	640	53.25	2000	
Au	197	1	nogas	-9.123	-9.123	-2803.76	7	-136.85	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	230843	2.45	296893	77.75	70	125	
Ge	72	1	nogas	1262048	3.67	1226431	102.90	70	125	
In	115	1	nogas	1276652	1.96	1308607	97.56	70	125	
Bi	209	1	nogas	1215742	3.16	1207116	100.71	70	125	
Ge	72	2	He	94346	0.11	95588	98.70	70	125	

Sample Report

Sample Table

Sample Name	HS17110570-05PDS
Data File Name	148SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T14:55:35-06:00
Sample Type	Sample
Dilution	1
Comment	B122183 TW
ISTD Ref FileName	122CALB.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	92.075	92.075	3.33	178208	0.05	2000	
Na	23	1	nogas	OR	OR	#VALUE!	OR	#VALUE!	200000	
Mg	24	1	nogas	259751.672	259751.672	3.24	1624629703	0.02	200000	>LDR
Al	27	1	nogas	104.201	104.201	1.61	732579	0.01	2000	
K	39	1	nogas	10155.018	10155.018	5.59	72527070	0.01	200000	
Ti	47	1	nogas	98.195	98.195	5.86	68549	0.14	2000	
V	51	1	nogas	86.142	86.142	8.92	2175991	0.00	2000	
Cr	52	1	nogas	93.768	93.768	1.75	876027	0.01	2000	
Mn	55	1	nogas	3742.090	3742.090	0.88	44763623	0.01	2000	>LDR
Co	59	1	nogas	95.239	95.239	0.81	919125	0.01	2000	
Ni	60	1	nogas	98.906	98.906	2.29	223772	0.04	2000	
Cu	63	1	nogas	95.763	95.763	4.85	529856	0.02	2000	
Zn	66	1	nogas	97.810	97.810	4.48	192115	0.05	2000	
As	75	1	nogas	73.423	73.423	7.92	344423	0.02	2000	
Sr	88	1	nogas	8853.514	8853.514	3.15	112229982	0.01	2000	>LDR
Ag	107	1	nogas	89.580	89.580	1.79	661665	0.01	2000	
Cd	111	1	nogas	90.843	90.843	3.87	147974	0.06	2000	
Sb	121	1	nogas	86.543	86.543	3.22	652419	0.01	2000	
Tl	205	1	nogas	95.345	95.345	1.44	1216531	0.01	2000	
Pb	208	1	nogas	91.048	91.048	4.33	1721707	0.01	2000	
U	238	1	nogas	25.665	25.665	5.97	457580	0.01	2000	
[Pb]	206	1	nogas	91.018	91.018	4.47	423790	0.02	2000	
[Pb]	207	1	nogas	89.340	89.340	5.31	383797	0.02	2000	
Na	23	2	He	809959.122	809959.122	1.77	142395085	0.57	200000	>LDR
Mg	24	2	He	256041.897	256041.897	0.38	19597444	1.31	200000	>LDR
Al	27	2	He	90.967	90.967	5.57	1873	4.86	2000	
K	39	2	He	10498.426	10498.426	1.66	410515	2.56	200000	
Ca	43	2	He	587310.304	587310.304	3.66	71692	819.21	200000	>LDR
Ca	44	2	He	520714.054	520714.054	2.45	1191275	43.71	200000	>LDR
V	51	2	He	92.787	92.787	0.73	92546	0.10	2000	
Cr	52	2	He	87.901	87.901	2.02	116768	0.08	2000	
Mn	55	2	He	3770.456	3770.456	3.04	1755246	0.21	2000	>LDR
Fe	56	2	He	9536.035	9536.035	3.93	8653506	0.11	200000	
Co	59	2	He	88.763	88.763	3.11	210669	0.04	2000	
Ni	60	2	He	89.763	89.763	3.03	61591	0.15	2000	
Cu	63	2	He	86.037	86.037	1.43	166106	0.05	2000	
Zn	66	2	He	90.136	90.136	3.37	24774	0.36	2000	
As	75	2	He	96.616	96.616	1.69	18419	0.52	2000	
Se	78	2	He	97.243	97.243	7.35	631	15.42	2000	
B	11	1	nogas	2509.548	2509.548	2.82	3220972	0.08	2000	>LDR
Si	28	1	nogas	12967.674	12967.674	1.63	40377724	0.03	2000	>LDR
Ca	43	1	nogas	486288.674	486288.674	4.57	7021326	6.93	200000	>LDR
Ca	44	1	nogas	498332.879	498332.879	3.81	112362128	0.44	200000	>LDR
Fe	56	1	nogas	9389.608	9389.608	1.31	99163606	0.01	200000	
Se	77	1	nogas	-6.498	-6.498	-202.71	55070	-0.01	2000	
Se	82	1	nogas	98.634	98.634	3.34	11154	0.88	2000	

Sample Report

Mo	95	1	nogas	107.211	107.211	2.07	294676	0.04	2000	
Sn	118	1	nogas	0.193	0.193	48.77	1307	0.01	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ba	137	1	nogas	102.286	102.286	3.13	220584	0.05	2000	
Sb	121	2	He	86.023	86.023	1.09	68846	0.12	2000	
La	139	1	nogas	365.512	365.512	24.66	653	55.94	2000	
Au	197	1	nogas	459.159	459.159	149.39	17	2754.96	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	256313	2.28	296893	86.33	70	125	
Ge	72	1	nogas	1186674	1.76	1226431	96.76	70	125	
In	115	1	nogas	1242811	2.15	1308607	94.97	70	125	
Bi	209	1	nogas	1180150	4.20	1207116	97.77	70	125	
Ge	72	2	He	94530	1.42	95588	98.89	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\111
Acq Date Time	2017-11-16T14:59:34-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	122CALB.d
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	102.650	3.540	201467	2.75	100	102.6	90	110	
Na	23	1	nogas	10739.815	0.378	101878871	1.17	10000	107.4	90	110	
Mg	24	1	nogas	10475.097	1.857	64081081	1.93	10000	104.8	90	110	
Al	27	1	nogas	104.833	5.175	752030	1.46	100	104.8	90	110	
K	39	1	nogas	10252.287	5.911	74702195	1.05	10000	102.5	90	110	
Ti	47	1	nogas	103.202	6.737	73497	3.07	100	103.2	90	110	
V	51	1	nogas	158.535	9.899	3057729	2.48	100	158.5	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	104.565	3.588	993974	2.14	100	104.6	90	110	
Mn	55	1	nogas	100.985	5.620	1240926	5.92	100	101.0	90	110	
Co	59	1	nogas	102.933	4.967	1013682	1.01	100	102.9	90	110	
Ni	60	1	nogas	101.860	5.947	235024	1.75	100	101.9	90	110	
Cu	63	1	nogas	102.727	6.299	579716	1.75	100	102.7	90	110	
Zn	66	1	nogas	104.022	3.714	208530	1.23	100	104.0	90	110	
As	75	1	nogas	108.980	8.267	434148	1.31	100	109.0	90	110	
Sr	88	1	nogas	100.543	6.860	1301575	2.32	100	100.5	90	110	
Ag	107	1	nogas	104.102	3.815	784984	1.38	100	104.1	90	110	
Cd	111	1	nogas	103.454	2.540	167552	2.93	100	103.5	90	110	
Sb	121	1	nogas	100.976	4.742	776884	0.96	100	101.0	90	110	
Tl	205	1	nogas	98.641	3.606	1298238	2.00	100	98.6	90	110	
Pb	208	1	nogas	100.224	1.927	1956918	1.23	100	100.2	90	110	
U	238	1	nogas	102.264	2.362	1883184	3.03	100	102.3	90	110	
[Pb]	206	1	nogas	98.585	3.514	473899	2.12	100	98.6	90	110	
[Pb]	207	1	nogas	98.009	3.759	434737	1.99	100	98.0	90	110	
Na	23	2	He	9949.445	2.718	1831512	2.75	10000	99.5	90	110	
Mg	24	2	He	9938.099	2.349	767982	2.31	10000	99.4	90	110	
Al	27	2	He	95.944	7.413	1990	7.50	100	95.9	90	110	
K	39	2	He	10635.373	3.089	415741	3.02	10000	106.4	90	110	
Ca	43	2	He	11933.318	13.691	1477	13.55	10000	119.3	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	10031.026	0.253	23278	0.95	10000	100.3	90	110	
V	51	2	He	96.239	0.700	96859	0.30	100	96.2	90	110	
Cr	52	2	He	96.704	1.840	129519	2.73	100	96.7	90	110	
Mn	55	2	He	98.488	1.579	46462	1.39	100	98.5	90	110	
Fe	56	2	He	9816.642	2.051	8992472	1.54	10000	98.2	90	110	
Co	59	2	He	94.910	3.128	227349	2.48	100	94.9	90	110	
Ni	60	2	He	95.251	4.870	65923	3.83	100	95.3	90	110	
Cu	63	2	He	95.338	2.749	185660	1.80	100	95.3	90	110	
Zn	66	2	He	95.843	2.923	26580	2.53	100	95.8	90	110	
As	75	2	He	98.323	4.839	18919	4.67	100	98.3	90	110	
Se	78	2	He	103.975	3.766	680	3.12	100	104.0	90	110	
B	11	1	nogas	575.764	5.834	787856	2.82	500	115.2	90	110	CCV Main CR1-2 Failed
Si	28	1	nogas	5284.929	4.181	17170847	0.84	5000	105.7	90	110	
Ca	43	1	nogas	9979.667	4.866	147716	0.45	10000	99.8	90	110	
Ca	44	1	nogas	9975.539	5.005	2350878	2.73	10000	99.8	90	110	
Fe	56	1	nogas	9844.066	4.795	106081696	3.26	10000	98.4	90	110	
Se	77	1	nogas	149.194	31.366	83581	5.26	100	149.2	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	102.369	4.507	11804	0.29	100	102.4	90	110	
Mo	95	1	nogas	102.398	7.373	287087	2.89	100	102.4	90	110	
Sn	118	1	nogas	102.678	5.845	420601	3.43	100	102.7	90	110	
Ba	137	1	nogas	100.866	4.499	216090	1.35	100	100.9	90	110	
Sb	121	2	He	97.862	1.032	79029	1.05	100	97.9	90	110	
Li	7	1	nogas	101.834	3.550	537522	1.89	100	101.8	90	110	
P	31	1	nogas	512.072	4.171	287560	1.40	500	102.4	90	110	
La	139	1	nogas	133.220	40.632	347	22.41	100	133.2	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	444.341	59.840	17	34.64	100	444.3	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	259903	2.80	296893	87.54	70	125	
Ge	72	1	nogas	1212585	4.43	1226431	98.87	70	125	
In	115	1	nogas	1235914	4.88	1308607	94.44	70	125	
Bi	209	1	nogas	1217418	2.27	1207116	100.85	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	95404	0.98	95588	99.81	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\111
Acq Date Time	2017-11-16T15:01:33-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	122CALB.d
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	0.185	33.4	463	31.2	1	
Na	23	1	nogas	200.801	7.8	4303142	2.9	100	CCB Main CR1 Failed
Mg	24	1	nogas	23.629	47.7	167473	44.1	100	
Al	27	1	nogas	0.291	35.4	12531	8.4	5	
K	39	1	nogas	0.631	1600.8	3857600	1.7	100	
Ti	47	1	nogas	-0.339	-42.2	377	31.1	2.5	
V	51	1	nogas	41.600	22.8	1771543	4.4	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.201	5.8	33477	3.0	2.5	
Mn	55	1	nogas	0.410	20.8	12961	11.2	2.5	
Co	59	1	nogas	0.149	76.5	1840	66.5	2.5	
Ni	60	1	nogas	-0.037	-569.1	4101	14.0	2.5	
Cu	63	1	nogas	0.032	224.5	4981	10.6	2.5	
Zn	66	1	nogas	-0.091	-98.0	1927	10.3	2.5	
As	75	1	nogas	3.795	170.0	197142	5.5	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	0.375	38.7	6548	32.9	2.5	
Ag	107	1	nogas	0.088	91.8	990	67.5	2.5	
Cd	111	1	nogas	0.154	64.1	280	63.5	1	
Sb	121	1	nogas	0.224	39.3	2887	27.3	2.5	
Tl	205	1	nogas	0.825	62.4	11062	62.2	1	
Pb	208	1	nogas	0.144	72.6	3094	67.1	2.5	
U	238	1	nogas	0.204	74.2	3887	72.9	2.5	
[Pb]	206	1	nogas	0.138	63.3	723	58.7	2.5	
[Pb]	207	1	nogas	0.140	85.1	693	77.4	2.5	
Na	23	2	He	213.785	7.9	104682	1.2	100	CCB Main CR1 Failed
Mg	24	2	He	15.515	14.0	1520	8.9	100	
Al	27	2	He	-0.352	-952.0	90	69.4	5	
K	39	2	He	-0.438	-958.8	9903	1.6	100	
Ca	43	2	He	81.896	53.6	17	34.6	100	
Ca	44	2	He	41.179	44.3	210	17.2	100	
V	51	2	He	0.337	11.4	908	4.9	2.5	
Cr	52	2	He	-0.127	-50.7	1503	8.3	2.5	
Mn	55	2	He	0.203	30.5	283	7.3	2.5	
Fe	56	2	He	3.695	23.2	9763	8.7	100	
Co	59	2	He	0.032	23.6	133	15.6	2.5	
Ni	60	2	He	-0.044	-352.7	560	17.6	2.5	
Cu	63	2	He	0.033	19.7	873	3.3	2.5	
Zn	66	2	He	-0.373	-14.5	37	41.7	2.5	
As	75	2	He	0.065	70.4	43	20.4	2.5	
Se	78	2	He	-0.680	-28.4	3	43.3	2.5	
B	11	1	nogas	36.307	7.3	108062	5.3	10	CCB Main CR1 Failed
Si	28	1	nogas	30.883	14.2	753772	3.5	5	CCB Main CR1 Failed
Ca	43	1	nogas	21.903	43.7	987	17.9	100	
Ca	44	1	nogas	-6.467	-89.0	56058	4.3	100	
Fe	56	1	nogas	29.488	45.8	1006926	17.4	100	
Se	77	1	nogas	22.422	118.8	63641	5.1	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.480	-23.4	320	5.4	2.5	

Continuing Calibration Blank (CCB) Report

Mo	95	1	nogas	0.133	43.0	1343	13.4	2.5	
Sn	118	1	nogas	0.321	41.1	1930	32.3	5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Ba	137	1	nogas	0.099	132.8	557	56.7	2.5	
Sb	121	2	He	0.129	71.8	190	36.8	2.5	
P	31	1	nogas	-2.480	-136.1	36820	2.0	10	
La	139	1	nogas	-93.883	-20.5	50	52.9	2.5	
Au	197	1	nogas	292.392	230.8	13	114.6	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	288746	2.08	296893	97.26	70	125	
Ge	72	1	nogas	1258376	2.87	1226431	102.60	70	125	
In	115	1	nogas	1303333	2.50	1308607	99.60	70	125	
Bi	209	1	nogas	1217944	2.52	1207116	100.90	70	125	
Ge	72	2	He	95311	3.08	95588	99.71	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\111
Acq Date Time	2017-11-16T15:23:53-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	122CALB.d
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	97.198	4.514	196051	3.47	100	97.2	90	110	
Na	23	1	nogas	9832.483	3.144	92008433	2.63	10000	98.3	90	110	
Mg	24	1	nogas	9856.377	2.513	59353055	1.39	10000	98.6	90	110	
Al	27	1	nogas	104.846	0.425	740143	1.03	100	104.8	90	110	
K	39	1	nogas	9971.530	2.004	71622018	2.81	10000	99.7	90	110	
Ti	47	1	nogas	99.560	1.027	69825	1.94	100	99.6	90	110	
V	51	1	nogas	70.611	5.225	2009200	2.15	100	70.6	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	101.845	1.345	952982	1.76	100	101.8	90	110	
Mn	55	1	nogas	101.309	2.372	1224174	3.33	100	101.3	90	110	
Co	59	1	nogas	104.983	2.184	1017539	3.22	100	105.0	90	110	
Ni	60	1	nogas	103.651	1.374	235356	2.38	100	103.7	90	110	
Cu	63	1	nogas	102.113	1.499	567321	1.84	100	102.1	90	110	
Zn	66	1	nogas	99.537	2.209	196343	1.30	100	99.5	90	110	
As	75	1	nogas	77.547	2.907	355423	2.26	100	77.5	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	99.655	2.726	1270402	3.43	100	99.7	90	110	
Ag	107	1	nogas	104.814	1.099	777447	0.95	100	104.8	90	110	
Cd	111	1	nogas	101.650	1.474	165876	1.93	100	101.6	90	110	
Sb	121	1	nogas	99.789	2.403	755419	2.14	100	99.8	90	110	
Tl	205	1	nogas	96.032	2.445	1297224	1.19	100	96.0	90	110	
Pb	208	1	nogas	98.396	2.800	1971442	1.83	100	98.4	90	110	
U	238	1	nogas	101.283	4.103	1913165	2.64	100	101.3	90	110	
[Pb]	206	1	nogas	97.053	2.997	478754	0.61	100	97.1	90	110	
[Pb]	207	1	nogas	95.347	3.405	434010	0.94	100	95.3	90	110	
Na	23	2	He	9323.667	4.435	1700372	4.60	10000	93.2	90	110	
Mg	24	2	He	9486.060	2.398	724501	2.99	10000	94.9	90	110	
Al	27	2	He	84.510	0.926	1743	0.33	100	84.5	90	110	CCV Main CR1-2 Failed
K	39	2	He	10034.549	1.047	392814	1.02	10000	100.3	90	110	
Ca	43	2	He	10887.469	20.711	1333	21.22	10000	108.9	90	110	
Ca	44	2	He	9307.416	3.808	21349	3.22	10000	93.1	90	110	
V	51	2	He	93.184	0.849	92697	0.88	100	93.2	90	110	
Cr	52	2	He	95.783	0.754	126772	1.03	100	95.8	90	110	
Mn	55	2	He	96.351	2.094	44922	1.82	100	96.4	90	110	
Fe	56	2	He	9588.755	0.720	8680736	0.42	10000	95.9	90	110	
Co	59	2	He	96.112	2.534	227540	2.48	100	96.1	90	110	
Ni	60	2	He	95.885	0.810	65592	0.10	100	95.9	90	110	
Cu	63	2	He	94.984	0.421	182823	1.02	100	95.0	90	110	
Zn	66	2	He	97.291	1.185	26664	1.48	100	97.3	90	110	
As	75	2	He	96.375	1.629	18327	1.60	100	96.4	90	110	
Se	78	2	He	103.887	8.048	672	8.40	100	103.9	90	110	
B	11	1	nogas	497.483	6.103	707030	4.70	500	99.5	90	110	
Si	28	1	nogas	5207.232	0.775	16654245	1.72	5000	104.1	90	110	
Ca	43	1	nogas	9843.395	1.713	143388	2.25	10000	98.4	90	110	
Ca	44	1	nogas	9834.147	0.478	2280850	1.00	10000	98.3	90	110	
Fe	56	1	nogas	9865.908	1.072	104591269	2.07	10000	98.7	90	110	
Se	77	1	nogas	-1.157	-909.588	56257	3.89	100	-1.2	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	100.621	3.686	11424	4.33	100	100.6	90	110	
Mo	95	1	nogas	100.020	2.034	276190	2.78	100	100.0	90	110	
Sn	118	1	nogas	100.363	0.965	414543	0.88	100	100.4	90	110	
Ba	137	1	nogas	99.255	1.977	214399	2.30	100	99.3	90	110	
Sb	121	2	He	94.229	0.934	75202	1.15	100	94.2	90	110	
Li	7	1	nogas	97.718	2.494	531233	2.44	100	97.7	90	110	
P	31	1	nogas	500.226	1.968	277184	2.69	500	100.0	90	110	
La	139	1	nogas	137.023	41.739	353	21.24	100	137.0	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	288.855	239.773	13	114.56	100	288.9	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	267071	1.03	296893	89.96	70	125	
Ge	72	1	nogas	1191544	1.04	1226431	97.16	70	125	
In	115	1	nogas	1244327	0.46	1308607	95.09	70	125	
Bi	209	1	nogas	1249501	3.05	1207116	103.51	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	94278	0.74	95588	98.63	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\111
Acq Date Time	2017-11-16T15:25:53-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	122CALB.d
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	0.169	38.8	430	33.5	1	
Na	23	1	nogas	-2.397	-62.5	2401100	4.2	100	
Mg	24	1	nogas	17.855	48.0	133457	44.7	100	
Al	27	1	nogas	1.163	18.1	18229	6.6	5	
K	39	1	nogas	-23.024	-55.6	3552973	1.3	100	
Ti	47	1	nogas	-0.236	-43.6	433	14.8	2.5	
V	51	1	nogas	-36.299	-7.7	806644	3.5	2.5	
Cr	52	1	nogas	-0.879	-2.1	22297	1.6	2.5	
Mn	55	1	nogas	0.173	47.4	9563	10.3	2.5	
Co	59	1	nogas	0.154	79.0	1810	65.8	2.5	
Ni	60	1	nogas	0.217	56.3	4521	6.0	2.5	
Cu	63	1	nogas	0.117	80.9	5274	9.9	2.5	
Zn	66	1	nogas	-0.434	-42.0	1177	31.1	2.5	
As	75	1	nogas	-22.431	-7.8	129221	2.3	2.5	
Sr	88	1	nogas	0.140	88.9	3230	49.2	2.5	
Ag	107	1	nogas	0.087	74.9	937	52.0	2.5	
Cd	111	1	nogas	0.116	95.6	213	89.1	1	
Sb	121	1	nogas	0.073	118.3	1607	40.7	2.5	
Tl	205	1	nogas	0.658	65.5	9224	63.7	1	
Pb	208	1	nogas	0.147	79.4	3280	72.1	2.5	
U	238	1	nogas	0.164	73.2	3271	70.0	2.5	
[Pb]	206	1	nogas	0.152	85.1	827	78.2	2.5	
[Pb]	207	1	nogas	0.162	96.8	823	87.7	2.5	
Na	23	2	He	21.354	63.5	68434	1.9	100	
Mg	24	2	He	10.104	9.2	1070	4.9	100	
Al	27	2	He	0.954	255.0	113	40.8	5	
K	39	2	He	-12.935	-112.4	9426	5.9	100	
Ca	43	2	He	-52.692	0.0	0	#DIV/0!	100	
Ca	44	2	He	21.454	58.6	160	16.5	100	
V	51	2	He	-0.166	-9.0	393	5.3	2.5	
Cr	52	2	He	-0.118	-60.3	1467	4.6	2.5	
Mn	55	2	He	0.068	115.8	213	15.1	2.5	
Fe	56	2	He	6.456	8.9	11907	4.7	100	
Co	59	2	He	0.044	24.5	157	14.7	2.5	
Ni	60	2	He	0.533	19.9	927	6.6	2.5	
Cu	63	2	He	-0.002	-2825.0	780	13.5	2.5	
Zn	66	2	He	-0.306	-29.5	53	43.3	2.5	
As	75	2	He	0.024	33.3	34	5.6	2.5	
Se	78	2	He	-0.452	-125.6	4	86.6	2.5	
B	11	1	nogas	13.547	24.9	76303	4.4	10	CCB Main CR1 Failed
Si	28	1	nogas	5.297	143.3	645893	2.8	5	CCB Main CR1 Failed
Ca	43	1	nogas	15.359	72.3	850	18.1	100	
Ca	44	1	nogas	20.287	57.4	60143	3.3	100	
Fe	56	1	nogas	2.302	583.2	676486	21.0	100	
Se	77	1	nogas	-83.623	-14.9	42644	4.2	2.5	
Se	82	1	nogas	-0.287	-242.2	330	23.7	2.5	

Continuing Calibration Blank (CCB) Report

Mo	95	1	nogas	0.238	68.4	1587	28.3	2.5	
Sn	118	1	nogas	0.322	35.2	1933	26.1	5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Ba	137	1	nogas	0.056	227.2	457	63.5	2.5	
Sb	121	2	He	0.020	111.3	100	17.3	2.5	
P	31	1	nogas	-5.692	-96.4	33901	6.3	10	
La	139	1	nogas	-82.030	-5.2	67	8.7	2.5	
Au	197	1	nogas	125.806	344.1	10	100.0	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	291661	2.91	296893	98.24	70	125	
Ge	72	1	nogas	1212563	2.34	1226431	98.87	70	125	
In	115	1	nogas	1307636	2.28	1308607	99.93	70	125	
Bi	209	1	nogas	1269306	1.05	1207116	105.15	70	125	
Ge	72	2	He	92363	1.67	95588	96.63	70	125	

Sample Report

Sample Table

Sample Name	HS17110496-01
Data File Name	169SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T15:38:01-06:00
Sample Type	Sample
Dilution	1
Comment	B122183 TW
ISTD Ref FileName	122CALB.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	0.096	0.096	7.04	260	0.04	2000	
Na	23	1	nogas	255730.746	255730.746	0.90	2433617921	0.01	200000	>LDR
Mg	24	1	nogas	42954.938	42954.938	2.78	269482539	0.02	200000	
Al	27	1	nogas	44.478	44.478	2.56	338343	0.01	2000	
K	39	1	nogas	1472.431	1472.431	3.78	14483391	0.01	200000	
Ti	47	1	nogas	1.833	1.833	6.06	1973	0.09	2000	
V	51	1	nogas	-31.164	-31.164	-14.40	900545	0.00	2000	
Cr	52	1	nogas	2.666	2.666	6.05	57182	0.00	2000	
Mn	55	1	nogas	856.121	856.121	3.48	10886451	0.01	2000	
Co	59	1	nogas	11.781	11.781	4.81	121034	0.01	2000	
Ni	60	1	nogas	15.561	15.561	5.31	40936	0.04	2000	
Cu	63	1	nogas	3.796	3.796	7.57	26924	0.01	2000	
Zn	66	1	nogas	54.058	54.058	1.98	113834	0.05	2000	
As	75	1	nogas	-25.278	-25.278	-13.29	127482	-0.02	2000	
Sr	88	1	nogas	995.526	995.526	3.02	13413648	0.01	2000	
Ag	107	1	nogas	-0.007	-0.007	-87.33	237	0.00	2000	
Cd	111	1	nogas	0.278	0.278	27.98	477	0.06	2000	
Sb	121	1	nogas	0.253	0.253	7.12	3114	0.01	2000	
Tl	205	1	nogas	0.007	0.007	83.24	300	0.00	2000	
Pb	208	1	nogas	0.165	0.165	5.41	3577	0.00	2000	
U	238	1	nogas	1.126	1.126	8.12	21335	0.01	2000	
[Pb]	206	1	nogas	0.195	0.195	6.05	1027	0.02	2000	
[Pb]	207	1	nogas	0.137	0.137	20.64	693	0.02	2000	
Na	23	2	He	251448.632	251448.632	3.85	44404521	0.57	200000	>LDR
Mg	24	2	He	42807.660	42807.660	4.20	3288398	1.30	200000	
Al	27	2	He	34.992	34.992	21.92	783	4.47	2000	
K	39	2	He	1617.184	1617.184	3.63	71627	2.26	200000	
Ca	43	2	He	63694.670	63694.670	5.49	7808	815.71	200000	
Ca	44	2	He	56598.981	56598.981	0.92	130090	43.51	200000	
V	51	2	He	0.273	0.273	15.18	840	0.03	2000	
Cr	52	2	He	5.474	5.474	55.31	8904	0.06	2000	
Mn	55	2	He	903.788	903.788	2.05	422459	0.21	2000	
Fe	56	2	He	1851.448	1851.448	0.80	1692050	0.11	200000	
Co	59	2	He	11.171	11.171	4.89	26663	0.04	2000	
Ni	60	2	He	14.918	14.918	4.45	10773	0.14	2000	
Cu	63	2	He	3.586	3.586	4.76	7718	0.05	2000	
Zn	66	2	He	53.390	53.390	7.96	14776	0.36	2000	
As	75	2	He	1.567	1.567	7.59	330	0.47	2000	
Se	78	2	He	-0.576	-0.576	-32.31	3	-17.28	2000	
B	11	1	nogas	40.777	40.777	3.48	111086	0.04	2000	
Si	28	1	nogas	23267.064	23267.064	4.10	76449809	0.03	2000	>LDR
Ca	43	1	nogas	51754.501	51754.501	2.76	794950	6.51	200000	
Ca	44	1	nogas	51568.138	51568.138	3.35	12410024	0.42	200000	
Fe	56	1	nogas	1763.698	1763.698	4.43	20334675	0.01	200000	

Sample Report

Se	77	1	nogas	-98.109	-98.109	-11.18	41694	-0.24	2000	
Se	82	1	nogas	0.122	0.122	539.22	390	0.03	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	1.420	1.420	7.41	5101	0.03	2000	
Sn	118	1	nogas	0.206	0.206	23.42	1393	0.01	2000	
Ba	137	1	nogas	854.869	854.869	1.62	1892681	0.05	2000	
Sb	121	2	He	0.196	0.196	25.98	243	0.08	2000	
La	139	1	nogas	1781.176	1781.176	13.52	2594	68.68	2000	
Au	197	1	nogas	156.106	156.106	510.83	10	1561.06	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	280504	3.02	296893	94.48	70	125	
Ge	72	1	nogas	1261421	2.61	1226431	102.85	70	125	
In	115	1	nogas	1277277	1.77	1308607	97.61	70	125	
Bi	209	1	nogas	1248362	4.53	1207116	103.42	70	125	
Ge	72	2	He	94892	1.84	95588	99.27	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\111
Acq Date Time	2017-11-16T15:48:09-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	122CALB.d
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	95.873	2.032	204948	0.65	100	95.9	90	110	
Na	23	1	nogas	10219.245	0.989	99711806	0.68	10000	102.2	90	110	
Mg	24	1	nogas	10057.956	3.190	63202741	1.75	10000	100.6	90	110	
Al	27	1	nogas	100.164	2.737	757756	1.90	100	100.2	90	110	
K	39	1	nogas	9772.640	3.263	75237756	1.69	10000	97.7	90	110	
Ti	47	1	nogas	96.204	2.354	72276	0.84	100	96.2	90	110	
V	51	1	nogas	104.458	12.462	2563375	4.84	100	104.5	90	110	
Cr	52	1	nogas	98.369	3.344	986773	1.93	100	98.4	90	110	
Mn	55	1	nogas	95.927	1.576	1241803	1.65	100	95.9	90	110	
Co	59	1	nogas	100.016	3.193	1037964	1.86	100	100.0	90	110	
Ni	60	1	nogas	97.340	2.611	236962	2.11	100	97.3	90	110	
Cu	63	1	nogas	97.750	2.238	581841	1.23	100	97.7	90	110	
Zn	66	1	nogas	99.398	2.507	210077	3.33	100	99.4	90	110	
As	75	1	nogas	89.258	7.050	409222	2.52	100	89.3	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	99.346	1.498	1356274	0.25	100	99.3	90	110	
Ag	107	1	nogas	100.828	1.107	801205	2.23	100	100.8	90	110	
Cd	111	1	nogas	103.925	1.406	172194	2.69	100	103.9	90	110	
Sb	121	1	nogas	95.581	2.473	774986	0.96	100	95.6	90	110	
Tl	205	1	nogas	97.665	3.632	1336030	1.73	100	97.7	90	110	
Pb	208	1	nogas	100.375	2.331	2037286	2.27	100	100.4	90	110	
U	238	1	nogas	102.929	1.372	1969919	1.11	100	102.9	90	110	
[Pb]	206	1	nogas	98.419	1.674	491849	0.68	100	98.4	90	110	
[Pb]	207	1	nogas	98.135	2.775	452593	2.50	100	98.1	90	110	
Na	23	2	He	10510.321	0.846	1919513	0.68	10000	105.1	90	110	
Mg	24	2	He	10053.445	2.237	772210	1.22	10000	100.5	90	110	
Al	27	2	He	92.468	13.239	1910	12.71	100	92.5	90	110	
K	39	2	He	10433.804	1.152	408049	1.12	10000	104.3	90	110	
Ca	43	2	He	12303.403	4.201	1513	3.82	10000	123.0	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	10140.236	4.053	23392	4.18	10000	101.4	90	110	
V	51	2	He	96.400	2.533	96441	2.17	100	96.4	90	110	
Cr	52	2	He	99.646	2.807	132588	2.15	100	99.6	90	110	
Mn	55	2	He	99.423	1.933	46629	2.54	100	99.4	90	110	
Fe	56	2	He	10004.789	1.442	9112610	2.66	10000	100.0	90	110	
Co	59	2	He	97.515	2.426	232208	1.56	100	97.5	90	110	
Ni	60	2	He	96.824	2.065	66615	0.60	100	96.8	90	110	
Cu	63	2	He	96.553	1.962	186912	0.97	100	96.6	90	110	
Zn	66	2	He	99.417	0.891	27408	2.08	100	99.4	90	110	
As	75	2	He	100.227	3.352	19167	1.89	100	100.2	90	110	
Se	78	2	He	100.797	2.282	656	2.74	100	100.8	90	110	
B	11	1	nogas	514.402	1.547	773079	1.51	500	102.9	90	110	
Si	28	1	nogas	5039.772	0.883	17285448	0.91	5000	100.8	90	110	
Ca	43	1	nogas	9580.824	3.477	149469	2.40	10000	95.8	90	110	
Ca	44	1	nogas	9805.507	3.298	2435769	2.49	10000	98.1	90	110	
Fe	56	1	nogas	9528.854	2.933	108198382	1.77	10000	95.3	90	110	
Se	77	1	nogas	64.793	31.562	72514	4.93	100	64.8	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	101.093	2.838	12288	1.75	100	101.1	90	110	
Mo	95	1	nogas	96.680	3.921	285873	2.48	100	96.7	90	110	
Sn	118	1	nogas	102.152	2.964	428255	1.32	100	102.2	90	110	
Ba	137	1	nogas	103.097	1.974	226086	2.46	100	103.1	90	110	
Sb	121	2	He	98.276	1.994	78885	0.76	100	98.3	90	110	
Li	7	1	nogas	98.385	1.723	566567	1.15	100	98.4	90	110	
P	31	1	nogas	499.246	2.463	296316	0.66	500	99.8	90	110	
La	139	1	nogas	157.768	2.401	387	1.49	100	157.8	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	126.730	7.060	10	0.00	100	126.7	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	283061	2.64	296893	95.34	70	125	
Ge	72	1	nogas	1276370	1.50	1226431	104.07	70	125	
In	115	1	nogas	1263397	1.67	1308607	96.55	70	125	
Bi	209	1	nogas	1265392	2.06	1207116	104.83	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	94844	1.47	95588	99.22	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\111
Acq Date Time	2017-11-16T15:50:08-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	122CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.130	79.4	357	66.0	1	
Na	23	1	nogas	155.606	2.3	4012244	2.5	100	CCB Main CR1 Failed
Mg	24	1	nogas	23.780	49.6	175009	46.7	100	
Al	27	1	nogas	0.390	47.8	13495	9.4	5	
K	39	1	nogas	-8.862	-139.0	3862705	1.6	100	
Ti	47	1	nogas	-0.381	-22.7	350	17.4	2.5	
V	51	1	nogas	6.625	69.2	1379343	4.7	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	-0.275	-72.1	29460	5.4	2.5	
Mn	55	1	nogas	0.223	36.8	10763	8.9	2.5	
Co	59	1	nogas	0.158	74.3	1950	61.5	2.5	
Ni	60	1	nogas	-0.174	-58.0	3844	6.4	2.5	
Cu	63	1	nogas	0.058	220.0	5221	13.3	2.5	
Zn	66	1	nogas	-0.337	-40.8	1443	18.7	2.5	
As	75	1	nogas	-7.877	-29.2	172508	3.4	2.5	
Sr	88	1	nogas	0.207	58.2	4334	37.0	2.5	
Ag	107	1	nogas	0.110	75.7	1170	55.5	2.5	
Cd	111	1	nogas	0.126	89.1	237	85.8	1	
Sb	121	1	nogas	0.078	145.9	1740	52.1	2.5	
Tl	205	1	nogas	0.742	65.8	10565	63.8	1	
Pb	208	1	nogas	0.154	75.9	3477	68.9	2.5	
U	238	1	nogas	0.191	76.3	3847	73.1	2.5	
[Pb]	206	1	nogas	0.162	69.1	890	63.4	2.5	
[Pb]	207	1	nogas	0.145	86.2	757	77.0	2.5	
Na	23	2	He	155.568	13.0	99365	2.1	100	CCB Main CR1 Failed
Mg	24	2	He	12.497	7.4	1357	3.5	100	
Al	27	2	He	-0.178	-487.6	100	20.0	5	
K	39	2	He	-2.185	-228.4	9836	1.9	100	
Ca	43	2	He	48.680	237.7	13	114.6	100	
Ca	44	2	He	40.161	58.7	220	27.6	100	
V	51	2	He	0.030	225.1	632	9.7	2.5	
Cr	52	2	He	-0.272	-69.0	1383	20.7	2.5	
Mn	55	2	He	0.085	141.3	240	23.2	2.5	
Fe	56	2	He	3.712	23.1	10286	6.7	100	
Co	59	2	He	0.026	54.2	123	26.1	2.5	
Ni	60	2	He	0.003	6838.8	623	19.1	2.5	
Cu	63	2	He	-0.053	-84.3	743	10.1	2.5	
Zn	66	2	He	-0.206	-61.2	87	40.5	2.5	
As	75	2	He	-0.045	-66.6	23	24.7	2.5	
Se	78	2	He	-0.413	-105.8	5	65.5	2.5	
B	11	1	nogas	22.199	19.5	91617	6.6	10	CCB Main CR1 Failed
Si	28	1	nogas	5.284	122.3	683250	2.2	5	CCB Main CR1 Failed
Ca	43	1	nogas	17.024	77.1	927	22.1	100	
Ca	44	1	nogas	-7.339	-182.4	56887	4.5	100	
Fe	56	1	nogas	18.015	78.5	892962	16.9	100	
Se	77	1	nogas	-27.825	-47.9	55575	5.4	2.5	
Se	82	1	nogas	-0.480	-115.9	327	21.5	2.5	

Continuing Calibration Blank (CCB) Report

Mo	95	1	nogas	0.197	65.6	1557	23.6	2.5	
Sn	118	1	nogas	0.280	41.6	1797	31.0	5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Ba	137	1	nogas	0.060	93.9	477	29.7	2.5	
Sb	121	2	He	0.042	156.1	127	43.5	2.5	
P	31	1	nogas	-1.183	-106.2	38229	1.2	10	
La	139	1	nogas	-82.777	-35.6	67	60.6	2.5	
Au	197	1	nogas	398.361	61.5	17	34.6	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	300927	1.30	296893	101.36	70	125	
Ge	72	1	nogas	1282580	1.31	1226431	104.58	70	125	
In	115	1	nogas	1335716	2.21	1308607	102.07	70	125	
Bi	209	1	nogas	1294362	0.66	1207116	107.23	70	125	
Ge	72	2	He	100347	2.16	95588	104.98	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	186_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T16:22:29-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	122CALB.d
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	104.460	4.060	210972	3.37	100	104.5	90	110	
Na	23	1	nogas	11322.099	5.176	117731294	6.62	10000	113.2	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	10107.947	4.105	67817241	3.78	10000	101.1	90	110	
Al	27	1	nogas	104.543	3.307	791836	2.86	100	104.5	90	110	
K	39	1	nogas	9953.034	0.890	76709377	1.47	10000	99.5	90	110	
Ti	47	1	nogas	103.169	2.571	77600	1.57	100	103.2	90	110	
V	51	1	nogas	67.205	12.105	2113343	2.88	100	67.2	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	103.035	3.590	1033771	1.65	100	103.0	90	110	
Mn	55	1	nogas	101.711	3.149	1318140	1.32	100	101.7	90	110	
Co	59	1	nogas	102.181	0.919	1062545	1.30	100	102.2	90	110	
Ni	60	1	nogas	100.989	0.744	246142	1.27	100	101.0	90	110	
Cu	63	1	nogas	102.730	2.209	612292	0.89	100	102.7	90	110	
Zn	66	1	nogas	103.131	2.005	218203	0.16	100	103.1	90	110	
As	75	1	nogas	72.277	12.229	368199	4.05	100	72.3	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	100.026	1.911	1367870	0.35	100	100.0	90	110	
Ag	107	1	nogas	105.881	1.758	842624	0.09	100	105.9	90	110	
Cd	111	1	nogas	107.378	3.410	180081	3.11	100	107.4	90	110	
Sb	121	1	nogas	99.787	2.897	810407	1.06	100	99.8	90	110	
Tl	205	1	nogas	100.835	9.629	1393668	5.44	100	100.8	90	110	
Pb	208	1	nogas	103.490	5.397	2123906	1.22	100	103.5	90	110	
U	238	1	nogas	102.458	4.860	1983296	1.99	100	102.5	90	110	
[Pb]	206	1	nogas	102.334	5.293	517166	1.17	100	102.3	90	110	
[Pb]	207	1	nogas	101.530	5.906	473420	1.72	100	101.5	90	110	
Na	23	2	He	10416.630	1.210	2010140	1.15	10000	104.2	90	110	
Mg	24	2	He	9965.861	3.370	808419	1.37	10000	99.7	90	110	
Al	27	2	He	98.595	9.086	2143	8.01	100	98.6	90	110	
K	39	2	He	11060.464	2.216	431961	2.16	10000	110.6	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	10219.571	4.680	1330	6.56	10000	102.2	90	110	
Ca	44	2	He	10007.345	1.727	24383	0.34	10000	100.1	90	110	
V	51	2	He	96.229	2.264	101682	0.81	100	96.2	90	110	
Cr	52	2	He	97.806	1.601	137501	0.50	100	97.8	90	110	
Mn	55	2	He	102.302	5.356	50641	3.34	100	102.3	90	110	
Fe	56	2	He	10125.739	3.337	9737242	1.35	10000	101.3	90	110	
Co	59	2	He	97.481	2.660	245172	0.75	100	97.5	90	110	
Ni	60	2	He	96.719	3.556	70279	1.92	100	96.7	90	110	
Cu	63	2	He	95.194	1.787	194675	1.14	100	95.2	90	110	
Zn	66	2	He	96.029	0.331	27969	1.81	100	96.0	90	110	
As	75	2	He	100.228	2.720	20247	0.99	100	100.2	90	110	
Se	78	2	He	101.246	2.679	696	3.20	100	101.2	90	110	
B	11	1	nogas	547.151	2.541	773471	0.71	500	109.4	90	110	
Si	28	1	nogas	5130.359	3.276	17612632	2.47	5000	102.6	90	110	
Ca	43	1	nogas	9927.082	0.821	155167	1.99	10000	99.3	90	110	
Ca	44	1	nogas	10165.250	0.727	2528086	2.06	10000	101.7	90	110	
Fe	56	1	nogas	9774.956	4.925	111136815	3.12	10000	97.7	90	110	
Se	77	1	nogas	-22.456	-105.825	56337	6.02	100	-22.5	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	102.966	2.373	12531	1.78	100	103.0	90	110	
Mo	95	1	nogas	100.522	2.828	297736	1.01	100	100.5	90	110	
Sn	118	1	nogas	103.944	3.351	441168	2.05	100	103.9	90	110	
Ba	137	1	nogas	105.170	4.156	233397	2.81	100	105.2	90	110	
Sb	121	2	He	101.106	3.058	85744	3.62	100	101.1	90	110	
Li	7	1	nogas	101.674	2.303	552401	1.65	100	101.7	90	110	
P	31	1	nogas	512.272	1.445	303629	1.85	500	102.5	90	110	
La	139	1	nogas	134.776	29.378	360	14.43	100	134.8	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	251.419	253.946	13	114.56	100	251.4	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	267419	2.06	296893	90.07	70	125	
Ge	72	1	nogas	1278651	1.84	1226431	104.26	70	125	
In	115	1	nogas	1279073	1.65	1308607	97.74	70	125	
Bi	209	1	nogas	1281178	4.08	1207116	106.14	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	100190	2.07	95588	104.82	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\111
Acq Date Time	2017-11-16T16:24:26-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	122CALB.d
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	0.161	97.5	440	83.3	1	
Na	23	1	nogas	227.232	5.8	4956042	3.0	100	CCB Main CR1 Failed
Mg	24	1	nogas	18.259	69.9	146120	61.6	100	
Al	27	1	nogas	0.351	37.8	13835	7.0	5	
K	39	1	nogas	-10.786	-94.9	4030734	1.5	100	
Ti	47	1	nogas	-0.381	-68.6	367	55.4	2.5	
V	51	1	nogas	-23.851	-23.9	1053443	6.9	2.5	
Cr	52	1	nogas	-0.587	-5.6	27681	1.3	2.5	
Mn	55	1	nogas	0.181	64.9	10710	14.5	2.5	
Co	59	1	nogas	0.167	75.9	2144	64.1	2.5	
Ni	60	1	nogas	-0.083	-104.0	4254	5.2	2.5	
Cu	63	1	nogas	0.113	80.4	5814	9.2	2.5	
Zn	66	1	nogas	-0.474	-24.7	1213	20.9	2.5	
As	75	1	nogas	-19.370	-15.8	151074	5.3	2.5	
Sr	88	1	nogas	0.188	71.5	4264	44.7	2.5	
Ag	107	1	nogas	0.090	84.1	1060	59.0	2.5	
Cd	111	1	nogas	0.163	70.3	317	69.4	1	
Sb	121	1	nogas	0.043	155.5	1530	37.2	2.5	
Tl	205	1	nogas	0.758	56.0	11182	59.2	1	
Pb	208	1	nogas	0.168	78.0	3927	75.9	2.5	
U	238	1	nogas	0.213	68.6	4454	70.7	2.5	
[Pb]	206	1	nogas	0.163	69.4	930	68.3	2.5	
[Pb]	207	1	nogas	0.142	87.6	777	82.8	2.5	
Na	23	2	He	221.988	5.5	115242	0.6	100	CCB Main CR1 Failed
Mg	24	2	He	5.803	12.8	840	9.5	100	
Al	27	2	He	-1.561	-44.6	73	20.8	5	
K	39	2	He	13.025	109.0	10416	5.2	100	
Ca	43	2	He	-27.200	-162.3	3	173.2	100	
Ca	44	2	He	-4.977	-31.3	113	5.1	100	
V	51	2	He	-0.066	-24.4	549	2.1	2.5	
Cr	52	2	He	-0.230	-9.4	1483	3.3	2.5	
Mn	55	2	He	-0.068	-39.4	170	5.9	2.5	
Fe	56	2	He	3.511	21.2	10423	8.8	100	
Co	59	2	He	0.047	10.1	183	6.3	2.5	
Ni	60	2	He	-0.234	-48.2	467	15.8	2.5	
Cu	63	2	He	-0.077	-6.3	717	3.5	2.5	
Zn	66	2	He	-0.183	-30.1	97	15.8	2.5	
As	75	2	He	-0.007	-687.7	32	33.3	2.5	
Se	78	2	He	-0.530	-51.5	4	50.0	2.5	
B	11	1	nogas	10.611	26.6	76782	5.3	10	CCB Main CR1 Failed
Si	28	1	nogas	-8.379	-96.7	668201	3.9	5	
Ca	43	1	nogas	8.673	123.0	833	20.4	100	
Ca	44	1	nogas	-29.969	-34.0	53824	4.6	100	
Fe	56	1	nogas	15.549	86.7	906665	17.3	100	
Se	77	1	nogas	-67.761	-24.9	50363	6.5	2.5	
Se	82	1	nogas	0.048	1069.8	407	15.0	2.5	

Continuing Calibration Blank (CCB) Report

Mo	95	1	nogas	0.344	44.1	2087	22.1	2.5	
Sn	118	1	nogas	0.305	37.3	1997	27.6	5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Ba	137	1	nogas	0.047	234.7	470	59.9	2.5	
Sb	121	2	He	0.007	478.1	100	26.5	2.5	
P	31	1	nogas	0.491	119.9	40948	0.8	10	
La	139	1	nogas	-91.993	-30.0	57	73.5	2.5	
Au	197	1	nogas	98.916	399.8	10	100.0	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	310417	0.80	296893	104.55	70	125	
Ge	72	1	nogas	1343157	0.53	1226431	109.52	70	125	
In	115	1	nogas	1402647	2.76	1308607	107.19	70	125	
Bi	209	1	nogas	1316680	4.31	1207116	109.08	70	125	
Ge	72	2	He	103462	2.11	95588	108.24	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	LLCCV5
Data File Name	189LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T16:28:26-06:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	122CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	4.951	5.270	11514	6.85	5	99.0	70	130	
Na	23	1	nogas	634.870	3.077	8918727	0.67	500	127.0	70	130	
Mg	24	1	nogas	530.724	0.700	3541220	1.80	500	106.1	70	130	
Al	27	1	nogas	5.387	2.185	53196	2.68	5	107.7	70	130	
K	39	1	nogas	491.513	5.059	7861449	1.99	500	98.3	70	130	
Ti	47	1	nogas	4.595	7.280	4251	5.24	5	91.9	70	130	
V	51	1	nogas	-0.915	-937.649	1342116	7.26	5	-18.3	70	130	LLICV Main CR1 Failed
Cr	52	1	nogas	4.923	4.096	83666	1.52	5	98.5	70	130	
Mn	55	1	nogas	5.159	1.729	77812	1.02	5	103.2	70	130	
Co	59	1	nogas	5.247	1.906	57417	0.97	5	104.9	70	130	
Ni	60	1	nogas	4.613	4.633	16011	2.42	5	92.3	70	130	
Cu	63	1	nogas	4.955	3.500	35766	2.52	5	99.1	70	130	
Zn	66	1	nogas	4.853	4.418	12891	3.13	5	97.1	70	130	
As	75	1	nogas	-4.045	-113.854	189779	5.32	5	-80.9	70	130	LLICV Main CR1 Failed
Sr	88	1	nogas	5.170	3.293	75505	2.87	5	103.4	70	130	
Ag	107	1	nogas	5.292	3.359	44376	2.45	5	105.8	70	130	
Cd	111	1	nogas	5.192	2.011	9246	2.79	5	103.8	70	130	
Sb	121	1	nogas	4.871	2.467	42526	3.17	5	97.4	70	130	
Tl	205	1	nogas	5.577	5.666	78051	0.60	5	111.5	70	130	
Pb	208	1	nogas	5.390	4.507	111942	1.73	5	107.8	70	130	
U	238	1	nogas	5.598	5.333	109443	1.67	5	112.0	70	130	
[Pb]	206	1	nogas	5.432	4.257	27784	4.08	5	108.6	70	130	
[Pb]	207	1	nogas	5.274	4.853	24896	1.75	5	105.5	70	130	
Na	23	2	He	599.711	0.719	187747	1.88	500	119.9	70	130	
Mg	24	2	He	505.728	4.915	42659	3.67	500	101.1	70	130	
Al	27	2	He	1.089	294.535	130	53.29	5	21.8	70	130	LLICV Main CR1 Failed
K	39	2	He	581.405	2.027	32104	1.40	500	116.3	70	130	
Ca	43	2	He	696.144	21.067	100	20.00	500	139.2	70	130	LLICV Main CR1 Failed
Ca	44	2	He	490.860	10.868	1353	9.84	500	98.2	70	130	
V	51	2	He	4.750	5.846	5766	3.83	5	95.0	70	130	
Cr	52	2	He	4.719	1.588	8569	0.29	5	94.4	70	130	
Mn	55	2	He	4.828	9.757	2660	7.85	5	96.6	70	130	
Fe	56	2	He	539.796	1.293	542342	2.43	500	108.0	70	130	
Co	59	2	He	4.997	2.935	13025	2.31	5	99.9	70	130	
Ni	60	2	He	4.727	4.016	4154	2.05	5	94.5	70	130	
Cu	63	2	He	4.544	4.791	10426	4.80	5	90.9	70	130	
Zn	66	2	He	5.186	17.185	1700	14.92	5	103.7	70	130	
As	75	2	He	4.865	10.830	1046	10.06	5	97.3	70	130	
Se	78	2	He	4.324	26.598	38	21.05	5	86.5	70	130	
B	11	1	nogas	18.875	11.151	88158	1.67	25	75.5	70	130	
Si	28	1	nogas	261.341	2.921	1598641	0.83	25	1045.4	70	130	LLICV Main CR1 Failed
Ca	43	1	nogas	476.226	2.589	8449	2.98	500	95.2	70	130	
Ca	44	1	nogas	486.913	5.197	185033	2.55	500	97.4	70	130	
Fe	56	1	nogas	499.187	3.523	6626347	2.71	500	99.8	70	130	
Se	77	1	nogas	-20.258	-114.660	59427	6.74	5	-405.2	70	130	LLICV Main CR1 Failed
Se	82	1	nogas	5.344	10.139	1060	7.12	5	106.9	70	130	
Mo	95	1	nogas	5.062	4.320	16661	3.21	5	101.2	70	130	
Sn	118	1	nogas	4.976	4.881	22922	4.26	5	99.5	70	130	
Ba	137	1	nogas	5.122	5.009	12368	0.53	5	102.4	70	130	
Sb	121	2	He	5.047	4.425	4507	5.78	5	100.9	70	130	
Li	7	1	nogas	5.228	1.381	58140	2.75	5	104.6	70	130	
P	31	1	nogas	24.551	3.626	53824	0.13	25	98.2	70	130	
La	139	1	nogas	-62.566	-42.242	97	36.33	5	-1251.3	70	130	LLICV Main CR1 Failed
Au	197	1	nogas	266.023	103.403	13	43.30	5	5320.5	70	130	LLICV Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	306106	2.07	296893	103.10	70	125	
Ge	72	1	nogas	1338385	0.95	1226431	109.13	70	125	

Low Level Initial Calibration Verification (LLICV) Report

In	115	1	nogas	1356808	4.53	1308607	103.68	70	125	
Bi	209	1	nogas	1293327	5.30	1207116	107.14	70	125	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	103361	1.53	95588	108.13	70	125	

Sample Report

Sample Table

Sample Name	LLCCV2
Data File Name	190SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T16:30:26-06:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	122CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	1.789	1.789	8.94	4264	0.04	2000	
Na	23	1	nogas	277.816	277.816	1.14	5348694	0.01	200000	
Mg	24	1	nogas	220.416	220.416	4.84	1486599	0.01	200000	
Al	27	1	nogas	2.364	2.364	6.32	29484	0.01	2000	
K	39	1	nogas	179.969	179.969	13.20	5468029	0.00	200000	
Ti	47	1	nogas	1.225	1.225	20.80	1613	0.08	2000	
V	51	1	nogas	-2.533	-2.533	-75.06	1321071	0.00	2000	
Cr	52	1	nogas	1.659	1.659	5.17	50402	0.00	2000	
Mn	55	1	nogas	2.018	2.018	7.65	35374	0.01	2000	
Co	59	1	nogas	2.124	2.124	2.96	23402	0.01	2000	
Ni	60	1	nogas	1.335	1.335	12.43	7782	0.02	2000	
Cu	63	1	nogas	1.850	1.850	3.98	16531	0.01	2000	
Zn	66	1	nogas	1.602	1.602	7.10	5751	0.03	2000	
As	75	1	nogas	-6.472	-6.472	-13.97	183514	0.00	2000	
Sr	88	1	nogas	2.110	2.110	3.09	31695	0.01	2000	
Ag	107	1	nogas	2.187	2.187	1.96	18503	0.01	2000	
Cd	111	1	nogas	2.097	2.097	5.85	3750	0.06	2000	
Sb	121	1	nogas	1.928	1.928	2.64	17509	0.01	2000	
Tl	205	1	nogas	2.189	2.189	6.08	31090	0.01	2000	
Pb	208	1	nogas	2.106	2.106	7.93	44335	0.00	2000	
U	238	1	nogas	2.257	2.257	4.27	44710	0.01	2000	
[Pb]	206	1	nogas	1.988	1.988	8.30	10303	0.02	2000	
[Pb]	207	1	nogas	2.102	2.102	6.67	10073	0.02	2000	
Na	23	2	He	280.814	280.814	1.84	124577	0.23	200000	
Mg	24	2	He	212.199	212.199	2.25	17839	1.19	200000	
Al	27	2	He	0.538	0.538	444.69	117	0.46	2000	
K	39	2	He	217.161	217.161	12.88	18206	1.19	200000	
Ca	43	2	He	378.180	378.180	61.02	57	667.38	200000	
Ca	44	2	He	180.051	180.051	28.50	567	31.77	200000	
V	51	2	He	1.832	1.832	6.69	2567	0.07	2000	
Cr	52	2	He	2.035	2.035	7.42	4657	0.04	2000	
Mn	55	2	He	1.931	1.931	7.87	1170	0.16	2000	
Fe	56	2	He	218.243	218.243	3.18	220055	0.10	200000	
Co	59	2	He	1.892	1.892	3.16	4894	0.04	2000	
Ni	60	2	He	2.002	2.002	8.48	2097	0.10	2000	
Cu	63	2	He	1.870	1.870	5.74	4737	0.04	2000	
Zn	66	2	He	1.903	1.903	13.02	710	0.27	2000	
As	75	2	He	1.908	1.908	4.25	424	0.45	2000	
Se	78	2	He	1.213	1.213	61.00	16	7.58	2000	
B	11	1	nogas	2.520	2.520	41.27	64543	0.00	2000	

Sample Report

Si	28	1	nogas	75.646	75.646	13.79	954841	0.01	2000	
Ca	43	1	nogas	200.222	200.222	5.52	3944	5.08	200000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ca	44	1	nogas	173.839	173.839	11.94	105253	0.17	200000	
Fe	56	1	nogas	195.792	195.792	7.40	3029806	0.01	200000	
Se	77	1	nogas	-21.875	-21.875	-13.11	59106	-0.04	2000	
Se	82	1	nogas	0.946	0.946	92.14	513	0.18	2000	
Mo	95	1	nogas	2.025	2.025	5.46	7262	0.03	2000	
Sn	118	1	nogas	2.088	2.088	5.67	9963	0.02	2000	
Ba	137	1	nogas	2.169	2.169	7.11	5448	0.04	2000	
Sb	121	2	He	2.054	2.054	9.49	1860	0.11	2000	
La	139	1	nogas	-93.272	-93.272	-21.18	53	-174.89	2000	
Au	197	1	nogas	-33.749	-33.749	-694.46	7	-506.24	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	311164	2.60	296893	104.81	70	125	
Ge	72	1	nogas	1337387	4.07	1226431	109.05	70	125	
In	115	1	nogas	1361476	5.34	1308607	104.04	70	125	
Bi	209	1	nogas	1307212	5.09	1207116	108.29	70	125	
Ge	72	2	He	101825	1.32	95588	106.53	70	125	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	191ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T16:32:26-06:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	122CALB.d
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	109.0	103	47.7	0	ICSA Main CR1 Failed
Na	23	1	nogas	106092.776	2.8	940037354	2.3	0	
Mg	24	1	nogas	104220.175	5.5	607399880	1.5	0	
Al	27	1	nogas	98955.631	2.4	689463990	2.3	0	
K	39	1	nogas	101326.429	7.4	693481666	3.2	0	
Ti	47	1	nogas	2106.668	8.9	1463719	5.9	0	
V	51	1	nogas	-24.970	-11.6	923209	7.1	0	ICSA Main CR1 Failed
Cr	52	1	nogas	1.137	18.4	40164	1.6	0	ICSA Main CR1 Failed
Mn	55	1	nogas	0.204	12.0	9776	1.5	0	ICSA Main CR1 Failed
Co	59	1	nogas	0.068	12.9	947	10.4	0	ICSA Main CR1 Failed
Ni	60	1	nogas	-0.232	-110.1	3430	12.4	0	ICSA Main CR1 Failed
Cu	63	1	nogas	0.390	41.0	6668	9.0	0	ICSA Main CR1 Failed
Zn	66	1	nogas	1.186	9.1	4317	2.8	0	ICSA Main CR1 Failed
As	75	1	nogas	-4.872	-27.4	167301	5.0	0	ICSA Main CR1 Failed
Sr	88	1	nogas	0.969	6.4	13732	1.8	0	ICSA Main CR1 Failed
Ag	107	1	nogas	0.023	74.5	443	25.4	0	ICSA Main CR1 Failed
Cd	111	1	nogas	0.934	9.0	1473	9.1	0	ICSA Main CR1 Failed
Sb	121	1	nogas	-0.018	-132.5	897	19.6	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.015	120.3	400	63.1	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.097	3.8	2190	2.1	0	ICSA Main CR1 Failed
[Pb]	206	1	nogas	0.100	15.5	543	12.3	0	ICSA Main CR1 Failed
[Pb]	207	1	nogas	0.092	13.7	483	11.4	0	ICSA Main CR1 Failed
Na	23	2	He	98875.877	2.4	16874544	2.7	0	
Mg	24	2	He	97570.259	0.4	7224886	0.2	0	
Al	27	2	He	91444.258	1.7	1728145	2.0	0	
K	39	2	He	100861.661	0.8	3858566	0.8	0	
Ca	43	2	He	102081.228	4.5	12064	4.5	0	
Ca	44	2	He	95384.287	4.0	211225	3.9	0	
V	51	2	He	-0.152	-1.0	402	0.0	0	ICSA Main CR1 Failed
Cr	52	2	He	1.464	12.5	3457	6.4	0	ICSA Main CR1 Failed
Mn	55	2	He	-0.039	-86.6	163	9.4	0	ICSA Main CR1 Failed
Fe	56	2	He	97896.801	1.7	85914065	1.7	0	
Co	59	2	He	0.010	91.0	77	27.2	0	ICSA Main CR1 Failed
Ni	60	2	He	-0.254	-51.7	400	21.4	0	ICSA Main CR1 Failed
Cu	63	2	He	0.052	82.1	873	9.3	0	ICSA Main CR1 Failed
Zn	66	2	He	0.414	38.8	243	17.1	0	ICSA Main CR1 Failed
As	75	2	He	0.056	167.8	40	43.3	0	ICSA Main CR1 Failed
Se	78	2	He	-0.559	-119.8	3	124.9	0	ICSA Main CR1 Failed
B	11	1	nogas	-2.623	-46.9	49181	1.1	0	ICSA Main CR1 Failed
Si	28	1	nogas	39.085	28.7	738650	0.6	0	
Ca	43	1	nogas	96928.840	6.2	1405743	3.9	0	
Ca	44	1	nogas	95816.155	6.6	21733348	4.3	0	
Fe	56	1	nogas	95896.048	5.5	1010327723	1.7	0	
Se	77	1	nogas	-10.514	-91.6	54709	6.9	0	ICSA Main CR1 Failed
Se	82	1	nogas	-0.284	-253.5	323	22.4	0	ICSA Main CR1 Failed
Mo	95	1	nogas	2075.014	0.8	5715388	3.7	0	
Sn	118	1	nogas	0.039	89.6	643	21.0	0	ICSA Main CR1 Failed
Ba	137	1	nogas	0.111	51.1	530	23.2	0	ICSA Main CR1 Failed
Sb	121	2	He	0.021	216.4	100	36.1	0	ICSA Main CR1 Failed

Interference Check Solution A (ICS-A) Report

P	31	1	nogas	99865.933	6.5	48130578	3.9	0	
La	139	1	nogas	111.662	9.9	307	3.8	0	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	270275	4.00	296893	91.03	70	125	
Ge	72	1	nogas	1192488	3.98	1226431	97.23	70	125	
In	115	1	nogas	1193489	1.61	1308607	91.20	70	125	
Bi	209	1	nogas	1225072	2.42	1207116	101.49	70	125	
Ge	72	2	He	91450	0.35	95588	95.67	70	125	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	192ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\111
Acq Date Time	2017-11-16T16:34:33-06:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	122CALB.d
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	92.949	2.748	187347	0.69	100	92.9	80	120	
Na	23	1	nogas	114169.260	0.701	999777122	2.76	100	114169.3	80	120	
Mg	24	1	nogas	116235.211	4.710	669732148	2.86	100	116235.2	80	120	ICSB Main CR1 Failed
Al	27	1	nogas	98971.471	3.928	673559003	2.63	100	98971.5	80	120	ICSB Main CR1 Failed
K	39	1	nogas	112800.203	2.529	755084000	3.49	100	112800.2	80	120	
Ti	47	1	nogas	2249.159	2.251	1529269	3.10	100	2249.2	80	120	ICSB Main CR1 Failed
V	51	1	nogas	59.708	3.191	1842901	3.09	100	59.7	80	120	
Cr	52	1	nogas	94.805	2.608	868893	2.00	100	94.8	80	120	
Mn	55	1	nogas	88.602	7.435	1045632	3.65	100	88.6	80	120	
Co	59	1	nogas	95.302	2.236	902811	3.38	100	95.3	80	120	
Ni	60	1	nogas	95.227	0.975	211669	2.99	100	95.2	80	120	
Cu	63	1	nogas	94.981	0.887	516175	3.11	100	95.0	80	120	
Zn	66	1	nogas	96.702	1.281	186544	2.91	100	96.7	80	120	
As	75	1	nogas	76.379	3.779	344734	2.16	100	76.4	80	120	
Sr	88	1	nogas	94.691	1.752	1179725	2.30	100	94.7	80	120	
Ag	107	1	nogas	94.019	5.367	681016	1.80	100	94.0	80	120	
Cd	111	1	nogas	95.306	0.889	153693	0.88	100	95.3	80	120	
Sb	121	1	nogas	96.800	4.117	716185	3.92	100	96.8	80	120	
Tl	205	1	nogas	92.772	3.778	1230721	3.72	100	92.8	80	120	
Pb	208	1	nogas	93.741	1.326	1844502	1.12	100	93.7	80	120	
U	238	1	nogas	100.917	4.159	1871890	2.93	100	100.9	80	120	
[Pb]	206	1	nogas	93.475	2.078	452849	0.68	100	93.5	80	120	
[Pb]	207	1	nogas	91.771	1.174	410337	1.29	100	91.8	80	120	
Na	23	2	He	109719.082	3.404	18402657	2.61	100	109719.1	80	120	
Mg	24	2	He	108015.717	2.694	7868268	4.30	100	108015.7	80	120	
Al	27	2	He	93078.156	3.513	1729637	3.39	100	93078.2	80	120	ICSB Main CR1 Failed
K	39	2	He	109779.691	2.565	4198857	2.56	100	109779.7	80	120	
Ca	43	2	He	116040.330	4.194	13485	4.26	100	116040.3	80	120	ICSB Main CR1 Failed
Ca	44	2	He	106629.345	1.568	232177	0.70	100	106629.3	80	120	
V	51	2	He	91.986	1.173	87293	1.31	100	92.0	80	120	
Cr	52	2	He	94.101	2.186	118818	1.40	100	94.1	80	120	
Mn	55	2	He	95.135	1.653	42313	1.58	100	95.1	80	120	
Fe	56	2	He	110667.543	6.061	95441145	4.04	100	110667.5	80	120	ICSB Main CR1 Failed
Co	59	2	He	90.977	4.743	205350	2.66	100	91.0	80	120	
Ni	60	2	He	88.982	4.437	58076	2.25	100	89.0	80	120	
Cu	63	2	He	88.815	1.586	163099	0.68	100	88.8	80	120	
Zn	66	2	He	92.061	4.599	24093	6.75	100	92.1	80	120	
As	75	2	He	96.120	1.541	17435	1.24	100	96.1	80	120	
Se	78	2	He	94.716	7.575	585	6.79	100	94.7	80	120	
B	11	1	nogas	478.790	3.911	681881	1.59	100	478.8	80	120	
Si	28	1	nogas	4950.819	4.398	15494541	0.31	100	4950.8	80	120	ICSB Main CR1 Failed
Ca	43	1	nogas	105233.854	2.306	1492320	2.58	100	105233.9	80	120	
Ca	44	1	nogas	109108.435	4.740	24179018	2.14	100	109108.4	80	120	ICSB Main CR1 Failed
Fe	56	1	nogas	107130.902	5.758	1102761525	2.90	100	107130.9	80	120	
Se	77	1	nogas	25.016	2.621	59444	3.72	100	25.0	80	120	ICSB Main CR1 Failed
Se	82	1	nogas	97.810	4.487	10863	5.29	100	97.8	80	120	
Mo	95	1	nogas	2209.941	1.666	5945169	2.35	100	2209.9	80	120	ICSB Main CR1 Failed
Sn	118	1	nogas	93.056	1.595	379885	1.28	100	93.1	80	120	
Ba	137	1	nogas	93.874	1.137	200403	1.09	100	93.9	80	120	
Sb	121	2	He	94.901	2.608	72284	4.81	100	94.9	80	120	
La	139	1	nogas	374.570	14.639	660	10.93	100	374.6	80	120	ICSB Main CR1 Failed

QC ISTD Table

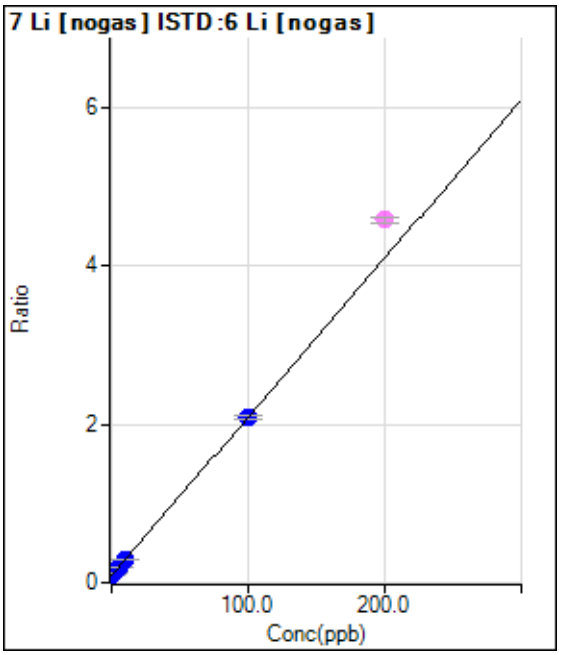
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	266896	2.10	296893	89.90	70	125	
Ge	72	1	nogas	1165079	3.90	1226431	95.00	70	125	
In	115	1	nogas	1229730	0.31	1308607	93.97	70	125	
Bi	209	1	nogas	1226689	1.83	1207116	101.62	70	125	
Ge	72	2	He	89943	2.24	95588	94.10	70	125	

Calibration for 017_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\111617A.b\
Analysis File: 111617A.batch.bin
DA Date-Time: 2017-11-16 16:20:17
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	010CALB.d	CAL BLK	2017-11-16 10:17:55
2	011CALS.d	2/10/200	2017-11-16 10:19:55
3	012CALS.d	5/25/500	2017-11-16 10:21:56
4	013CALS.d	10/50/1000	2017-11-16 10:23:55
5	014CALS.d	100/500/10K	2017-11-16 10:25:53
6	015CALS.d	200/1000/20K	2017-11-16 10:27:54
7			

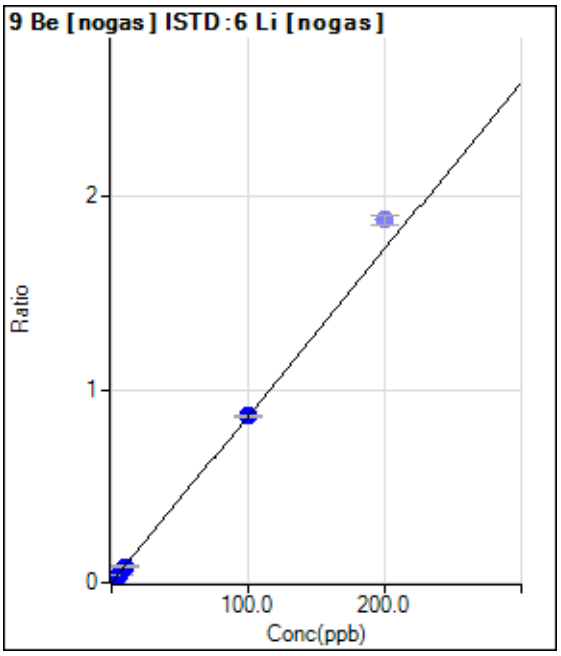
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	22737.34	0.0901	P	4.9
2	☐	2.000	2.078	32962.42	0.1317	P	2.8
3	☐	5.000	5.183	48774.21	0.1940	P	0.7
4	☐	10.000	10.477	76107.23	0.3001	P	0.7
5	☐	100.000	99.942	482661.95	2.0933	P	2.2
6	☑	200.000		952041.11	4.5836	M	1.6
7	☐	1.000					

y = 0.0200 * x + 0.0901
R = 1.0000
DL = 0.6541
BEC = 4.494

Weight: <None>
Min Conc: <None>

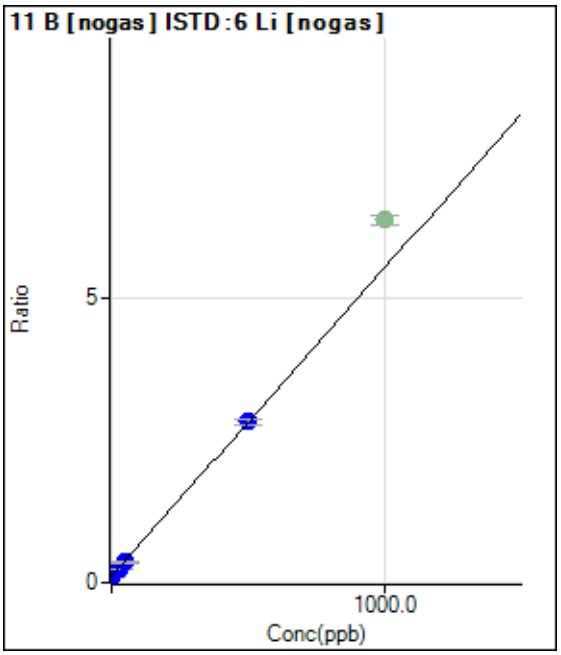


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26.67	0.0001	P	86.6
2	☐	2.000	1.904	4140.53	0.0166	P	5.4
3	☐	5.000	4.913	10706.56	0.0426	P	3.1
4	☐	10.000	9.741	21375.74	0.0843	P	4.4
5	☐	100.000	100.032	199378.56	0.8648	P	1.7
6	☑	200.000		390687.20	1.8809	P	2.5
7	☐	1.000					

y = 0.0086 * x + 1.0636E-004
R = 1.0000
DL = 0.03198
BEC = 0.0123

Weight: <None>
Min Conc: <None>

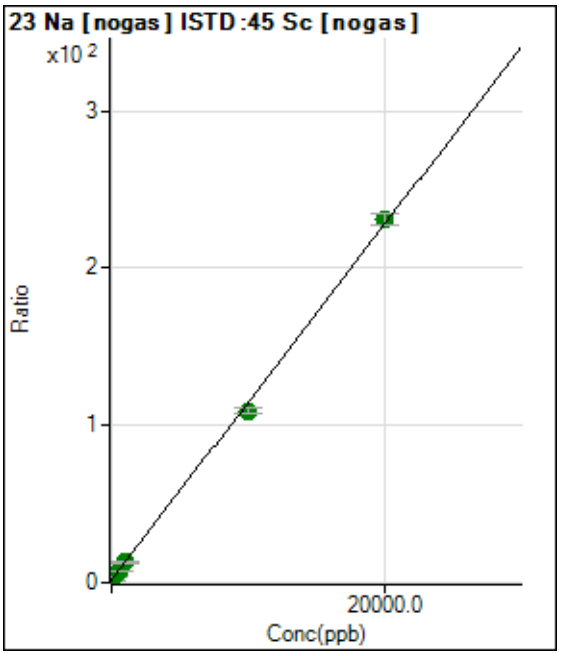
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	29159.49	0.1156	P	3.9
2	☐	10.000	8.168	39915.55	0.1597	P	7.4
3	☐	25.000	22.281	59302.83	0.2360	P	4.9
4	☐	50.000	44.468	90201.56	0.3558	P	4.0
5	☐	500.000	500.726	650108.23	2.8210	P	3.7
6	☑	1000.000		1321624.75	6.3588	A	2.6
7	☐	5.000					

y = 0.0054 * x + 0.1156
R = 1.0000
DL = 2.513
BEC = 21.39

Weight: <None>
Min Conc: <None>

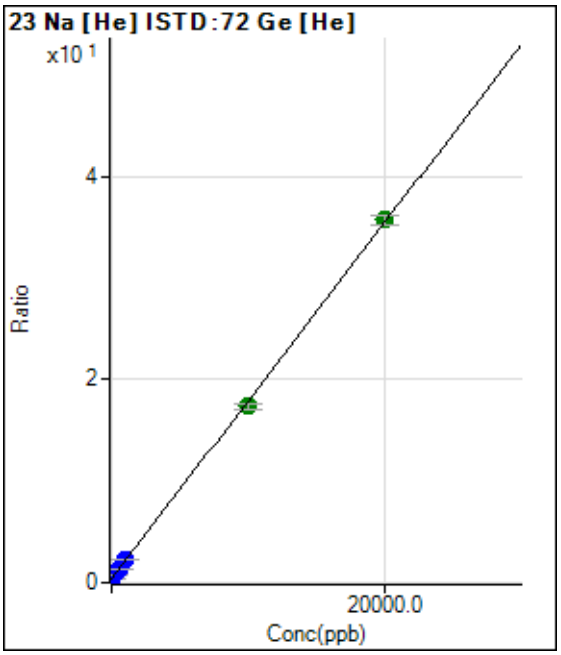


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1507880.90	1.7849	A	3.8
2	☐	200.000	201.285	3410811.80	4.0589	A	2.7
3	☐	500.000	498.137	6283908.08	7.4125	A	1.0
4	☐	1000.000	992.690	11158698.17	12.9996	A	3.0
5	☐	10000.00	9481.930	92897666.66	108.904	A	3.3
6	☐	20000.00	20259.434	184999541.6	230.661	A	3.2
7	☐	100.000					

y = 0.0113 * x + 1.7849
R = 0.9995
DL = 17.77
BEC = 158

Weight: <None>
Min Conc: <None>

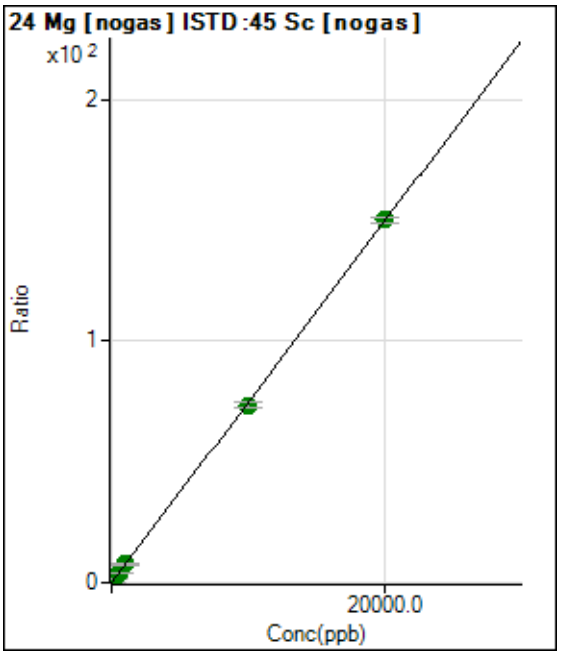
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	42821.97	0.3832	P	1.9
2	☐	200.000	198.721	82347.36	0.7313	P	1.0
3	☐	500.000	509.708	143906.10	1.2761	P	3.4
4	☐	1000.000	1057.502	246468.97	2.2358	P	4.2
5	☐	10000.00	9673.818	1919447.42	17.3307	A	2.7
6	☐	20000.00	20159.986	3727489.95	35.7013	A	2.4
7	☐	100.000					

y = 0.0018 * x + 0.3832
R = 0.9998
DL = 12.39
BEC = 218.7

Weight: <None>
Min Conc: <None>

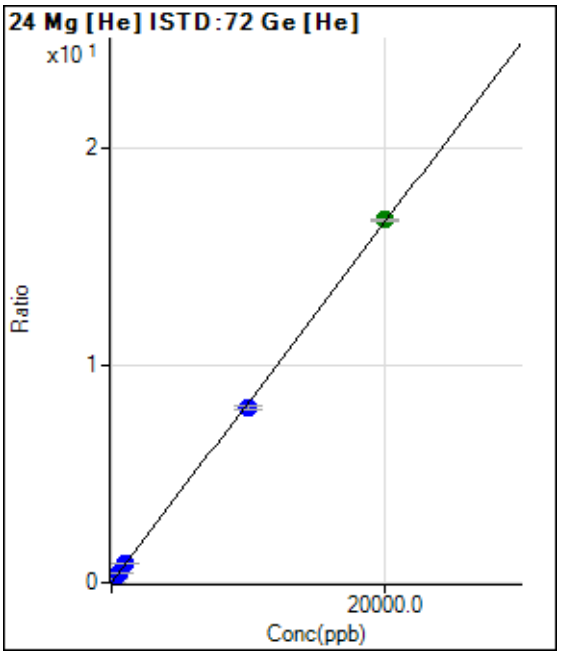


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6568.97	0.0078	P	11.8
2	☐	200.000	205.757	1298558.82	1.5450	A	1.4
3	☐	500.000	522.525	3315779.63	3.9116	A	1.4
4	☐	1000.000	1024.288	6572610.95	7.6603	A	5.6
5	☐	10000.00	9818.991	62579243.06	73.3665	A	3.7
6	☐	20000.00	20088.669	120384269.3	150.092	A	1.5
7	☐	100.000					

y = 0.0075 * x + 0.0078
R = 0.9999
DL = 0.3686
BEC = 1.038

Weight: <None>
Min Conc: <None>

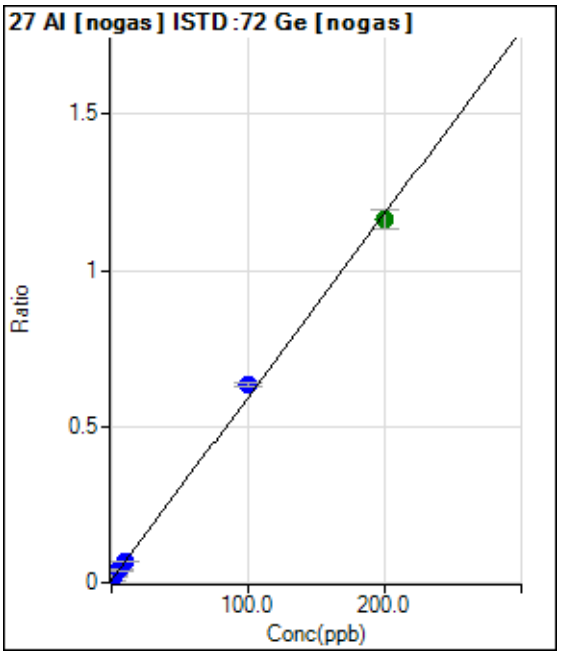
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	260.01	0.0023	P	17.8
2	☐	200.000	211.326	19967.49	0.1774	P	3.5
3	☐	500.000	517.390	48622.78	0.4309	P	1.3
4	☐	1000.000	1083.419	99180.02	0.8998	P	5.6
5	☐	10000.00	9680.199	888340.32	8.0210	P	2.1
6	☐	20000.00	20155.181	1743376.80	16.6980	A	0.3
7	☐	100.000					

y = 8.2836E-004 * x + 0.0023
R = 0.9998
DL = 1.498
BEC = 2.812

Weight: <None>
Min Conc: <None>

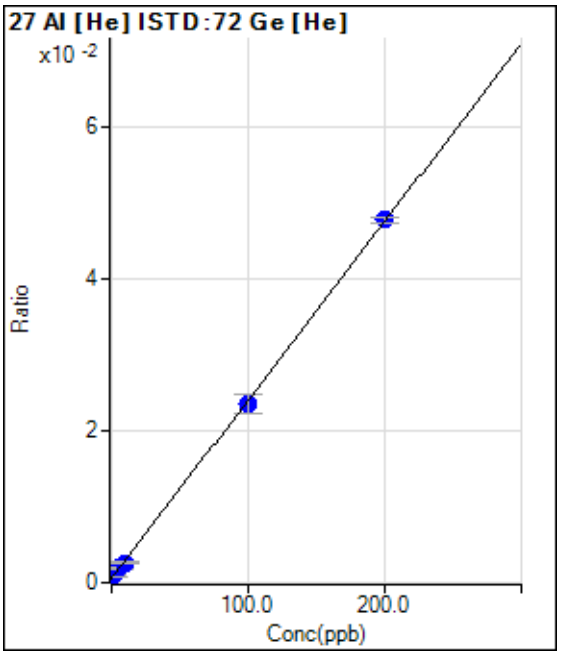


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10476.43	0.0081	P	1.9
2	☐	2.000	2.274	28445.19	0.0215	P	2.6
3	☐	5.000	5.455	51811.67	0.0401	P	4.5
4	☐	10.000	10.299	88338.69	0.0686	P	3.1
5	☐	100.000	106.634	782919.75	0.6336	P	1.8
6	☐	200.000	196.654	1430935.97	1.1616	A	5.2
7	☐	1.000					

y = 0.0059 * x + 0.0081
R = 0.9992
DL = 0.08117
BEC = 1.389

Weight: <None>
Min Conc: <None>

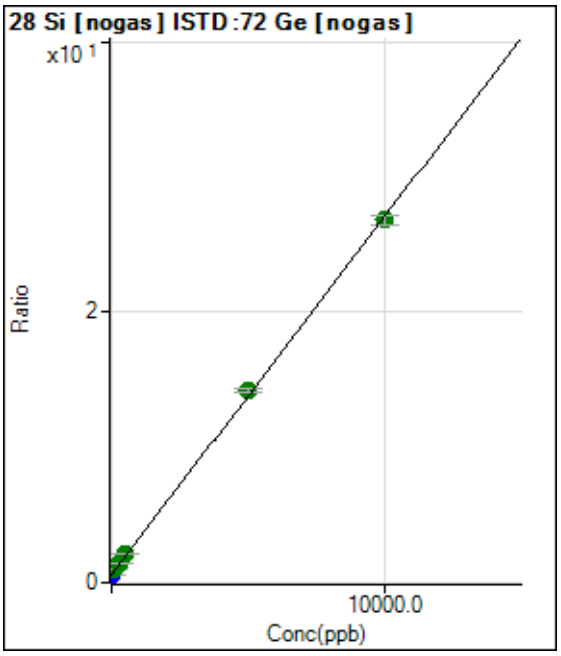
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.999	90.00	0.0008	P	32.0
2	☐	2.000	2.391	126.67	0.0011	P	48.6
3	☐	5.000	5.919	220.01	0.0020	P	14.7
4	☐	10.000	8.684	286.68	0.0026	P	12.5
5	☐	100.000	97.936	2603.55	0.0235	P	11.6
6	☐	200.000	201.071	4977.41	0.0477	P	1.6
7	☐	1.000					

y = 2.3427E-004 * x + 5.6861E-004
R = 0.9999
DL = 3.284
BEC = 2.427

Weight: <None>
Min Conc: <None>

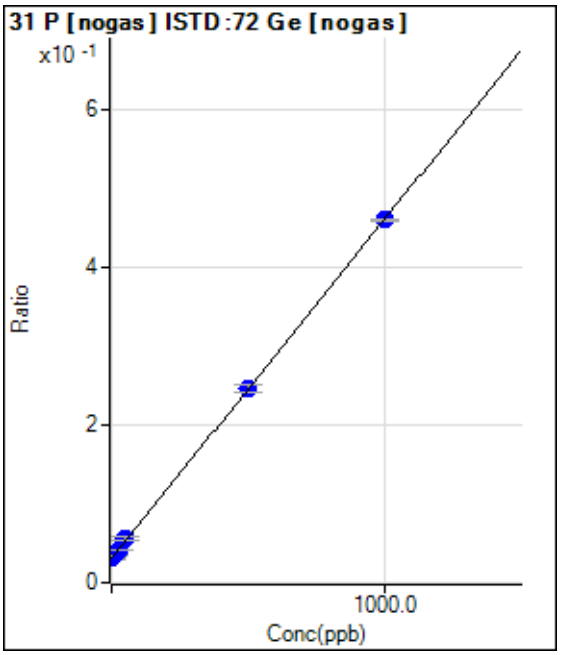


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	762078.77	0.5927	P	2.9
2	☐	100.000	130.033	1240690.24	0.9372	A	1.3
3	☐	250.000	305.822	1811178.98	1.4028	A	3.4
4	☐	500.000	576.188	2729444.23	2.1189	A	5.1
5	☐	5000.000	5159.491	17621215.15	14.2592	A	1.4
6	☐	10000.00	9914.749	33093971.17	26.8550	A	2.7
7	☐	5.000					

y = 0.0026 * x + 0.5927
R = 0.9998
DL = 19.28
BEC = 223.8

Weight: <None>
Min Conc: <None>

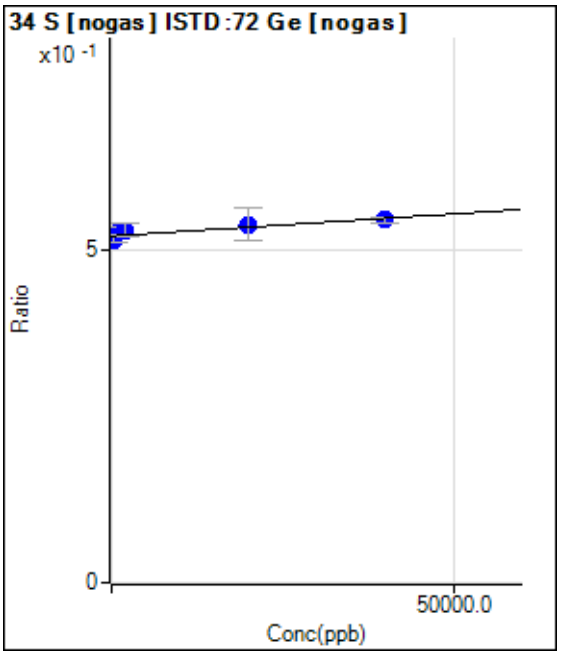
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	39521.51	0.0307	P	4.1
2	☐	10.000	6.955	44666.37	0.0337	P	2.0
3	☐	25.000	24.183	53135.10	0.0412	P	3.7
4	☐	50.000	58.354	71937.49	0.0559	P	5.9
5	☐	500.000	501.606	304584.83	0.2466	P	3.1
6	☐	1000.000	998.830	567702.74	0.4606	P	0.9
7	☐	5.000					

y = 4.3034E-004 * x + 0.0307
R = 1.0000
DL = 8.854
BEC = 71.45

Weight: <None>
Min Conc: <None>

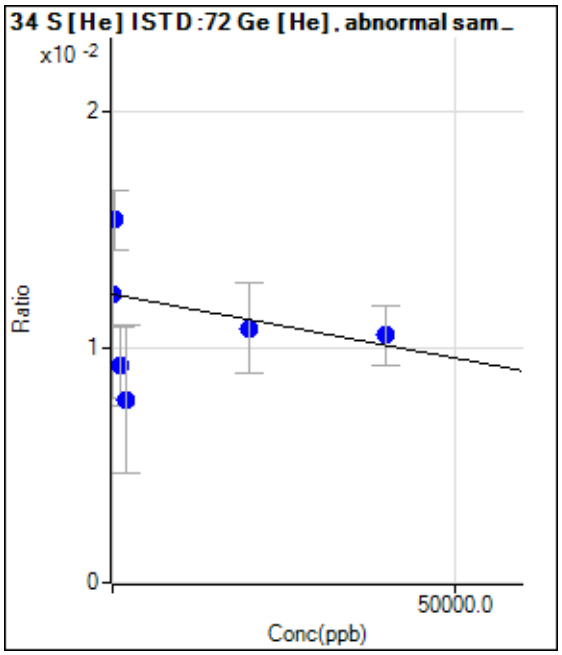


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	668561.52	0.5201	P	3.7
2	☐	400.000	-8995.916	680613.38	0.5141	P	1.7
3	☐	1000.000	10000.261	680273.29	0.5267	P	2.1
4	☐	2000.000	13390.316	681556.30	0.5289	P	3.4
5	☐	20000.00	25884.585	662124.38	0.5372	P	9.4
6	☐	40000.00	36357.144	670684.24	0.5442	P	1.8
7	☐	100.000					

y = 6.6248E-007 * x + 0.5201
R = 0.8828
DL = 8.815E+04
BEC = 7.85E+05

Weight: <None>
Min Conc: <None>

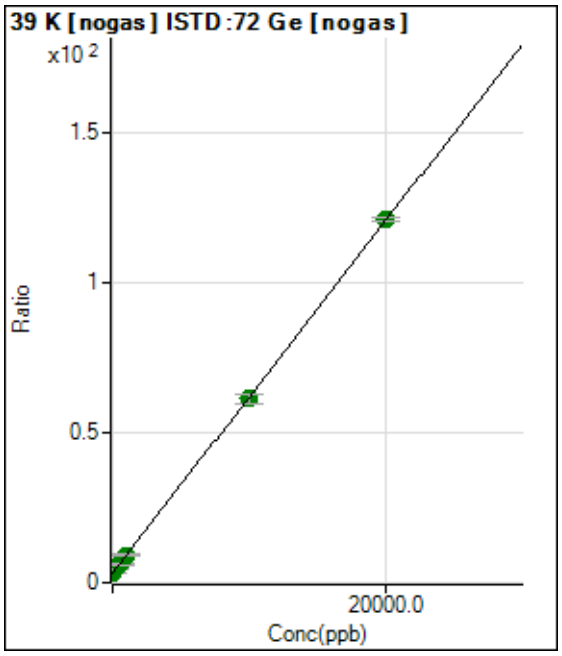
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1366.99	0.0123	P	71.8
2	☐	400.000	-58267.911	1733.74	0.0154	P	16.5
3	☐	1000.000	56251.547	1033.64	0.0092	P	36.3
4	☐	2000.000	82587.471	866.85	0.0078	P	80.3
5	☐	20000.00	26460.279	1200.27	0.0108	P	36.2
6	☐	40000.00	31945.878	1100.24	0.0105	P	24.0
7	☐	100.000					

y = -5.4214E-008 * x + 0.0123
R = -0.1347
DL = -4.877E+05
BEC = -2.263E+05

Weight: <None>
Min Conc: <None>

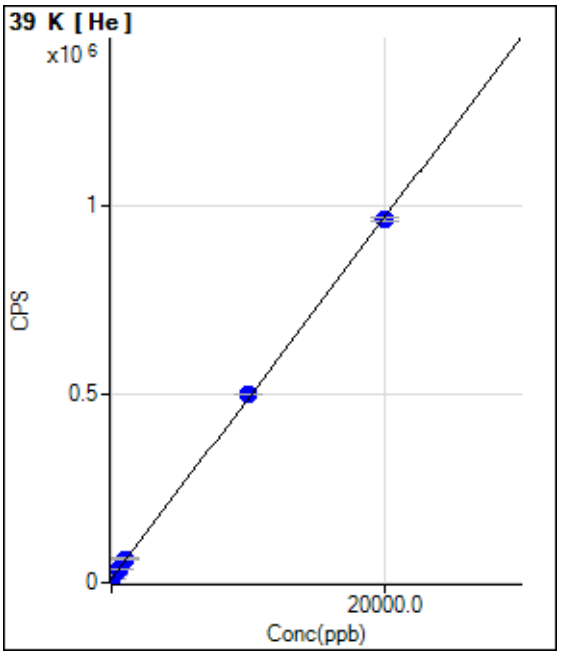


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4093479.65	3.1843	A	3.7
2	☐	200.000	186.029	5658857.94	4.2747	A	2.3
3	☐	500.000	498.734	7883778.04	6.1075	A	4.4
4	☐	1000.000	1033.051	11901929.69	9.2393	A	4.7
5	☐	10000.00	9886.802	75436587.10	61.1332	A	5.8
6	☐	20000.00	20055.118	148819044.9	120.732	A	0.9
7	☐	100.000					

y = 0.0059 * x + 3.1843
R = 1.0000
DL = 59.55
BEC = 543.3

Weight: <None>
Min Conc: <None>

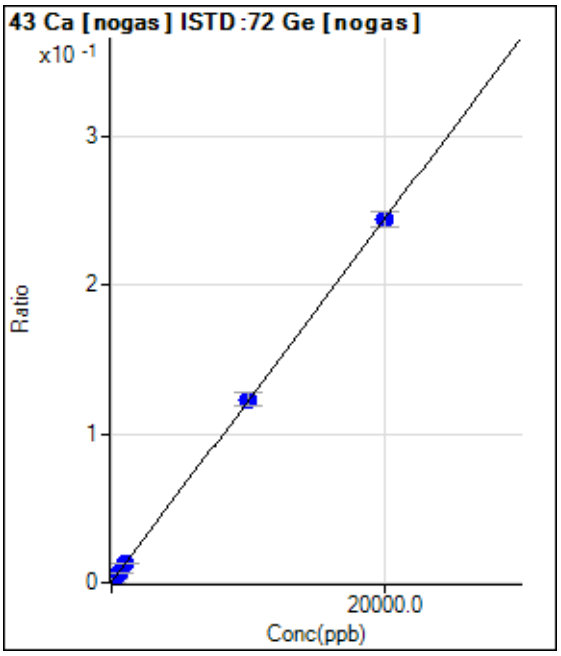
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10916.71		P	3.3
2	☐	200.000	214.309	21178.90		P	1.9
3	☐	500.000	535.853	36576.02		P	5.0
4	☐	1000.000	1094.026	63304.14		P	3.6
5	☐	10000.00	10217.541	500183.63		P	0.7
6	☐	20000.00	19885.489	963133.29		P	1.0
7	☐	100.000					

y = 47.8850 * x + 10916.7067
R = 0.9999
DL = 22.71
BEC = 228

Weight: <None>
Min Conc: <None>

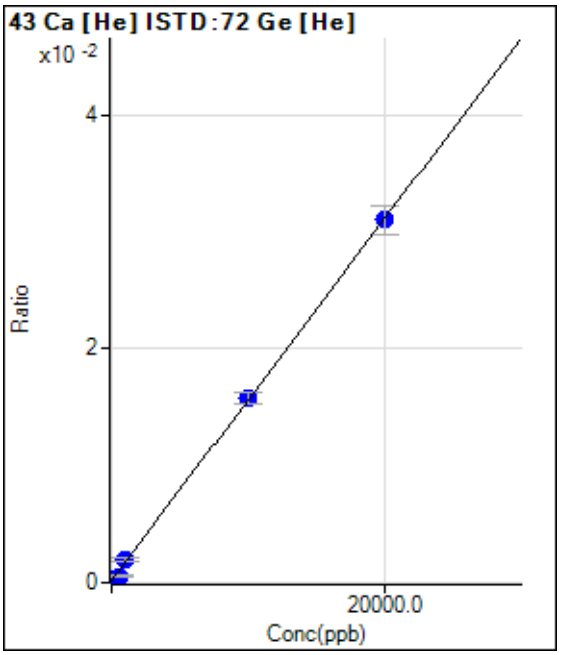


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	466.68	0.0004	P	9.7
2	☐	200.000	203.258	3767.12	0.0028	P	2.8
3	☐	500.000	491.230	8218.65	0.0064	P	1.7
4	☐	1000.000	1060.536	17158.22	0.0133	P	3.3
5	☐	10000.00	10065.389	152056.26	0.1233	P	7.2
6	☐	20000.00	19964.465	300886.02	0.2442	P	4.1
7	☐	100.000					

y = 1.2212E-005 * x + 3.6348E-004
R = 1.0000
DL = 8.64
BEC = 29.76

Weight: <None>
Min Conc: <None>

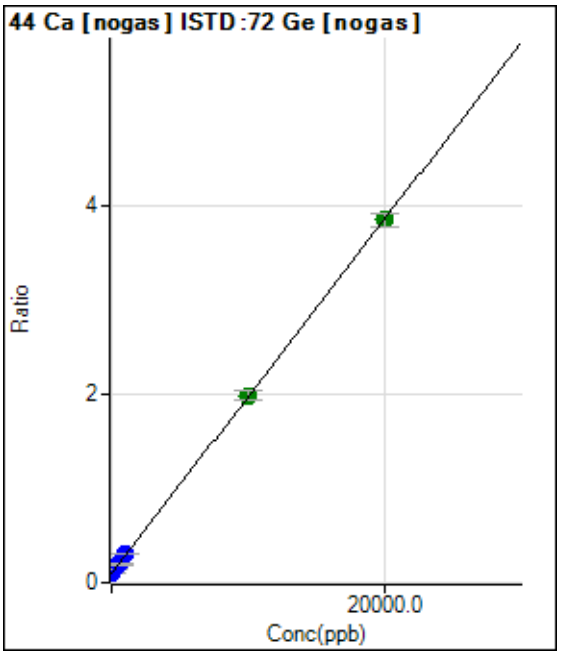
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20.00	0.0002	P	1.5
2	☐	200.000	97.457	36.67	0.0003	P	104.
3	☐	500.000	247.247	63.33	0.0006	P	33.0
4	☐	1000.000	1192.459	223.34	0.0020	P	16.6
5	☐	10000.00	10091.319	1746.78	0.0158	P	5.6
6	☐	20000.00	19952.062	3237.01	0.0310	P	7.9
7	☐	100.000					

y = 1.5450E-006 * x + 1.7896E-004
R = 0.9998
DL = 5.334
BEC = 115.8

Weight: <None>
Min Conc: <None>

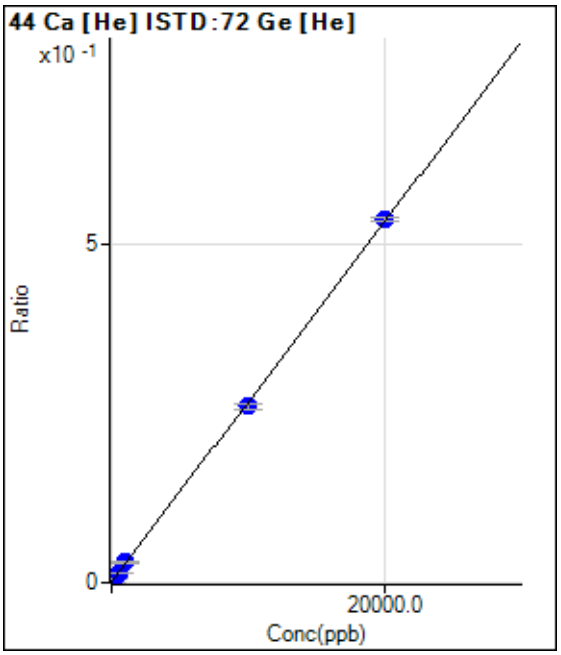


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	123960.57	0.0964	P	4.1
2	☐	200.000	194.507	175986.12	0.1329	P	0.8
3	☐	500.000	527.160	252064.78	0.1953	P	5.5
4	☐	1000.000	1107.400	391931.18	0.3042	P	3.8
5	☐	10000.00	10046.310	2444937.57	1.9811	A	5.4
6	☐	20000.00	19970.851	4735923.78	3.8429	A	3.4
7	☐	100.000					

y = 1.8760E-004 * x + 0.0964
R = 1.0000
DL = 63.7
BEC = 514.1

Weight: <None>
Min Conc: <None>

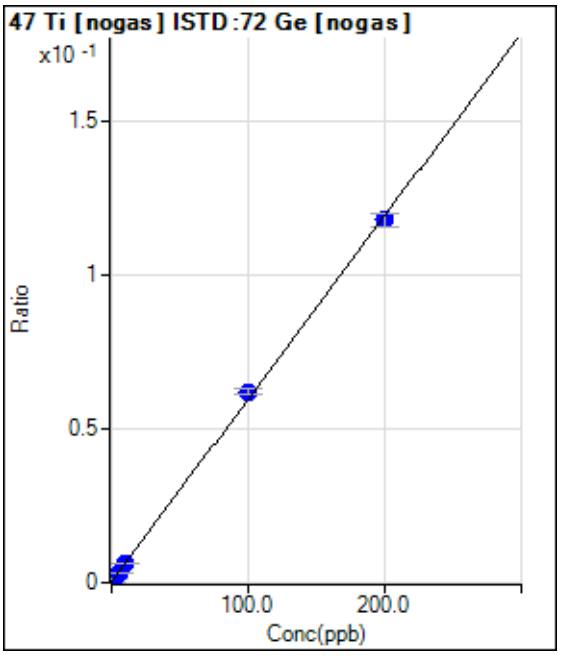
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	100.00	0.0009	P	51.2
2	☐	200.000	222.381	763.36	0.0068	P	20.8
3	☐	500.000	515.036	1643.43	0.0146	P	1.1
4	☐	1000.000	1099.006	3317.02	0.0301	P	3.1
5	☐	10000.00	9752.864	28782.86	0.2599	P	2.9
6	☐	20000.00	20118.018	55867.97	0.5351	P	1.2
7	☐	100.000					

y = 2.6554E-005 * x + 8.9040E-004
R = 0.9999
DL = 51.53
BEC = 33.53

Weight: <None>
Min Conc: <None>

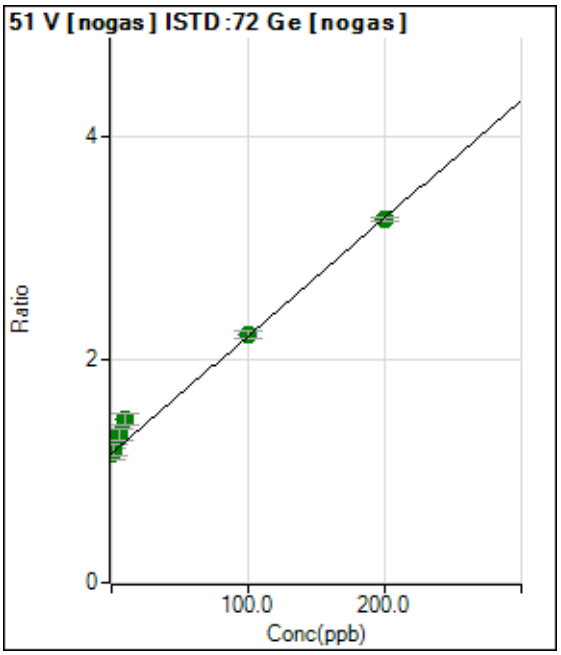


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	340.01	0.0003	P	25.3
2	☐	2.000	1.907	1850.12	0.0014	P	5.7
3	☐	5.000	4.823	4040.53	0.0031	P	7.3
4	☐	10.000	10.142	8098.67	0.0063	P	5.0
5	☐	100.000	104.053	76612.15	0.0620	P	3.7
6	☐	200.000	197.972	145148.44	0.1178	P	3.4
7	☐	1.000					

y = 5.9364E-004 * x + 2.6566E-004
R = 0.9997
DL = 0.3401
BEC = 0.4475

Weight: <None>
Min Conc: <None>

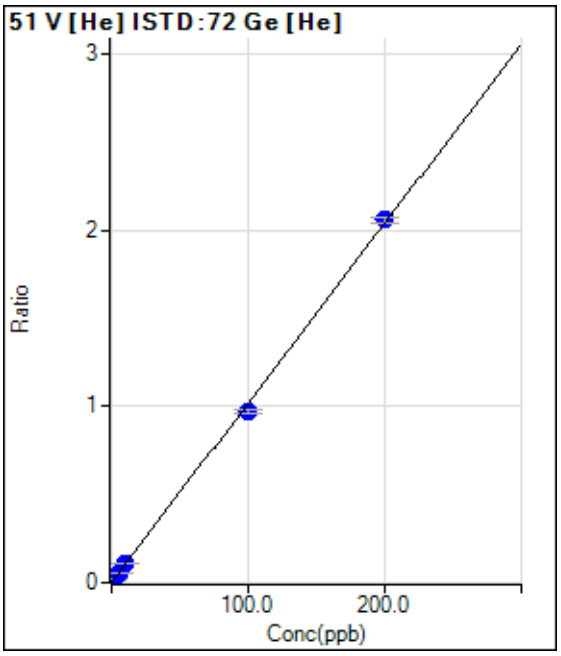
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1487658.98	1.1581	A	8.3
2	☐	2.000	2.792	1572884.64	1.1876	A	7.7
3	☐	5.000	16.560	1719320.91	1.3329	A	7.7
4	☐	10.000	29.098	1887036.76	1.4652	A	6.0
5	☐	100.000	100.936	2745776.10	2.2232	A	3.7
6	☐	200.000	198.280	4006243.58	3.2504	A	1.1
7	☐	1.000					

y = 0.0106 * x + 1.1581
R = 0.9956
DL = 27.38
BEC = 109.8

Weight: <None>
Min Conc: <None>

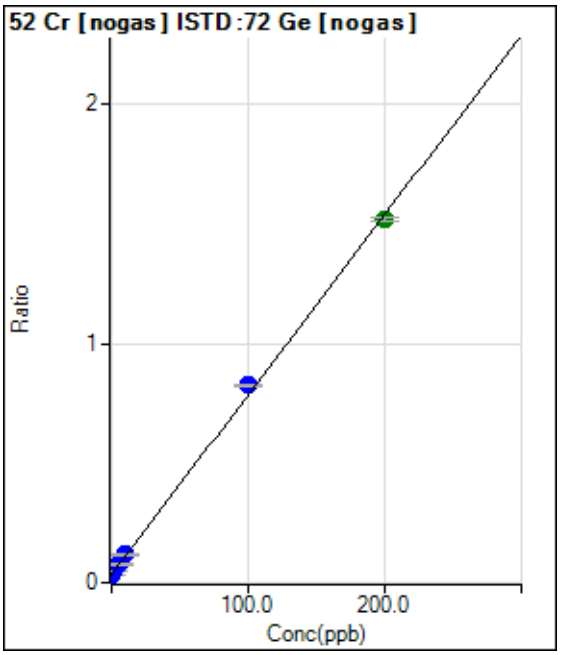


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.410	681.35	0.0061	P	4.6
2	☐	2.000	2.431	3003.58	0.0267	P	1.7
3	☐	5.000	5.491	6524.51	0.0578	P	5.5
4	☐	10.000	10.895	12444.86	0.1129	P	2.8
5	☐	100.000	95.672	108102.95	0.9761	P	2.4
6	☐	200.000	202.103	215061.49	2.0598	P	1.3
7	☐	1.000					

y = 0.0102 * x + 0.0019
R = 0.9996
DL = 0.08262
BEC = 0.1893

Weight: <None>
Min Conc: <None>

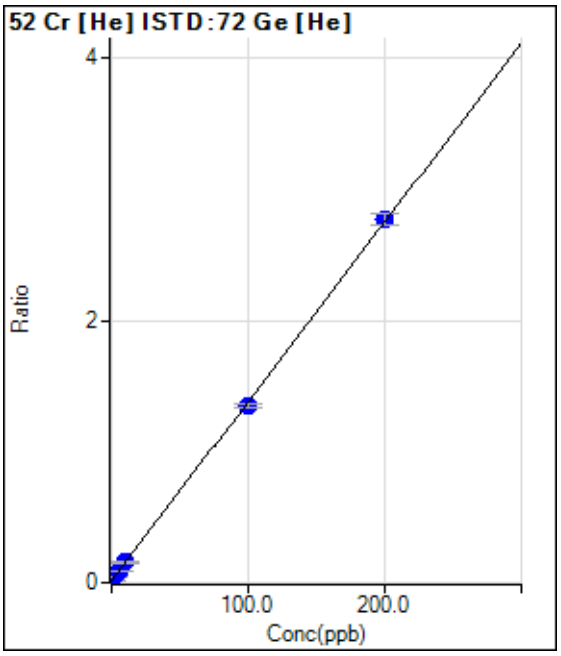
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43254.03	0.0337	P	7.3
2	☐	2.000	1.834	62843.33	0.0475	P	3.3
3	☐	5.000	5.792	99694.74	0.0772	P	4.3
4	☐	10.000	11.207	151951.90	0.1180	P	4.9
5	☐	100.000	105.241	1019641.73	0.8252	P	1.7
6	☐	200.000	197.301	1870444.55	1.5176	A	1.1
7	☐	1.000					

y = 0.0075 * x + 0.0337
R = 0.9995
DL = 0.9804
BEC = 4.477

Weight: <None>
Min Conc: <None>

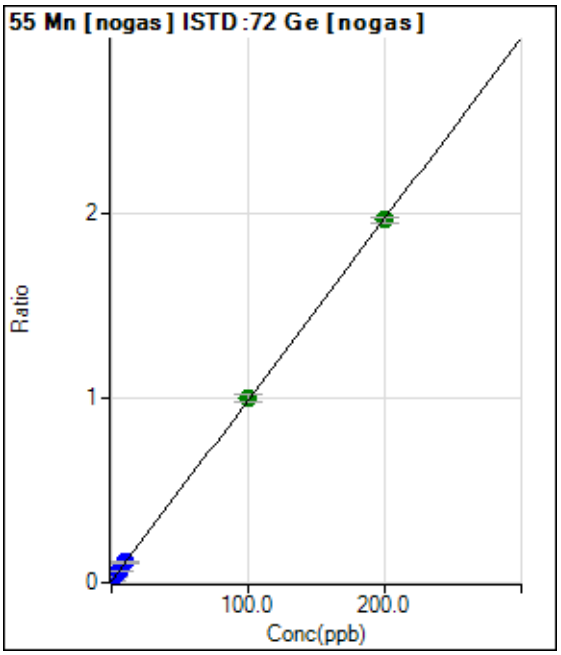


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1706.78	0.0152	P	12.7
2	☐	2.000	2.081	4914.08	0.0437	P	11.7
3	☐	5.000	5.022	9462.60	0.0838	P	0.7
4	☐	10.000	10.321	17231.56	0.1562	P	4.0
5	☐	100.000	97.195	148716.28	1.3428	P	2.0
6	☐	200.000	201.385	288786.37	2.7659	P	3.0
7	☐	1.000					

y = 0.0137 * x + 0.0152
R = 0.9999
DL = 0.4255
BEC = 1.117

Weight: <None>
Min Conc: <None>

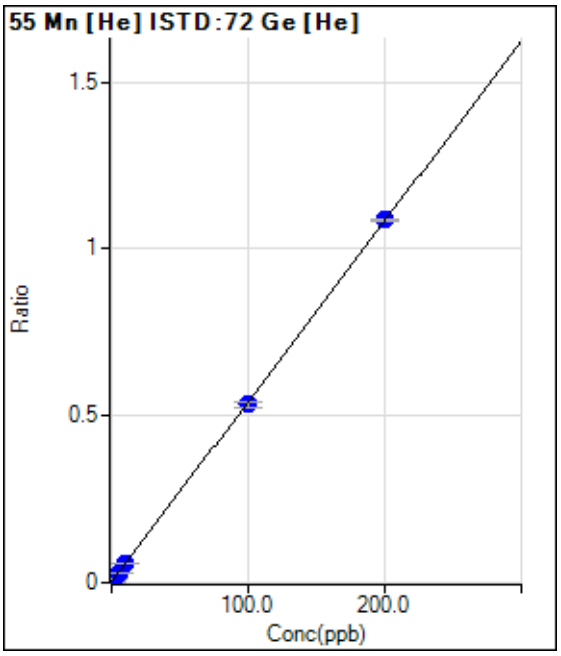
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10603.23	0.0082	P	3.2
2	☐	2.000	2.057	37638.94	0.0284	P	1.5
3	☐	5.000	5.248	77135.26	0.0597	P	3.4
4	☐	10.000	10.633	144935.12	0.1126	P	7.4
5	☐	100.000	100.962	1232972.87	0.9989	A	4.9
6	☐	200.000	199.480	2422708.97	1.9656	A	1.5
7	☐	1.000					

y = 0.0098 * x + 0.0082
R = 1.0000
DL = 0.07971
BEC = 0.8402

Weight: <None>
Min Conc: <None>

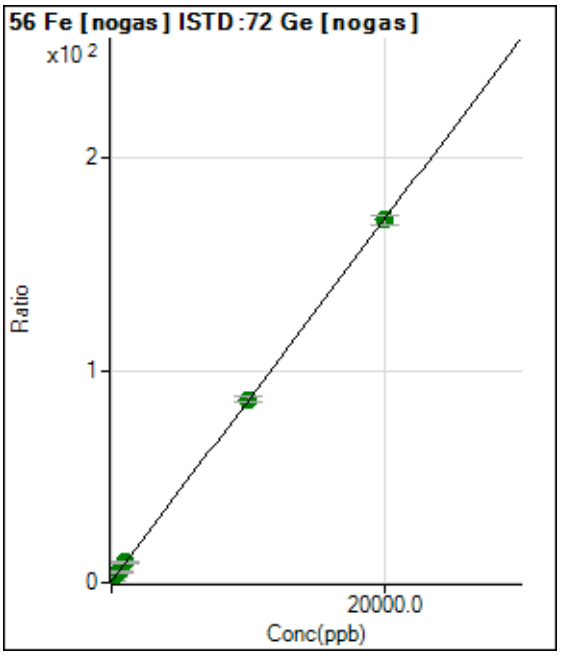


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	326.68	0.0029	P	28.9
2	☐	2.000	1.996	1543.43	0.0137	P	3.9
3	☐	5.000	4.966	3350.37	0.0297	P	9.5
4	☐	10.000	10.035	6294.53	0.0571	P	3.8
5	☐	100.000	98.323	59112.49	0.5337	P	2.7
6	☐	200.000	200.838	113502.39	1.0871	P	0.8
7	☐	1.000					

y = 0.0054 * x + 0.0029
R = 1.0000
DL = 0.469
BEC = 0.5418

Weight: <None>
Min Conc: <None>

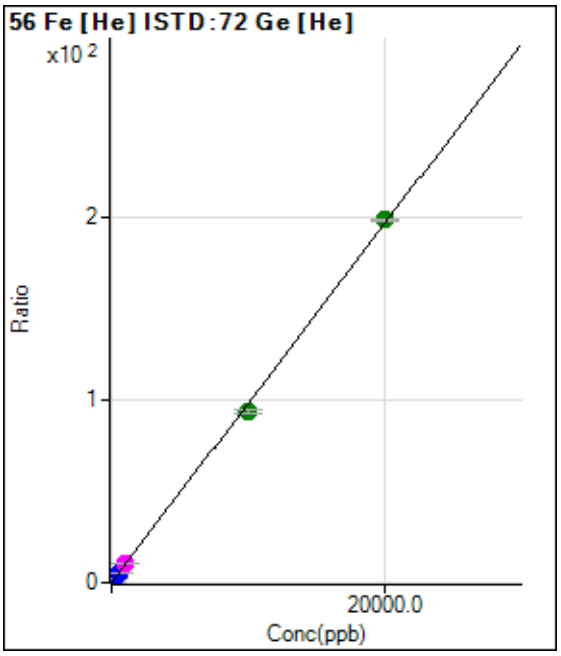
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	763433.41	0.5942	P	6.6
2	☐	200.000	208.766	3144986.00	2.3758	A	3.5
3	☐	500.000	518.043	6473357.70	5.0153	A	4.6
4	☐	1000.000	1057.059	12378133.61	9.6153	A	7.9
5	☐	10000.00	10066.356	106874004.4	86.5022	A	2.5
6	☐	20000.00	19963.430	210747375.5	170.965	A	2.8
7	☐	100.000					

y = 0.0085 * x + 0.5942
R = 1.0000
DL = 13.74
BEC = 69.63

Weight: <None>
Min Conc: <None>

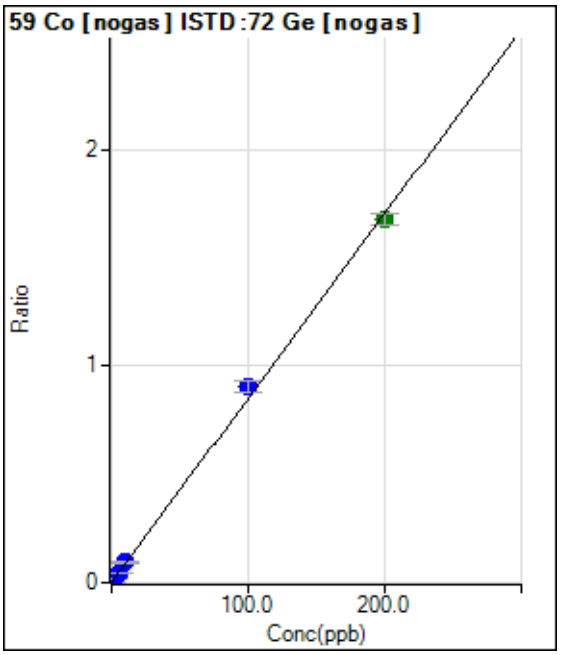


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6257.83	0.0560	P	1.6
2	☐	200.000	219.731	248771.22	2.2088	P	0.7
3	☐	500.000	544.850	608305.33	5.3943	P	3.9
4	☐	1000.000	1083.913	1177369.91	10.6758	M	4.3
5	☐	10000.00	9539.878	10358587.55	93.5248	A	2.8
6	☐	20000.00	20224.547	20694328.02	198.209	A	0.6
7	☐	100.000					

y = 0.0098 * x + 0.0560
R = 0.9996
DL = 0.2763
BEC = 5.714

Weight: <None>
Min Conc: <None>

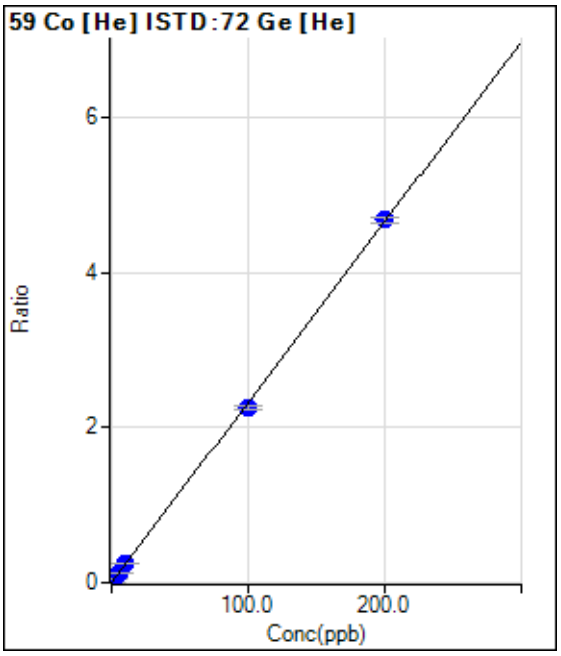
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	613.36	0.0005	P	17.9
2	☐	2.000	2.153	24910.87	0.0188	P	3.8
3	☐	5.000	5.448	60490.99	0.0469	P	6.7
4	☐	10.000	10.901	120211.06	0.0933	P	5.5
5	☐	100.000	106.368	1118466.28	0.9066	P	6.4
6	☐	200.000	196.758	2066312.89	1.6766	A	3.2
7	☐	1.000					

y = 0.0085 * x + 4.7658E-004
R = 0.9993
DL = 0.03
BEC = 0.05595

Weight: <None>
Min Conc: <None>

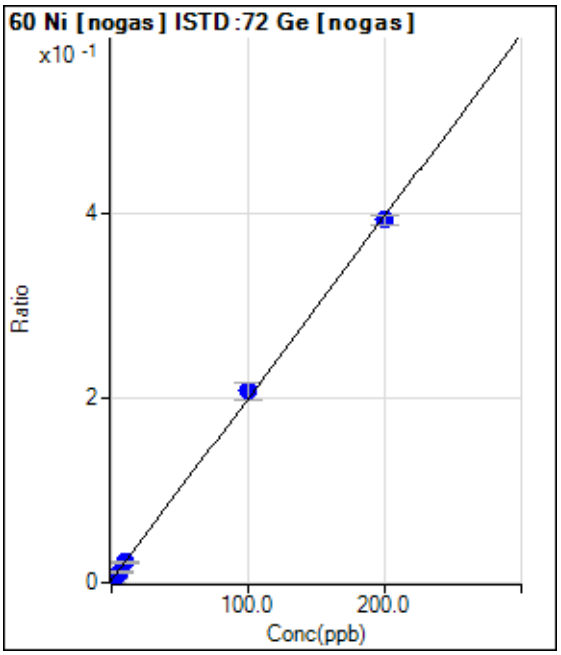


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	130.00	0.0012	P	51.9
2	☐	2.000	2.113	5667.63	0.0503	P	7.3
3	☐	5.000	5.041	13361.77	0.1185	P	3.8
4	☐	10.000	10.866	28015.07	0.2541	P	2.9
5	☐	100.000	97.323	251017.41	2.2664	P	2.7
6	☐	200.000	201.293	489277.30	4.6864	P	1.8
7	☐	1.000					

y = 0.0233 * x + 0.0012
R = 0.9999
DL = 0.07818
BEC = 0.05023

Weight: <None>
Min Conc: <None>

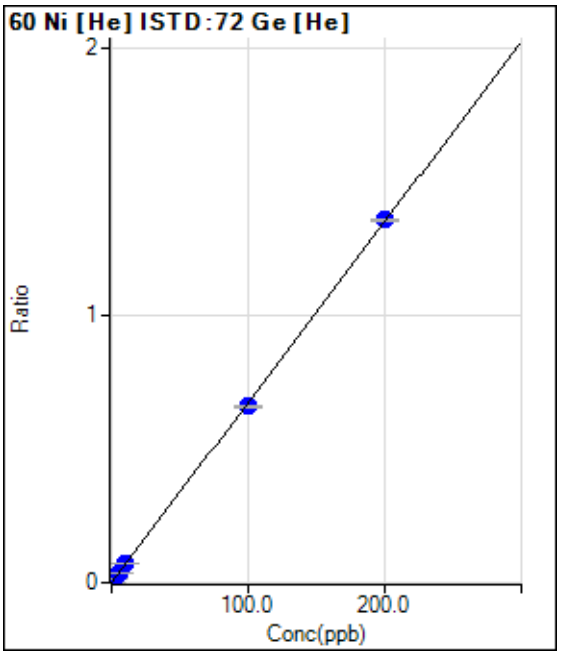
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.749	1190.07	0.0009	P	23.0
2	☐	2.000	1.241	6434.58	0.0049	P	4.8
3	☐	5.000	4.557	14726.19	0.0114	P	6.6
4	☐	10.000	9.947	28422.70	0.0221	P	5.1
5	☐	100.000	103.966	256317.62	0.2079	P	8.6
6	☐	200.000	198.038	485293.35	0.3938	P	2.7
7	☐	1.000					

y = 0.0020 * x + 0.0024
R = 0.9997
DL = 0.3249
BEC = 1.219

Weight: <None>
Min Conc: <None>

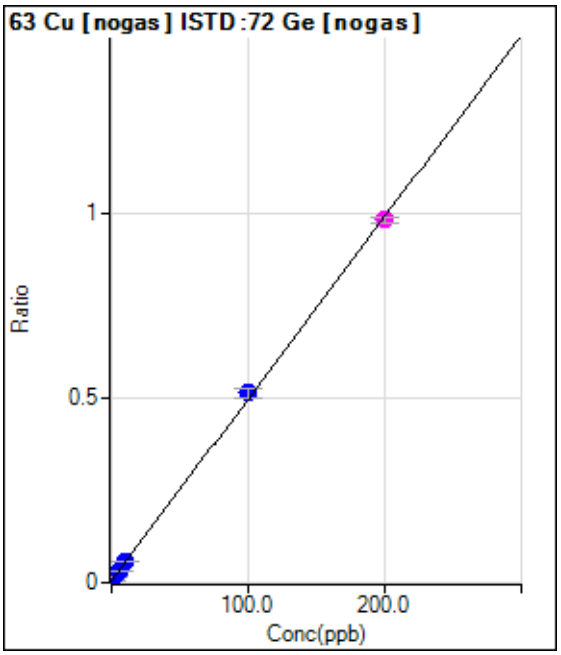


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.193	240.01	0.0022	P	26.5
2	☐	2.000	2.450	1956.81	0.0174	P	5.1
3	☐	5.000	4.911	3830.48	0.0340	P	7.9
4	☐	10.000	10.665	8028.54	0.0728	P	4.2
5	☐	100.000	97.633	73070.11	0.6597	P	1.8
6	☐	200.000	201.148	141817.81	1.3583	P	0.3
7	☐	1.000					

y = 0.0067 * x + 8.5301E-004
R = 0.9999
DL = 0.2535
BEC = 0.1264

Weight: <None>
Min Conc: <None>

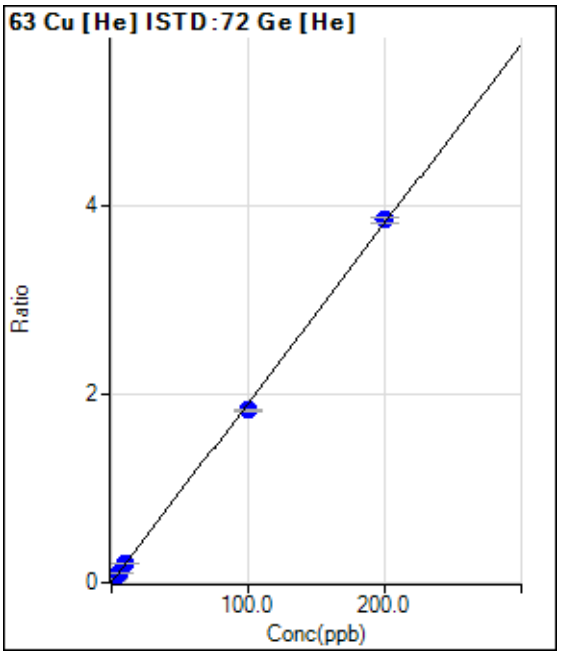
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6908.06	0.0054	P	8.7
2	☐	2.000	1.907	19567.44	0.0148	P	2.5
3	☐	5.000	5.184	39944.08	0.0309	P	2.9
4	☐	10.000	10.424	73154.31	0.0568	P	2.6
5	☐	100.000	103.083	633972.90	0.5135	P	4.1
6	☐	200.000	198.434	1212130.03	0.9835	M	1.5
7	☐	1.000					

y = 0.0049 * x + 0.0054
R = 0.9998
DL = 0.2839
BEC = 1.091

Weight: <None>
Min Conc: <None>

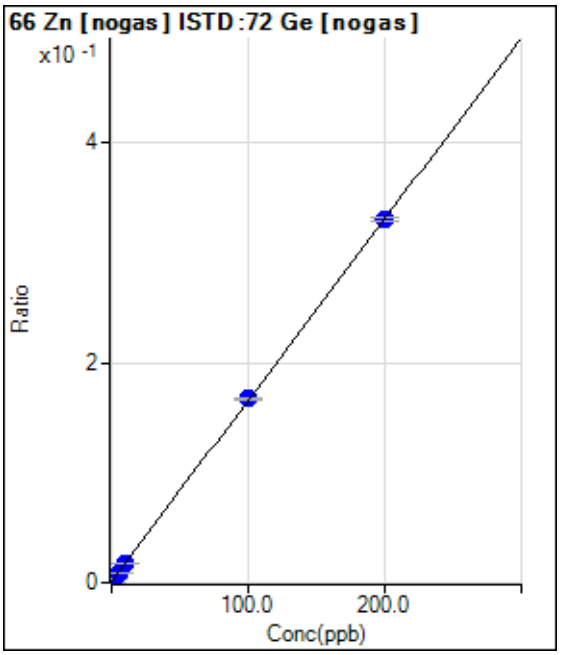


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.443	1346.75	0.0121	P	18.5
2	☐	2.000	2.432	5627.61	0.0500	P	3.2
3	☐	5.000	5.575	12387.76	0.1099	P	3.7
4	☐	10.000	10.709	22901.32	0.2077	P	3.9
5	☐	100.000	95.791	202551.07	1.8289	P	1.0
6	☐	200.000	202.050	402329.23	3.8536	P	1.6
7	☐	1.000					

y = 0.0191 * x + 0.0036
R = 0.9997
DL = 0.351
BEC = 0.1908

Weight: <None>
Min Conc: <None>

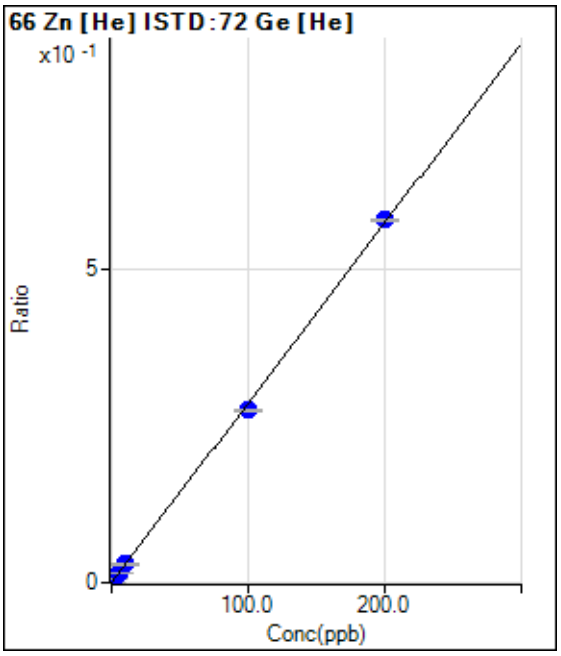
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.270	870.05	0.0007	P	10.1
2	☐	2.000	1.849	5520.94	0.0042	P	1.6
3	☐	5.000	4.877	11814.04	0.0092	P	8.0
4	☐	10.000	10.190	23101.70	0.0179	P	1.1
5	☐	100.000	100.719	206564.39	0.1671	P	1.1
6	☐	200.000	199.636	406971.67	0.3301	P	1.2
7	☐	1.000					

y = 0.0016 * x + 0.0011
R = 1.0000
DL = 0.124
BEC = 0.6813

Weight: <None>
Min Conc: <None>

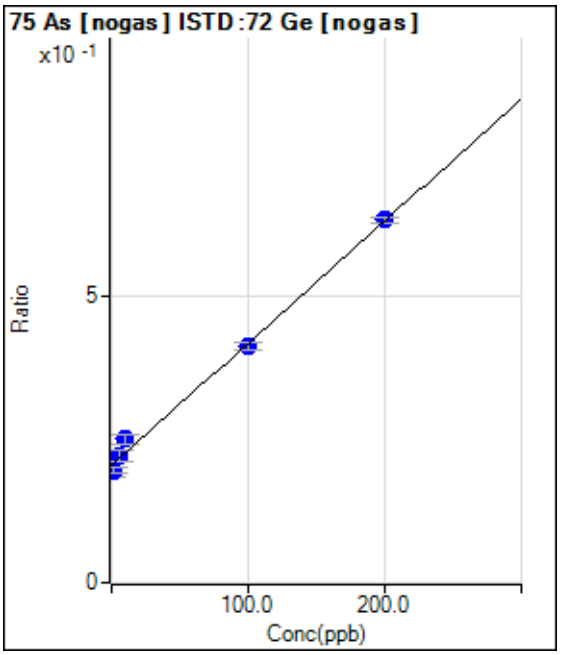


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.468	146.67	0.0013	P	23.4
2	☐	2.000	2.490	800.03	0.0071	P	15.6
3	☐	5.000	5.600	1803.46	0.0160	P	9.9
4	☐	10.000	10.516	3313.69	0.0301	P	10.0
5	☐	100.000	95.943	30415.73	0.2746	P	1.4
6	☐	200.000	201.983	60367.04	0.5782	P	0.4
7	☐	1.000					

y = 0.0029 * x - 2.9285E-005
R = 0.9997
DL = 0.321
BEC = -0.01023

Weight: <None>
Min Conc: <None>

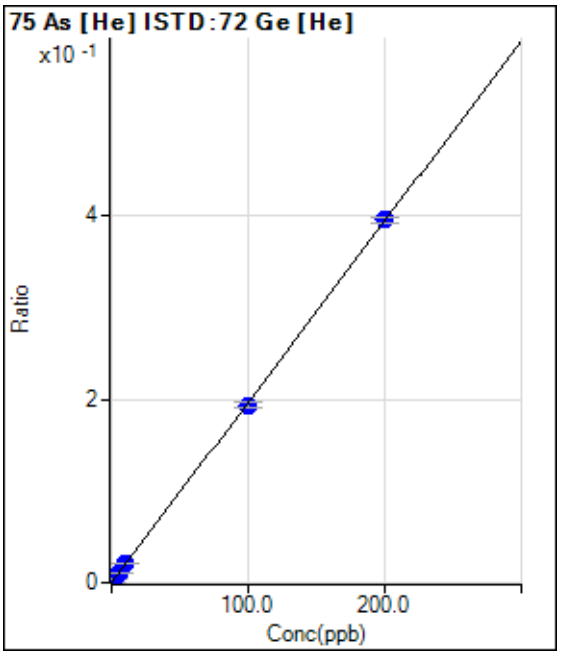
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-5.161	249819.93	0.1945	P	8.4
2	☐	2.000	-4.570	259262.46	0.1958	P	4.5
3	☐	5.000	7.483	285672.76	0.2215	P	8.1
4	☐	10.000	21.265	323068.78	0.2509	P	7.5
5	☐	100.000	97.085	509864.34	0.4128	P	3.1
6	☐	200.000	200.898	781936.89	0.6344	P	1.2
7	☐	1.000					

y = 0.0021 * x + 0.2055
R = 0.9968
DL = 22.99
BEC = 96.29

Weight: <None>
Min Conc: <None>

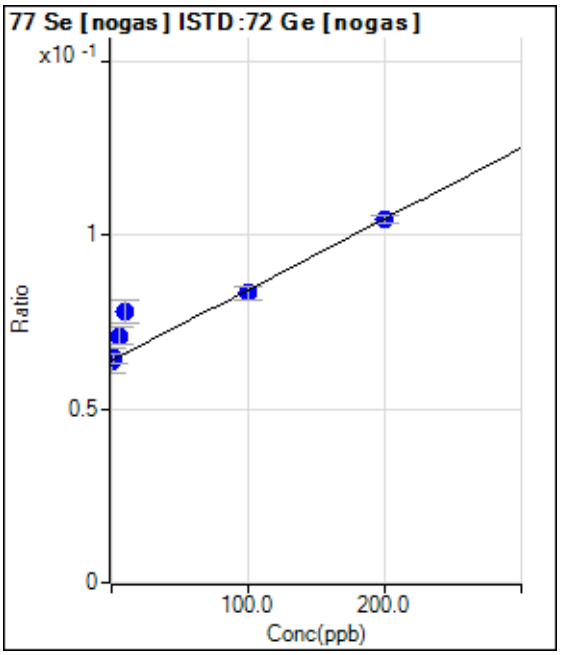


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	24.44	0.0002	P	67.1
2	☐	2.000	1.847	434.45	0.0039	P	10.5
3	☐	5.000	4.951	1123.38	0.0100	P	8.2
4	☐	10.000	10.493	2302.38	0.0209	P	3.2
5	☐	100.000	98.012	21389.30	0.1931	P	3.2
6	☐	200.000	200.972	41317.83	0.3957	P	1.8
7	☐	1.000					

y = 0.0020 * x + 2.1868E-004
R = 0.9999
DL = 0.2235
BEC = 0.1111

Weight: <None>
Min Conc: <None>

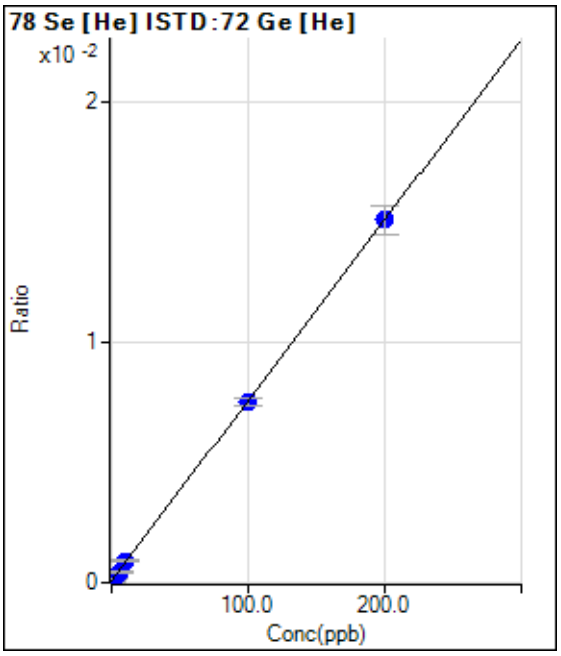
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	82051.50	0.0639	P	10.8
2	☐	2.000	2.961	85443.20	0.0645	P	4.4
3	☐	5.000	35.042	91686.35	0.0711	P	7.2
4	☐	10.000	68.345	100231.50	0.0779	P	8.5
5	☐	100.000	95.879	103120.60	0.0835	P	4.6
6	☐	200.000	198.383	128711.14	0.1044	P	2.1
7	☐	1.000					

y = 2.0414E-004 * x + 0.0639
R = 0.9524
DL = 101.8
BEC = 313.1

Weight: <None>
Min Conc: <None>

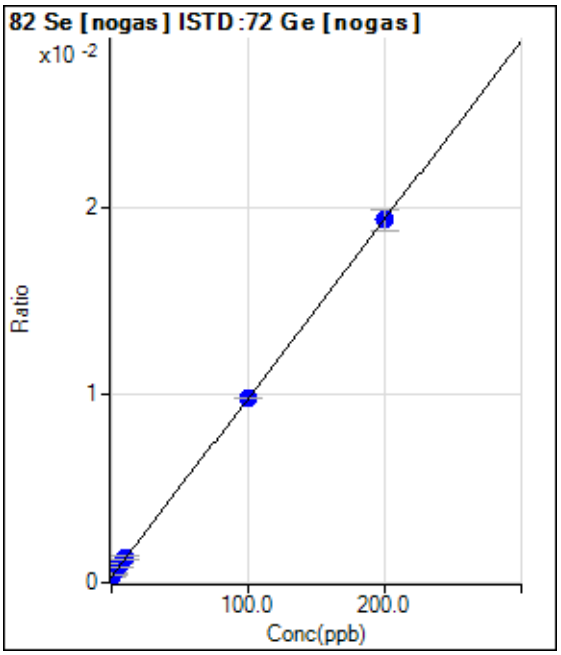


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.297	5.33	0.0000	P	56.7
2	☐	2.000	1.440	20.00	0.0002	P	11.4
3	☐	5.000	4.918	49.33	0.0004	P	14.9
4	☐	10.000	11.242	100.67	0.0009	P	8.6
5	☐	100.000	99.503	833.36	0.0075	P	4.3
6	☐	200.000	200.194	1573.41	0.0151	P	7.8
7	☐	1.000					

y = 7.4923E-005 * x + 6.9893E-005
R = 1.0000
DL = 1.082
BEC = 0.9329

Weight: <None>
Min Conc: <None>

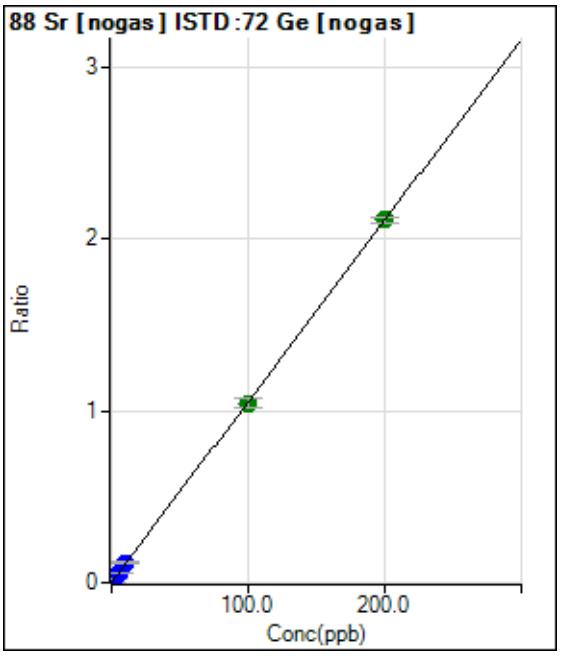
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	393.35	0.0003	P	20.9
2	☐	2.000	2.067	666.69	0.0005	P	19.1
3	☐	5.000	6.418	1183.40	0.0009	P	14.1
4	☐	10.000	10.700	1703.46	0.0013	P	15.7
5	☐	100.000	100.220	12167.65	0.0098	P	0.1
6	☐	200.000	199.819	23792.71	0.0193	P	5.9
7	☐	1.000					

y = 9.5136E-005 * x + 3.0688E-004
R = 1.0000
DL = 2.02
BEC = 3.226

Weight: <None>
Min Conc: <None>

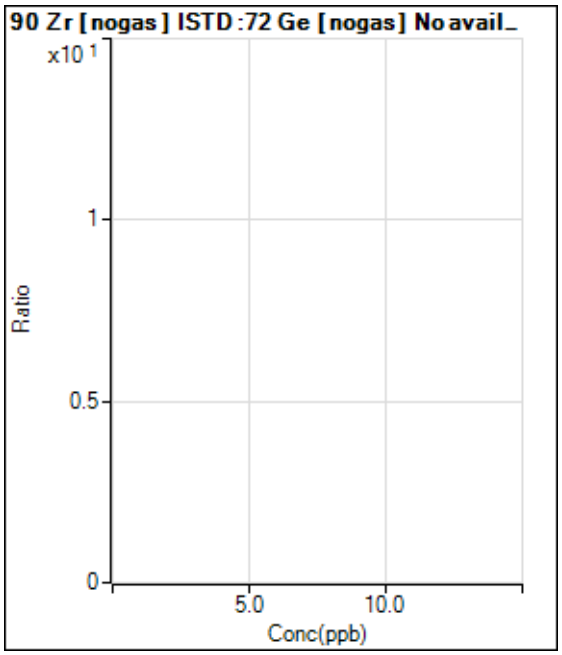


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	920.04	0.0007	P	9.2
2	☐	2.000	2.103	30236.02	0.0228	P	4.8
3	☐	5.000	5.453	74957.25	0.0581	P	5.4
4	☐	10.000	11.053	150768.98	0.1170	P	3.2
5	☐	100.000	99.175	1288471.96	1.0442	A	5.8
6	☐	200.000	200.348	2598884.33	2.1087	A	1.4
7	☐	1.000					

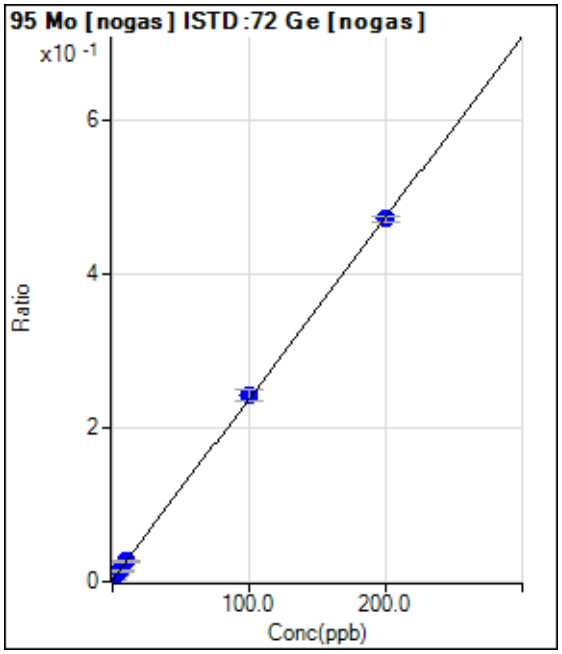
y = 0.0105 * x + 7.1386E-004
R = 1.0000
DL = 0.01871
BEC = 0.06785

Weight: <None>
Min Conc: <None>

Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

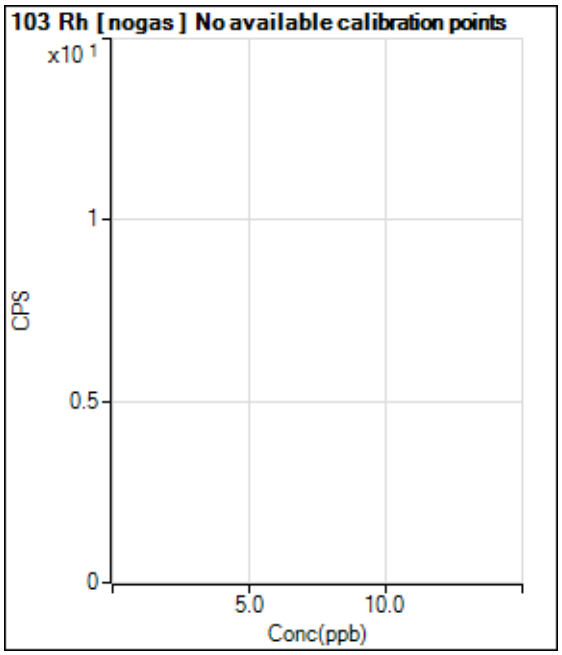


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3413.73	0.0027	P	9.5
2	☐	2.000	1.746	8952.40	0.0068	P	1.8
3	☐	5.000	4.939	18403.19	0.0143	P	9.4
4	☐	10.000	10.132	34130.05	0.0265	P	4.1
5	☐	100.000	101.456	297804.88	0.2414	P	6.0
6	☐	200.000	199.269	581128.62	0.4715	P	1.5
7	☐	1.000					

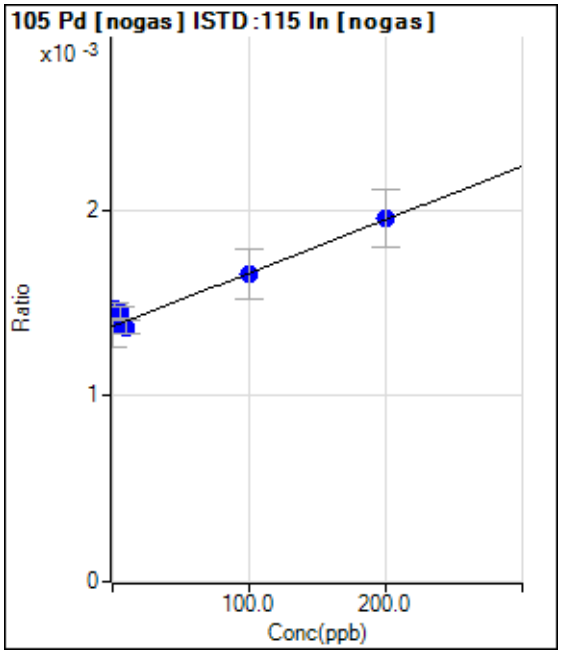
y = 0.0024 * x + 0.0027
R = 1.0000
DL = 0.3202
BEC = 1.127

Weight: <None>
Min Conc: <None>

Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			86.67		P	35.3
2	☐			103.33		P	5.6
3	☐			120.00		P	33.3
4	☐			76.67		P	61.6
5	☐			216.67		P	22.8
6	☐			200.00		P	39.7
7	☐						

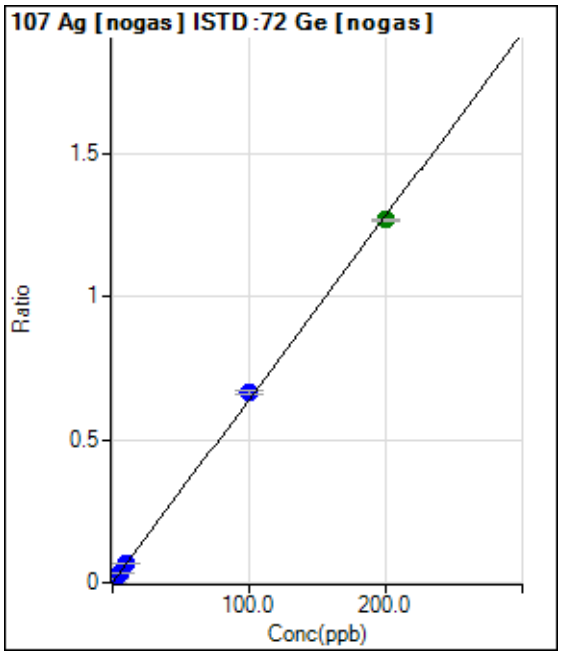


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1843.47	0.0014	P	16.5
2	☐	2.000	33.670	1943.48	0.0015	P	3.5
3	☐	5.000	26.807	1876.80	0.0014	P	4.5
4	☐	10.000	-1.453	1833.46	0.0014	P	5.8
5	☐	100.000	97.006	2116.84	0.0017	P	16.2
6	☐	200.000	201.208	2396.88	0.0020	P	15.9
7	☐	1.000					

y = 2.8741E-006 * x + 0.0014
R = 0.9799
DL = 236
BEC = 477.7

Weight: <None>
Min Conc: <None>

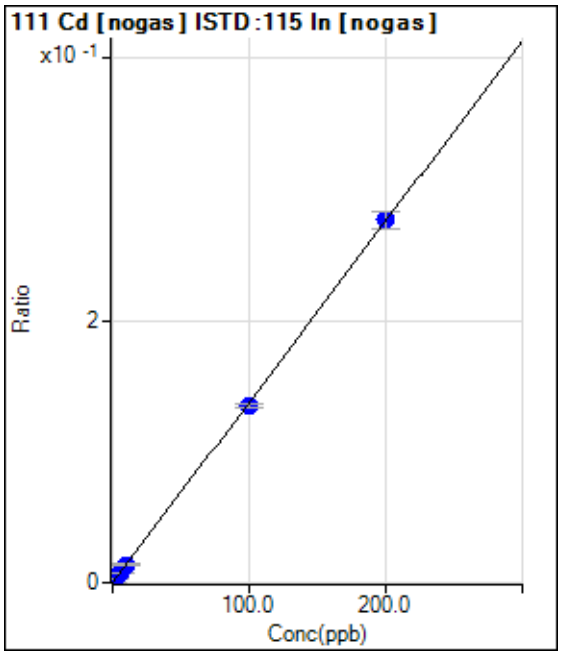
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	260.01	0.0002	P	18.4
2	☐	2.000	1.991	17138.66	0.0129	P	5.9
3	☐	5.000	5.298	44042.57	0.0341	P	4.2
4	☐	10.000	10.504	86888.41	0.0674	P	3.5
5	☐	100.000	104.072	823284.57	0.6663	P	1.9
6	☐	200.000	197.931	1561977.63	1.2670	A	0.6
7	☐	1.000					

y = 0.0064 * x + 2.0286E-004
R = 0.9997
DL = 0.01749
BEC = 0.03169

Weight: <None>
Min Conc: <None>

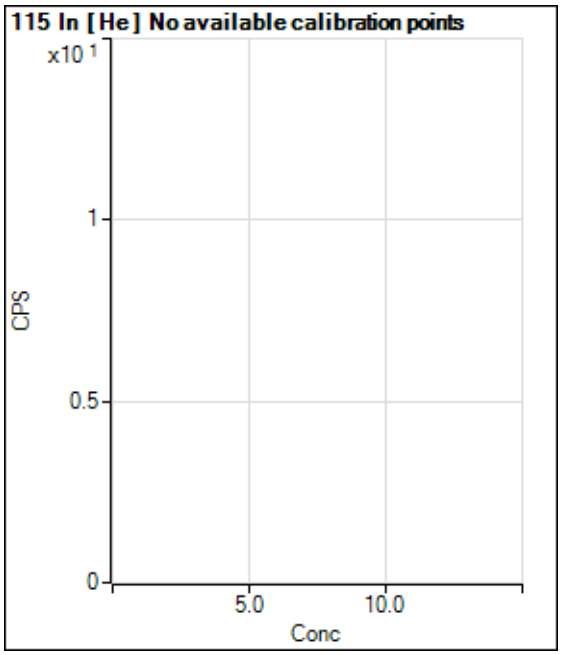


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13.33	0.0000	P	113.
2	☐	2.000	1.890	3447.07	0.0026	P	10.1
3	☐	5.000	5.094	9085.84	0.0070	P	2.5
4	☐	10.000	9.974	18403.23	0.0137	P	3.8
5	☐	100.000	98.131	173207.40	0.1351	P	1.8
6	☐	200.000	200.934	340995.31	0.2766	P	5.0
7	☐	1.000					

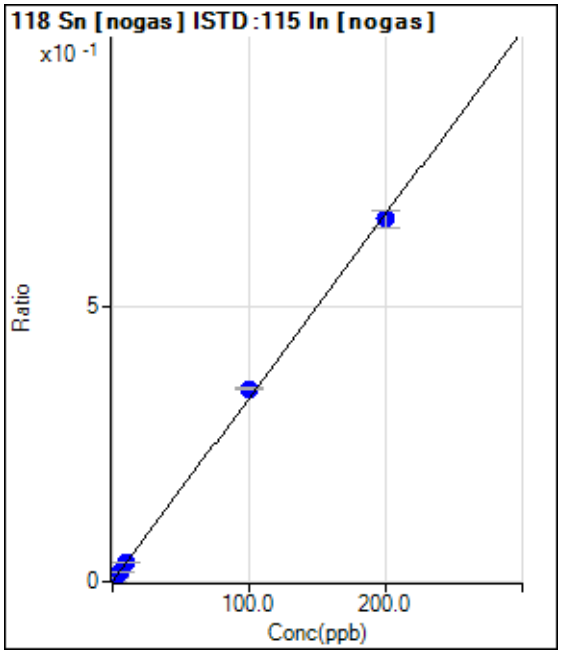
y = 0.0014 * x + 9.7853E-006
R = 0.9999
DL = 0.02418
BEC = 0.007109

Weight: <None>
Min Conc: <None>

Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			136008.28		P	1.8
2	☐			132248.41		P	1.1
3	☐			139097.93		P	0.4
4	☐			132894.72		P	3.4
5	☐			129768.07		P	2.5
6	☐			126546.91		P	1.4
7	☐						

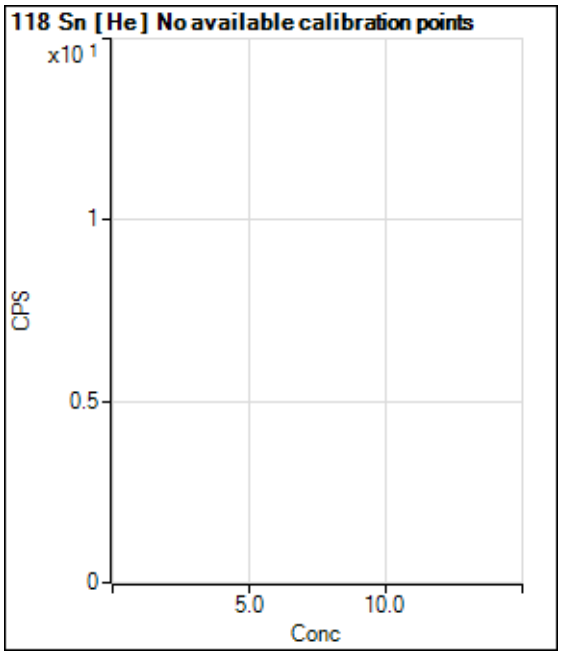


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	646.69	0.0005	P	14.8
2	☐	2.000	1.918	9129.19	0.0069	P	4.7
3	☐	5.000	5.069	22561.54	0.0174	P	2.5
4	☐	10.000	10.069	45773.81	0.0342	P	1.6
5	☐	100.000	104.960	450922.65	0.3516	P	0.7
6	☐	200.000	197.516	815513.27	0.6613	P	4.5
7	☐	1.000					

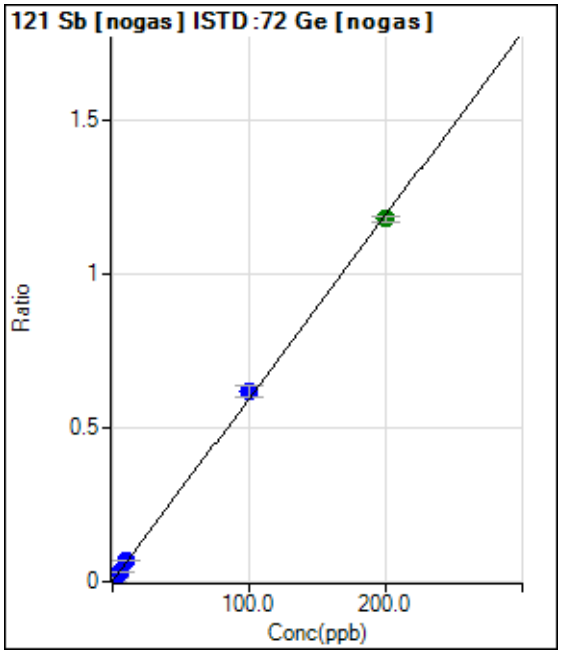
y = 0.0033 * x + 4.8107E-004
R = 0.9996
DL = 0.06405
BEC = 0.1438

Weight: <None>
Min Conc: <None>

Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			46.67		P	12.4
2	☐			1046.72		P	5.5
3	☐			3143.67		P	7.5
4	☐			6044.52		P	4.1
5	☐			58856.24		P	0.5
6	☐			107633.74		P	2.3
7	☐						

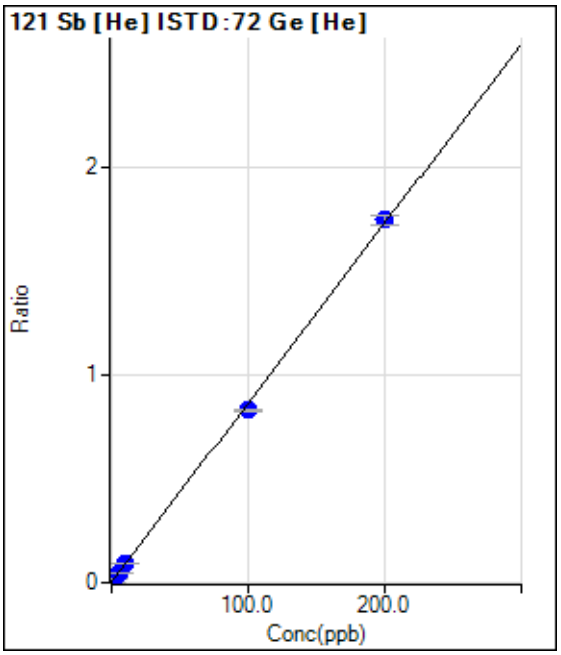


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1830.14	0.0014	P	8.8
2	☐	2.000	2.029	17859.50	0.0135	P	1.7
3	☐	5.000	5.205	41817.07	0.0324	P	3.1
4	☐	10.000	11.043	86473.73	0.0671	P	3.4
5	☐	100.000	103.695	762858.40	0.6182	P	6.1
6	☐	200.000	198.095	1453932.90	1.1797	A	1.9
7	☐	1.000					

y = 0.0059 * x + 0.0014
R = 0.9998
DL = 0.06299
BEC = 0.2391

Weight: <None>
Min Conc: <None>

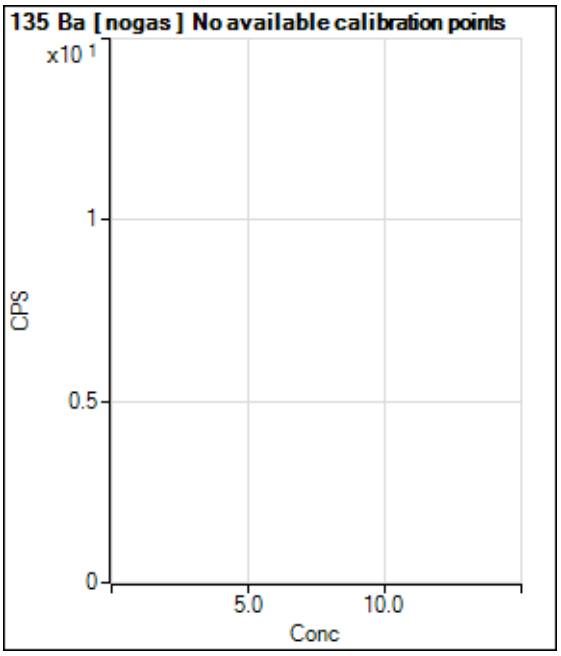
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	236.67	0.0021	P	46.6
2	☐	2.000	1.906	2096.83	0.0186	P	14.9
3	☐	5.000	4.810	4930.80	0.0437	P	4.3
4	☐	10.000	10.336	10079.78	0.0914	P	3.9
5	☐	100.000	95.904	92016.26	0.8308	P	1.3
6	☐	200.000	202.037	182491.77	1.7479	P	2.4
7	☐	1.000					

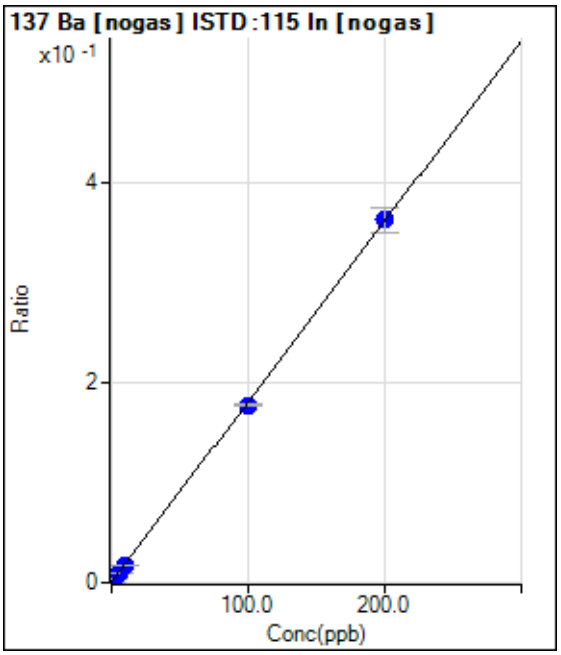
y = 0.0086 * x + 0.0021
R = 0.9997
DL = 0.3435
BEC = 0.2455

Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			246.67		P	27.6
2	☐			2866.95		P	6.6
3	☐			7081.56		P	6.2
4	☐			14589.74		P	3.0
5	☐			130117.60		P	1.8
6	☐			251165.86		P	1.7
7	☐						

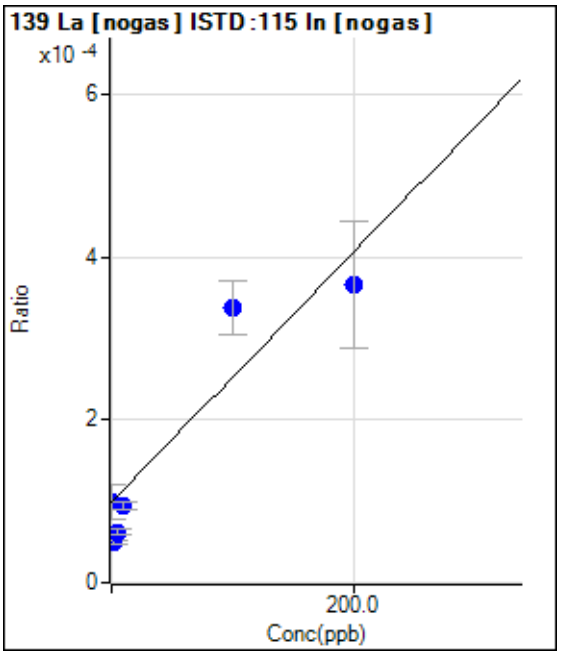
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	450.02	0.0003	P	23.0
2	☐	2.000	2.086	5420.96	0.0041	P	3.3
3	☐	5.000	5.380	13005.16	0.0100	P	5.0
4	☐	10.000	9.722	23970.43	0.0179	P	3.9
5	☐	100.000	98.353	228187.07	0.1780	P	0.6
6	☐	200.000	200.827	447361.67	0.3630	P	6.8
7	☐	1.000					

y = 0.0018 * x + 3.3377E-004
R = 0.9999
DL = 0.1275
BEC = 0.1848

Weight: <None>
Min Conc: <None>

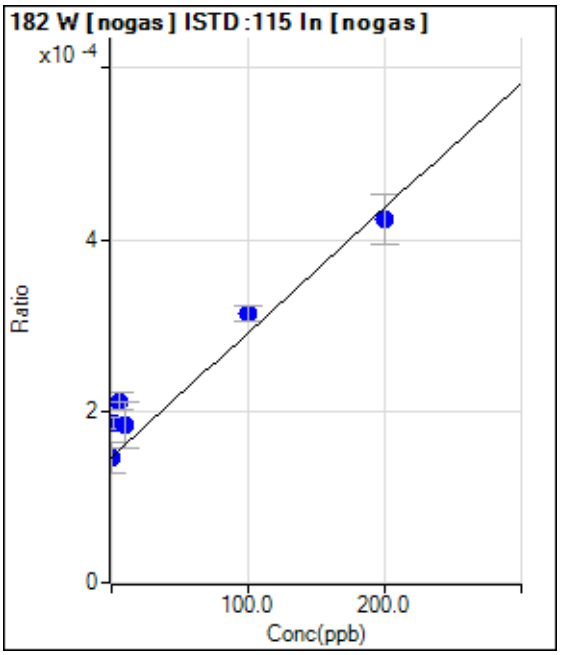


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	133.33	0.0001	P	41.8
2	☐	2.000	-31.763	66.67	0.0001	P	8.1
3	☐	5.000	-24.350	80.00	0.0001	P	11.8
4	☐	10.000	-3.129	126.67	0.0001	P	9.8
5	☐	100.000	155.512	433.35	0.0003	P	19.6
6	☐	200.000	173.972	446.68	0.0004	P	42.6
7	☐	100.000					

y = 1.5363E-006 * x + 9.9207E-005
R = 0.9366
DL = 80.99
BEC = 64.57

Weight: <None>
Min Conc: <None>

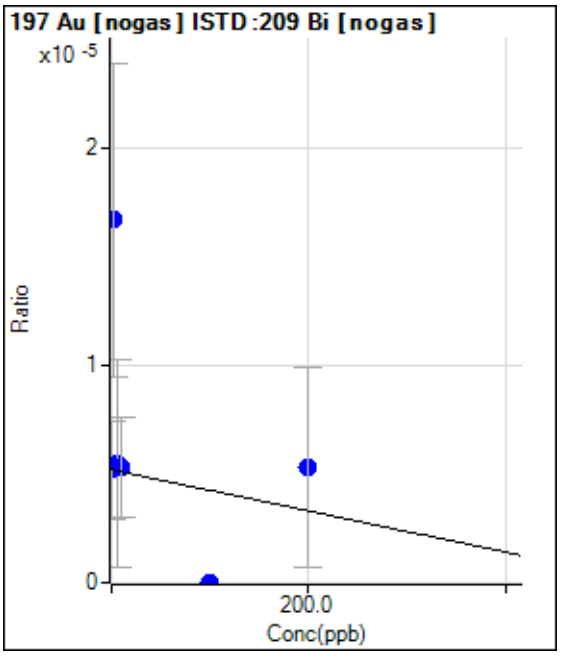
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	196.67	0.0001	P	24.6
2	☐	2.000	27.406	246.68	0.0002	P	6.3
3	☐	5.000	44.400	273.34	0.0002	P	9.5
4	☐	10.000	25.519	246.67	0.0002	P	29.1
5	☐	100.000	115.580	403.34	0.0003	P	5.5
6	☐	200.000	190.195	520.02	0.0004	P	14.0
7	☐	1.000					

y = 1.4538E-006 * x + 1.4655E-004
R = 0.9820
DL = 74.41
BEC = 100.8

Weight: <None>
Min Conc: <None>

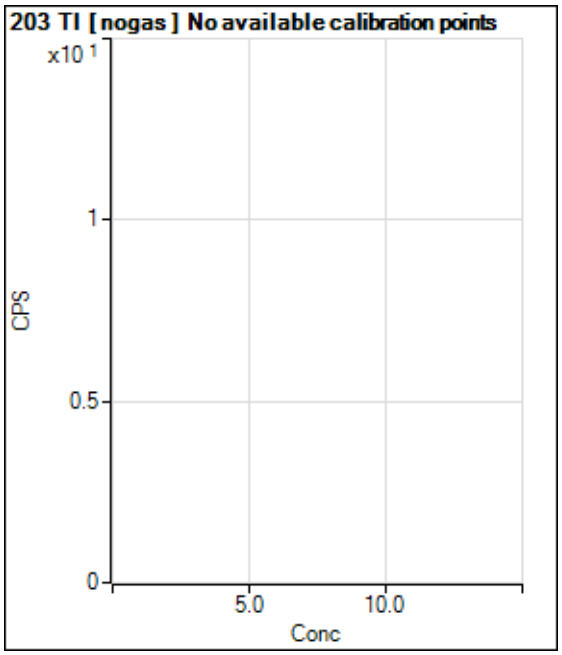


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6.67	0.0000	P	86.7
2	☐	2.000	-1215.867	20.00	0.0000	P	86.6
3	☐	5.000	-32.520	6.67	0.0000	P	173.
4	☐	10.000	-10.986	6.67	0.0000	P	86.6
5	☐	100.000	549.300	0.00	0.0000	P	
6	☐	200.000	-10.484	6.67	0.0000	P	173.
7	☐	100.000					

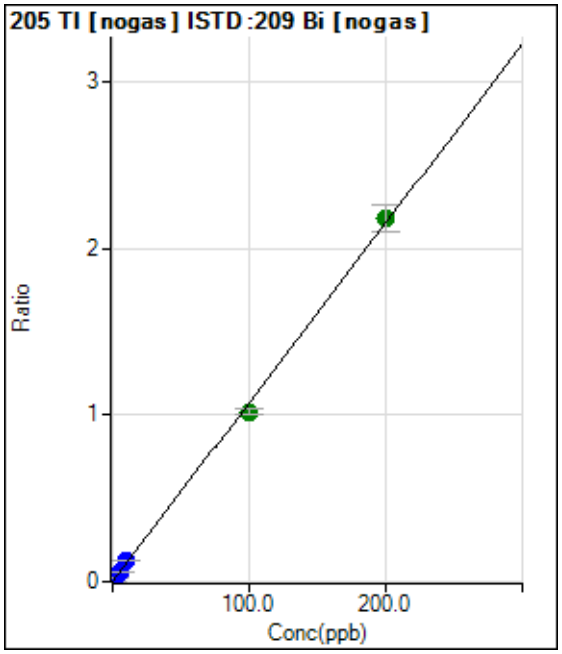
y = -9.4613E-009 * x + 5.1971E-006
R = -0.3708
DL = -1428
BEC = -549.3

Weight: <None>
Min Conc: <None>

Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			56.67		P	10.2
2	☐			12451.63		P	5.0
3	☐			31514.07		P	2.1
4	☐			62523.74		P	2.0
5	☐			600101.91		P	1.9
6	☐			1177923.03		P	3.8
7	☐						

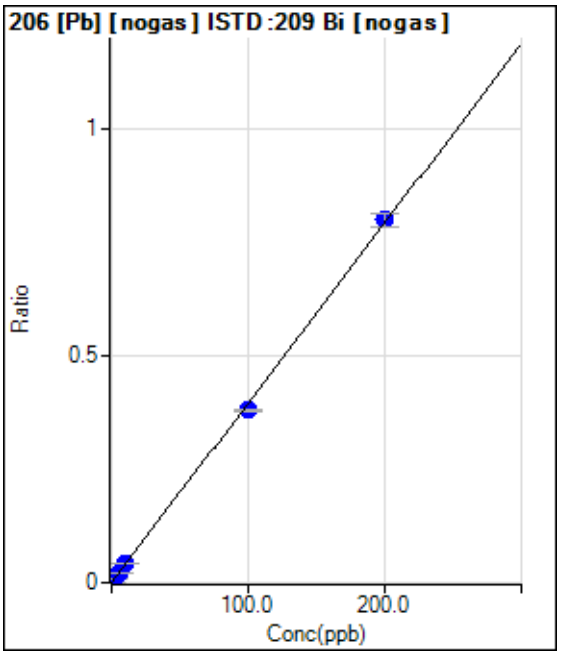


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	100.00	0.0001	P	40.4
2	☐	2.000	2.276	30145.00	0.0246	P	3.9
3	☐	5.000	5.527	74735.05	0.0596	P	2.9
4	☐	10.000	11.394	153132.50	0.1227	P	0.8
5	☐	100.000	94.833	1334186.72	1.0210	A	3.9
6	☐	200.000	202.498	2678813.14	2.1801	A	7.3
7	☐	1.000					

y = 0.0108 * x + 7.8075E-005
R = 0.9995
DL = 0.008787
BEC = 0.007252

Weight: <None>
Min Conc: <None>

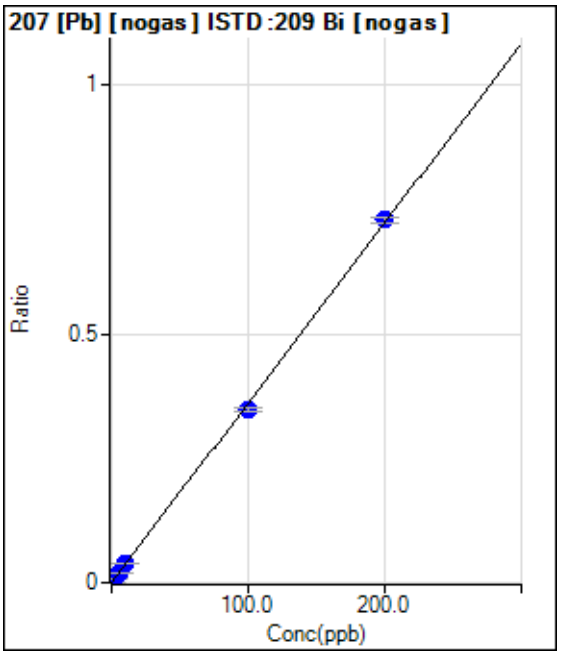
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	136.67	0.0001	P	39.8
2	☐	2.000	2.239	10993.93	0.0090	P	6.4
3	☐	5.000	5.238	26128.06	0.0208	P	5.6
4	☐	10.000	10.982	54367.88	0.0436	P	2.5
5	☐	100.000	95.954	496741.81	0.3800	P	0.6
6	☐	200.000	201.966	983182.67	0.7996	P	3.4
7	☐	1.000					

y = 0.0040 * x + 1.0592E-004
R = 0.9997
DL = 0.03193
BEC = 0.02676

Weight: <None>
Min Conc: <None>

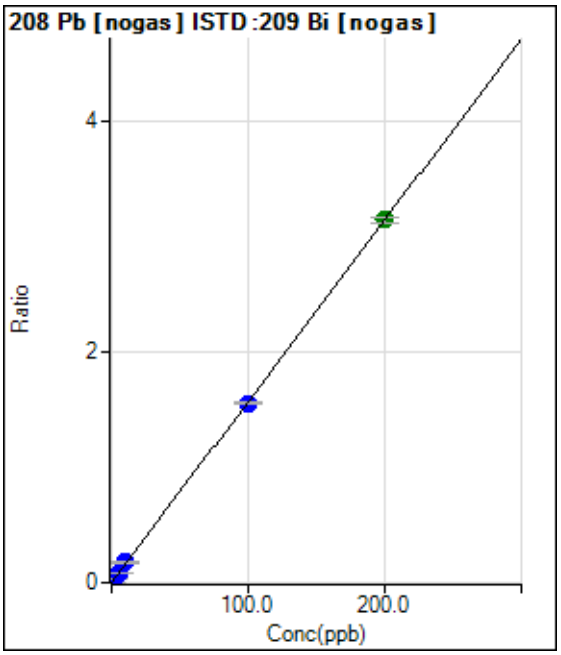


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	100.00	0.0001	P	10.9
2	☐	2.000	2.245	10036.59	0.0082	P	6.8
3	☐	5.000	5.292	24084.77	0.0192	P	3.4
4	☐	10.000	10.929	49372.23	0.0396	P	3.1
5	☐	100.000	96.144	454378.33	0.3475	P	1.9
6	☐	200.000	201.872	897512.17	0.7296	P	1.3
7	☐	1.000					

y = 0.0036 * x + 7.7942E-005
R = 0.9997
DL = 0.007037
BEC = 0.02157

Weight: <None>
Min Conc: <None>

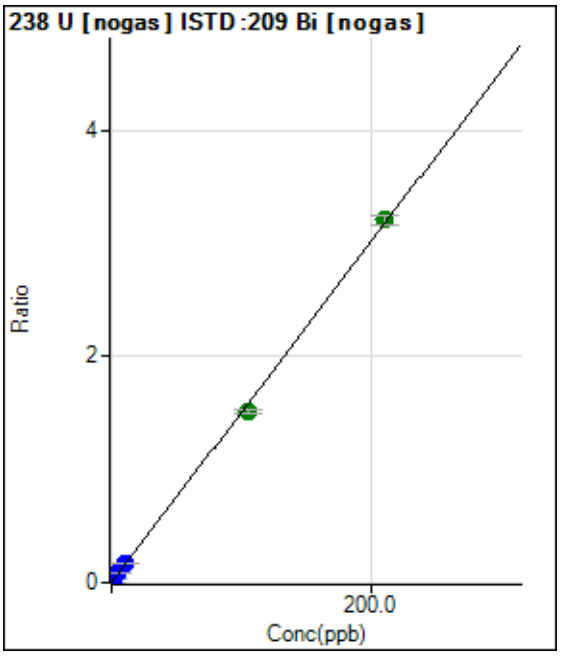
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	430.01	0.0003	P	14.5
2	☐	2.000	2.248	43683.23	0.0357	P	7.9
3	☐	5.000	5.443	107718.50	0.0859	P	2.5
4	☐	10.000	11.152	219001.77	0.1756	P	1.9
5	☐	100.000	99.250	2039337.99	1.5598	P	1.8
6	☐	200.000	200.304	3871309.81	3.1476	A	1.8
7	☐	1.000					

y = 0.0157 * x + 3.3433E-004
R = 1.0000
DL = 0.009236
BEC = 0.02128

Weight: <None>
Min Conc: <None>

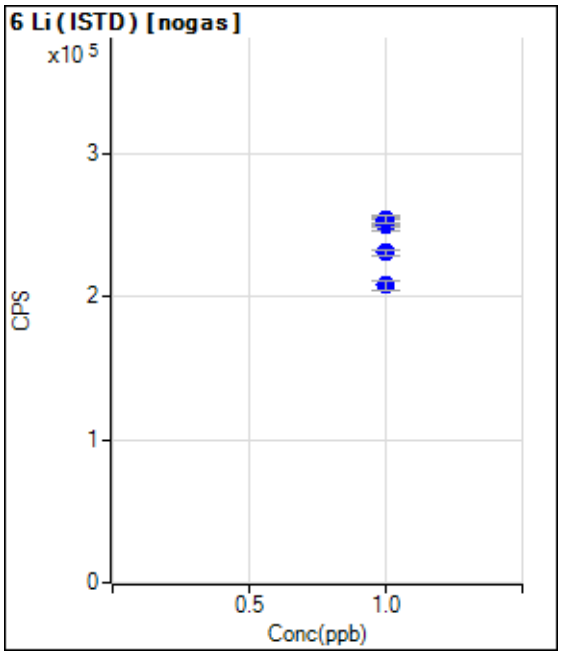


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	453.35	0.0004	P	22.4
2	☐	2.000	2.284	42768.36	0.0349	P	6.9
3	☐	5.000	5.718	108871.99	0.0868	P	3.7
4	☐	10.000	11.529	217928.49	0.1747	P	1.1
5	☐	105.000	100.197	1981258.56	1.5154	A	2.1
6	☐	210.000	212.309	3949509.42	3.2107	A	2.9
7	☐	1.000					

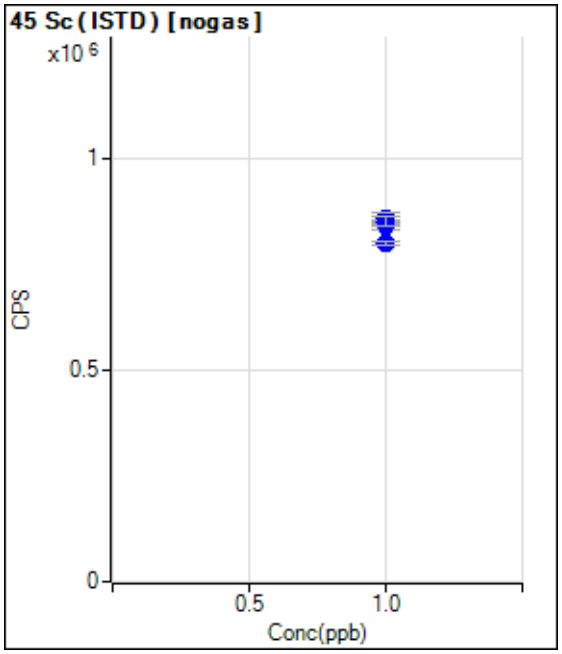
y = 0.0151 * x + 3.5223E-004
R = 0.9996
DL = 0.01569
BEC = 0.02329

Weight: <None>
Min Conc: <None>

Calibration for 017_ICV.d

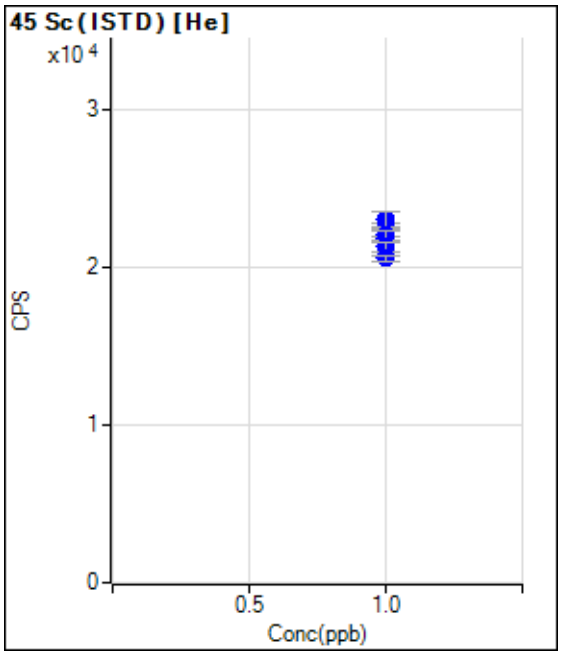


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		252377.07		P	1.7
2	☐	1.000		250322.05		P	3.5
3	☐	1.000		251495.13		P	2.8
4	☐	1.000		253626.74		P	2.2
5	☐	1.000		230580.63		P	2.2
6	☐	1.000		207781.70		P	3.5
7	☐	1.000					

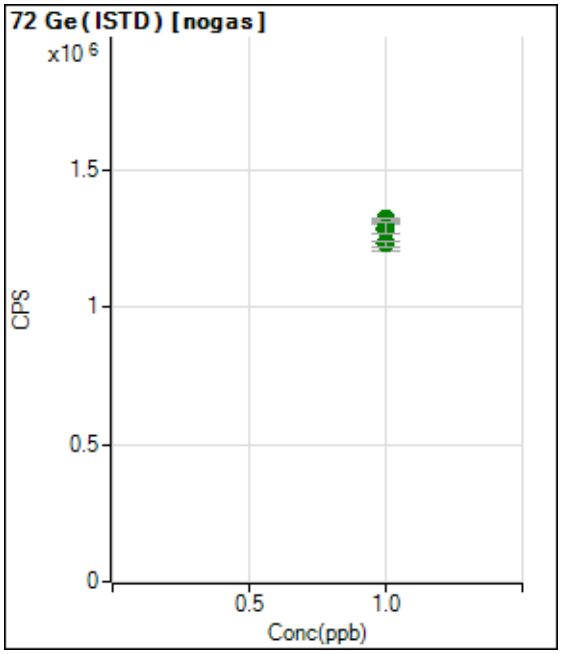


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		845172.44		P	2.8
2	☐	1.000		840397.85		P	1.5
3	☐	1.000		847760.43		P	1.3
4	☐	1.000		858897.51		P	3.1
5	☐	1.000		853479.70		P	2.5
6	☐	1.000		802134.23		P	0.8
7	☐	1.000					

Calibration for 017_ICV.d

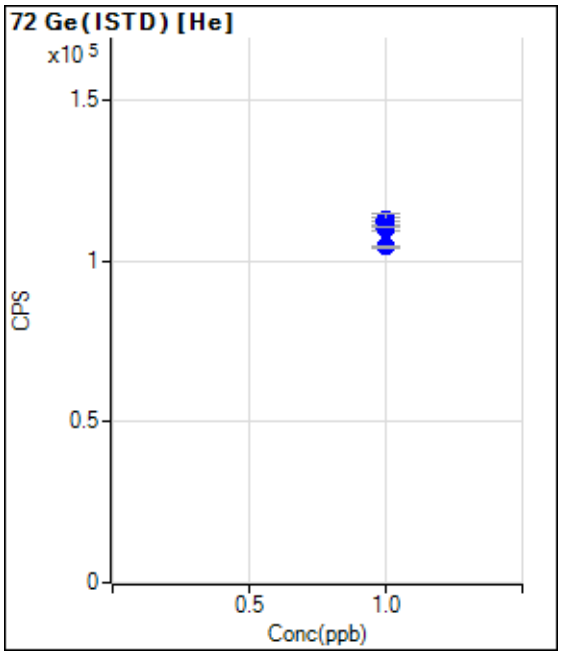


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		22647.42		P	1.9
2	☐	1.000		23041.33		P	4.2
3	☐	1.000		21883.19		P	1.3
4	☐	1.000		22070.10		P	2.7
5	☐	1.000		21319.33		P	3.0
6	☐	1.000		20618.49		P	1.8
7	☐	1.000					

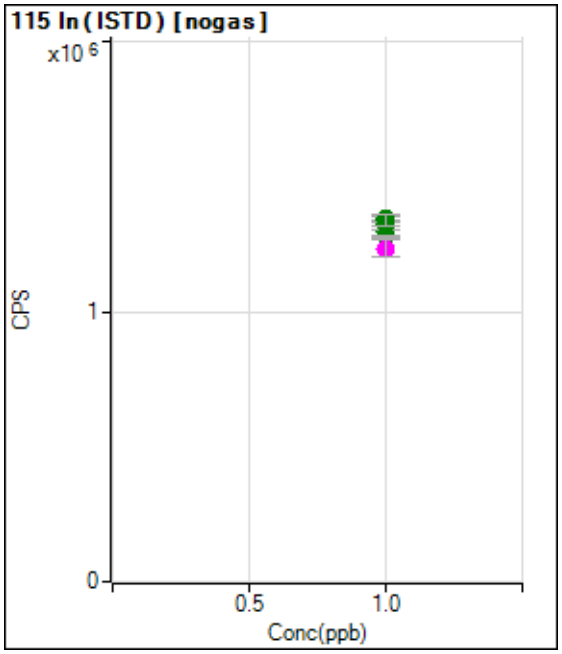


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1286444.67		A	3.0
2	☐	1.000		1323967.43		A	0.8
3	☐	1.000		1292185.71		M	3.7
4	☐	1.000		1289445.53		A	3.2
5	☐	1.000		1236355.87		A	5.0
6	☐	1.000		1232715.95		A	2.1
7	☐	1.000					

Calibration for 017_ICV.d

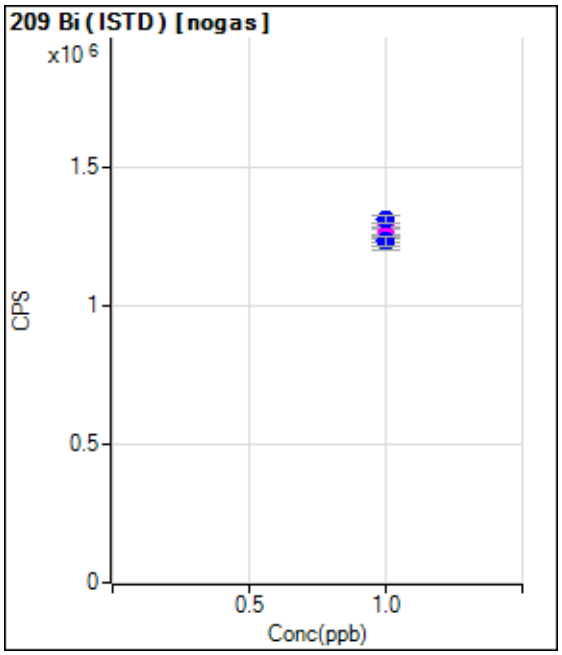


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		111776.72		P	1.5
2	☐	1.000		112618.20		P	2.0
3	☐	1.000		112844.67		P	3.0
4	☐	1.000		110294.04		P	1.9
5	☐	1.000		110753.83		P	0.2
6	☐	1.000		104406.13		P	0.2
7	☐	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1344416.55		A	1.9
2	☐	1.000		1322321.60		A	2.2
3	☐	1.000		1293947.82		A	1.4
4	☐	1.000		1339916.99		A	3.2
5	☐	1.000		1282328.63		A	0.5
6	☐	1.000		1234982.38		M	5.1
7	☐	1.000					

Calibration for 017_ICV.d



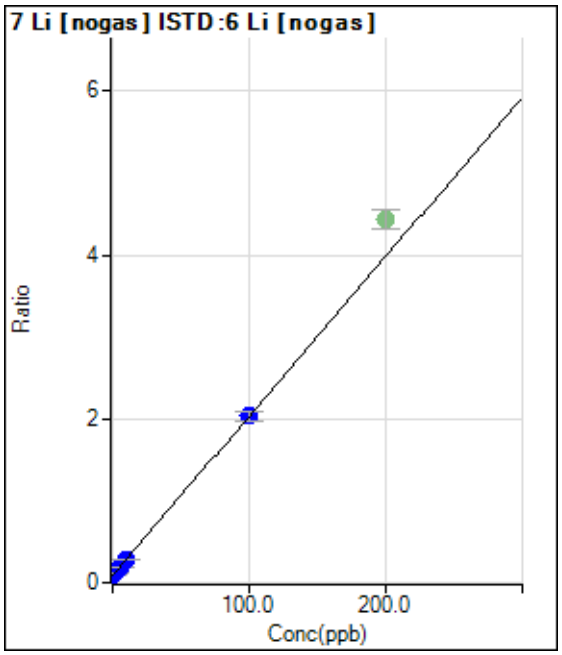
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1284048.11		M	1.9
2	☐	1.000		1227696.57		A	4.3
3	☐	1.000		1255522.90		M	4.5
4	☐	1.000		1247565.22		M	1.4
5	☐	1.000		1307461.28		P	2.2
6	☐	1.000		1230348.34		P	2.9
7	☐	1.000					

Calibration for 129_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\111617A.b\
Analysis File: 111617A.batch.bin
DA Date-Time: 2017-11-16 16:20:18
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	122CALB.d	CAL BLK	2017-11-16 14:03:18
2	123CALS.d	2/10/200	2017-11-16 14:05:19
3	124CALS.d	5/25/500	2017-11-16 14:07:20
4	125CALS.d	10/50/1000	2017-11-16 14:09:20
5	126CALS.d	100/500/10K	2017-11-16 14:11:19
6	127CALS.d	200/1000/20K	2017-11-16 14:13:18
7			

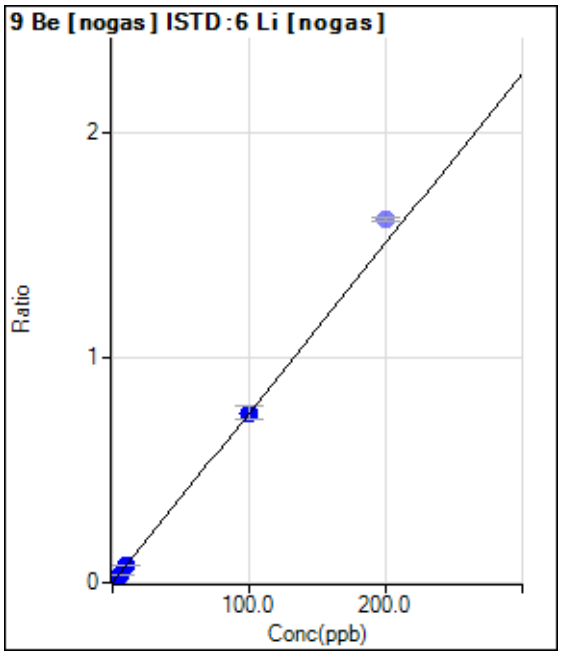
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26198.41	0.0882	P	3.5
2	☐	2.000	2.015	38215.72	0.1274	P	3.1
3	☐	5.000	4.979	54198.20	0.1851	P	1.7
4	☐	10.000	9.916	82926.36	0.2811	P	1.6
5	☐	100.000	100.009	548166.40	2.0337	P	5.1
6	☑	200.000		1061113.50	4.4271	A	5.4
7	☐	1.000					

y = 0.0195 * x + 0.0882
R = 1.0000
DL = 0.4784
BEC = 4.535

Weight: <None>
Min Conc: <None>

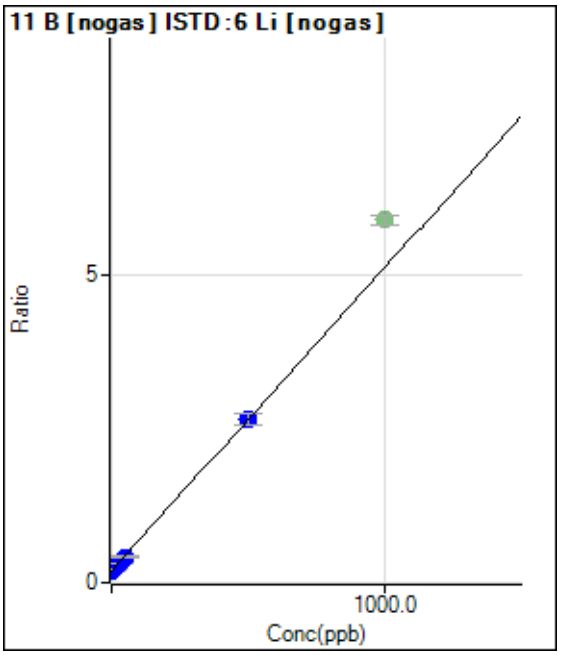


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	60.00	0.0002	P	19.4
2	☐	2.000	1.913	4393.92	0.0146	P	6.4
3	☐	5.000	4.756	10569.86	0.0361	P	6.0
4	☐	10.000	9.837	21959.70	0.0745	P	3.8
5	☐	100.000	100.030	203476.36	0.7557	P	7.7
6	☑	200.000		387377.37	1.6148	P	1.0
7	☐	1.000					

y = 0.0076 * x + 2.0281E-004
R = 1.0000
DL = 0.01565
BEC = 0.02685

Weight: <None>
Min Conc: <None>

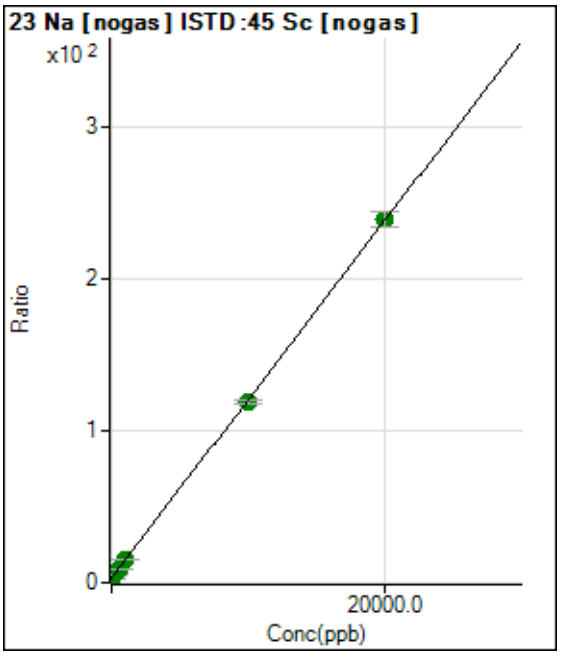
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	57901.37	0.1951	P	1.0
2	☐	10.000	7.877	70139.75	0.2339	P	3.8
3	☐	25.000	22.599	89734.88	0.3065	P	3.1
4	☐	50.000	46.107	124492.68	0.4224	P	4.1
5	☐	500.000	500.552	717425.51	2.6635	P	6.6
6	☑	1000.000		1415757.95	5.9037	A	2.7
7	☐	5.000					

y = 0.0049 * x + 0.1951
R = 1.0000
DL = 1.218
BEC = 39.56

Weight: <None>
Min Conc: <None>

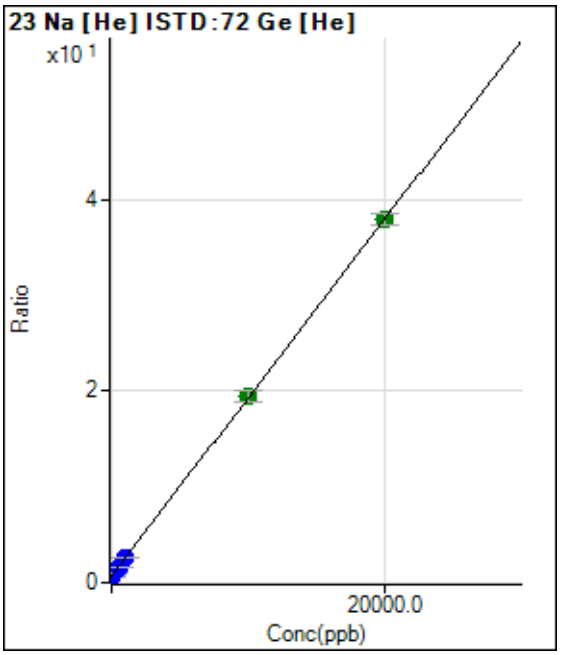


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2389592.50	2.9656	A	4.1
2	☐	200.000	187.232	4209589.42	5.1661	A	4.4
3	☐	500.000	493.200	7152639.48	8.7619	A	1.3
4	☐	1000.000	1055.403	12434642.21	15.3691	A	4.3
5	☐	10000.00	9869.991	93544387.51	118.961	A	1.4
6	☐	20000.00	20062.532	180949345.7	238.747	A	4.1
7	☐	100.000					

y = 0.0118 * x + 2.9656
R = 1.0000
DL = 31.14
BEC = 252.3

Weight: <None>
Min Conc: <None>

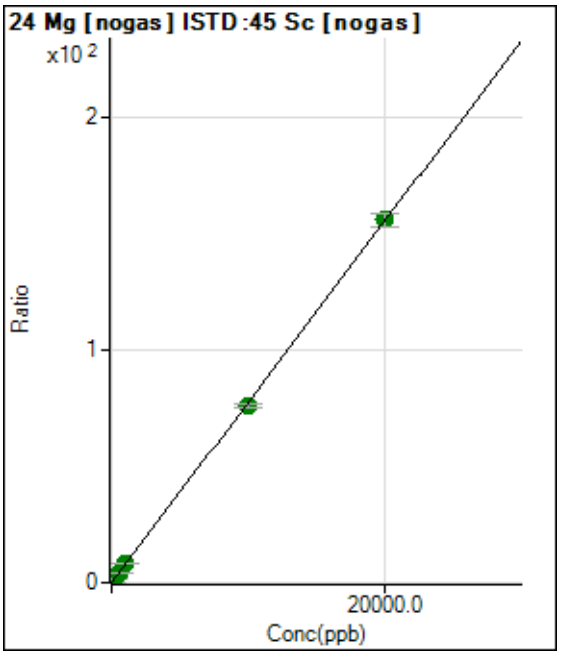
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	67011.45	0.7015	P	3.4
2	☐	200.000	196.315	101246.88	1.0664	P	3.3
3	☐	500.000	484.145	153428.77	1.6015	P	0.5
4	☐	1000.000	1030.587	247148.46	2.6174	P	2.3
5	☐	10000.00	10053.026	1749188.41	19.3901	A	6.2
6	☐	20000.00	19972.391	3356067.34	37.8303	A	3.1
7	☐	100.000					

y = 0.0019 * x + 0.7015
R = 1.0000
DL = 38.87
BEC = 377.3

Weight: <None>
Min Conc: <None>

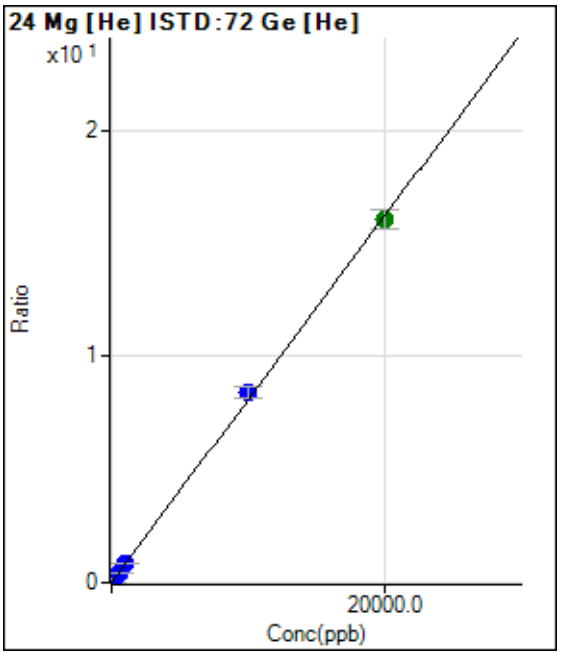


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	18746.07	0.0232	P	4.4
2	☐	200.000	207.974	1333198.37	1.6361	A	4.6
3	☐	500.000	519.054	3304046.62	4.0485	A	3.4
4	☐	1000.000	1050.429	6611696.76	8.1694	A	3.8
5	☐	10000.00	9817.032	59870388.84	76.1549	A	2.0
6	☐	20000.00	20088.406	118090369.3	155.809	A	4.0
7	☐	100.000					

y = 0.0078 * x + 0.0232
R = 0.9999
DL = 0.3925
BEC = 2.997

Weight: <None>
Min Conc: <None>

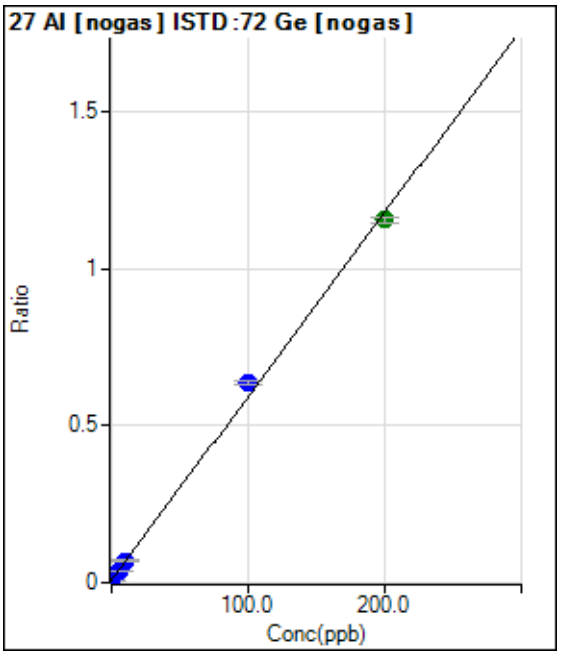
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	326.68	0.0034	P	14.8
2	☐	200.000	206.006	16163.98	0.1702	P	3.3
3	☐	500.000	505.830	39561.69	0.4130	P	1.6
4	☐	1000.000	1082.510	83112.80	0.8799	P	1.0
5	☐	10000.00	10389.172	758986.03	8.4153	P	6.3
6	☐	20000.00	19801.083	1422334.87	16.0359	A	5.1
7	☐	100.000					

y = 8.0968E-004 * x + 0.0034
R = 0.9997
DL = 1.875
BEC = 4.214

Weight: <None>
Min Conc: <None>

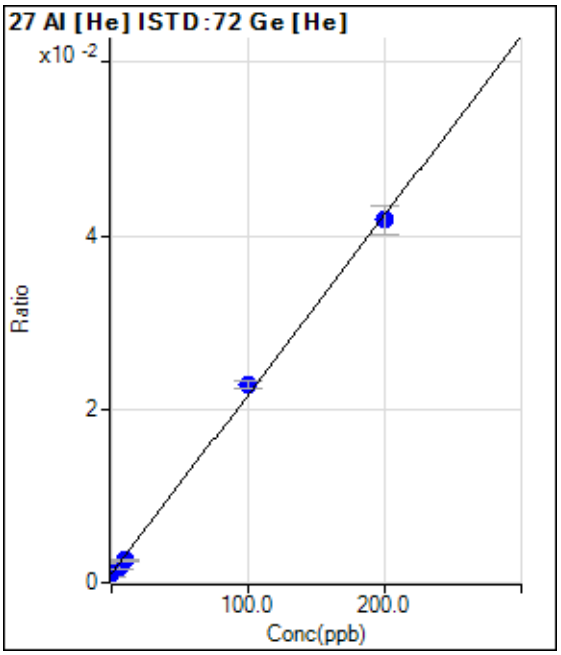


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10106.49	0.0083	P	5.2
2	☐	2.000	2.424	27293.60	0.0224	P	4.8
3	☐	5.000	5.246	48988.19	0.0389	P	1.3
4	☐	10.000	10.557	87597.95	0.0700	P	3.6
5	☐	100.000	107.692	743004.13	0.6378	P	1.6
6	☐	200.000	196.116	1366072.69	1.1547	A	1.6
7	☐	1.000					

y = 0.0058 * x + 0.0083
R = 0.9990
DL = 0.2218
BEC = 1.411

Weight: <None>
Min Conc: <None>

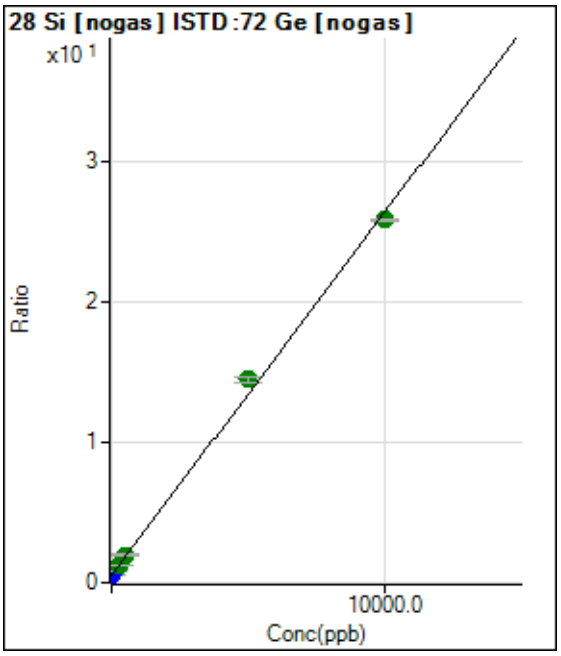
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.205	103.33	0.0011	P	62.3
2	☐	2.000	2.496	146.67	0.0015	P	15.6
3	☐	5.000	3.943	176.67	0.0018	P	34.7
4	☐	10.000	7.486	243.34	0.0026	P	13.7
5	☐	100.000	105.444	2060.15	0.0228	P	3.7
6	☐	200.000	197.425	3707.10	0.0418	P	8.2
7	☐	1.000					

y = 2.0663E-004 * x + 0.0010
R = 0.9993
DL = 9.713
BEC = 4.989

Weight: <None>
Min Conc: <None>

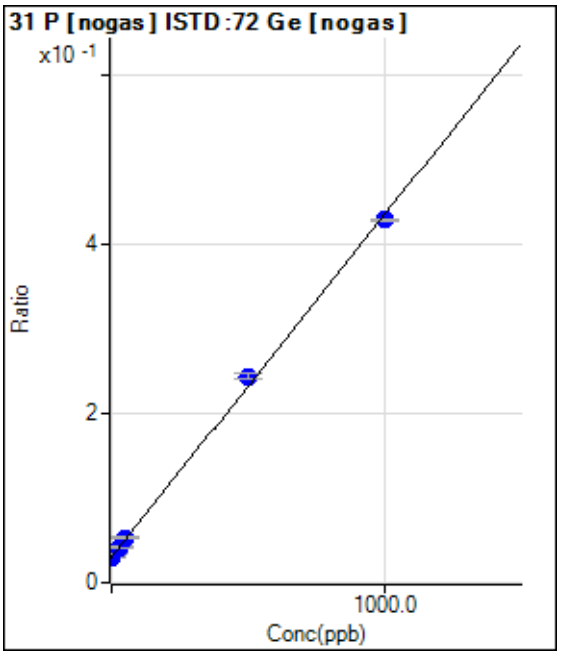


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	636347.96	0.5192	P	2.7
2	☐	100.000	108.592	973914.67	0.7998	P	2.9
3	☐	250.000	289.247	1593972.94	1.2667	A	1.0
4	☐	500.000	562.260	2469072.05	1.9722	A	4.2
5	☐	5000.000	5394.275	16839736.83	14.4598	A	2.8
6	☐	10000.00	9798.683	30573565.38	25.8423	A	0.8
7	☐	5.000					

y = 0.0026 * x + 0.5192
R = 0.9989
DL = 16.57
BEC = 200.9

Weight: <None>
Min Conc: <None>

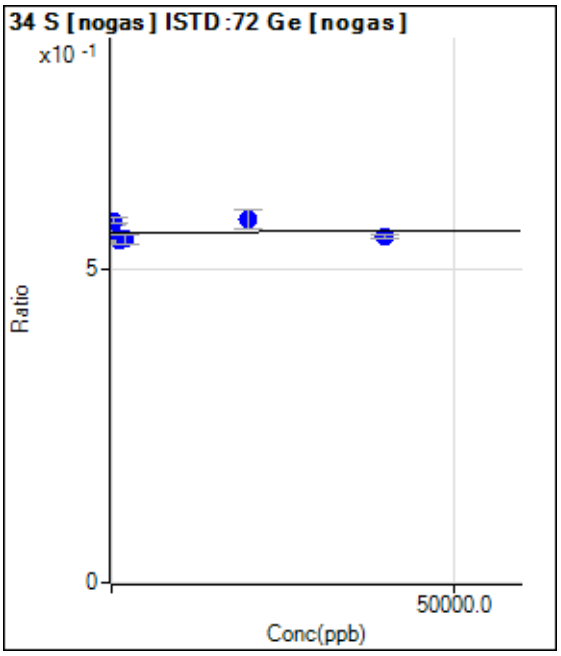
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	37093.45	0.0303	P	6.4
2	☐	10.000	13.455	43497.16	0.0357	P	4.4
3	☐	25.000	28.315	52503.10	0.0417	P	3.8
4	☐	50.000	56.173	66363.04	0.0530	P	4.0
5	☐	500.000	528.880	284429.16	0.2442	P	2.0
6	☐	1000.000	985.134	507226.49	0.4287	P	0.4
7	☐	5.000					

y = 4.0444E-004 * x + 0.0303
R = 0.9994
DL = 14.28
BEC = 74.89

Weight: <None>
Min Conc: <None>

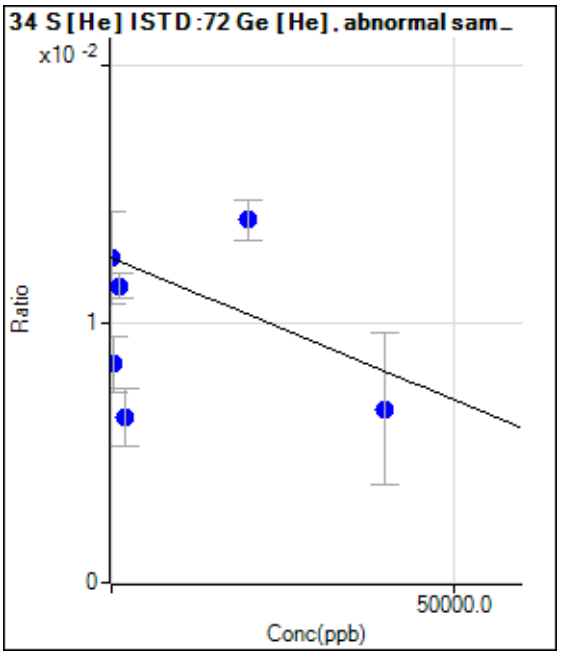


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	683210.50	0.5576	P	4.4
2	☐	400.000	493281.60	702253.13	0.5765	P	1.2
3	☐	1000.000	-376143.61	683590.67	0.5431	P	0.8
4	☐	2000.000	-296138.74	684020.10	0.5462	P	2.7
5	☐	20000.00	512310.88	671998.81	0.5773	P	5.3
6	☐	40000.00	-186748.72	651156.31	0.5504	P	1.1
7	☐	100.000					

y = 3.8451E-008 * x + 0.5576
R = 0.0143
DL = 1.913E+06
BEC = 1.45E+07

Weight: <None>
Min Conc: <None>

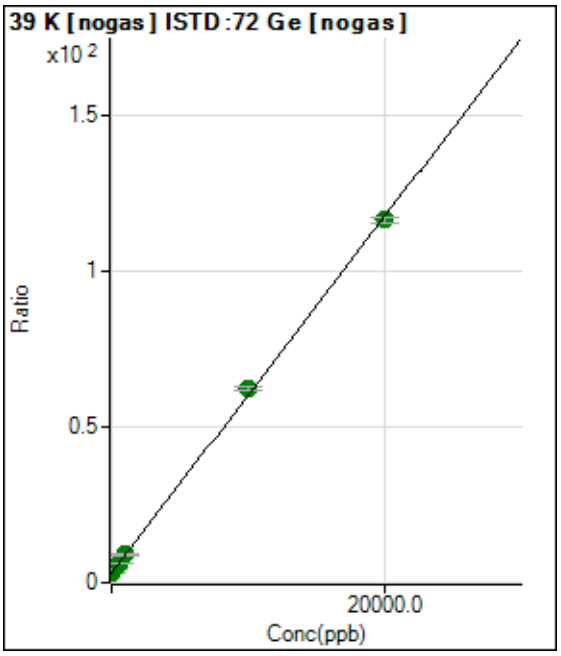
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1200.25	0.0125	P	28.3
2	☐	400.000	37568.485	800.22	0.0084	P	26.1
3	☐	1000.000	9781.928	1100.25	0.0115	P	8.2
4	☐	2000.000	56385.062	600.14	0.0064	P	34.7
5	☐	20000.00	-13434.263	1266.95	0.0140	P	11.0
6	☐	40000.00	53406.645	600.13	0.0067	P	87.6
7	☐	100.000					

y = -1.0936E-007 * x + 0.0125
R = -0.2036
DL = -9.739E+04
BEC = -1.147E+05

Weight: <None>
Min Conc: <None>

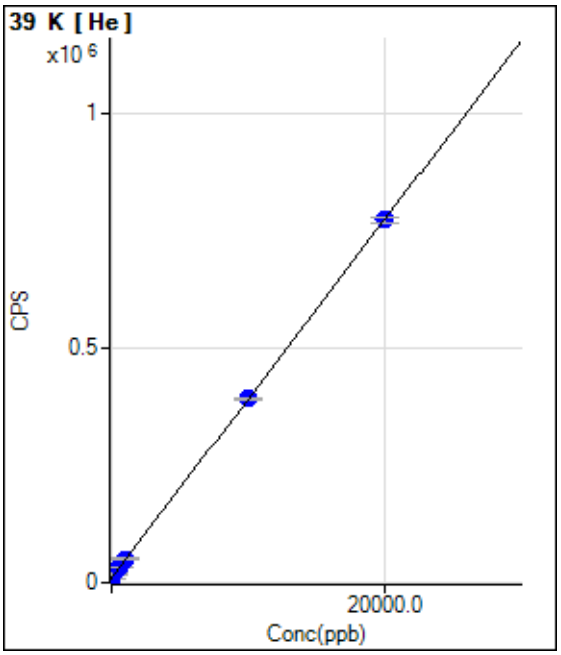


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3753761.54	3.0628	A	3.0
2	☐	200.000	213.371	5216118.61	4.2833	A	2.5
3	☐	500.000	498.848	7444486.63	5.9163	A	1.5
4	☐	1000.000	1059.342	11421310.67	9.1225	A	4.0
5	☐	10000.00	10342.963	72477849.53	62.2268	A	2.1
6	☐	20000.00	19825.446	137780757.2	116.468	A	1.7
7	☐	100.000					

y = 0.0057 * x + 3.0628
R = 0.9998
DL = 48.95
BEC = 535.4

Weight: <None>
Min Conc: <None>

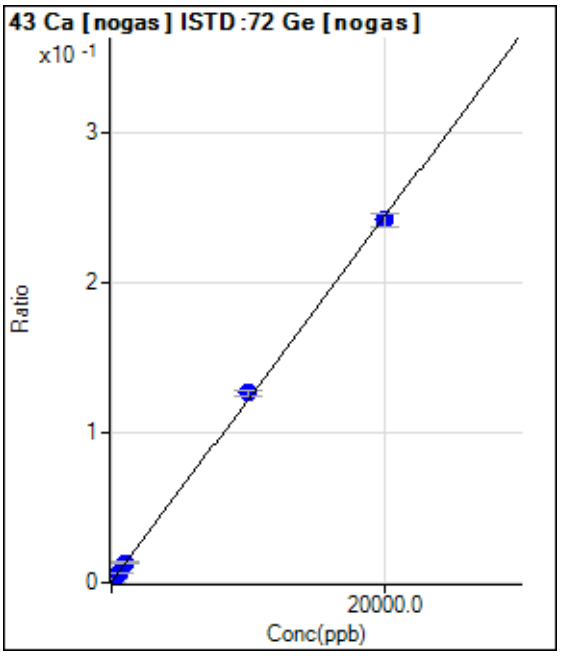
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9919.44		P	3.3
2	☐	200.000	232.989	18809.74		P	6.1
3	☐	500.000	555.328	31109.45		P	0.4
4	☐	1000.000	1071.250	50795.86		P	2.7
5	☐	10000.00	9994.170	391273.72		P	0.6
6	☐	20000.00	19997.639	772982.83		P	1.5
7	☐	100.000					

y = 38.1577 * x + 9919.4367
R = 1.0000
DL = 25.64
BEC = 260

Weight: <None>
Min Conc: <None>

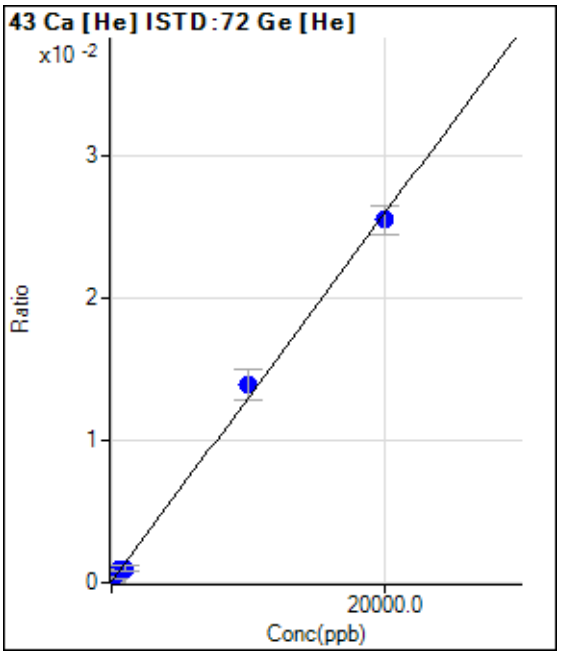


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	630.02	0.0005	P	16.2
2	☐	200.000	193.727	3500.41	0.0029	P	3.3
3	☐	500.000	499.191	8291.98	0.0066	P	7.1
4	☐	1000.000	1043.692	16547.74	0.0132	P	5.0
5	☐	10000.00	10338.858	147169.74	0.1264	P	2.9
6	☐	20000.00	19828.469	286088.39	0.2419	P	3.8
7	☐	100.000					

y = 1.2173E-005 * x + 5.1531E-004
R = 0.9998
DL = 20.52
BEC = 42.33

Weight: <None>
Min Conc: <None>

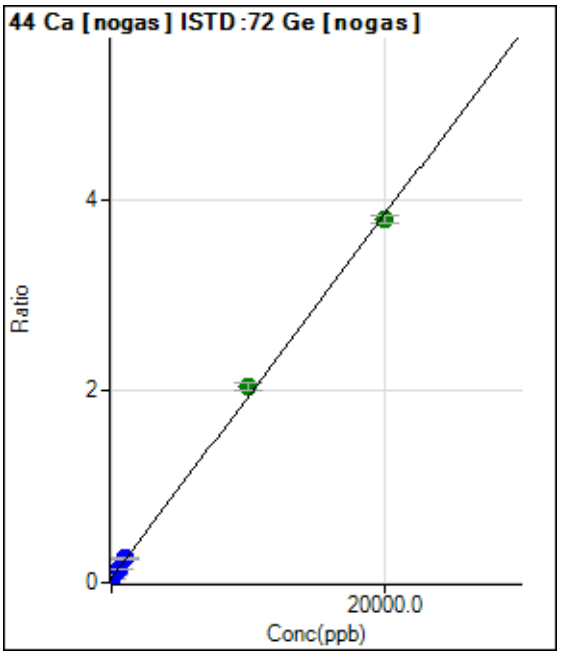
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6.67	0.0001	P	173.
2	☐	200.000	218.525	33.33	0.0004	P	44.9
3	☐	500.000	647.706	86.67	0.0009	P	17.6
4	☐	1000.000	712.116	93.33	0.0010	P	40.8
5	☐	10000.00	10686.593	1250.06	0.0139	P	15.2
6	☐	20000.00	19667.220	2260.18	0.0255	P	7.9
7	☐	100.000					

y = 1.2917E-006 * x + 6.8060E-005
R = 0.9990
DL = 273.8
BEC = 52.69

Weight: <None>
Min Conc: <None>

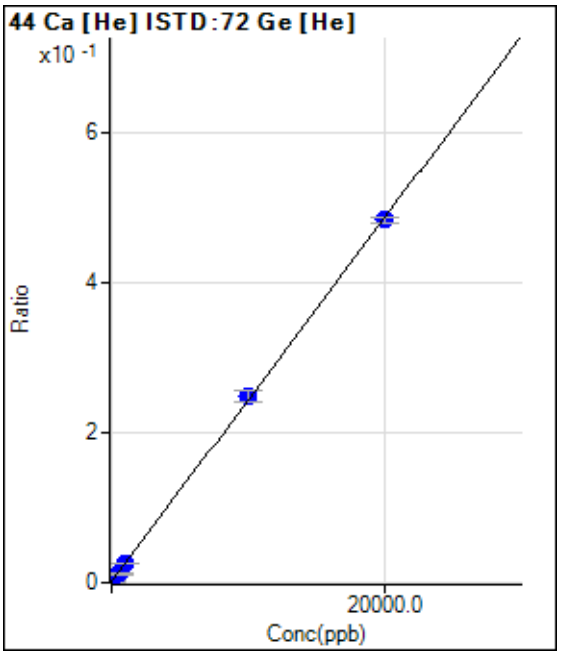


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56077.35	0.0458	P	4.7
2	☐	200.000	218.488	106287.95	0.0873	P	2.6
3	☐	500.000	521.264	182191.38	0.1448	P	2.0
4	☐	1000.000	1082.931	314961.32	0.2515	P	3.2
5	☐	10000.00	10570.616	2391646.48	2.0541	A	4.2
6	☐	20000.00	19709.829	4484381.39	3.7906	A	2.1
7	☐	100.000					

y = 1.9000E-004 * x + 0.0458
R = 0.9994
DL = 33.66
BEC = 240.9

Weight: <None>
Min Conc: <None>

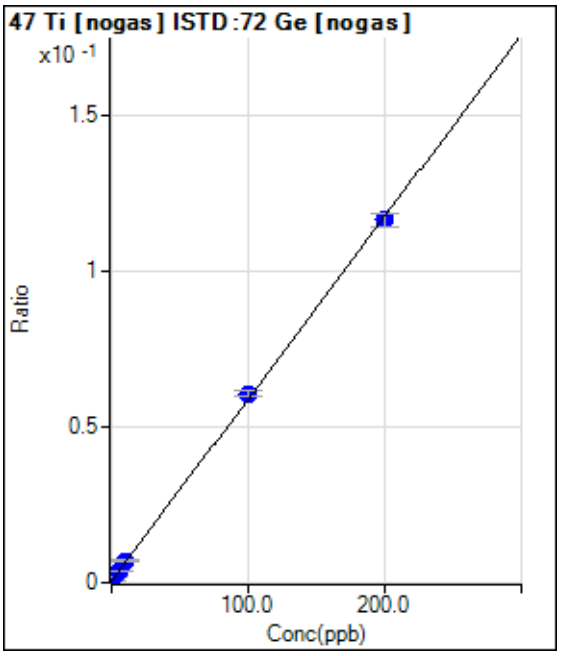
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	116.67	0.0012	P	23.6
2	☐	200.000	220.941	623.35	0.0066	P	2.3
3	☐	500.000	440.053	1136.72	0.0119	P	9.4
4	☐	1000.000	1006.127	2413.54	0.0256	P	7.0
5	☐	10000.00	10212.454	22410.64	0.2484	P	6.3
6	☐	20000.00	19894.756	42853.23	0.4827	P	1.8
7	☐	100.000					

y = 2.4203E-005 * x + 0.0012
R = 0.9999
DL = 35.53
BEC = 50.22

Weight: <None>
Min Conc: <None>

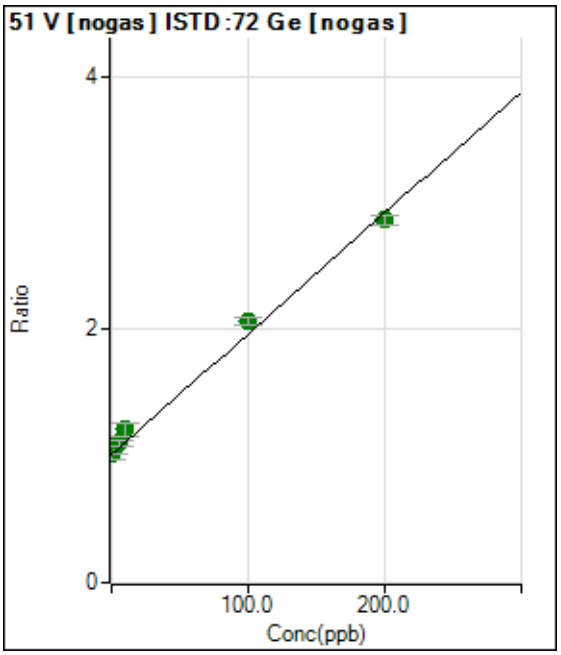


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	606.69	0.0005	P	25.3
2	☐	2.000	2.051	2060.15	0.0017	P	5.7
3	☐	5.000	5.415	4600.66	0.0037	P	4.8
4	☐	10.000	10.838	8535.47	0.0068	P	8.7
5	☐	100.000	103.149	70692.03	0.0607	P	3.3
6	☐	200.000	198.372	137515.72	0.1163	P	3.5
7	☐	1.000					

y = 5.8358E-004 * x + 4.9569E-004
R = 0.9998
DL = 0.6459
BEC = 0.8494

Weight: <None>
Min Conc: <None>

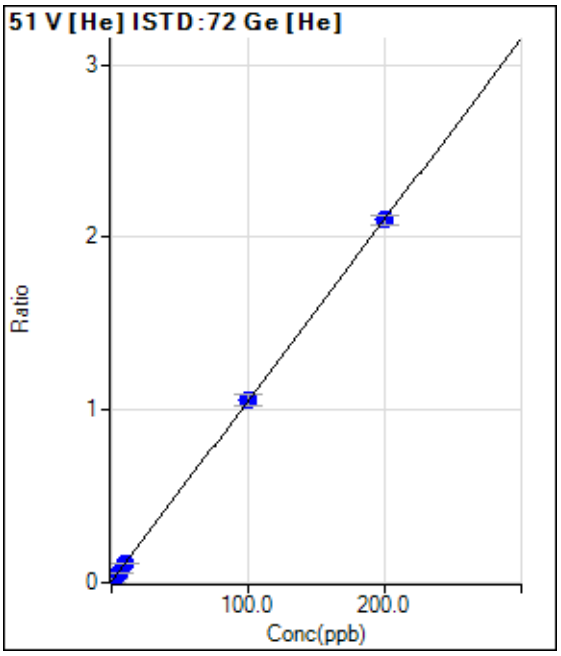
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1239092.51	1.0120	A	9.0
2	☐	2.000	4.730	1287138.37	1.0572	A	6.3
3	☐	5.000	9.904	1393000.48	1.1066	A	4.0
4	☐	10.000	20.660	1512710.16	1.2093	A	8.5
5	☐	100.000	110.497	2407819.39	2.0671	A	2.8
6	☐	200.000	194.069	3389309.71	2.8651	A	2.3
7	☐	1.000					

y = 0.0095 * x + 1.0120
R = 0.9974
DL = 28.6
BEC = 106

Weight: <None>
Min Conc: <None>

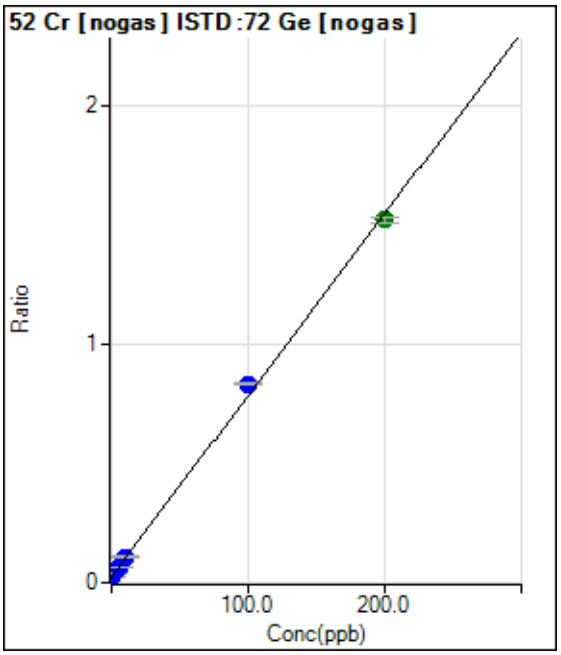


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.089	484.01	0.0051	P	5.0
2	☐	2.000	1.909	2471.51	0.0260	P	5.8
3	☐	5.000	4.963	5560.85	0.0580	P	0.2
4	☐	10.000	10.087	10556.36	0.1118	P	1.6
5	☐	100.000	100.264	95359.48	1.0575	P	6.7
6	☐	200.000	199.865	186495.27	2.1020	P	2.8
7	☐	1.000					

y = 0.0105 * x + 0.0060
R = 1.0000
DL = 0.07179
BEC = 0.5715

Weight: <None>
Min Conc: <None>

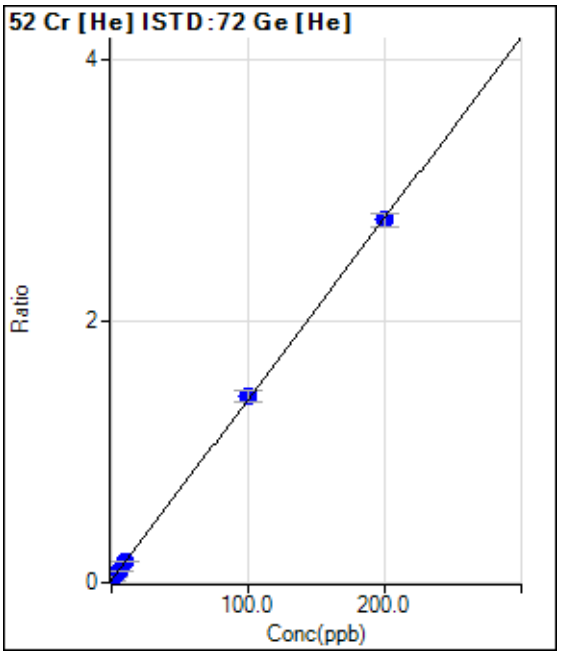
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	30705.73	0.0251	P	6.6
2	☐	2.000	2.060	49589.93	0.0407	P	5.7
3	☐	5.000	5.215	81469.88	0.0647	P	1.6
4	☐	10.000	10.690	133097.78	0.1064	P	7.2
5	☐	100.000	106.272	970954.44	0.8335	P	1.1
6	☐	200.000	196.824	1800859.30	1.5223	A	1.5
7	☐	1.000					

y = 0.0076 * x + 0.0251
R = 0.9993
DL = 0.6506
BEC = 3.296

Weight: <None>
Min Conc: <None>

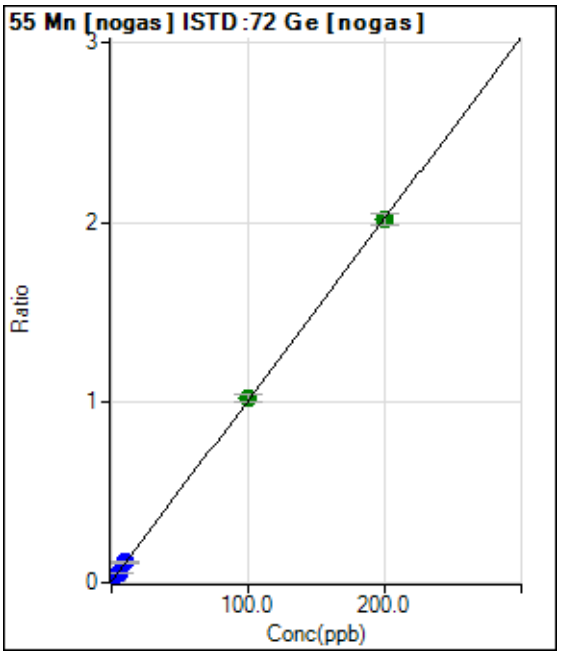


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1676.78	0.0175	P	15.0
2	☐	2.000	2.127	4463.94	0.0470	P	6.1
3	☐	5.000	5.458	8925.61	0.0932	P	2.7
4	☐	10.000	10.540	15440.08	0.1636	P	4.0
5	☐	100.000	101.750	128756.23	1.4273	P	5.8
6	☐	200.000	199.086	246274.37	2.7760	P	3.6
7	☐	1.000					

y = 0.0139 * x + 0.0175
R = 0.9999
DL = 0.5687
BEC = 1.265

Weight: <None>
Min Conc: <None>

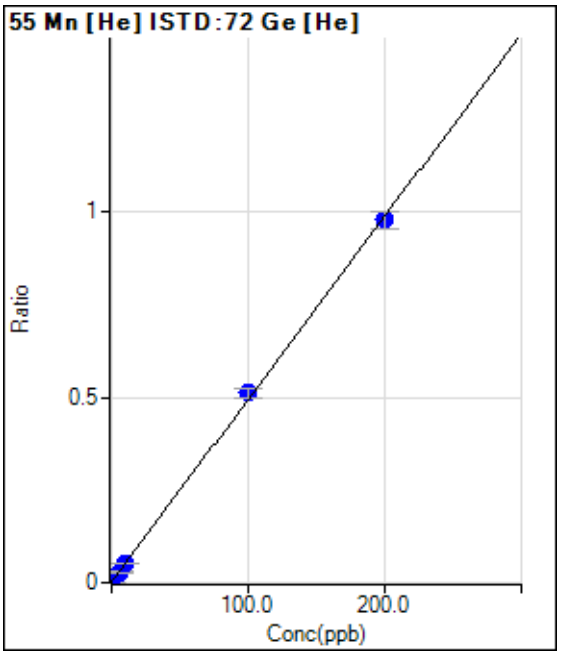
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7528.32	0.0061	P	7.1
2	☐	2.000	2.167	34065.25	0.0280	P	5.9
3	☐	5.000	5.120	72680.54	0.0578	P	1.7
4	☐	10.000	10.680	142412.99	0.1138	P	6.0
5	☐	100.000	101.203	1194546.36	1.0262	A	5.0
6	☐	200.000	199.360	2384023.40	2.0155	A	3.3
7	☐	1.000					

y = 0.0101 * x + 0.0061
R = 1.0000
DL = 0.1293
BEC = 0.61

Weight: <None>
Min Conc: <None>

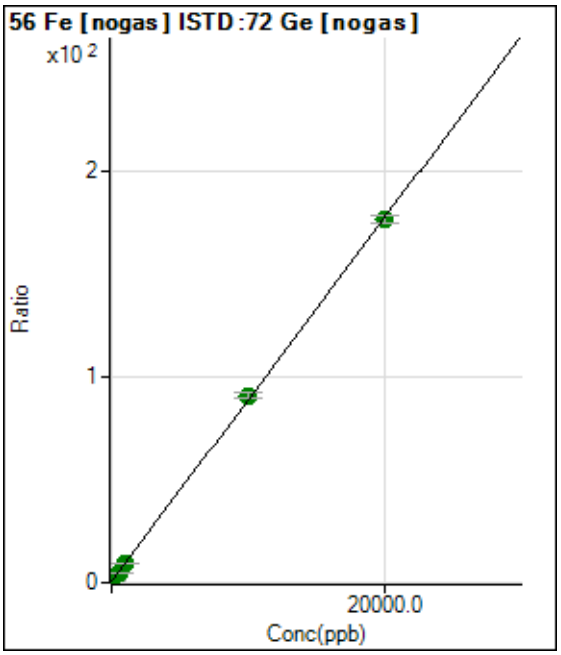


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	190.01	0.0020	P	25.2
2	☐	2.000	2.379	1300.07	0.0137	P	8.9
3	☐	5.000	5.350	2713.59	0.0283	P	2.4
4	☐	10.000	9.946	4810.72	0.0510	P	4.8
5	☐	100.000	103.486	46155.10	0.5116	P	5.7
6	☐	200.000	198.247	86771.92	0.9783	P	4.5
7	☐	1.000					

y = 0.0049 * x + 0.0020
R = 0.9998
DL = 0.3036
BEC = 0.4018

Weight: <None>
Min Conc: <None>

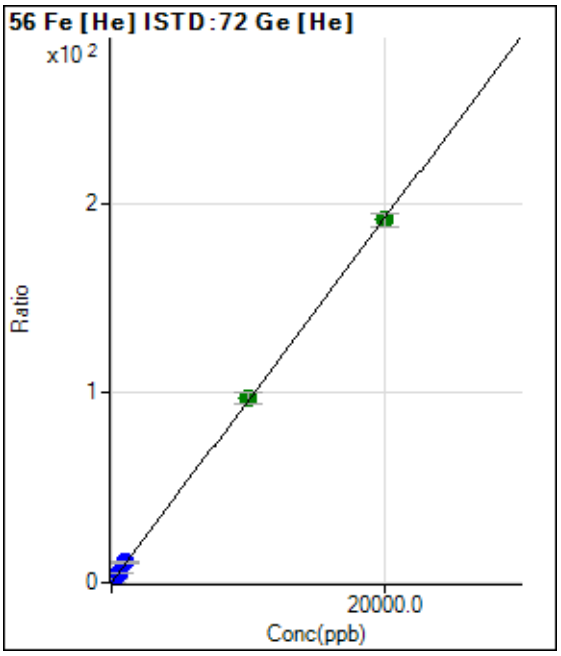
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	658952.57	0.5378	P	3.9
2	☐	200.000	212.546	2944158.98	2.4171	A	1.2
3	☐	500.000	503.062	6273194.41	4.9858	A	2.0
4	☐	1000.000	1015.747	11914399.23	9.5190	A	5.0
5	☐	10000.00	10222.819	105899802.3	90.9277	A	3.0
6	☐	20000.00	19887.601	208679000.5	176.383	A	2.0
7	☐	100.000					

y = 0.0088 * x + 0.5378
R = 0.9999
DL = 7.161
BEC = 60.82

Weight: <None>
Min Conc: <None>

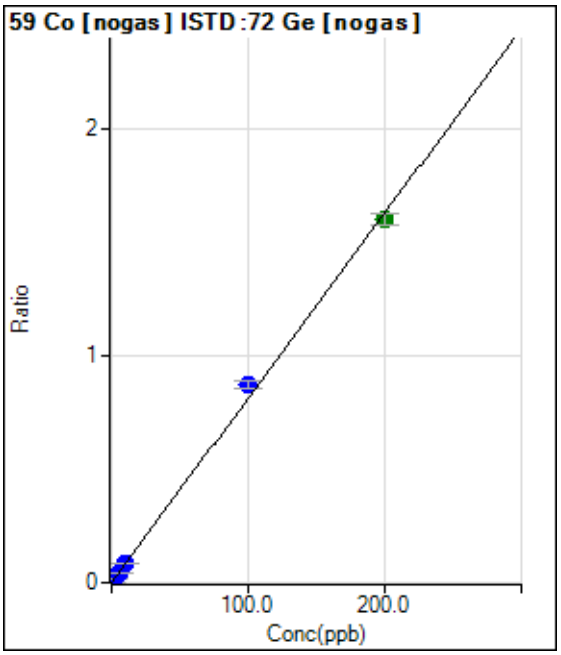


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6401.19	0.0670	P	1.8
2	☐	200.000	219.626	206469.97	2.1745	P	1.8
3	☐	500.000	537.609	500591.68	5.2257	P	1.9
4	☐	1000.000	1110.671	1012374.05	10.7247	P	4.3
5	☐	10000.00	10141.065	8785055.49	97.3785	A	5.5
6	☐	20000.00	19922.797	16963663.50	191.241	A	3.8
7	☐	100.000					

y = 0.0096 * x + 0.0670
R = 1.0000
DL = 0.3726
BEC = 6.979

Weight: <None>
Min Conc: <None>

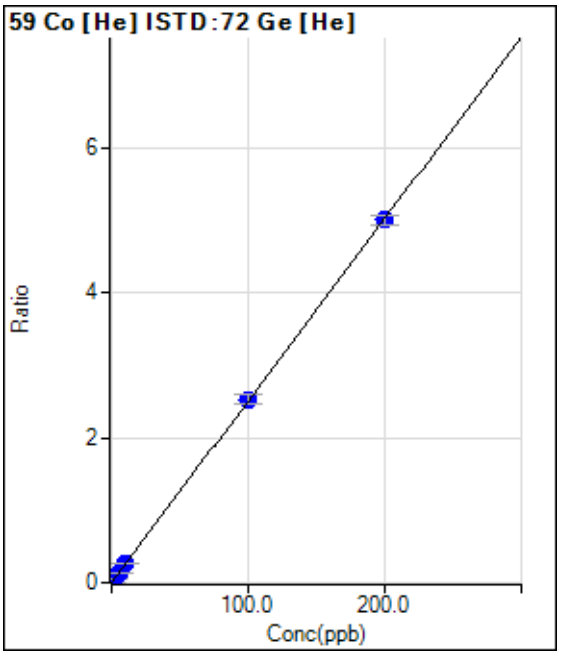
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	293.34	0.0002	P	10.4
2	☐	2.000	2.182	21890.17	0.0180	P	3.0
3	☐	5.000	5.303	54571.88	0.0434	P	0.5
4	☐	10.000	10.520	107408.58	0.0858	P	3.2
5	☐	100.000	106.887	1012266.62	0.8693	P	4.0
6	☐	200.000	196.521	1890671.48	1.5981	A	3.1
7	☐	1.000					

y = 0.0081 * x + 2.3924E-004
R = 0.9992
DL = 0.009182
BEC = 0.02942

Weight: <None>
Min Conc: <None>

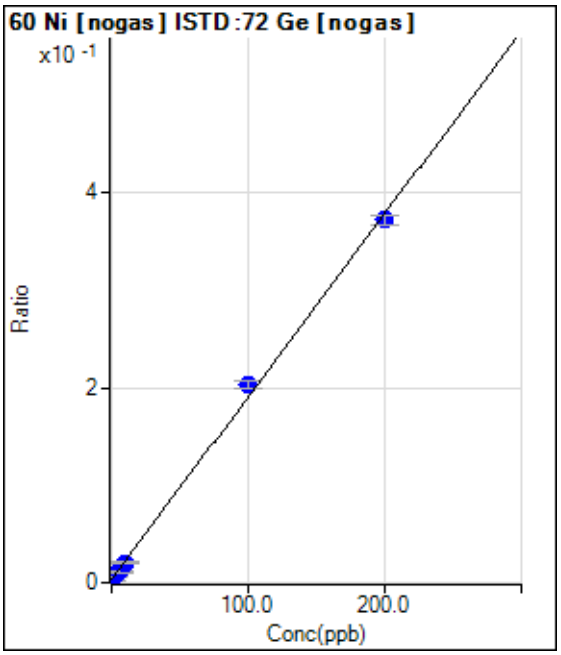


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.67	0.0006	P	48.5
2	☐	2.000	2.089	5034.12	0.0530	P	5.5
3	☐	5.000	5.130	12391.14	0.1294	P	5.1
4	☐	10.000	10.493	24930.58	0.2640	P	2.4
5	☐	100.000	100.894	228527.87	2.5336	P	6.0
6	☐	200.000	199.524	444496.60	5.0098	P	2.6
7	☐	1.000					

y = 0.0251 * x + 5.8884E-004
R = 1.0000
DL = 0.03416
BEC = 0.02345

Weight: <None>
Min Conc: <None>

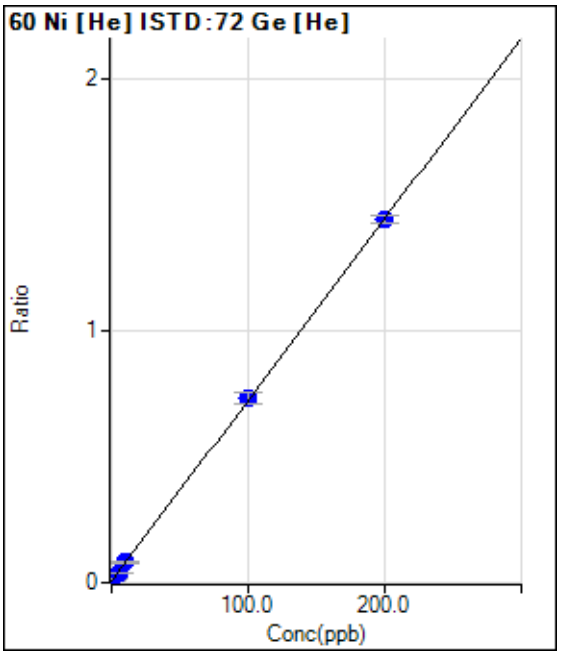
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.895	2013.48	0.0016	P	12.5
2	☐	2.000	1.146	6661.36	0.0055	P	4.2
3	☐	5.000	4.179	14022.24	0.0112	P	6.0
4	☐	10.000	9.233	25808.63	0.0206	P	6.2
5	☐	100.000	106.541	236273.44	0.2029	P	4.0
6	☐	200.000	196.797	440083.21	0.3720	P	2.4
7	☐	1.000					

y = 0.0019 * x + 0.0033
R = 0.9992
DL = 0.3291
BEC = 1.774

Weight: <None>
Min Conc: <None>

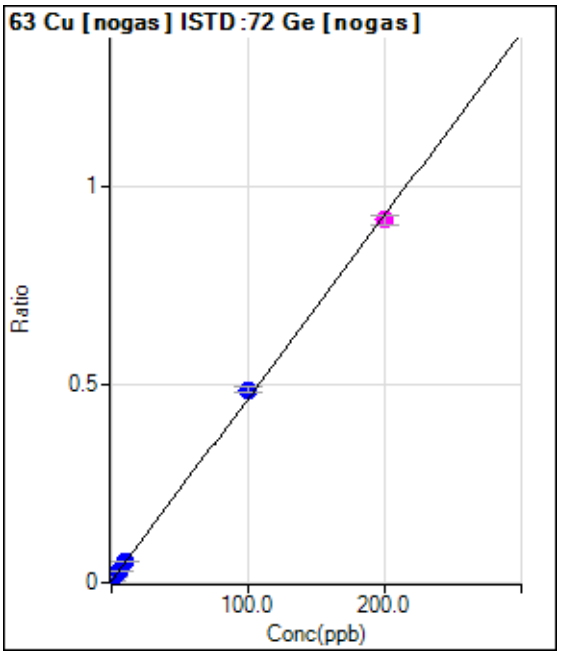


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.220	443.34	0.0046	P	14.6
2	☐	2.000	1.842	1846.79	0.0195	P	6.1
3	☐	5.000	4.676	3817.15	0.0398	P	5.4
4	☐	10.000	10.309	7581.70	0.0803	P	6.3
5	☐	100.000	100.795	65932.74	0.7311	P	6.3
6	☐	200.000	199.597	127926.76	1.4416	P	2.1
7	☐	1.000					

y = 0.0072 * x + 0.0062
R = 1.0000
DL = 0.2808
BEC = 0.8627

Weight: <None>
Min Conc: <None>

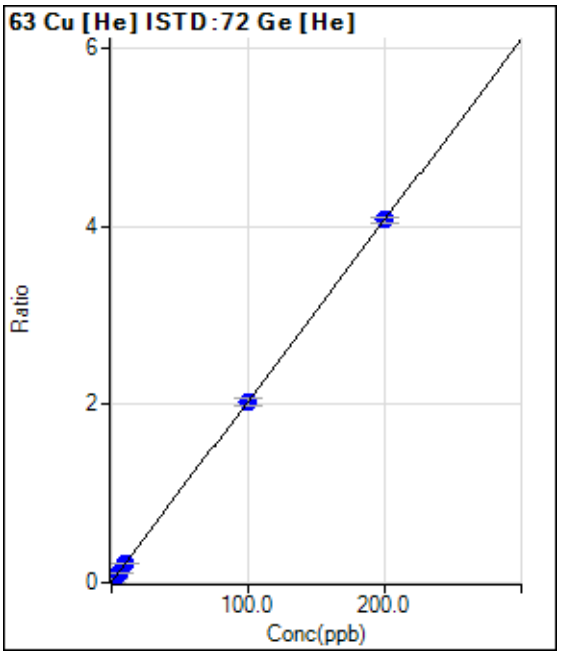
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4663.99	0.0038	P	5.4
2	☐	2.000	2.055	16220.88	0.0133	P	1.6
3	☐	5.000	5.285	35545.04	0.0283	P	3.9
4	☐	10.000	10.519	65712.05	0.0525	P	3.2
5	☐	100.000	104.719	568546.74	0.4882	P	2.8
6	☐	200.000	197.607	1085788.58	0.9178	M	2.3
7	☐	1.000					

y = 0.0046 * x + 0.0038
R = 0.9996
DL = 0.1332
BEC = 0.8232

Weight: <None>
Min Conc: <None>

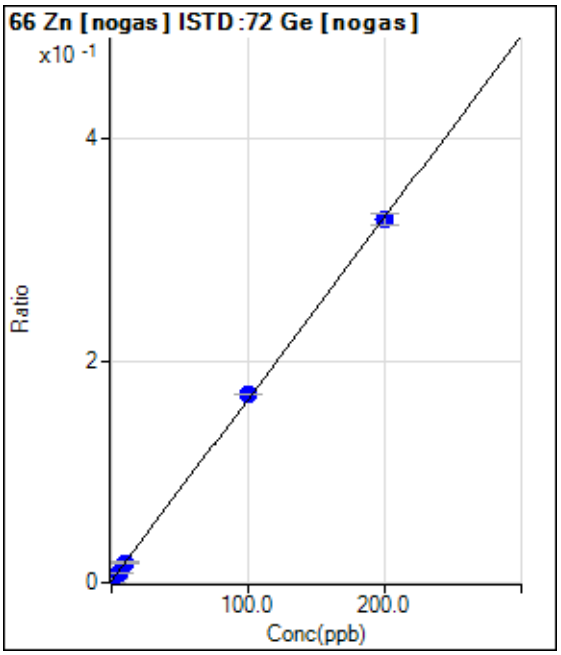


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.004	816.70	0.0086	P	18.1
2	☐	2.000	1.998	4667.34	0.0491	P	9.7
3	☐	5.000	5.024	10596.62	0.1106	P	2.6
4	☐	10.000	10.182	20341.61	0.2155	P	4.1
5	☐	100.000	99.605	183464.12	2.0331	P	4.9
6	☐	200.000	200.188	361869.41	4.0776	P	1.5
7	☐	1.000					

y = 0.0203 * x + 0.0085
R = 1.0000
DL = 0.2296
BEC = 0.4182

Weight: <None>
Min Conc: <None>

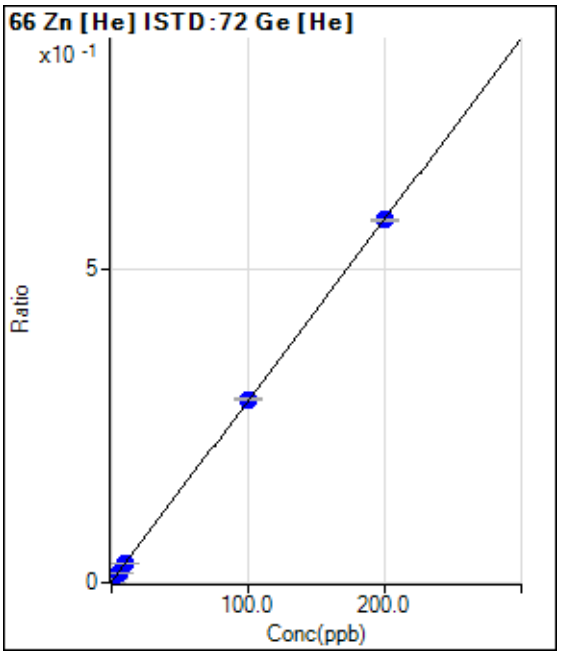
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.655	743.36	0.0006	P	12.4
2	☐	2.000	1.696	5420.89	0.0045	P	12.4
3	☐	5.000	4.698	11800.70	0.0094	P	2.1
4	☐	10.000	9.863	22320.69	0.0178	P	8.2
5	☐	100.000	102.762	198217.92	0.1701	P	0.8
6	☐	200.000	198.636	387041.44	0.3272	P	3.3
7	☐	1.000					

y = 0.0016 * x + 0.0017
R = 0.9998
DL = 0.1376
BEC = 1.025

Weight: <None>
Min Conc: <None>

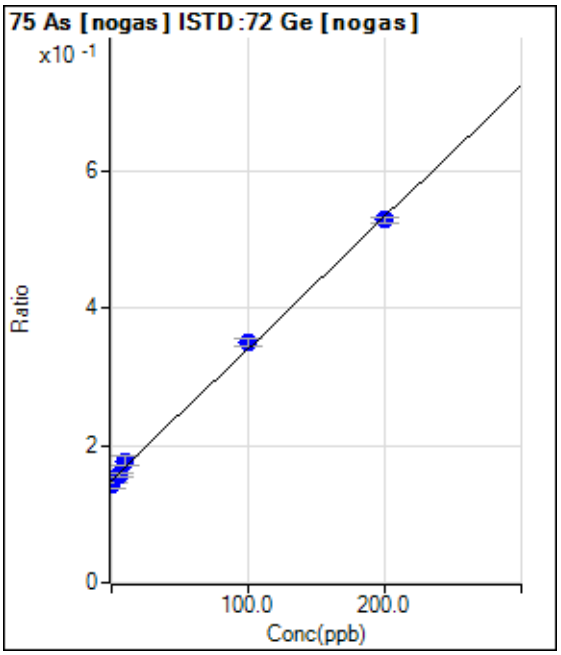


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.214	80.00	0.0008	P	60.0
2	☐	2.000	2.163	733.36	0.0077	P	7.7
3	☐	5.000	4.838	1480.09	0.0155	P	5.6
4	☐	10.000	9.934	2853.61	0.0302	P	3.3
5	☐	100.000	100.546	26409.45	0.2922	P	1.4
6	☐	200.000	199.733	51396.04	0.5791	P	0.6
7	☐	1.000					

y = 0.0029 * x + 0.0015
R = 1.0000
DL = 0.5274
BEC = 0.5063

Weight: <None>
Min Conc: <None>

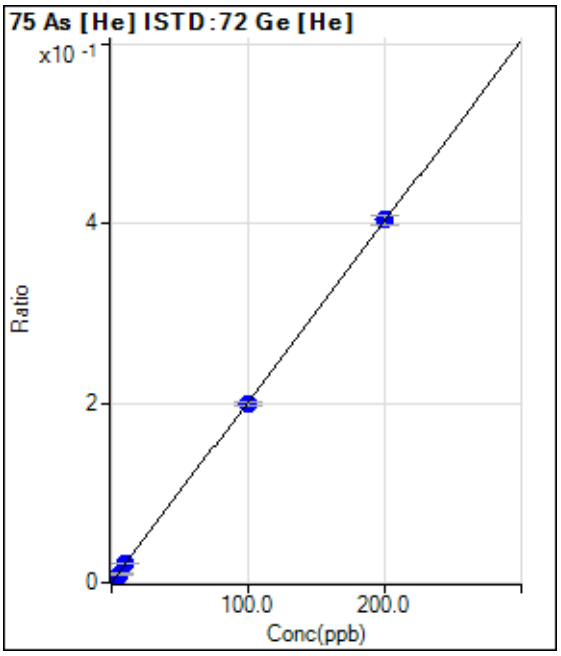
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-3.434	175056.36	0.1430	P	9.0
2	☐	2.000	0.238	182646.96	0.1501	P	7.4
3	☐	5.000	3.479	196679.65	0.1563	P	4.1
4	☐	10.000	14.678	222382.90	0.1777	P	7.4
5	☐	100.000	104.436	407458.76	0.3498	P	3.5
6	☐	200.000	197.604	625131.96	0.5284	P	1.7
7	☐	1.000					

y = 0.0019 * x + 0.1496
R = 0.9990
DL = 20.19
BEC = 78.04

Weight: <None>
Min Conc: <None>

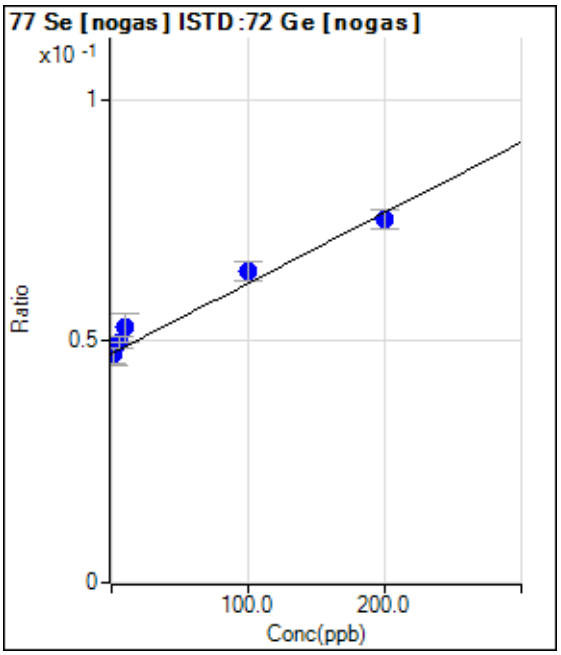


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	31.11	0.0003	P	20.3
2	☐	2.000	1.858	385.56	0.0041	P	13.9
3	☐	5.000	4.591	916.69	0.0096	P	3.1
4	☐	10.000	10.409	2009.01	0.0213	P	4.7
5	☐	100.000	98.494	17944.42	0.1987	P	2.4
6	☐	200.000	200.744	35894.33	0.4046	P	2.6
7	☐	1.000					

y = 0.0020 * x + 3.2445E-004
R = 1.0000
DL = 0.09836
BEC = 0.1611

Weight: <None>
Min Conc: <None>

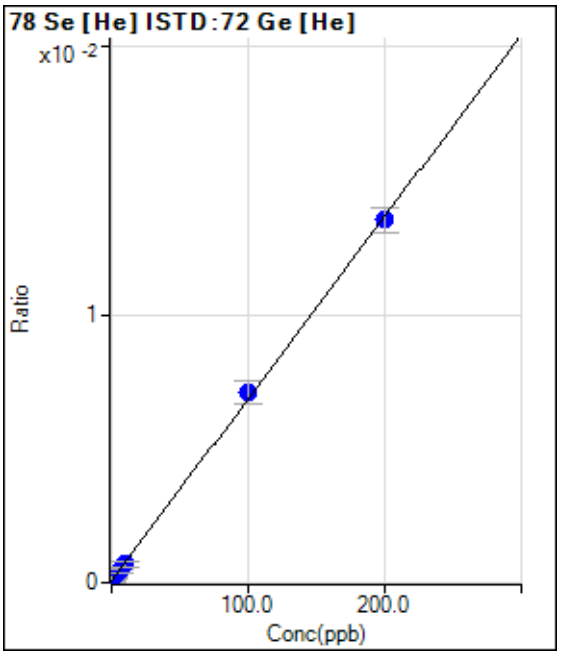
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	57995.97	0.0474	P	8.5
2	☐	2.000	-1.328	57411.24	0.0472	P	9.4
3	☐	5.000	15.413	62487.29	0.0496	P	4.7
4	☐	10.000	36.582	65909.40	0.0527	P	11.3
5	☐	100.000	117.530	75114.72	0.0645	P	5.8
6	☐	200.000	189.679	88741.99	0.0750	P	5.1
7	☐	1.000					

y = 1.4580E-004 * x + 0.0474
R = 0.9862
DL = 82.93
BEC = 324.9

Weight: <None>
Min Conc: <None>

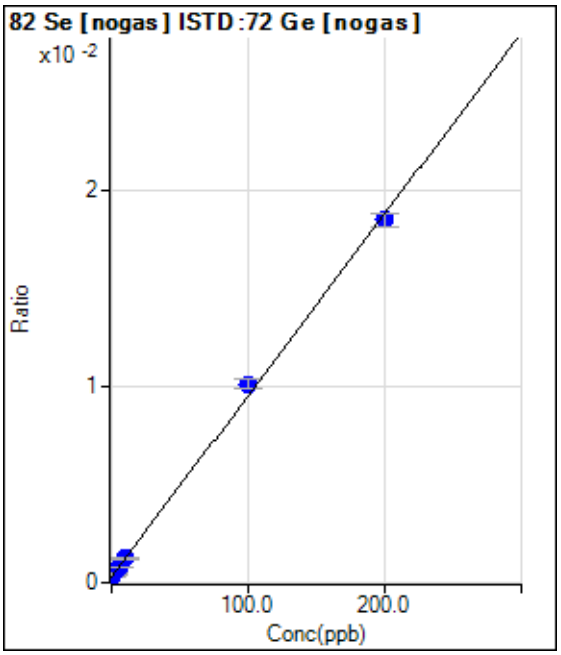


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.789	2.00	0.0000	P	173.
2	☐	2.000	1.789	18.67	0.0002	P	42.2
3	☐	5.000	5.147	40.67	0.0004	P	27.2
4	☐	10.000	9.052	65.33	0.0007	P	30.1
5	☐	100.000	103.511	640.68	0.0071	P	12.3
6	☐	200.000	198.290	1200.04	0.0135	P	6.9
7	☐	1.000					

y = 6.7883E-005 * x + 7.4360E-005
R = 0.9997
DL = 1.591
BEC = 1.095

Weight: <None>
Min Conc: <None>

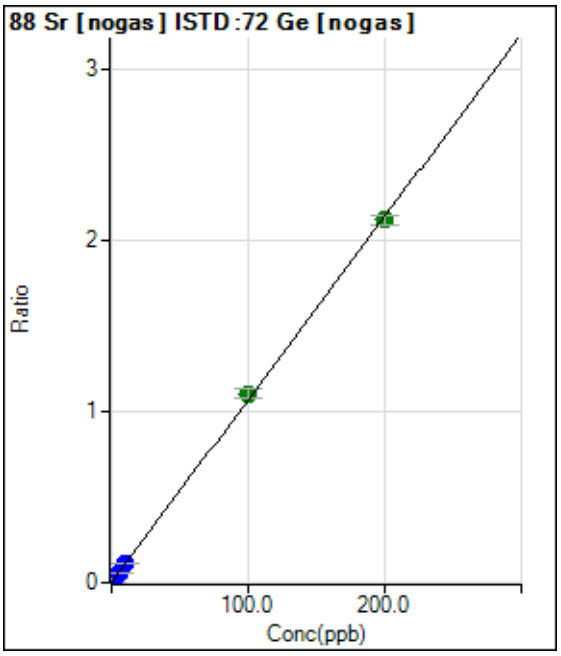
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	366.68	0.0003	P	11.9
2	☐	2.000	1.937	580.02	0.0005	P	20.3
3	☐	5.000	5.278	990.05	0.0008	P	7.7
4	☐	10.000	10.094	1540.10	0.0012	P	12.5
5	☐	100.000	106.222	11767.37	0.0101	P	5.0
6	☐	200.000	196.878	21846.88	0.0185	P	3.4
7	☐	1.000					

y = 9.2299E-005 * x + 2.9855E-004
R = 0.9993
DL = 1.158
BEC = 3.235

Weight: <None>
Min Conc: <None>

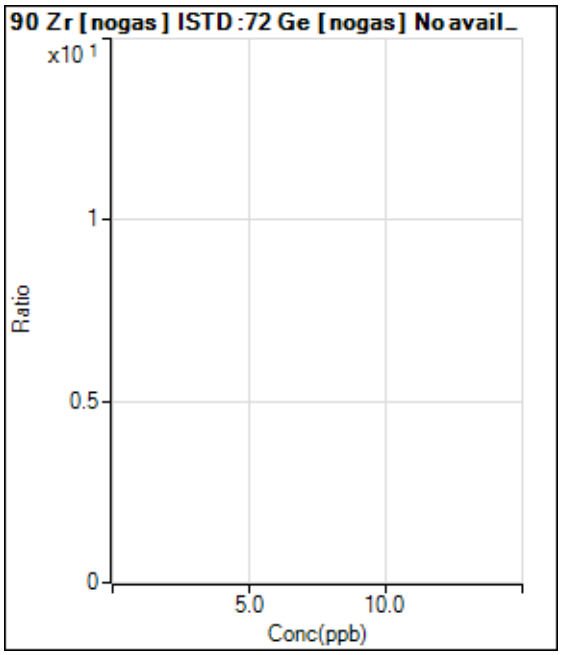


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1440.08	0.0012	P	11.1
2	☐	2.000	2.227	30413.17	0.0250	P	2.4
3	☐	5.000	5.165	70928.31	0.0564	P	1.5
4	☐	10.000	10.687	144414.90	0.1154	P	4.6
5	☐	100.000	103.171	1284834.31	1.1036	A	5.3
6	☐	200.000	198.374	2508963.82	2.1209	A	2.3
7	☐	1.000					

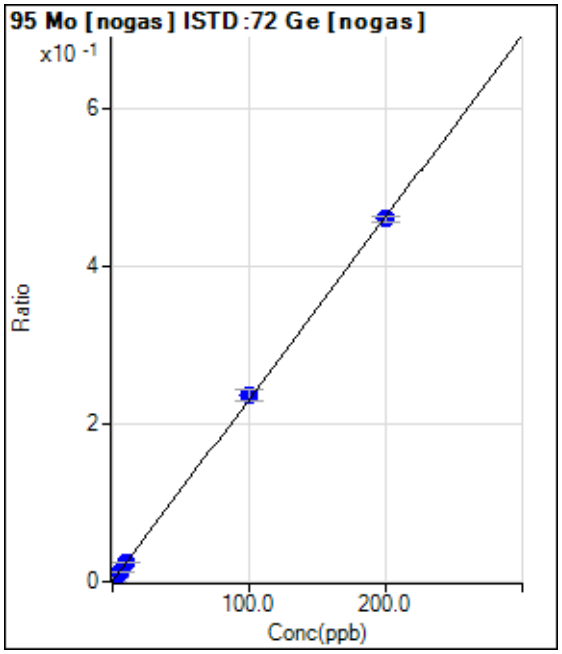
y = 0.0107 * x + 0.0012
R = 0.9998
DL = 0.03641
BEC = 0.1098

Weight: <None>
Min Conc: <None>

Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

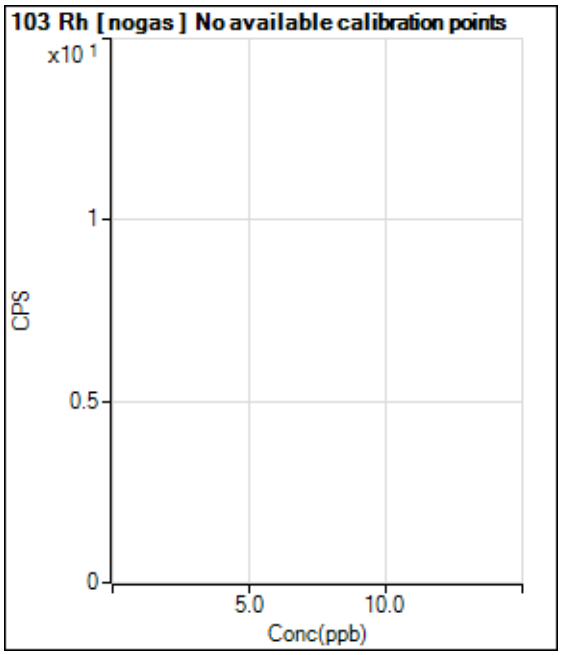


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	933.38	0.0008	P	7.8
2	☐	2.000	2.047	6684.70	0.0055	P	4.6
3	☐	5.000	4.985	15440.35	0.0123	P	3.4
4	☐	10.000	10.120	30232.86	0.0241	P	1.6
5	☐	100.000	101.927	274915.22	0.2362	P	6.0
6	☐	200.000	199.030	544706.20	0.4605	P	1.9
7	☐	1.000					

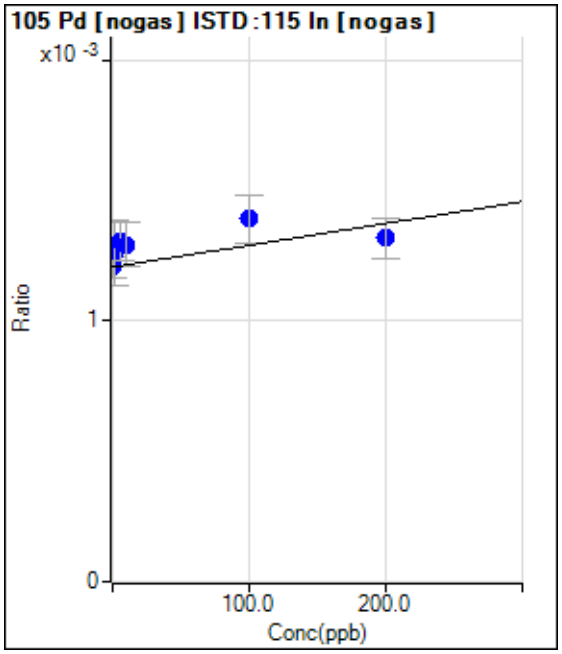
y = 0.0023 * x + 7.5978E-004
R = 0.9999
DL = 0.0767
BEC = 0.329

Weight: <None>
Min Conc: <None>

Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			30.00		P	33.3
2	☐			23.33		P	65.5
3	☐			46.67		P	68.9
4	☐			30.00		P	88.2
5	☐			63.33		P	18.2
6	☐			143.33		P	10.7
7	☐						

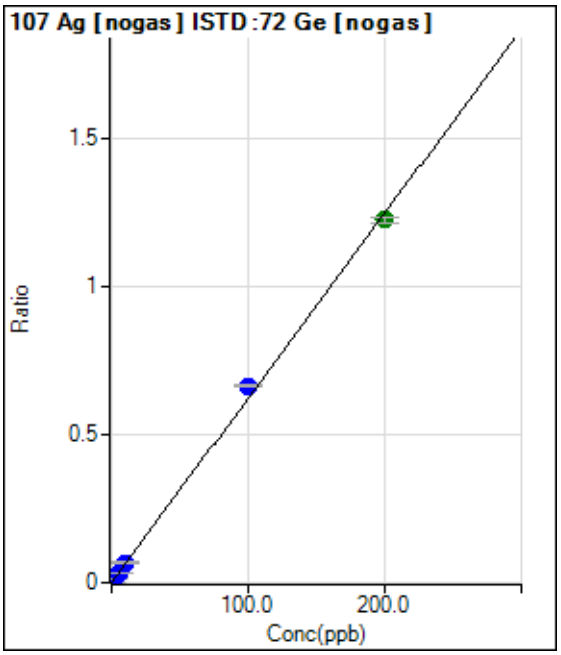


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1576.77	0.0012	P	7.0
2	☐	2.000	62.615	1603.44	0.0013	P	19.7
3	☐	5.000	121.274	1643.45	0.0013	P	11.2
4	☐	10.000	102.614	1673.45	0.0013	P	13.1
5	☐	100.000	220.552	1720.11	0.0014	P	12.9
6	☐	200.000	131.580	1633.44	0.0013	P	11.4
7	☐	1.000					

y = 8.3780E-007 * x + 0.0012
R = 0.5445
DL = 304.3
BEC = 1441

Weight: <None>
Min Conc: <None>

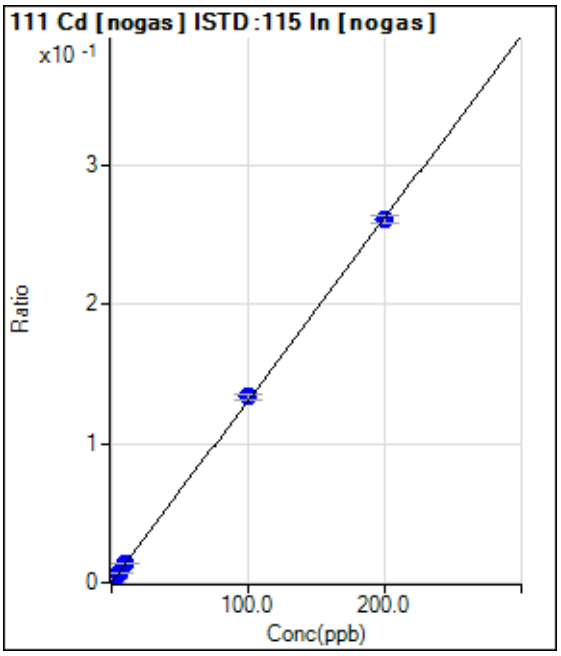
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	283.34	0.0002	P	25.5
2	☐	2.000	2.172	16748.26	0.0137	P	1.0
3	☐	5.000	5.351	42198.01	0.0335	P	2.4
4	☐	10.000	10.734	83933.52	0.0670	P	4.1
5	☐	100.000	106.690	773885.38	0.6642	P	0.8
6	☐	200.000	196.608	1447736.80	1.2237	A	1.5
7	☐	1.000					

y = 0.0062 * x + 2.3185E-004
R = 0.9992
DL = 0.02846
BEC = 0.03726

Weight: <None>
Min Conc: <None>

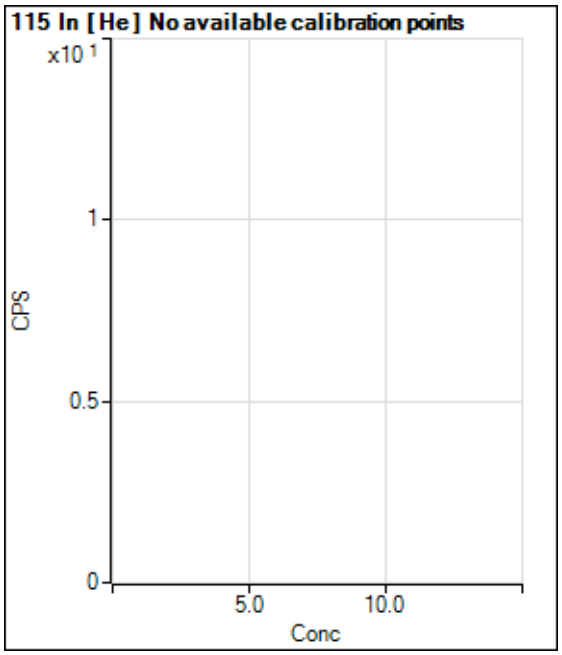


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13.33	0.0000	P	42.8
2	☐	2.000	1.996	3357.06	0.0026	P	8.4
3	☐	5.000	5.325	8765.68	0.0070	P	3.8
4	☐	10.000	10.386	17685.81	0.0136	P	3.0
5	☐	100.000	101.850	165645.67	0.1336	P	3.1
6	☐	200.000	199.047	323204.32	0.2610	P	2.0
7	☐	1.000					

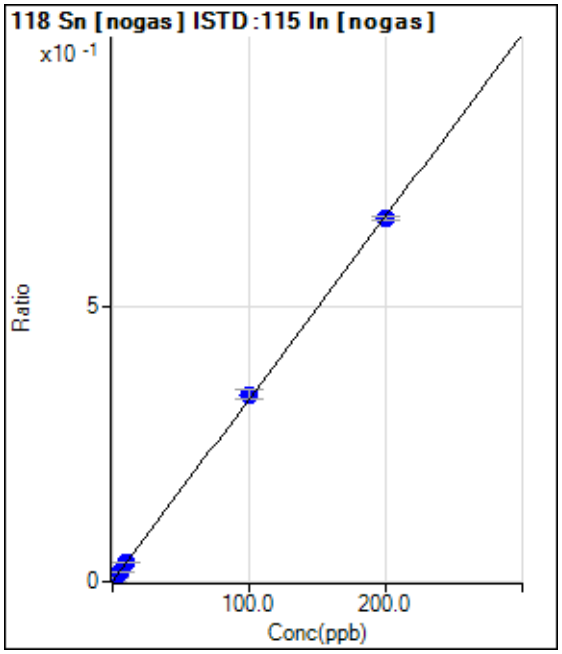
y = 0.0013 * x + 1.0186E-005
R = 0.9999
DL = 0.009971
BEC = 0.007768

Weight: <None>
Min Conc: <None>

Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			110145.80		P	2.9
2	☐			107414.22		P	1.2
3	☐			107724.19		P	2.6
4	☐			105248.53		P	2.6
5	☐			102095.80		P	4.0
6	☐			99973.07		P	2.0
7	☐						

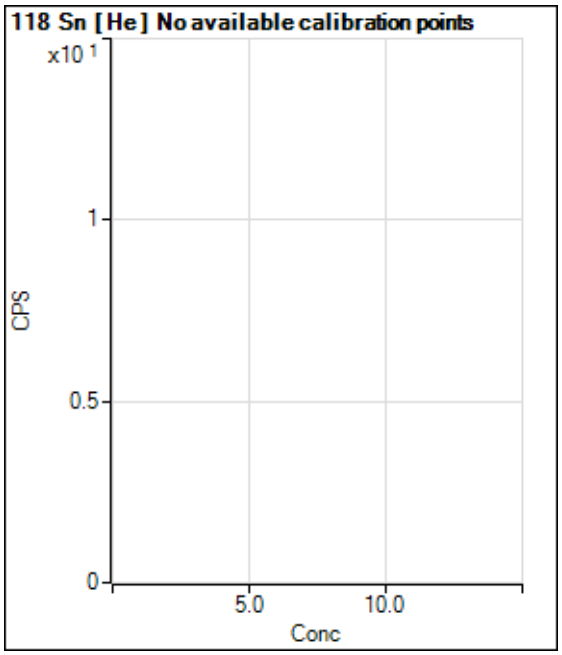


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	536.68	0.0004	P	8.3
2	☐	2.000	2.090	9396.03	0.0073	P	2.8
3	☐	5.000	5.184	22047.51	0.0176	P	3.6
4	☐	10.000	10.291	44774.21	0.0345	P	3.1
5	☐	100.000	102.566	421874.24	0.3405	P	5.5
6	☐	200.000	198.697	816303.34	0.6592	P	1.2
7	☐	1.000					

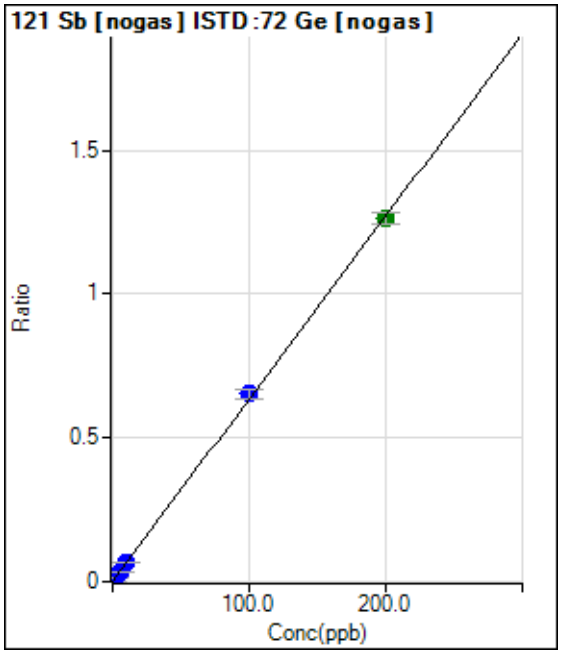
y = 0.0033 * x + 4.0988E-004
R = 0.9999
DL = 0.03095
BEC = 0.1236

Weight: <None>
Min Conc: <None>

Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			53.33		P	60.3
2	☐			1026.72		P	10.2
3	☐			4995.67		P	83.5
4	☐			5074.17		P	1.8
5	☐			45840.70		P	3.1
6	☐			89509.36		P	2.2
7	☐						

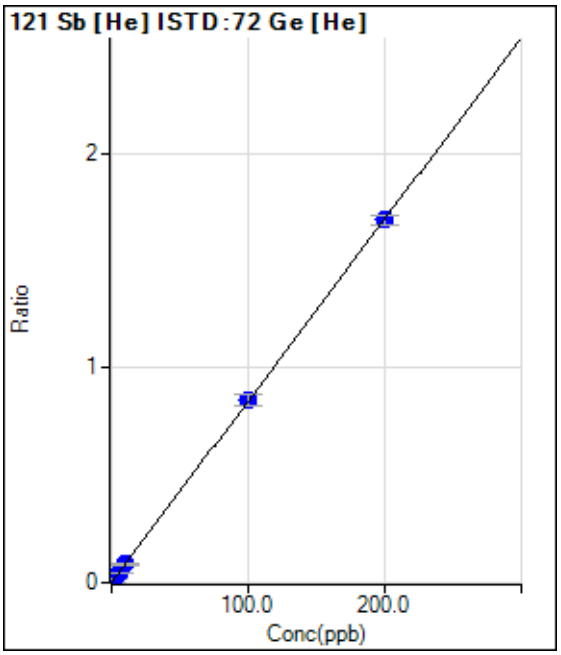


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1056.72	0.0009	P	19.7
2	☐	2.000	2.076	17088.64	0.0140	P	4.3
3	☐	5.000	5.023	41192.60	0.0327	P	3.9
4	☐	10.000	10.180	82006.31	0.0655	P	1.8
5	☐	100.000	102.676	759434.73	0.6524	P	5.1
6	☐	200.000	198.652	1491930.45	1.2613	A	3.2
7	☐	1.000					

y = 0.0063 * x + 8.6465E-004
R = 0.9999
DL = 0.08042
BEC = 0.1363

Weight: <None>
Min Conc: <None>

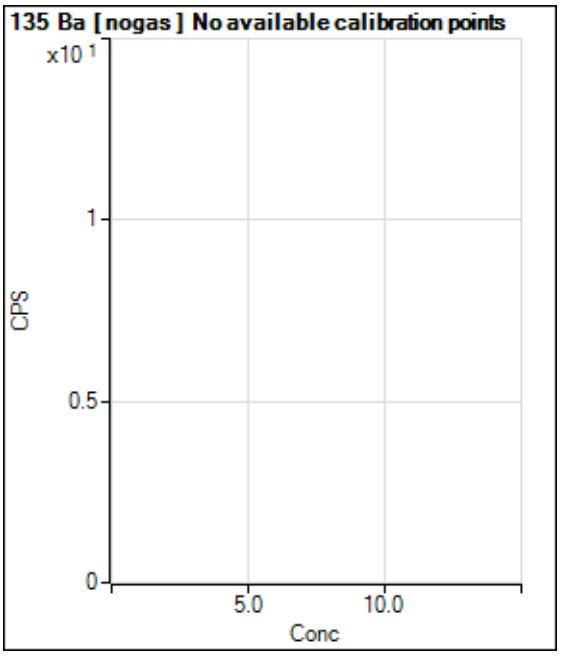
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	86.67	0.0009	P	38.0
2	☐	2.000	2.114	1783.46	0.0188	P	15.0
3	☐	5.000	4.874	4033.88	0.0421	P	7.0
4	☐	10.000	10.136	8178.73	0.0866	P	6.4
5	☐	100.000	100.452	76695.89	0.8503	P	6.0
6	☐	200.000	199.769	149960.88	1.6901	P	2.6
7	☐	1.000					

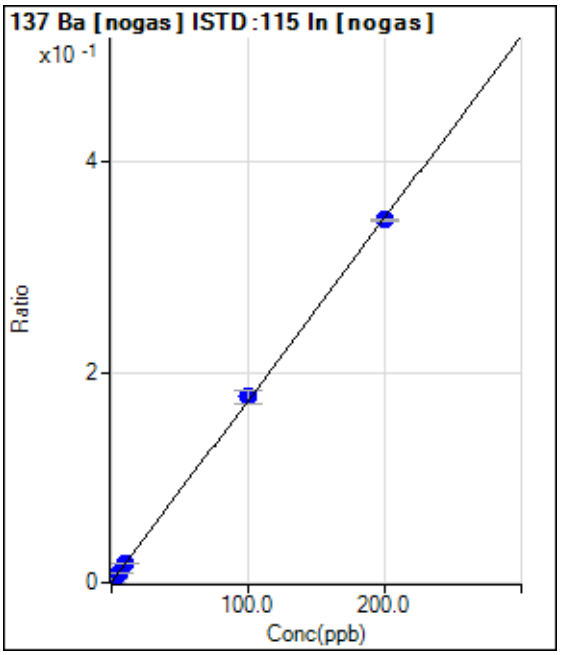
y = 0.0085 * x + 9.1209E-004
R = 1.0000
DL = 0.1228
BEC = 0.1079

Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			196.67		P	7.8
2	☐			3006.98		P	6.5
3	☐			6831.44		P	1.0
4	☐			12935.08		P	4.9
5	☐			123662.22		P	1.6
6	☐			249349.80		P	0.5
7	☐						

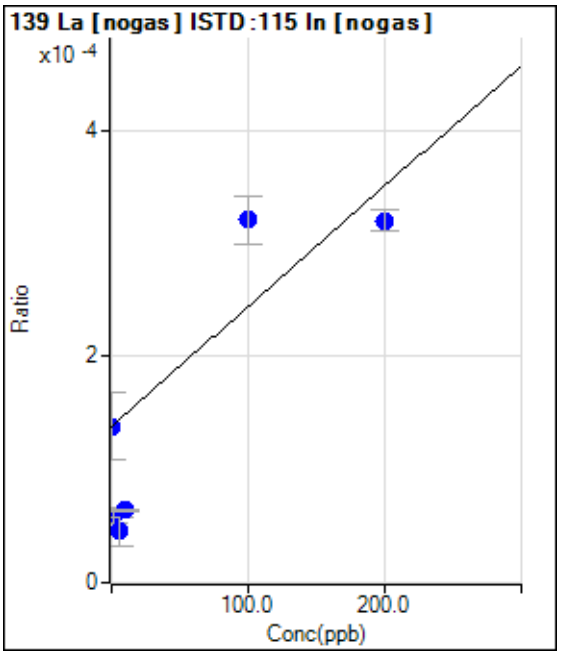
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	326.68	0.0003	P	19.2
2	☐	2.000	2.146	5070.86	0.0040	P	10.2
3	☐	5.000	5.313	11860.97	0.0095	P	4.5
4	☐	10.000	10.081	22992.32	0.0177	P	1.8
5	☐	100.000	101.781	218725.32	0.1767	P	7.4
6	☐	200.000	199.096	427704.00	0.3454	P	0.4
7	☐	1.000					

y = 0.0017 * x + 2.5110E-004
R = 0.9999
DL = 0.08356
BEC = 0.1449

Weight: <None>
Min Conc: <None>

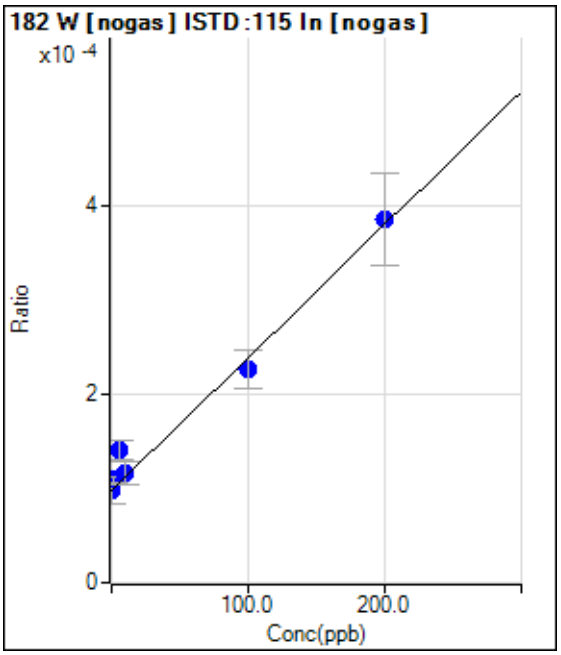


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	183.34	0.0001	P	43.6
2	☐	2.000	-74.128	76.67	0.0001	P	21.8
3	☐	5.000	-87.447	56.67	0.0000	P	53.6
4	☐	10.000	-69.646	83.33	0.0001	P	3.5
5	☐	100.000	171.657	400.01	0.0003	P	12.9
6	☐	200.000	171.226	396.68	0.0003	P	6.0
7	☐	100.000					

y = 1.0637E-006 * x + 1.3826E-004
R = 0.8857
DL = 170
BEC = 130

Weight: <None>
Min Conc: <None>

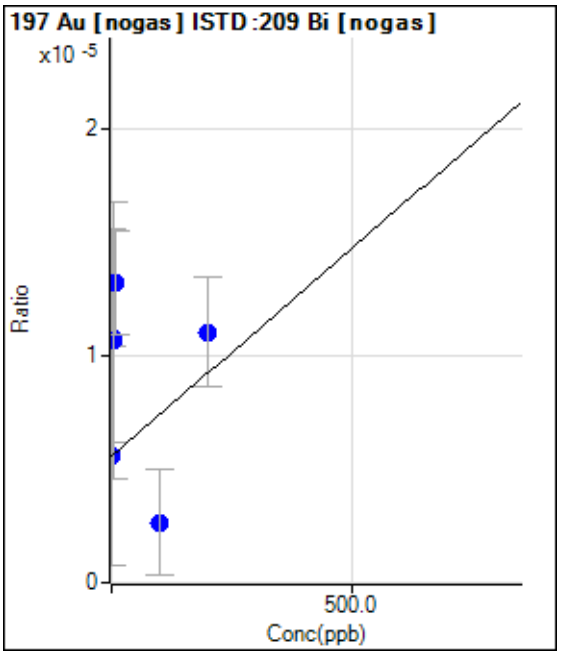
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	126.67	0.0001	P	28.2
2	☐	2.000	8.504	140.00	0.0001	P	5.0
3	☐	5.000	30.696	176.67	0.0001	P	14.9
4	☐	10.000	13.137	150.00	0.0001	P	20.0
5	☐	100.000	91.309	280.01	0.0002	P	17.2
6	☐	200.000	203.481	476.68	0.0004	P	25.3
7	☐	1.000					

y = 1.4099E-006 * x + 9.7476E-005
R = 0.9907
DL = 58.58
BEC = 69.14

Weight: <None>
Min Conc: <None>

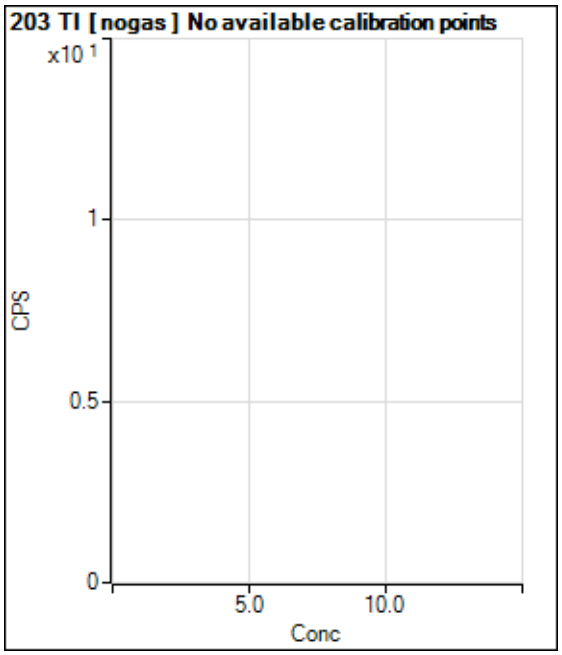


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6.67	0.0000	P	173.
2	☐	2.000	288.992	13.33	0.0000	P	86.8
3	☐	5.000	277.716	13.33	0.0000	P	114.
4	☐	10.000	419.304	16.67	0.0000	P	34.6
5	☐	100.000	-158.753	3.33	0.0000	P	173.
6	☐	200.000	299.224	13.33	0.0000	P	43.0
7	☐	100.000					

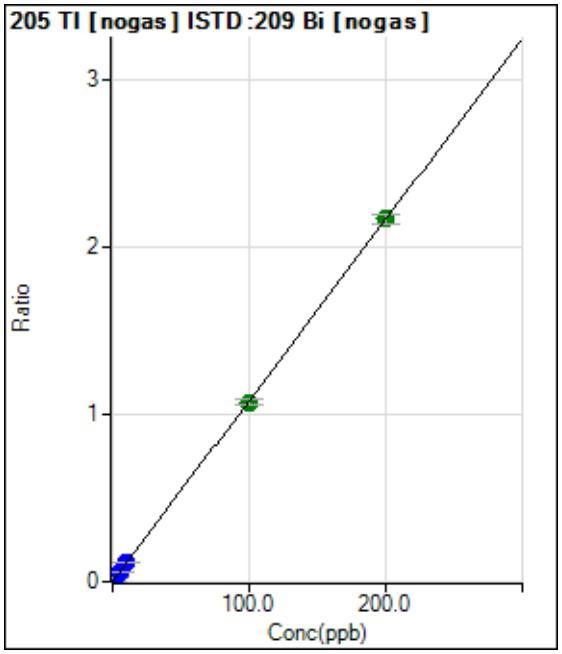
y = 1.8340E-008 * x + 5.5807E-006
R = -0.1049
DL = 1581
BEC = 304.3

Weight: <None>
Min Conc: <None>

Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			70.00		P	62.3
2	☐			12364.89		P	2.2
3	☐			30265.07		P	3.2
4	☐			61068.72		P	1.4
5	☐			591472.74		P	2.4
6	☐			1135126.23		P	1.6
7	☐						

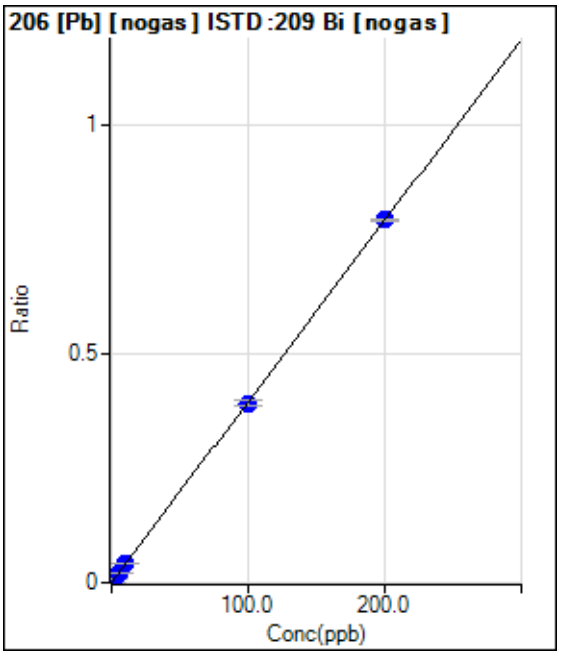


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	193.33	0.0002	P	18.6
2	☐	2.000	2.249	29827.91	0.0245	P	6.7
3	☐	5.000	5.509	74111.99	0.0597	P	1.1
4	☐	10.000	10.934	148668.17	0.1184	P	0.7
5	☐	100.000	99.037	1320216.54	1.0712	A	3.2
6	☐	200.000	200.420	2609231.99	2.1675	A	2.5
7	☐	1.000					

y = 0.0108 * x + 1.5998E-004
R = 1.0000
DL = 0.008268
BEC = 0.01479

Weight: <None>
Min Conc: <None>

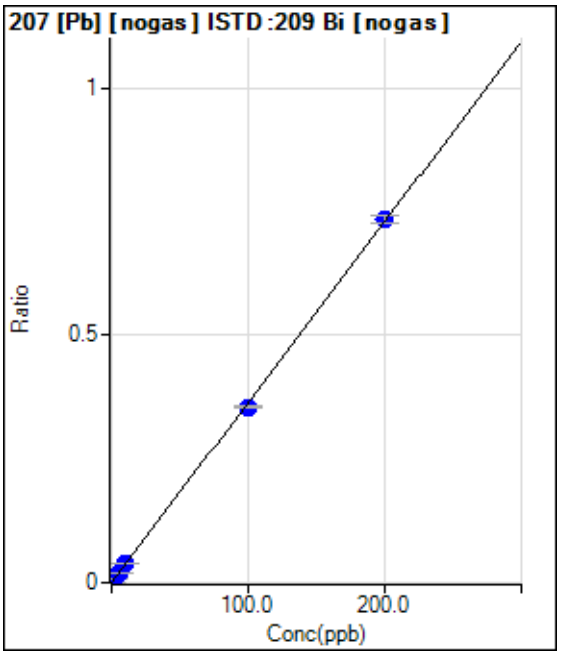
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	60.00	0.0000	P	28.3
2	☐	2.000	2.104	10196.72	0.0084	P	1.6
3	☐	5.000	5.335	26198.18	0.0211	P	3.1
4	☐	10.000	10.647	52862.70	0.0421	P	0.6
5	☐	100.000	98.985	481930.16	0.3910	P	2.9
6	☐	200.000	200.466	953136.84	0.7918	P	0.9
7	☐	1.000					

y = 0.0039 * x + 4.9641E-005
R = 1.0000
DL = 0.01067
BEC = 0.01257

Weight: <None>
Min Conc: <None>

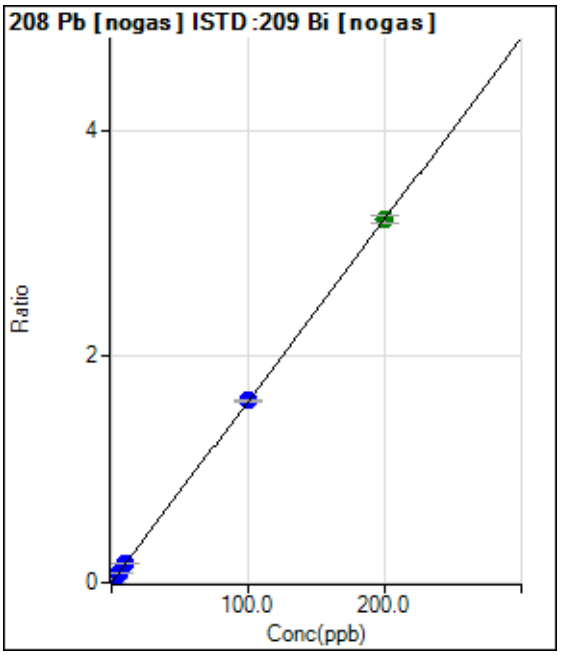


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	70.00	0.0001	P	30.5
2	☐	2.000	2.070	9276.12	0.0076	P	3.2
3	☐	5.000	5.053	22926.44	0.0185	P	0.2
4	☐	10.000	10.309	47252.55	0.0376	P	2.3
5	☐	100.000	97.565	438435.12	0.3557	P	1.6
6	☐	200.000	201.200	882783.79	0.7334	P	2.2
7	☐	1.000					

y = 0.0036 * x + 5.8259E-005
R = 0.9999
DL = 0.01464
BEC = 0.01598

Weight: <None>
Min Conc: <None>

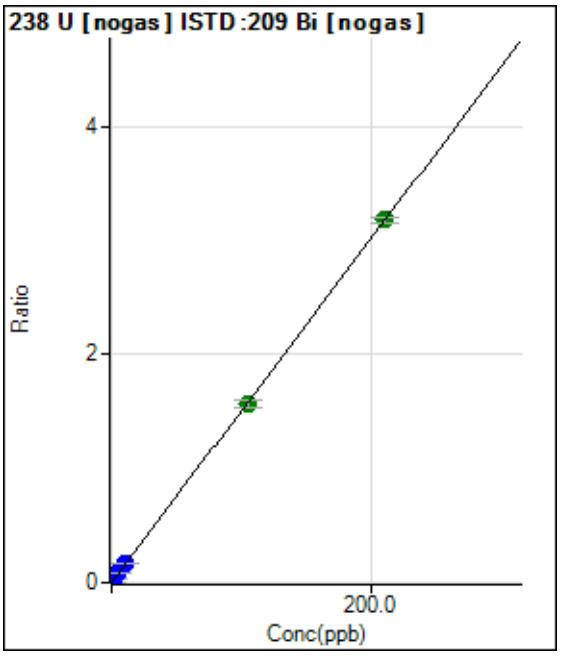
Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	273.33	0.0002	P	7.2
2	☐	2.000	2.125	41835.27	0.0343	P	2.0
3	☐	5.000	5.226	104278.36	0.0841	P	1.3
4	☐	10.000	10.573	213228.81	0.1698	P	2.2
5	☐	100.000	100.246	1982482.80	1.6082	P	1.3
6	☐	200.000	199.841	3858733.09	3.2057	A	2.0
7	☐	1.000					

y = 0.0160 * x + 2.2624E-004
R = 1.0000
DL = 0.003051
BEC = 0.0141

Weight: <None>
Min Conc: <None>

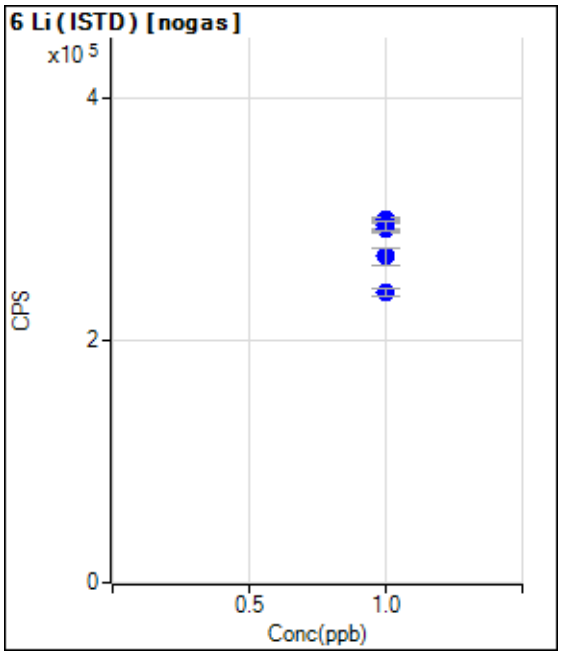


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	120.00	0.0001	P	47.0
2	☐	2.000	2.233	41304.50	0.0339	P	1.3
3	☐	5.000	5.532	103938.81	0.0838	P	1.5
4	☐	10.000	11.232	213455.78	0.1700	P	1.6
5	☐	105.000	103.862	1937176.54	1.5711	A	3.9
6	☐	210.000	210.496	3832785.36	3.1841	A	1.3
7	☐	1.000					

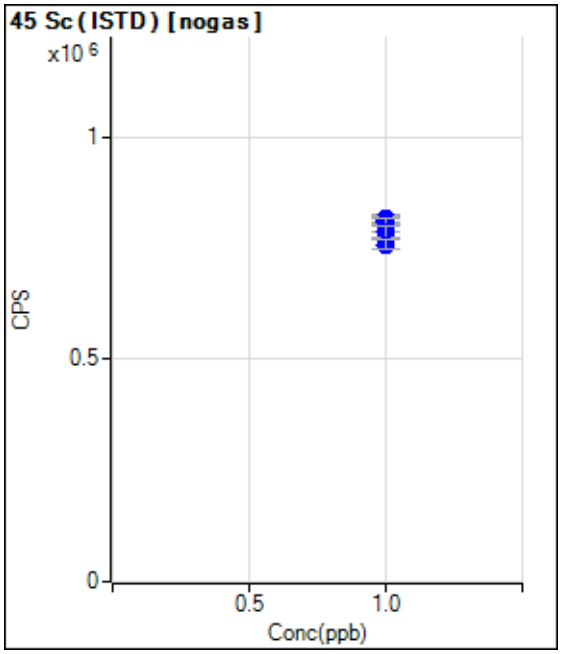
y = 0.0151 * x + 9.9445E-005
R = 1.0000
DL = 0.009277
BEC = 0.006574

Weight: <None>
Min Conc: <None>

Calibration for 129_ICV.d

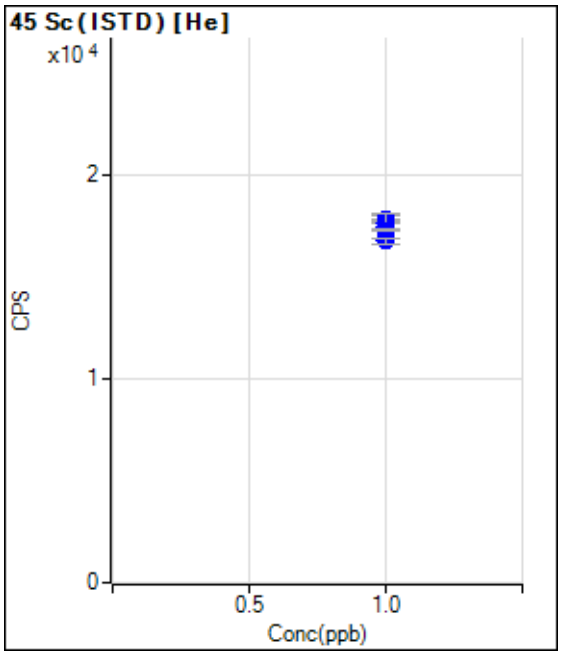


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		296893.18		P	2.8
2	☐	1.000		299892.37		P	0.9
3	☐	1.000		292905.93		P	2.5
4	☐	1.000		294923.01		P	3.0
5	☐	1.000		269959.32		P	5.2
6	☐	1.000		239919.58		P	2.9
7	☐	1.000					

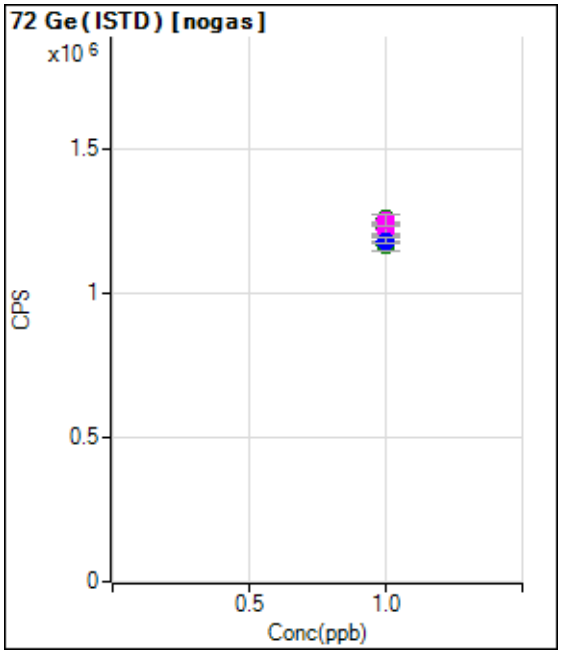


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		806828.97		P	4.8
2	☐	1.000		815454.67		P	2.6
3	☐	1.000		816399.60		P	1.7
4	☐	1.000		809538.84		P	2.1
5	☐	1.000		786486.71		P	3.3
6	☐	1.000		758521.06		P	3.0
7	☐	1.000					

Calibration for 129_ICV.d

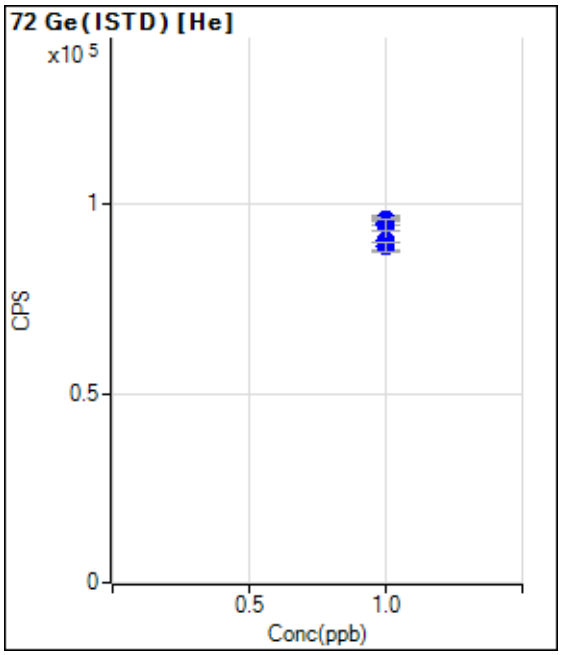


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		17705.49		P	4.4
2	☐	1.000		17828.82		P	0.9
3	☐	1.000		17495.16		P	2.4
4	☐	1.000		17692.02		P	4.6
5	☐	1.000		17335.13		P	0.2
6	☐	1.000		16794.57		P	1.5
7	☐	1.000					

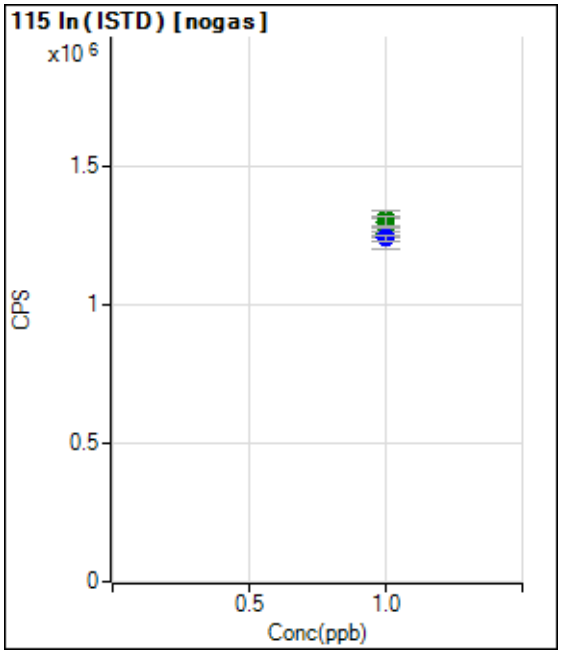


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1226431.26		A	3.4
2	☐	1.000		1218303.73		M	2.7
3	☐	1.000		1258587.35		A	2.5
4	☐	1.000		1253130.97		M	3.5
5	☐	1.000		1165218.11		A	2.9
6	☐	1.000		1183159.80		P	1.3
7	☐	1.000					

Calibration for 129_ICV.d

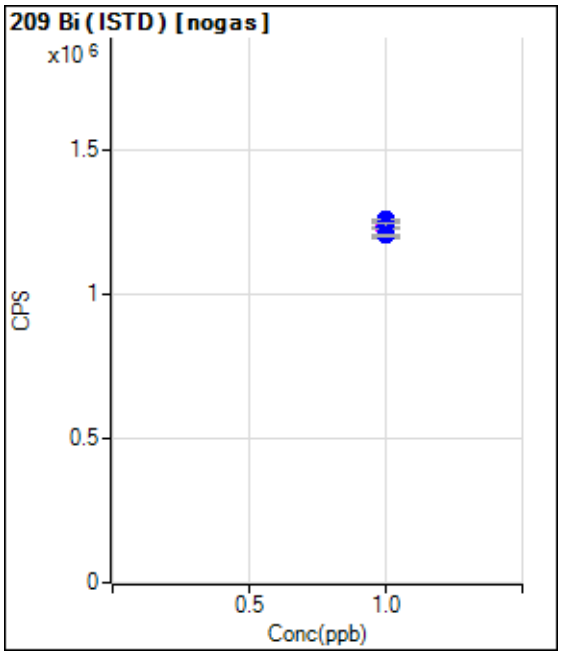


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		95587.80		P	2.9
2	☐	1.000		94967.57		P	1.4
3	☐	1.000		95803.63		P	0.9
4	☐	1.000		94464.43		P	2.8
5	☐	1.000		90412.21		P	5.9
6	☐	1.000		88763.49		P	2.7
7	☐	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1308607.23		A	4.6
2	☐	1.000		1281109.71		A	5.1
3	☐	1.000		1253598.43		A	1.9
4	☐	1.000		1297548.51		A	3.3
5	☐	1.000		1241731.45		M	6.2
6	☐	1.000		1238472.10		P	1.2
7	☐	1.000					

Calibration for 129_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1207115.68		A	2.4
2	☐	1.000		1219545.11		M	3.7
3	☐	1.000		1240819.72		M	1.5
4	☐	1.000		1255611.23		P	0.2
5	☐	1.000		1232930.63		P	1.8
6	☐	1.000		1203692.69		P	0.6
7	☐	1.000					

Wet Chemistry Raw Data

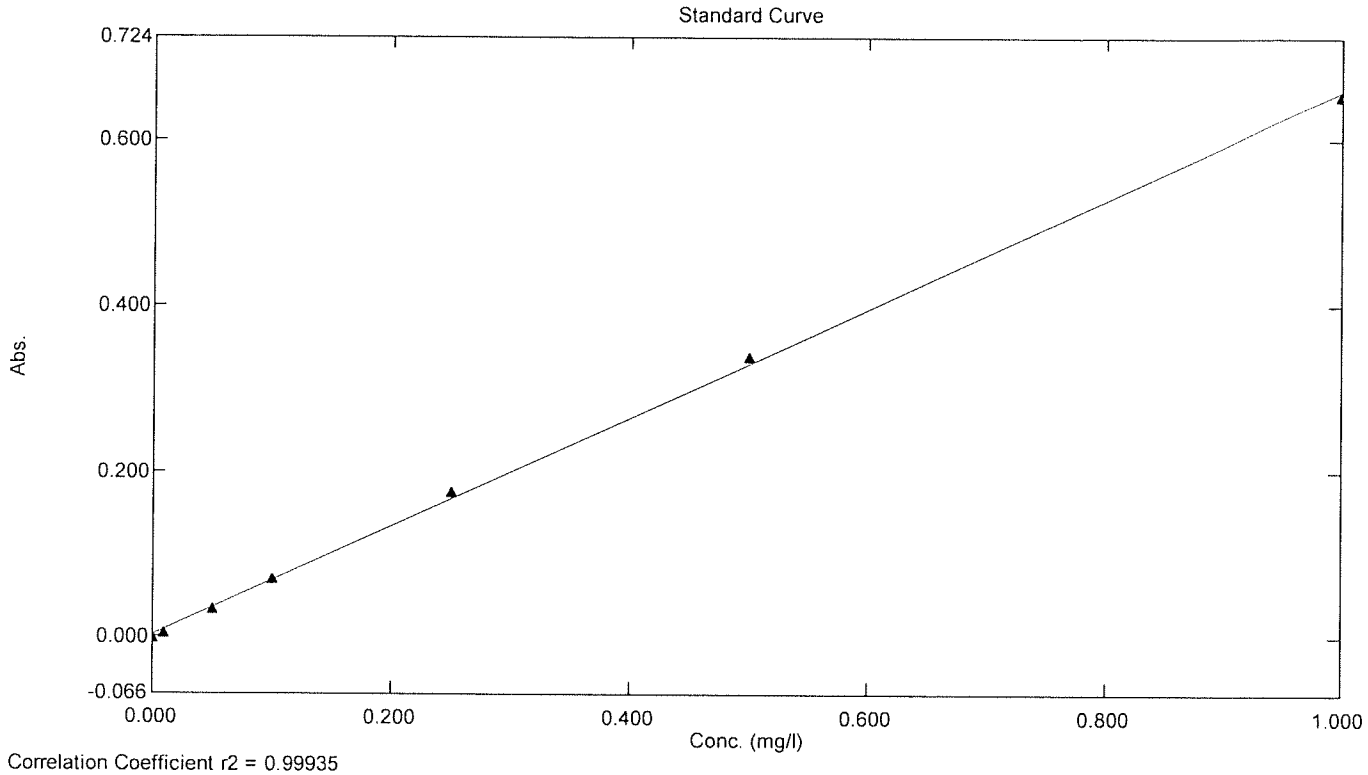
Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent
ALS WO# HS17110496

MS171104496

Standard Table Report

12/04/2017 06:03:40 PM

File Name: Q:\UVProbe\CR6+_UNKNOWN\171110_CR6_W.pho



Correlation Coefficient r2 = 0.99935

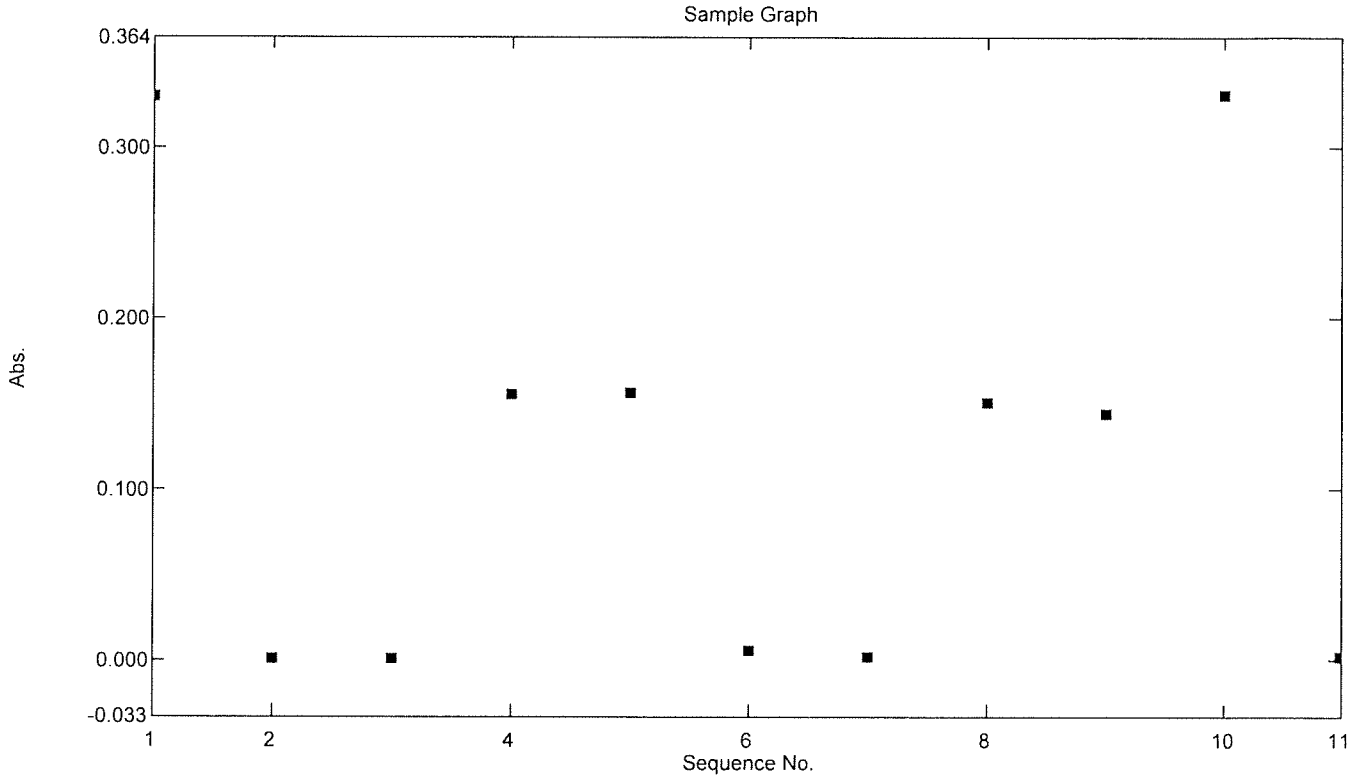
Standard Table

	Sample ID	Type	Ex	Conc	WL540.0	Wgt.Factor	Comments
1	STD1	Standard		0.000	-0.000	1.000	
2	STD2	Standard		0.010	0.005	1.000	
3	STD3	Standard		0.050	0.033	1.000	
4	STD4	Standard		0.100	0.069	1.000	
5	STD5	Standard		0.250	0.174	1.000	
6	STD6	Standard		0.500	0.340	1.000	
7	STD7	Standard		1.000	0.652	1.000	
8							

Sample Table Report

12/04/2017 06:03:36 PM

File Name: Q:\UVProbe\CR6+_UNKNOWN\171110_CR6_W.pho



Sample Table

	Sample ID	Type	Ex	Conc	WL540.0	Comments
1	CCV	Unknown		0.498	0.330	
2	CCB	Unknown		-0.004	0.000	
3	MBLK	Unknown		-0.004	0.000	
4	LCS	Unknown		0.232	0.155	
5	LCSD	Unknown		0.233	0.156	
6	17110493.01	Unknown		0.003	0.005	12:32PM
7	17110496.01	Unknown		-0.002	0.002	12:33PM
8	17110496.01MS	Unknown		0.225	0.150	
9	17110496.01MSD	Unknown		0.215	0.144	
10	CCV2	Unknown		0.501	0.331	
11	CCB2	Unknown		-0.003	0.001	
12						

Sub Contract Data

Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent
ALS WO# HS17110496

Case Narrative

Method: 6850
Analysis: Perchlorate
Analysis SOP: LC-MS-CLO4
ALS WO ID(s): 1731766; 1731771; 1731772; 1732090

Client: ALS Laboratories (Houston, TX)
Matrix: Water
ELMS Batch (HBN): 1999 (203403)

General Set Information: There were ten field samples in these Work Orders. The samples were analyzed for perchlorate.

Method Summary: Each sample was prepared as noted below and analyzed using an Agilent 1100 LC/MSD system in select ion monitoring (SIM) mode at m/z 83 and 85, which corresponds to the loss of one oxygen atom from the perchlorate molecule. ChemStation software was used for instrument control and data analysis. The ion ratio of m/z 83 to 85 was used to positively identify the response peak as perchlorate. Quantitation was performed using the m/z 83 peak area. An internal standard (ISTD) of ^{18}O labeled perchlorate was added to each sample to establish the perchlorate peak retention time and used in quantitation.

Sample Preparation: A 10.0mL aliquot of each sample was transferred into a 15-mL centrifuge tube. 50µL of an ^{18}O labeled perchlorate solution was added to each sample as an internal standard. The samples were then capped, vortexed, and filtered into autosampler vial using Phenex PES membrane 0.45µm Syringe filters.

Holding Times: Holding times were met for all analyses.

Dilutions: Sample 1732090001 was re-analyzed and reported at a 1 in 100 dilution. Samples 1731766001 and 1732090002/04 were re-analyzed and reported at a 1 in 1,000 dilutions. The reporting limits have been adjusted accordingly.

Method QC data: The method blank (LMB 575296) was less than 1/2 the CRDL. The recovery for the LCS (575297) was within acceptable parameters.

MS/MSD Analysis: The matrix spike and matrix spike duplicate (MS/MSD) was performed on samples 1732090006/07 (Client ID: 50WW08-111317). 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 5.0. Manual Integrations were performed for the Initial Calibration analyses (datafiles: 21AUGP01-03) along with datafiles 21NOVP02/03/10/19.

Thomas Bosch November 28, 2017
Date

ANALYTICAL REPORT

Report Date: November 28, 2017

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

Phone: (281) 530-5656

E-mail: Sonia.West@alsglobal.com

Workorder: **34-1731766**
Project ID: HS17110496 110917
Purchase Order: HS17110496
Project Manager Kevin W. Griffiths

Client Sample ID	Lab ID	Collect Date	Receive Date	Sampling Site
LH18/24-SP140_110917	1731766001	11/09/17	11/11/17	

ANALYTICAL REPORT

Workorder: 34-1731766
Client: ALS Environmental (Houston)
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **LH18/24-SP140_110917**	Sampling Site: NA	Collected: 11/09/2017
Lab ID: 1731766001	Media: 250 mL Nalgene	Received: 11/11/2017
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/1999 (HBN: 203403)	**Percent Solid:** NA
	Analyzed: 11/21/2017 15:02	**Report Basis:** Wet

Analyte	Result (ug/L)	DL (ug/L)	LOD (ug/L)	LOQ (ug/L)	Dilution	Qual
Perchlorate	**9800**	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 11/27/2017 16:49	/S/ Christopher Winter 11/28/2017 13:08

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: 34-1731766
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: 34-1731766
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: 1731766

Limits:	Client SOW/Contract Specified	**Preparation:**	NA	**Analysis:**	EPA 6850
Basis:	DoD QSM	**Batch:**	NA	**Batch:**	ELMS/1999 (HBN: 203403)
		Prepared By:	NA	**Analyzed By:**	Thomas Bosch

Blank

LMB: 575296
Analyzed: 11/21/2017 09:50
Units: ug/L

Analyte	Result	MDL	RL
Perchlorate	ND	1	2.00

Laboratory Control Sample

LCS: 575297
Analyzed: 11/21/2017 10:09
Dilution: 1
Units: ug/L

Analyte	Result	Target	% Rec	QC Limits	
Perchlorate	5.02	5.00	100	78.8	123.8

Matrix Spike - Matrix Spike Duplicate

Sample: 1732090005	**MS:** 1732090006	**MSD:** 1732090007
Analyzed: 11/21/2017 12:45	**Analyzed:** 11/21/2017 13:06	**Analyzed:** 11/21/2017 13:25
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	27.0	33	5	110	78.8	123.8	33	111	0.197	0.0	20.0

Continuing Calibration Verification

CCV: 575293	**CCV:** 575298	**CCV:** 575300
Analyzed: 11/21/2017 08:50	**Analyzed:** 11/21/2017 14:23	**Analyzed:** 11/21/2017 16:20
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	26.7	25.0	107	25.7	25.0	103	26.7	25.0	107

Interference Check Sample

ICSA: 575295
Analyzed: 11/21/2017 09:30
Units: ug/L
Criteria: ± 30%

Analyte	Result	Target	% Rec.
Perchlorate	1.13	1.00	113

Limit of Detection Verification

LODV: 575294	**LODV:** 575299	**LODV:** 575301
Analyzed: 11/21/2017 09:11	**Analyzed:** 11/21/2017 14:43	**Analyzed:** 11/21/2017 16:39
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	0.922	1.00	92.2	0.903	1.00	90.3	0.964	1.00	96.4

Quality Control Sample
Batch Report

Analysis Information

Workorder: **1731766**

Limits:	Client SOW/Contract Specified	**Preparation:**	NA	**Analysis:**	EPA 6850
Basis:	DoD QSM	**Batch:**	NA	**Batch:**	ELMS/1999 (HBN: 203403)
		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/ Christopher Winter
11/27/2017 16:49	11/28/2017 13:08

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

00877890

1731766

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

186 98/#2

Subcontract Chain of Custody

COC ID: 8021

1731766

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:	HS17110496
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS17110496-01**	**LH18/24-SP140_110917**	**Water**	**09 Nov 2017 14:00**
	SUB_Perch-6850			28 Nov 2017

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

QC Level: DOD IV (DoD Data Package)

Relinquished By: J. Lawal Date/Time: 11/10/17 18:00

Received By: Meredal Salley Date/Time: 11/11/17 1855

Cooler ID(s): 5008 Temperature(s): 2°

00877891

ALS Environmental

CHAIN-OF-CUSTODY

Project / Job / Task: HS17110496	Split:	Workorder ID: 1731766	Level: ENV_LVL4	Requested Analysis
Client: ALS Environmental (Houston)		Account: 8101	Type: 250Poly	
Comments:			Preservatives: COOL	

Item	Collect Date/Time	Sample ID	Lab ID	QC	Matrix	Containers ID(s)	Containers Count	EPA 6850, DoD QSM
1	11/09/2017 14:00	LH18/24-SP140_110917	1731766001		Water	A	1	A
2								
3								
4								
5								
6								
7								
8								
9								
10								

236 of 350

ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Reason for Transfer / Storage Location
Warath, Julie	11/11/2017 08:55	ALS Sample Receiving	Sample Login
Julie Warath 11/13/17 1100		15C	Storage
R.33.1	11-21-17/08:05	T. Burch	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

ALS - SALT LAKE CITY-RELATED INFORMATION REPORT (CRIR)

COOLER OR CONTAINER INFORMATION CHECKLIST (Fill In or Circle)

Client Name: ALS Houston — Project/Task/Site: 731764

Date/Time of Receipt: 11/11/17/855 — 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:	Cooler/Between Samples
Container Custody Seals:	Present/Absent/NA Intact/Broken/NA	Are all temperatures within project specific guidelines?	Yes/No/NA
Ice Present:	Yes/No/NA Frozen/Melted/NA	VOA Headspace Present?	Yes/No/NA

pH Check Performed:							
	Metals	Yes/No/NA	Total Phenolics	Yes/No/NA	NO3/NO2	Yes/No/NA
	Cyanide	Yes/No/NA	TPH – 418.1	Yes/No/NA	Oil & Grease	Yes/No/NA
	Sulfide	Yes/No/NA	COD	Yes/No/NA	Total Phosphorous	Yes/No/NA
	Ammonia	Yes/No/NA	TKN	Yes/No/NA	TOC Preserved	Yes/No/NA

Cooler Received	ALS Cooler No.	Temp.	Cooler Received	ALS Cooler No.	Temp.	Cooler Received	ALSL Cooler No.	Temp.
1	C17- 8008	2 °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: Meredith Edens (Signature) — Meredith Edens (Printed Name) — 11/11/17 (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 ☐

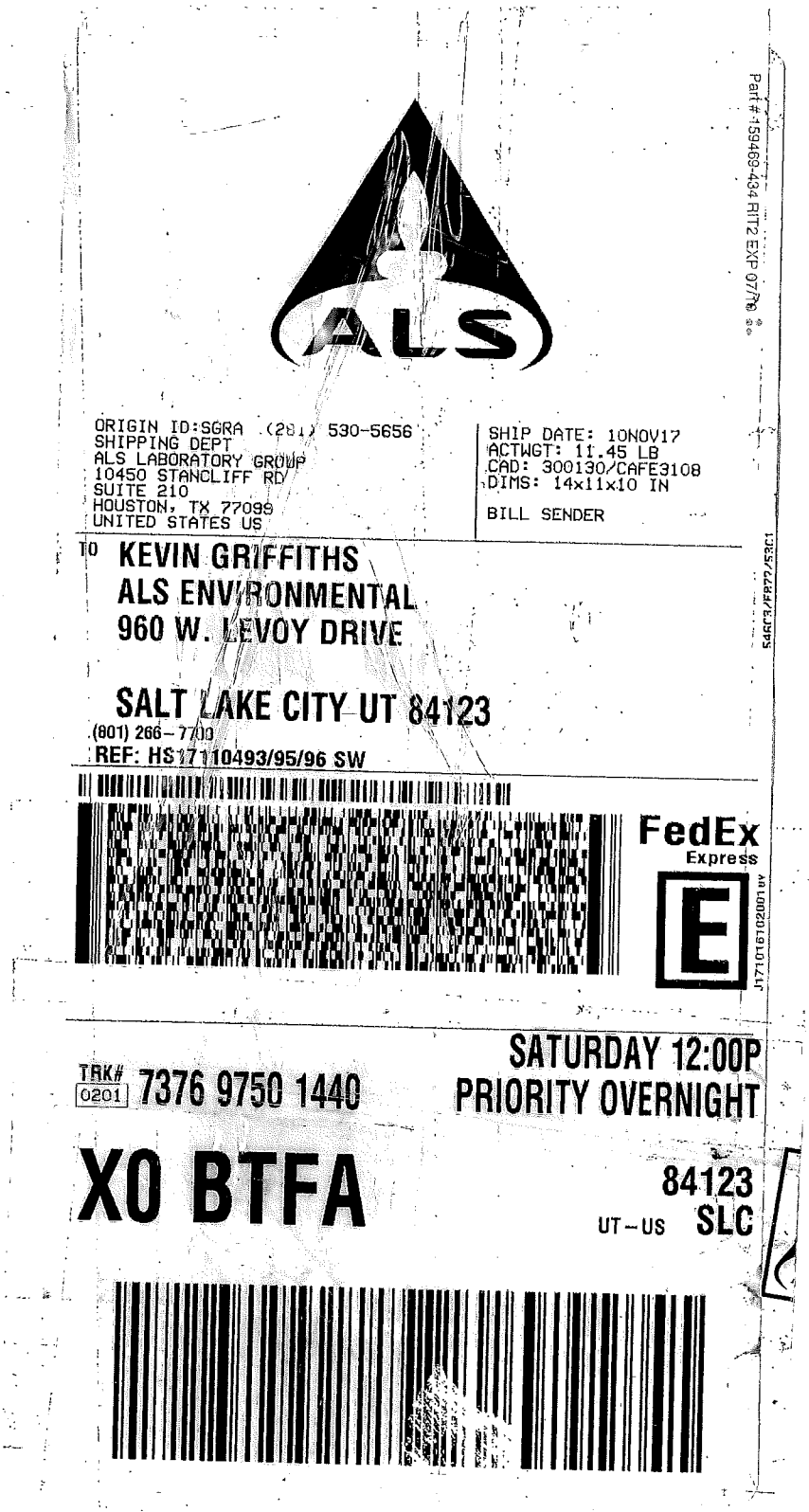
Response Required Within 24 Hours

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 07/18

ORIGIN ID:SGRA (281) 530-5656
SHIPPING DEPT
ALS LABORATORY GROUP
10450 STANCLIFF RD
SUITE 210
HOUSTON, TX 77099
UNITED STATES US

SHIP DATE: 10NOV17
ACTWGT: 11.45 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: HS171110493/95/96 SW

FedEx Express

TRK# 0201 7376 9750 1440

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO BTFA

84123
UT-US SLC

atch Worklist

Batch: ELMS/ 1999 **Created:** 11/21/2017 08:30 **Instrument:** **HBN:** 203403

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

Workorder: 1731766 [ENV_LVL4]
Workorder: 1731771 [ENV_LVL4]
Workorder: 1731772 [ENV_LVL4]
Workorder: 1732090 [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	575293	CCV for HBN 203403 [ELMS/1999]				CCV	3		E685041C3Q	5311		11/28/2017	
2	575294	LODV for HBN 203403 [ELMS/1999				LODV	3		E6850..D3Q	5311		11/28/2017	
3	575295	ICS for HBN 203403 [ELMS/1999]				ICS	3		E6850..D3Q	5311		11/28/2017	
4	575296	LMB for HBN 203403 [ELMS/1999]				LMB	3		E6850Q413Q	5311		11/28/2017	
5	575297	LCS for HBN 203403 [ELMS/1999]				LCS	3		E6850Q413Q	5311		11/28/2017	
6	1731766001	LH18/24-SP140_110917				SAMPLE	3	1731766001-A	E6850Q41.3	5480	12/7/2017	11/28/2017	
7	1731771001	LH18/24-SP650_110917				SAMPLE	3	1731771001-A	E6850Q41.3	5480	12/7/2017	11/28/2017	
8	1731772001	LH18/24-SP650_110917				SAMPLE	3	1731772001-A	E6850Q41.3	5480	12/7/2017	11/29/2017	
9	1732090001	50WW06-111317				SAMPLE	3	1732090001-A	E6850Q41.3	5480	12/11/2017	12/4/2017	
10	1732090002	50WW11-111317				SAMPLE	3	1732090002-A	E6850Q41.3	5480	12/11/2017	12/4/2017	
11	1732090003	50WW14-111317				SAMPLE	3	1732090003-A	E6850Q41.3	5480	12/11/2017	12/4/2017	
12	1732090004	50WW13-111317				SAMPLE	3	1732090004-A	E6850Q41.3	5480	12/11/2017	12/4/2017	
13	575298	CCV for HBN 203403 [ELMS/1999]				CCV	3		E685041C3Q	5311		11/28/2017	
14	575299	LODV for HBN 203403 [ELMS/1999				LODV	3		E6850..D3Q	5311		11/28/2017	
15	1732090005	50WW08-111317				SAMPLE	3	1732090005-A	E6850Q41.3	5480	12/11/2017	12/4/2017	
16	1732090006	50WW08-111317MS				MS	3	1732090006-A	E6850Q413Q	5480		11/28/2017	
17	1732090007	50WW08-111317MSD				MSD	3	1732090007-A	E6850Q413Q	5480		11/28/2017	
18	1732090008	50WW08-111317-FD				FLDDUP	3	1732090008-A	E6850Q41.3	5480	12/11/2017	12/4/2017	
19	1732090009	50WW22-111317				SAMPLE	3	1732090009-A	E6850Q41.3	5480	12/11/2017	12/5/2017	
20	575300	CCV for HBN 203403 [ELMS/1999]				CCV	3		E685041C3Q	5311		11/28/2017	
21	575301	LODV for HBN 203403 [ELMS/1999				LODV	3		E6850..D3Q	5311		11/28/2017	

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Analytical Documentation

ALS Work Order #'s & Sample #( )'s: 1731766 (001); 1731771 (001); 1731772 (001); 1732090 (001-09)
ELMS Batch/HBN ID: 1999 (203403)
Prep Date: 11/21/2017 Analysis Date: 11/21/2017 Analyst: T. Bosch
Analyte: **Perchlorate** Matrix: **Water** Method: **6850**
Sequence:\\HPCHEM\1\SEQUENCE\CLO4\2017\NOV\21NOV17P.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 08/21/2017, sequence 21AUG17P.s Offline Quantitation Method: CLO4-PR3.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: 8 Injection Volume: 35µL
Column: KP-RPPX C8 separator, 250mm Mobile Phase: 70% Eluent A1; 30% Eluent B1

FLOW GRADIENT:

Time (min.)	Flow (mL/min)
0	0.60
4.0	0.60
5.0	0.25
14.5	0.25
15.0	0.60
17.5	0.60

QC DATA: 5.0µL of QC Solution Horizon ID 36749 was used for LCS 575297; Target = 5.0µg/L. ASTM type II water was used for LMB 575296.

MS/MSD: MS/MSD was performed on samples 1732090006/07 (Client ID: 50WW08-111317). 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 1732090001 was re-analyzed and reported at a 1 in 100 dilution. Samples 1731766001 and 1732090002/04 were re-analyzed and reported at a 1 in 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\2017\NOV\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: 21AUGP01-03) along with datafiles 21NOVP02/03/10/19.
5) Notebook: \\alsltws013\ORGANIC\BOSCH\LCMS\Perchlorates\Waters\2017\CLO4-203403-DOD-ALS-HSTN 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	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	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

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

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

TRIPLE ISO CERTIFICATION · ISO 9001 · ISO GUIDE 34 · ISO/IEC 17025 · 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

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

Page 1 of 1

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\21NOV17P\21NOV17P.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	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
	*	575293	CCV@25	Vial 71	1	Control	1	4.95752e5	11.659	5.00000
	*	575294	LODV@1.	Vial 72	1	Control	2	6.33978e5	11.580	5.00000
	*	575295	ICS@1.	Vial 73	1	Control	3	3.43353e5	11.530	5.00000
	*	575296	LMB	Vial 74	1	Control	4	6.34762e5	11.752	5.00000
	*	575297	LCS@5.	Vial 75	1	Control	5	4.73999e5	11.723	5.00000
	*	1731766001		Vial 76	1	Sample	6	2.91336e5	9.304	5.00000
	*	1731771001		Vial 77	1	Sample	7	3.98980e5	11.846	5.00000
	*	1731772001		Vial 78	1	Sample	8	4.15472e5	11.853	5.00000
	*	1732090001		Vial 79	1	Sample	9	4.02188e5	10.818	5.00000
	*	1732090002		Vial 80	1	Sample	10	0.00000	0.000	0.00000
	*	1732090003		Vial 81	1	Sample	11	4.24561e5	11.110	5.00000
	*	1732090004		Vial 82	1	Sample	12	0.00000	0.000	0.00000
	*	1732090005		Vial 83	1	Sample	13	4.01470e5	11.041	5.00000
	*	1732090006	MS	Vial 84	1	Sample	14	3.91759e5	11.043	5.00000
	*	1732090007	MSD	Vial 85	1	Sample	15	4.26155e5	11.041	5.00000
	*	1732090008		Vial 86	1	Sample	16	4.30250e5	11.039	5.00000
	*	1732090009		Vial 87	1	Sample	17	3.84880e5	10.977	5.00000
	*	575298	CCV@25	Vial 71	1	Control	18	4.38394e5	11.758	5.00000
	*	575299	LODV@1.	Vial 72	1	Control	19	5.63443e5	11.637	5.00000
	*	1731766001	1K	Vial 88	1	Sample	20	5.34179e5	11.831	5000.00000
	*	1732090001	100	Vial 89	1	Sample	21	5.57597e5	11.953	500.00000
	*	1732090002	1K	Vial 90	1	Sample	22	5.58494e5	12.002	5000.00000
	*	1732090004	1K	Vial 91	1	Sample	23	5.66247e5	11.984	5000.00000
	*	575300	CCV@25	Vial 71	1	Control	24	4.88376e5	11.995	5.00000
	*	575301	LODV@1.	Vial 72	1	Control	25	6.26703e5	11.836	5.00000

#	*	Sample	Location	Inj	SampleType	Run	Perchlorate Area	Perchlorate RT	Perchlorate Amount
	*	575293	CCV@25	Vial 71	1	Control	1	3.43968e6	11.639	26.71551
	*	575294	LODV@1.	Vial 72	1	Control	2	1.25845e5	11.573	9.22270e-1
	*	575295	ICS@1.	Vial 73	1	Control	3	8.39472e4	11.536	1.13244
	*	575296	LMB	Vial 74	1	Control	4	0.00000	0.000	0.00000
	*	575297	LCS@5.	Vial 75	1	Control	5	5.31685e5	11.701	5.02013
	*	1731766001		Vial 76	1	Sample	6	9.39364e8	9.475	1330.32766
	*	1731771001		Vial 77	1	Sample	7	0.00000	0.000	0.00000
	*	1731772001		Vial 78	1	Sample	8	0.00000	0.000	0.00000
	*	1732090001		Vial 79	1	Sample	9	1.48823e8	10.804	411.69118
	*	1732090002		Vial 80	1	Sample	10	0.00000	0.000	0.00000
	*	1732090003		Vial 81	1	Sample	11	0.00000	0.000	0.00000
	*	1732090004		Vial 82	1	Sample	12	9.57682e8	9.027	7.38340e-3
	*	1732090005		Vial 83	1	Sample	13	2.88037e6	11.018	27.48906
	*	1732090006	MS	Vial 84	1	Sample	14	3.49021e6	11.020	32.98147
	*	1732090007	MSD	Vial 85	1	Sample	15	3.80569e6	11.019	33.04679
	*	1732090008		Vial 86	1	Sample	16	2.82168e6	11.028	25.45707
	*	1732090009		Vial 87	1	Sample	17	5.14831e4	10.947	6.25305e-1
	*	575298	CCV@25	Vial 71	1	Control	18	2.90531e6	11.750	25.68660
	*	575299	LODV@1.	Vial 72	1	Control	19	1.09492e5	11.598	9.03165e-1
	*	1731766001	1K	Vial 88	1	Sample	20	1.20628e6	11.805	9756.42567
	*	1732090001	100	Vial 89	1	Sample	21	1.22754e6	11.924	952.72687
	*	1732090002	1K	Vial 90	1	Sample	22	2.70142e6	11.981	1.95236e4
	*	1732090004	1K	Vial 91	1	Sample	23	1.78892e6	11.960	1.33080e4
	*	575300	CCV@25	Vial 71	1	Control	24	3.38694e6	11.970	26.70499
	*	575301	LODV@1.	Vial 72	1	Control	25	1.30116e5	11.806	9.64000e-1

#	*	Sample	Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
	*	575293	CCV@25	Vial 71	1	Control	1	1.02829e6	11.652	26.09816
	*	575294	LODV@1.	Vial 72	1	Control	2	4.79999e4	11.562	1.06340

#*	Sample	Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
*	575295 ICS@1.	Vial 73	1	Control	3	2.69436e4	11.502	1.10196
*	575296 LMB	Vial 74	1	Control	4	0.00000	0.000	0.00000
*	575297 LCS@5.	Vial 75	1	Control	5	1.79069e5	11.704	5.20589
*	1731766001	Vial 76	1	Sample	6	3.65188e8	9.301	1842.78769
*	1731771001	Vial 77	1	Sample	7	0.00000	0.000	0.00000
*	1731772001	Vial 78	1	Sample	8	0.00000	0.000	0.00000
*	1732090001	Vial 79	1	Sample	9	5.18884e7	10.818	526.61797
*	1732090002	Vial 80	1	Sample	10	0.00000	10.935	0.00000
*	1732090003	Vial 81	1	Sample	11	0.00000	0.000	0.00000
*	1732090004	Vial 82	1	Sample	12	0.00000	0.000	0.00000
*	1732090005	Vial 83	1	Sample	13	8.67168e5	11.030	27.06822
*	1732090006 MS	Vial 84	1	Sample	14	1.04043e6	11.042	32.54319
*	1732090007 MSD	Vial 85	1	Sample	15	1.14152e6	11.038	32.79040
*	1732090008	Vial 86	1	Sample	16	8.50148e5	11.055	24.97821
*	1732090009	Vial 87	1	Sample	17	2.15920e4	10.973	7.88952e-1
*	575298 CCV@25	Vial 71	1	Control	18	8.98143e5	11.759	25.80855
*	575299 LODV@1.	Vial 72	1	Control	19	4.61070e4	11.612	1.14888
*	1731766001 1K	Vial 88	1	Sample	20	3.94066e5	11.819	9950.51827
*	1732090001 100	Vial 89	1	Sample	21	3.93937e5	11.946	954.66974
*	1732090002 1K	Vial 90	1	Sample	22	8.38230e5	11.986	1.94238e4
*	1732090004 1K	Vial 91	1	Sample	23	5.74994e5	11.979	1.34843e4
*	575300 CCV@25	Vial 71	1	Control	24	1.03655e6	11.987	26.64453
*	575301 LODV@1.	Vial 72	1	Control	25	5.02385e4	11.799	1.12559

*** End of Report ***

Sequence Table:

Method and Injection Info Part:

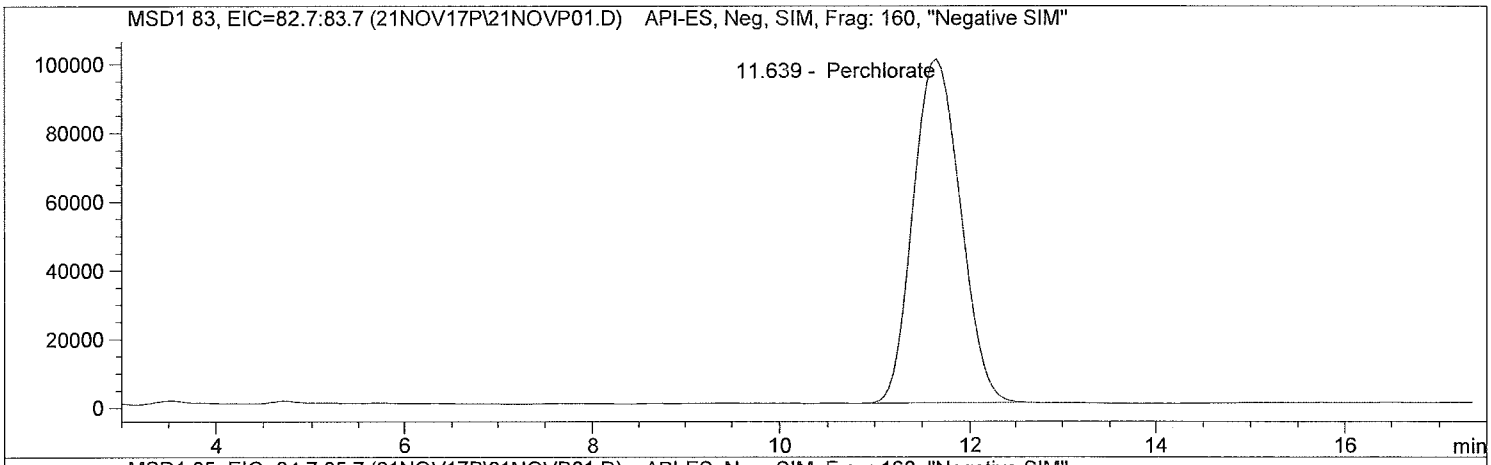
Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	575293 CCV@25	CLO4-AQN	1	Ctrl Samp		
2	Vial 72	575294 LODV@1.	CLO4-AQN	1	Ctrl Samp		
3	Vial 73	575295 ICS@1.	CLO4-AQN	1	Ctrl Samp		
4	Vial 74	575296 LMB	CLO4-AQN	1	Ctrl Samp		
5	Vial 75	575297 LCS@5.	CLO4-AQN	1	Ctrl Samp		
6	Vial 76	1731766001	CLO4-AQN	1	Sample		
7	Vial 77	1731771001	CLO4-AQN	1	Sample		
8	Vial 78	1731772001	CLO4-AQN	1	Sample		
9	Vial 79	1732090001	CLO4-AQN	1	Sample		
10	Vial 80	1732090002	CLO4-AQN	1	Sample		
11	Vial 81	1732090003	CLO4-AQN	1	Sample		
12	Vial 82	1732090004	CLO4-AQN	1	Sample		
13	Vial 83	1732090005	CLO4-AQN	1	Sample		
14	Vial 84	1732090006 MS	CLO4-AQN	1	Sample		
15	Vial 85	1732090007 MSD	CLO4-AQN	1	Sample		
16	Vial 86	1732090008	CLO4-AQN	1	Sample		
17	Vial 87	1732090009	CLO4-AQN	1	Sample		
18	Vial 71	575298 CCV@25	CLO4-AQN	1	Ctrl Samp		
19	Vial 72	575299 LODV@1.	CLO4-AQN	1	Ctrl Samp		
20	Vial 88	1731766001 1K	CLO4-AQN	1	Sample		
21	Vial 89	1732090001 100	CLO4-AQN	1	Sample		
22	Vial 90	1732090002 1K	CLO4-AQN	1	Sample		
23	Vial 91	1732090004 1K	CLO4-AQN	1	Sample		
24	Vial 71	575300 CCV@25	CLO4-AQN	1	Ctrl Samp		
25	Vial 72	575301 LODV@1.	CLO4-AQN	1	Ctrl Samp		

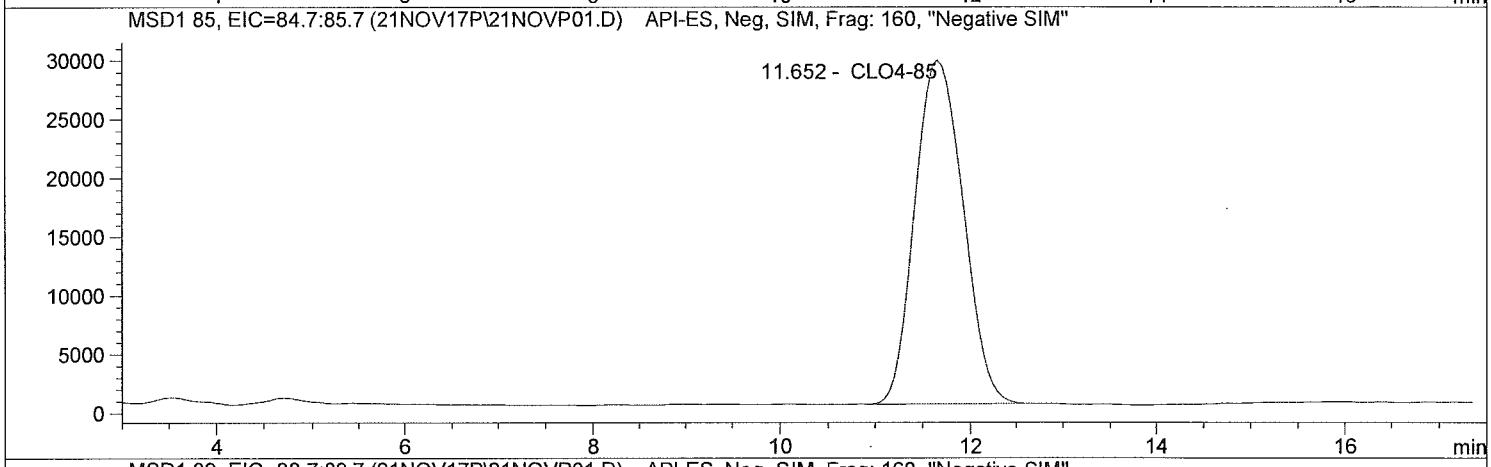
Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP01.D Sample Name: 575293 CCV@25

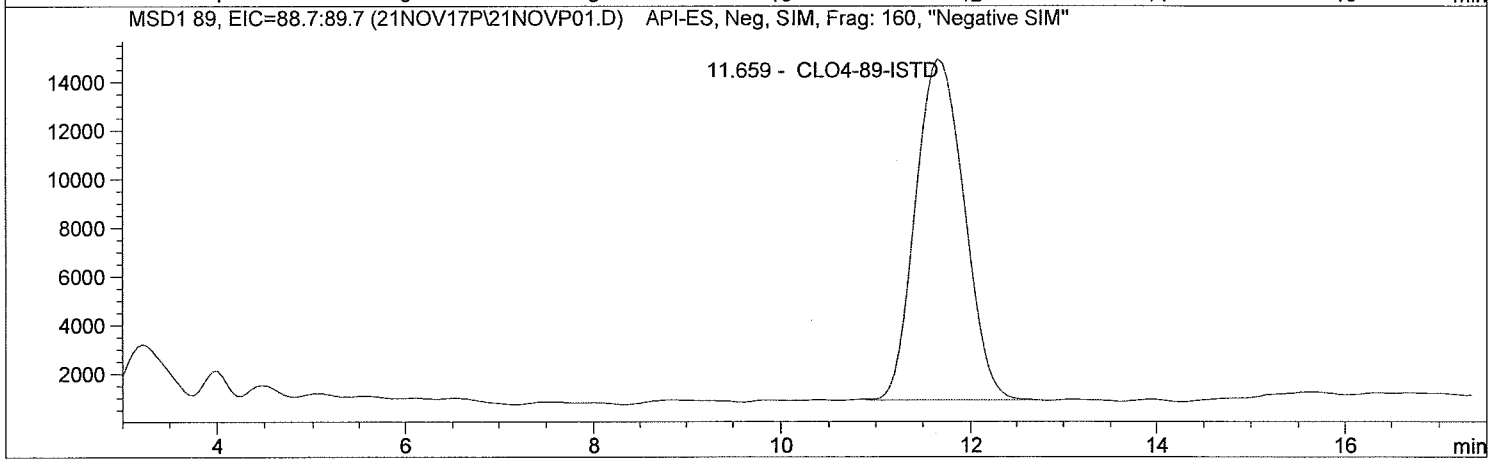
Injection Date:	11/21/2017 08:50:46	Seq Line:	1
Sample Name:	575293 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP01.D Sample Name: 575293 CCV@25

Injection Date:	11/21/2017 08:50:46	Seq Line:	1
Sample Name:	575293 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.639	PBA	3439680.5	26.7155	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.652	BBA	1028288.7	26.0982	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.659	BBA	495751.6	5.0000	CLO4-89-ISTD

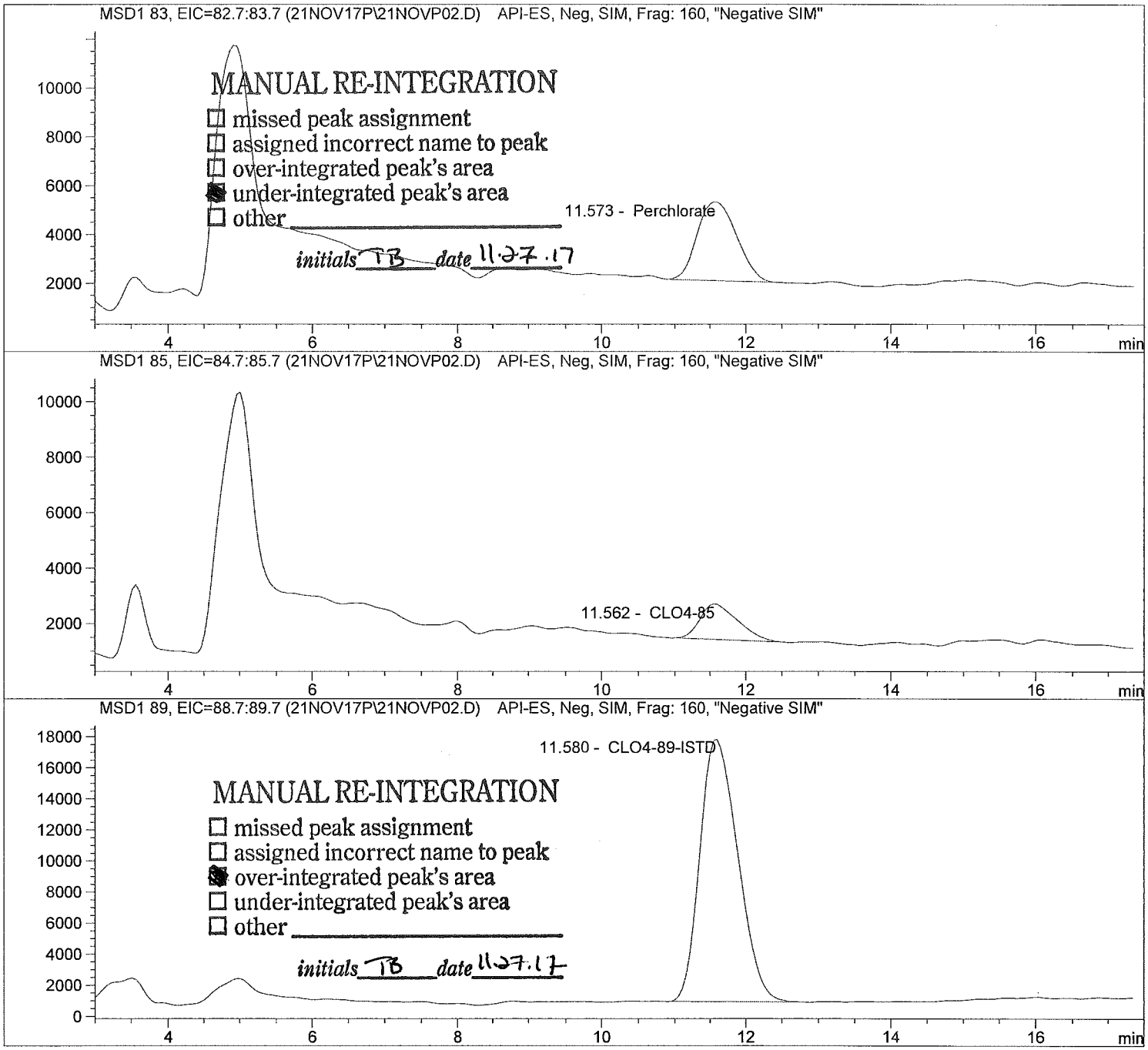
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Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP02.D Sample Name: 575294 LODV@1.

Injection Date:	11/21/2017 09:11:16	Seq Line:	2
Sample Name:	575294 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP02.D Sample Name: 575294 LODV@1.

Injection Date:	11/21/2017 09:11:16	Seq Line:	2
Sample Name:	575294 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.573	MM	125844.8	0.9223	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.562	PBA	47999.9	1.0634	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.580	MM	633977.8	5.0000	CLO4-89-ISTD

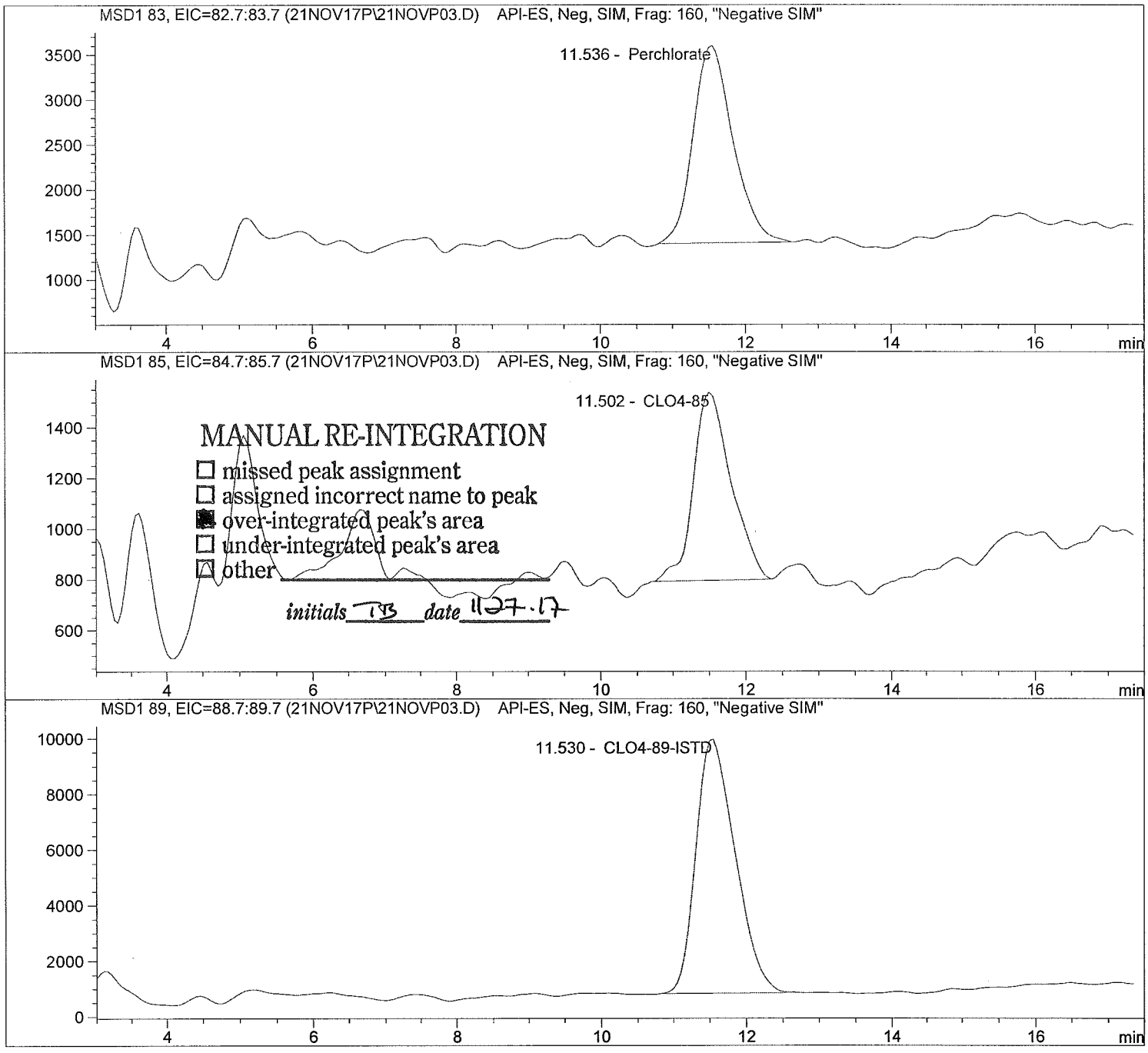
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Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP03.D Sample Name: 575295 ICS@1.

Injection Date:	11/21/2017 09:30:38	Seq Line:	3
Sample Name:	575295 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP03.D Sample Name: 575295 ICS@1.

Injection Date:	11/21/2017 09:30:38	Seq Line:	3
Sample Name:	575295 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.536	PBA	83947.2	1.1324	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.502	MM	26943.6	1.1020	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.530	PBA	343352.6	5.0000	CLO4-89-ISTD

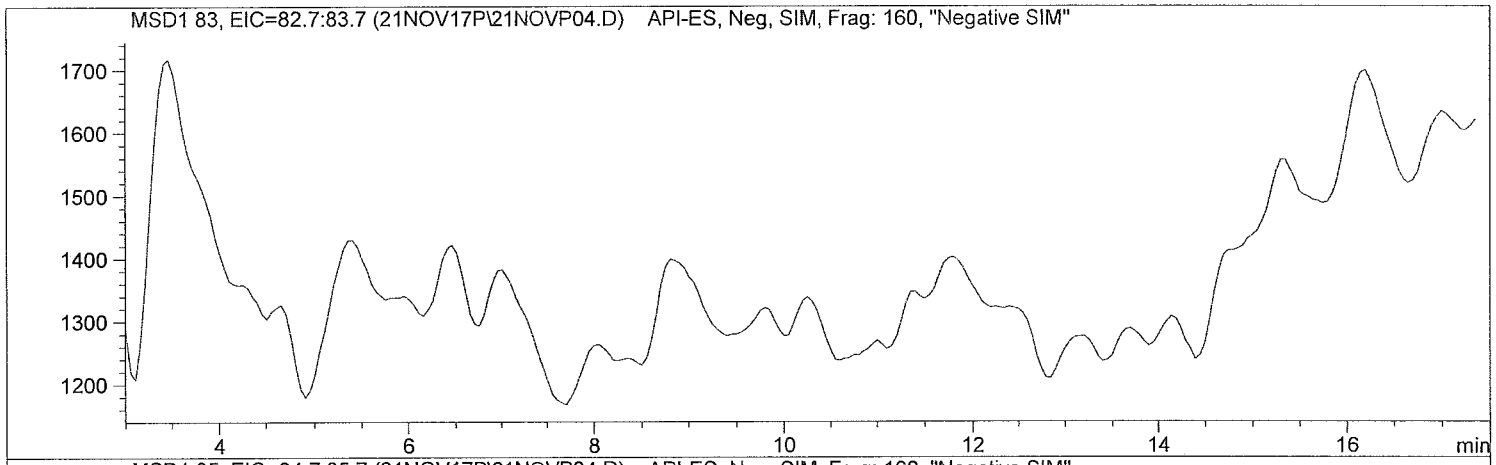
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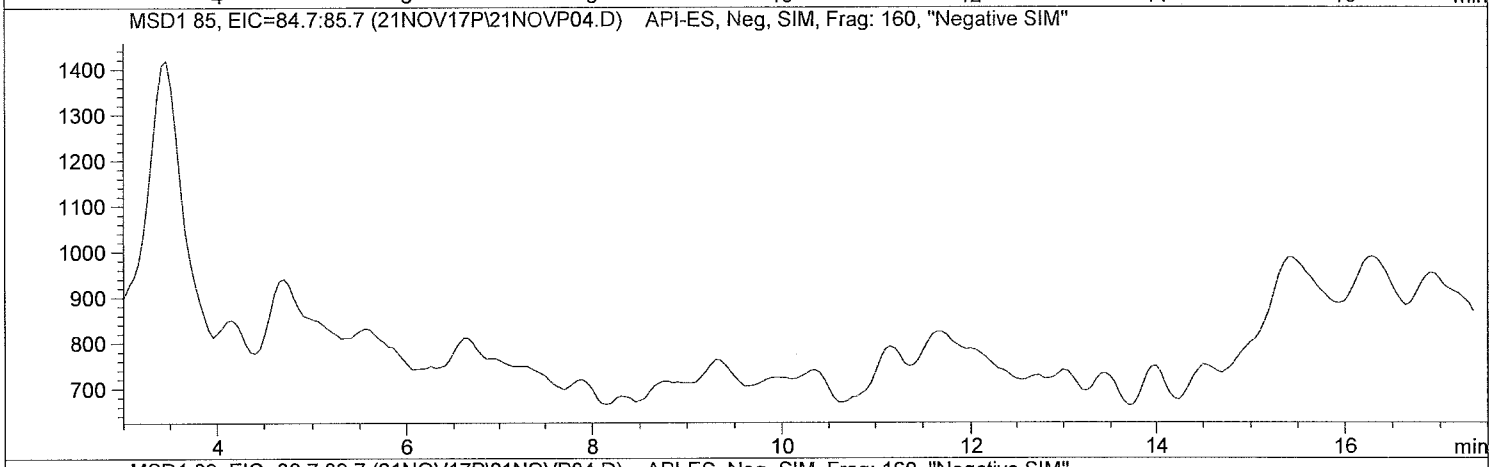
Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP04.D Sample Name: 575296 LMB

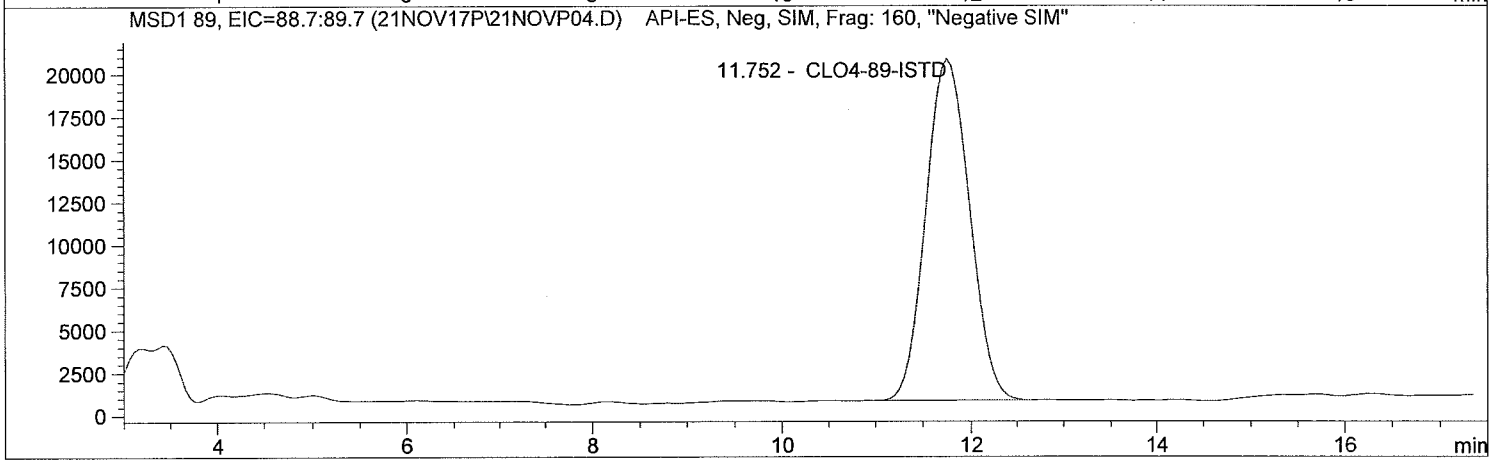
Injection Date:	11/21/2017 09:50:03	Seq Line:	4
Sample Name:	575296 LMB	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP04.D Sample Name: 575296 LMB

Injection Date:	11/21/2017 09:50:03	Seq Line:	4
Sample Name:	575296 LMB	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.752	BBA	634761.6	5.0000	CLO4-89-ISTD

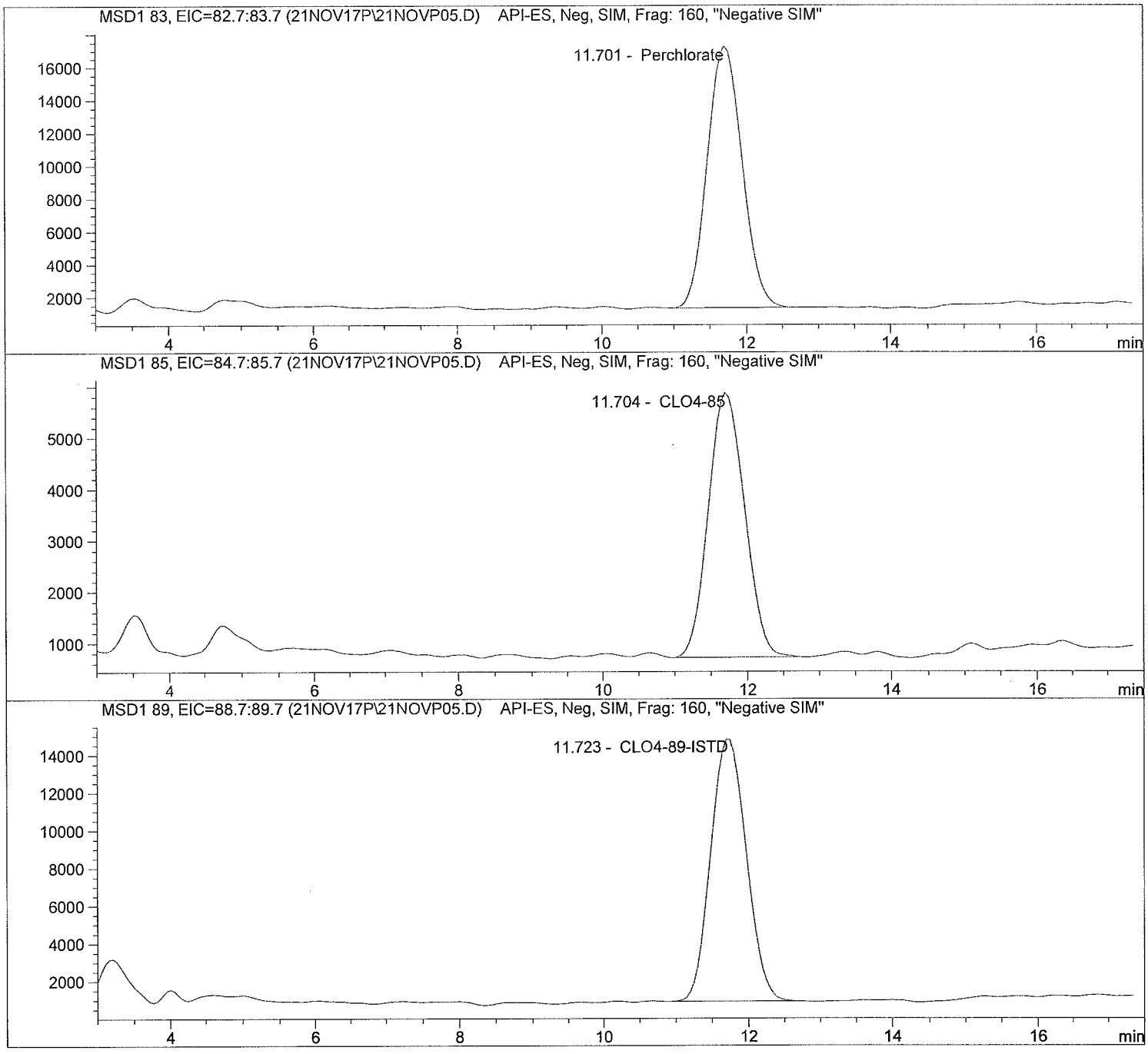
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Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP05.D Sample Name: 575297 LCS@5.

Injection Date:	11/21/2017 10:09:26	Seq Line:	5
Sample Name:	575297 LCS@5.	Location:	Vial 75
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP05.D Sample Name: 575297 LCS@5.

Injection Date:	11/21/2017 10:09:26	Seq Line:	5
Sample Name:	575297 LCS@5.	Location:	Vial 75
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.701	PBA	531684.6	5.0201	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.704	PBA	179068.8	5.2059	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.723	PBA	473999.5	5.0000	CLO4-89-ISTD

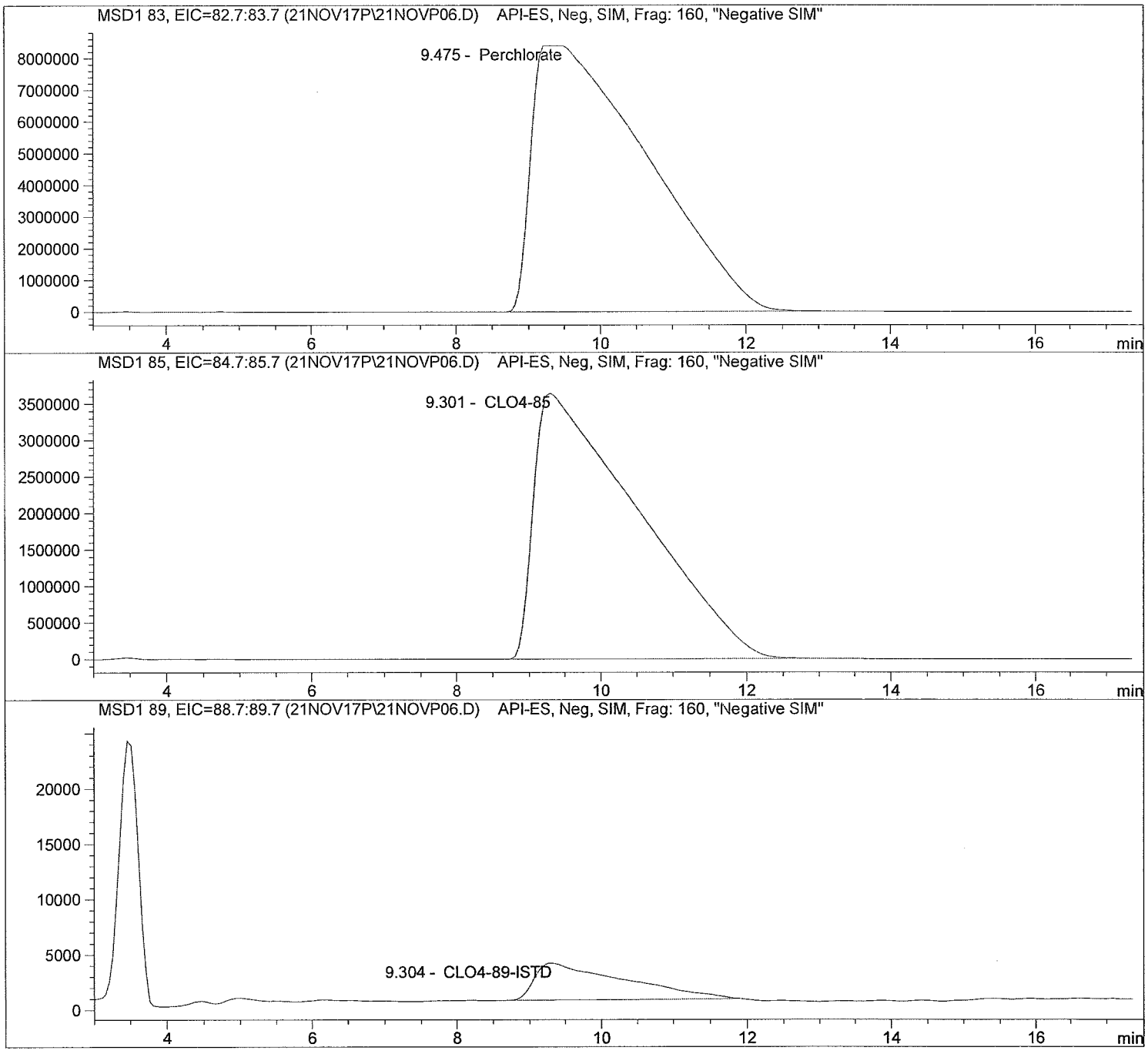
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Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP06.D Sample Name: 1731766001

Injection Date:	11/21/2017 10:29:55	Seq Line:	6
Sample Name:	1731766001	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP06.D Sample Name: 1731766001

Injection Date:	11/21/2017 10:29:55	Seq Line:	6
Sample Name:	1731766001	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method:	CLO4-AQN.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed:	10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
9.475	PBA	939363840.0	1330.3277	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
9.301	PBA	365188320.0	1842.7877	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
9.304	PBA	291335.5	5.0000	CLO4-89-ISTD

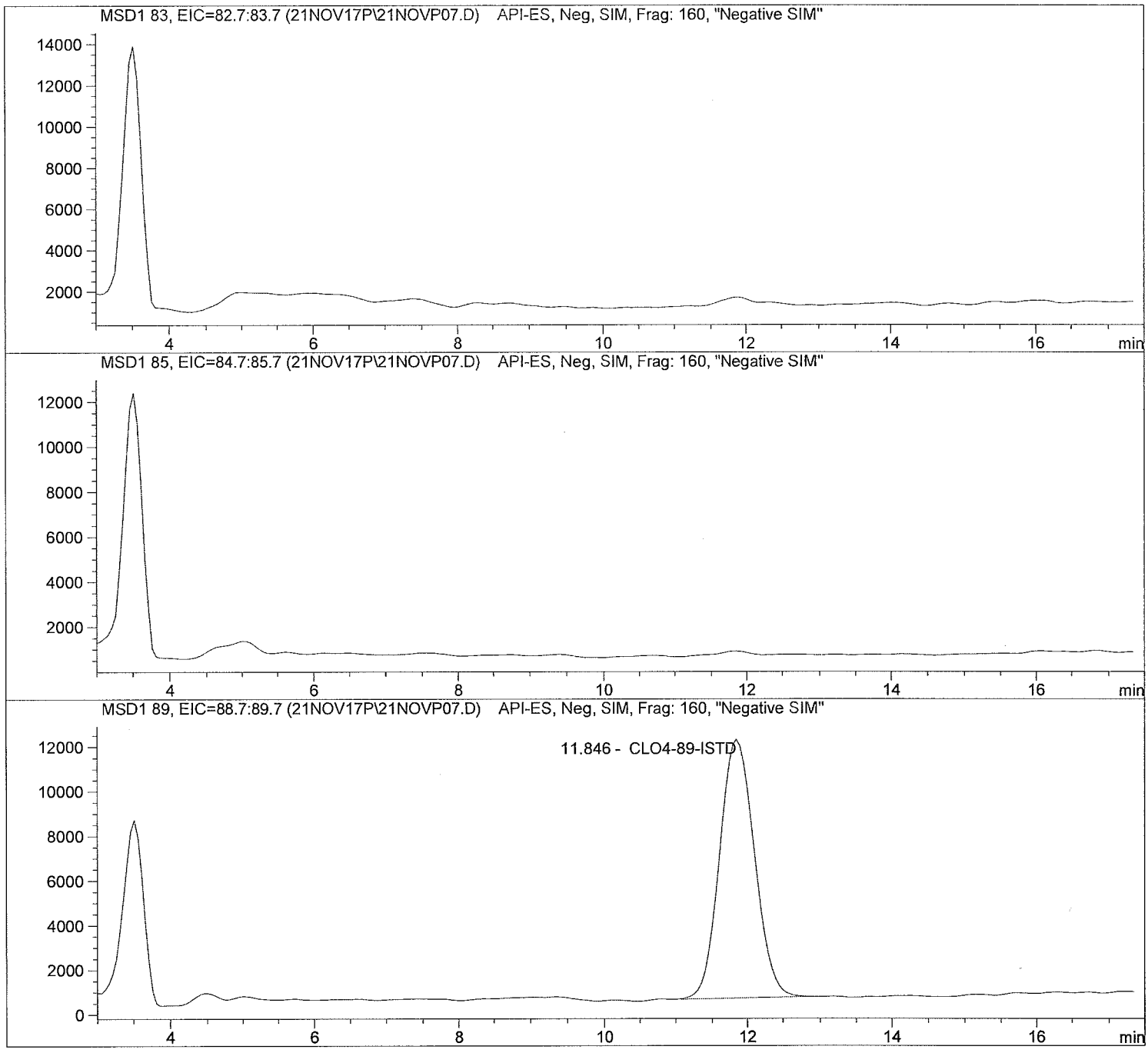
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP07.D Sample Name: 1731771001

Injection Date:	11/21/2017 10:49:18	Seq Line:	7
Sample Name:	1731771001	Location:	Vial 77
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP07.D Sample Name: 1731771001

Injection Date:	11/21/2017 10:49:18	Seq Line:	7
Sample Name:	1731771001	Location:	Vial 77
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method:	CLO4-AQN.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed:	10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.846	BBA	398980.5	5.0000	CLO4-89-ISTD

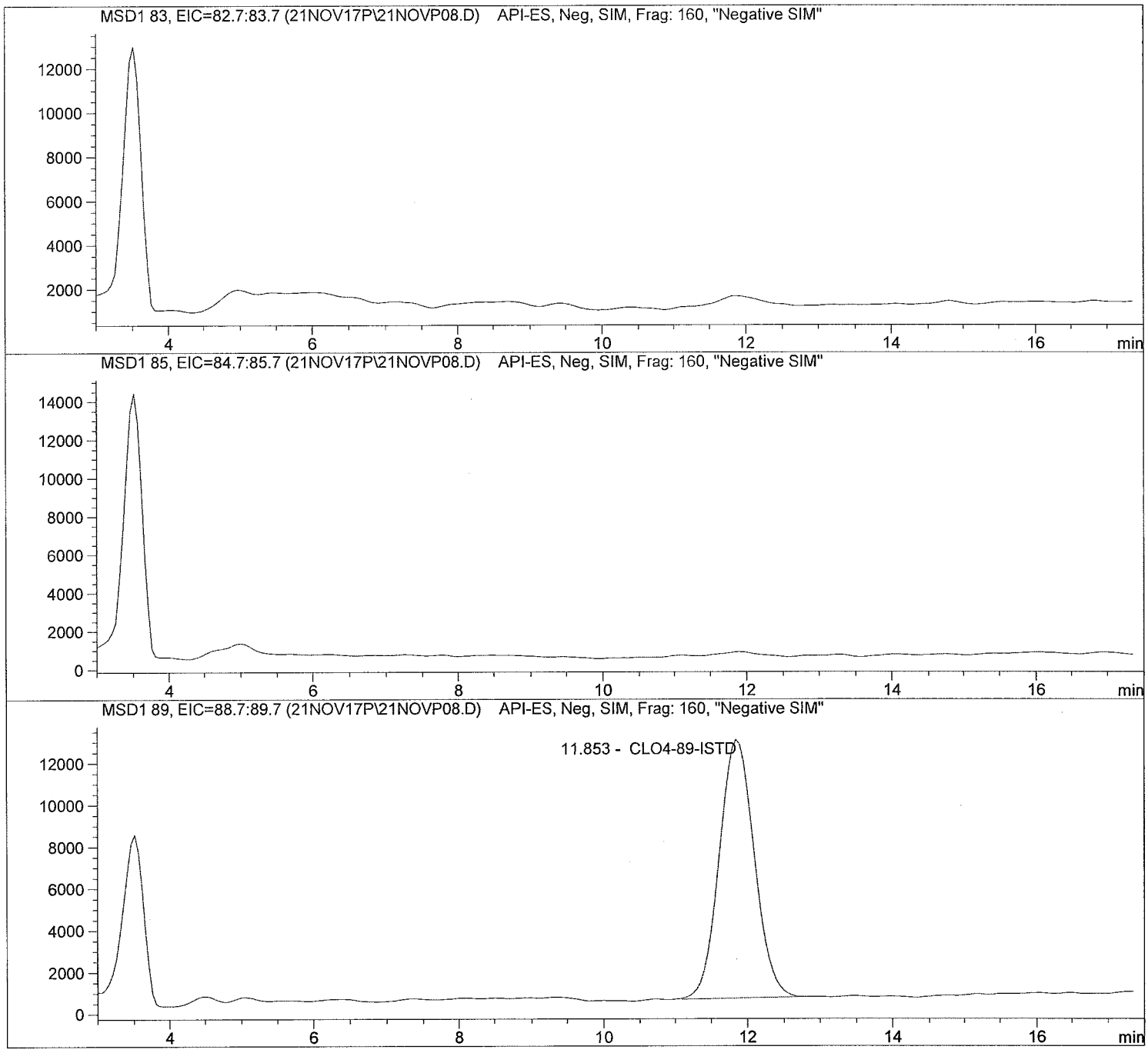
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP08.D Sample Name: 1731772001

Injection Date:	11/21/2017 11:08:41	Seq Line:	8
Sample Name:	1731772001	Location:	Vial 78
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP08.D Sample Name: 1731772001

Injection Date:	11/21/2017 11:08:41	Seq Line:	8
Sample Name:	1731772001	Location:	Vial 78
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By: Signal
Calib. Data Modified: Thu, 26. Oct. 2017,08:21:56 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
11.853	BBA	415472.4	5.0000	CLO4-89-ISTD

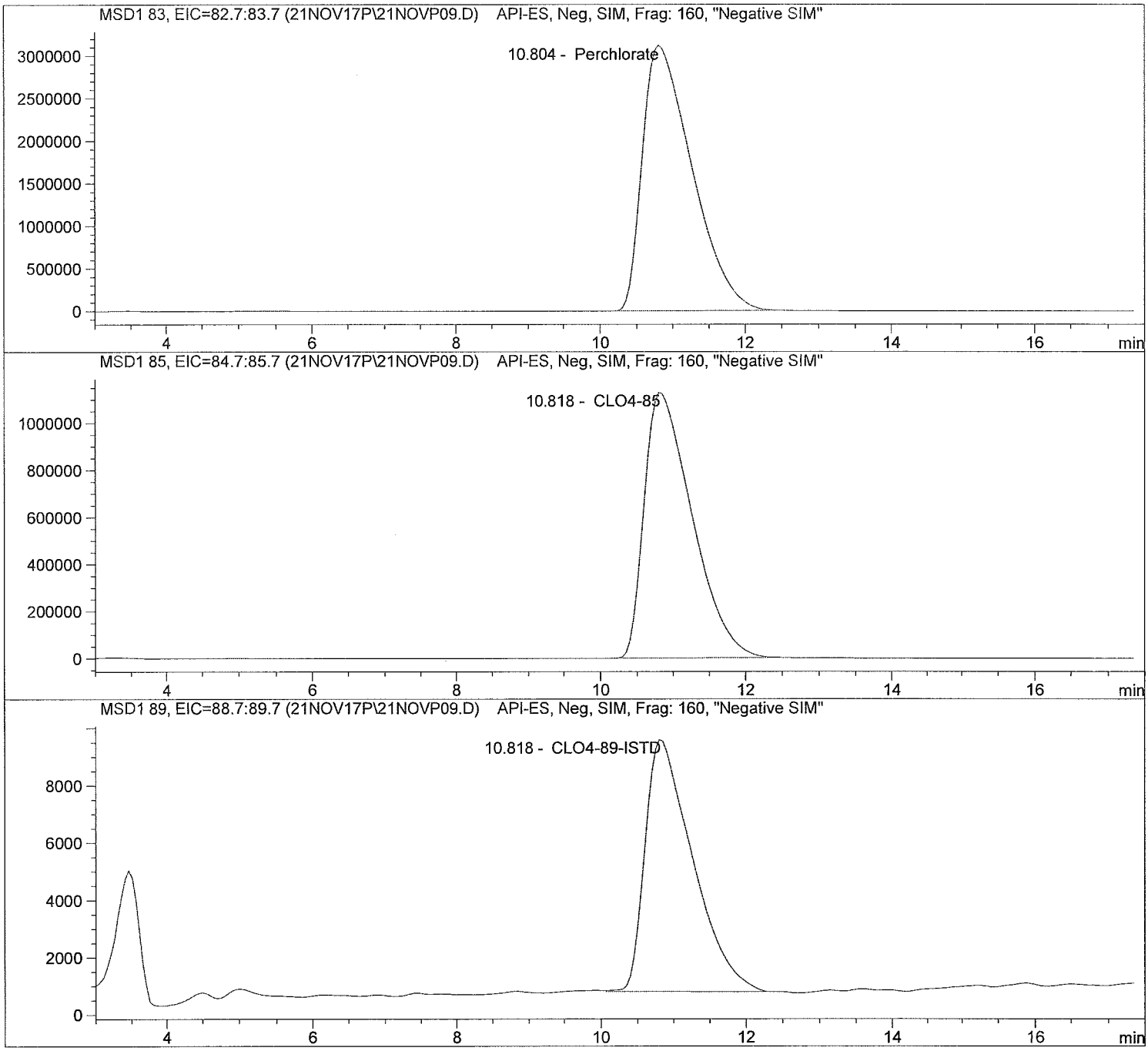
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP09.D Sample Name: 1732090001

Injection Date:	11/21/2017 11:28:02	Seq Line:	9
Sample Name:	1732090001	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP09.D Sample Name: 1732090001

Injection Date:	11/21/2017 11:28:02	Seq Line:	9
Sample Name:	1732090001	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method:	CLO4-AQN.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed:	10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.804	PBA	148822752.0	411.6912	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.818	PBA	51888372.0	526.6180	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.818	BBA	402187.9	5.0000	CLO4-89-ISTD

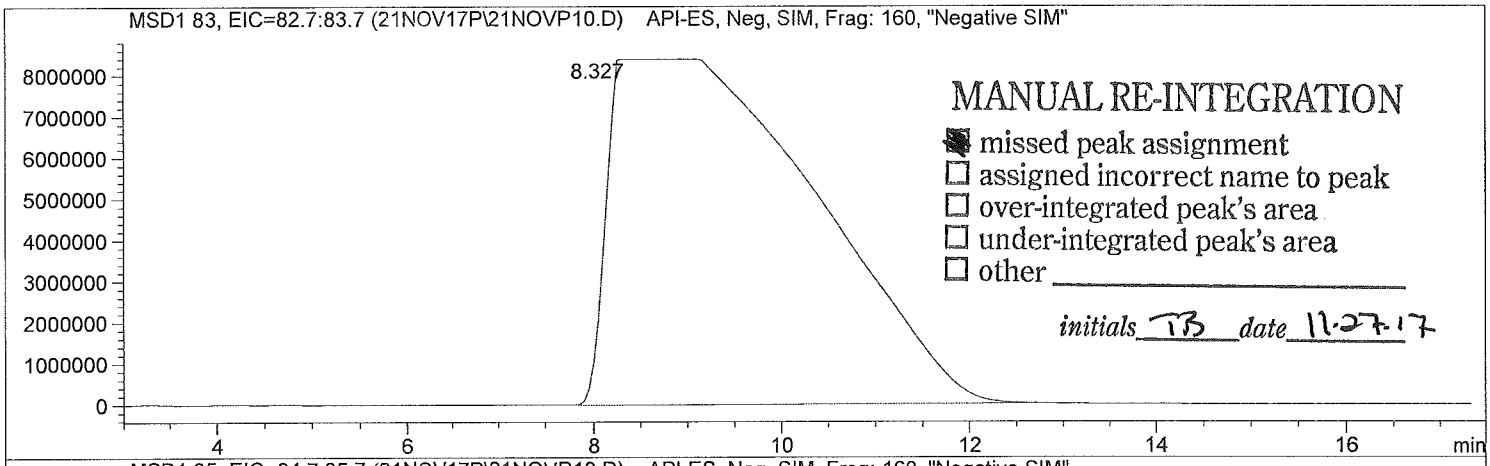
*** End of Report ***

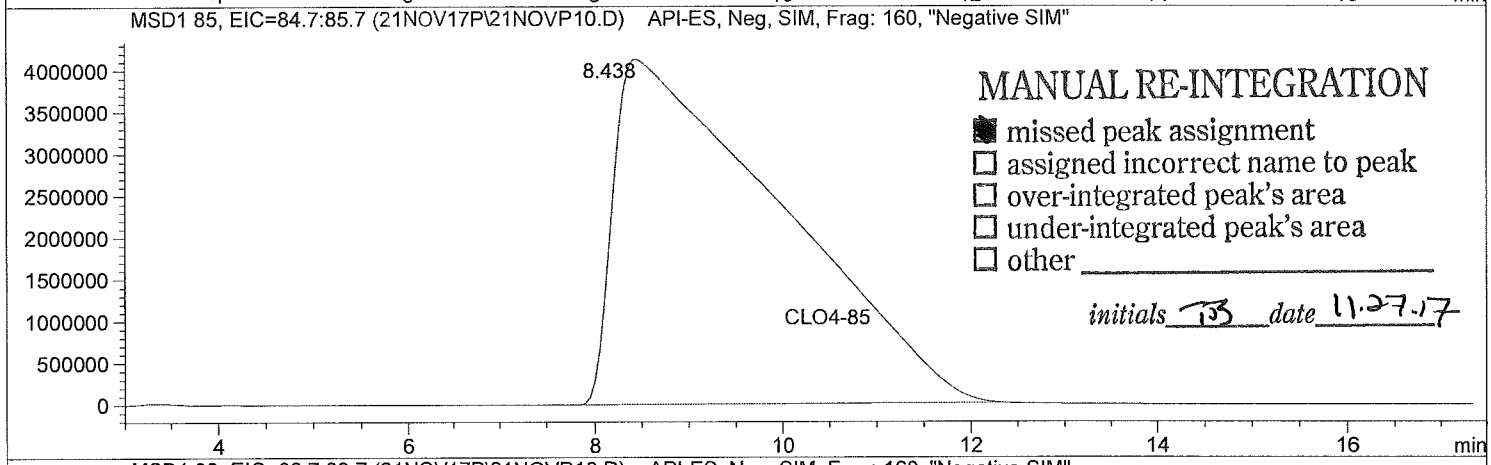
Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP10.D Sample Name: 1732090002

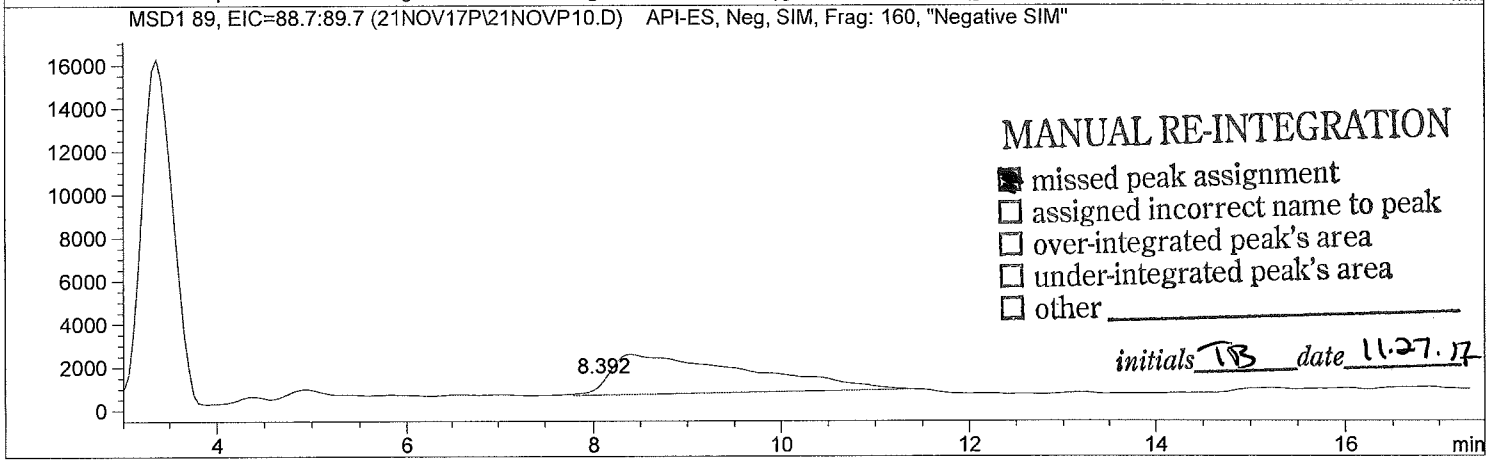
Injection Date:	11/21/2017 11:47:26	Seq Line:	10
Sample Name:	1732090002	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP10.D Sample Name: 1732090002

Injection Date:	11/21/2017 11:47:26	Seq Line:	10
Sample Name:	1732090002	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
8.327	MM	1274844416.0	0.0000	
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
8.438	MM	512512704.0	0.0000	
9.070	Rsho	0.0	0.0000	
9.678	Rsho	0.0	0.0000	
10.377	Rsho	0.0	0.0000	
10.935	Rsho	0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
8.392	MM	188436.4	0.0000	
0.000		0.0	0.0000	CLO4-89-ISTD

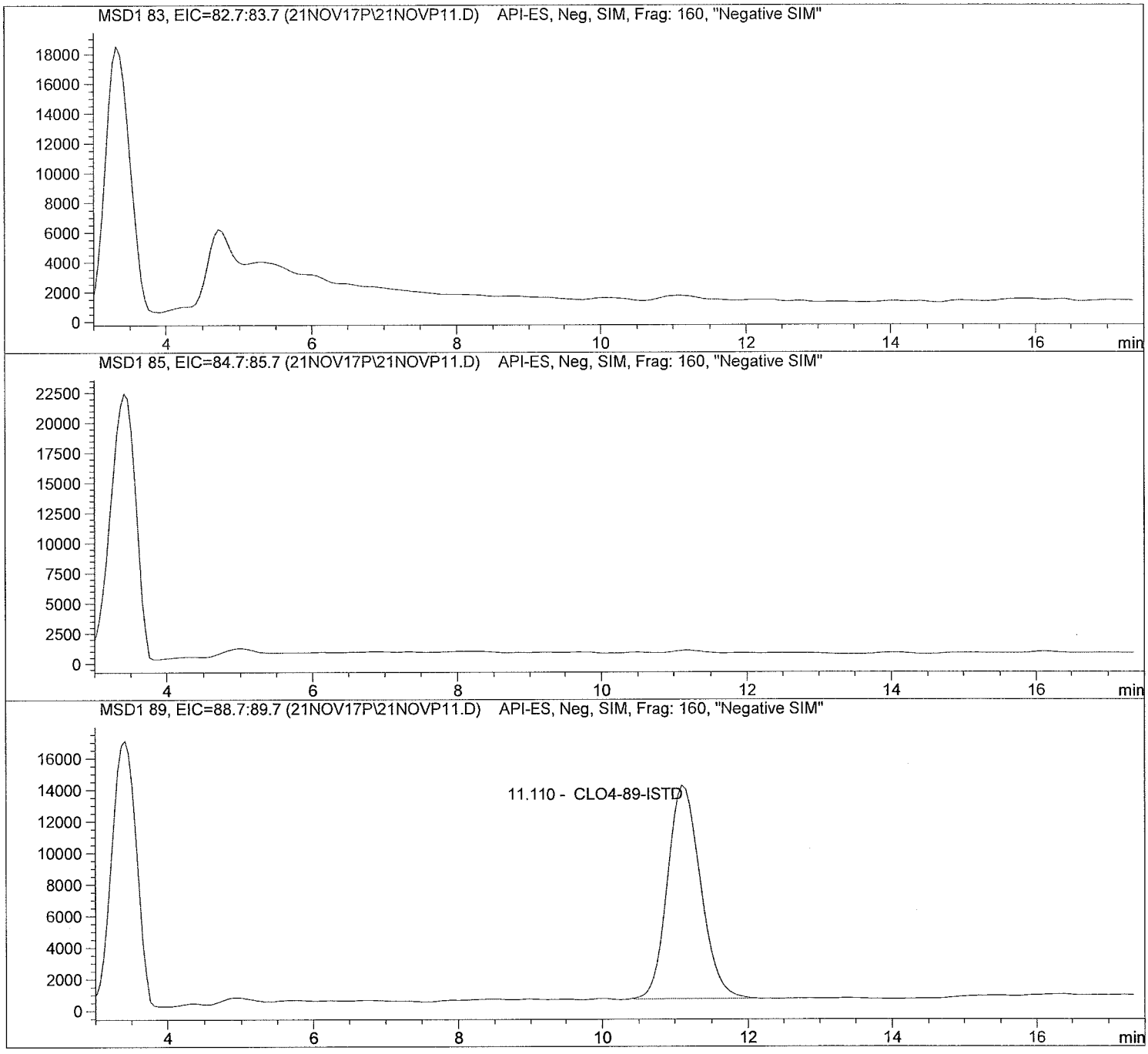
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP11.D Sample Name: 1732090003

Injection Date:	11/21/2017 12:06:49	Seq Line:	11
Sample Name:	1732090003	Location:	Vial 81
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP11.D Sample Name: 1732090003

Injection Date:	11/21/2017 12:06:49	Seq Line:	11
Sample Name:	1732090003	Location:	Vial 81
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By: Signal
Calib. Data Modified: Thu, 26. Oct. 2017,08:21:56 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
11.110	BBA	424561.1	5.0000	CLO4-89-ISTD

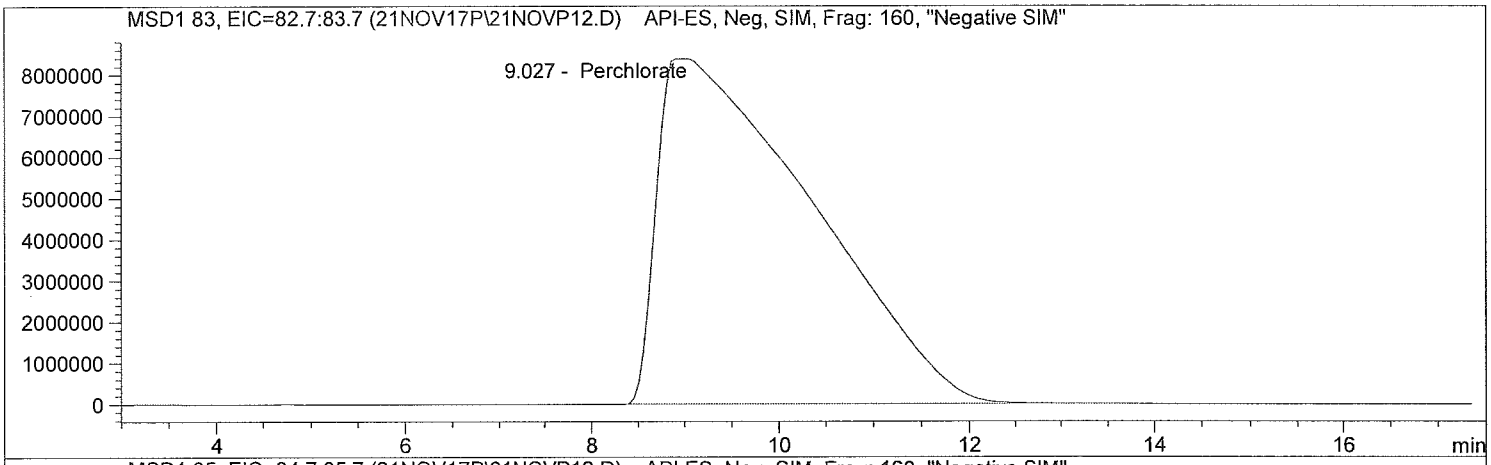
*** End of Report ***

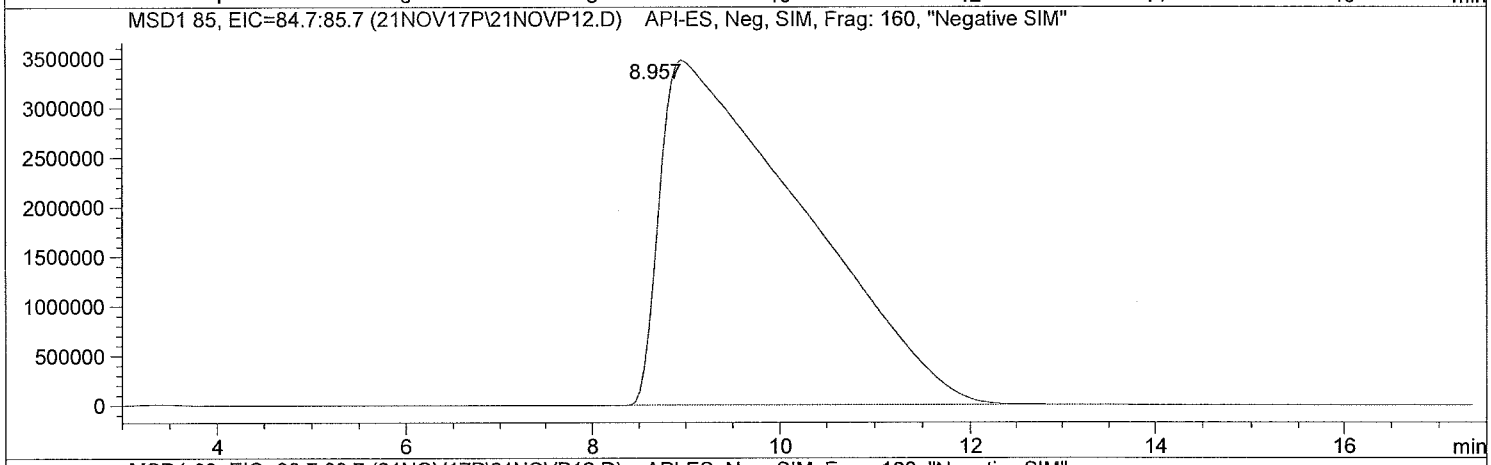
Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP12.D Sample Name: 1732090004

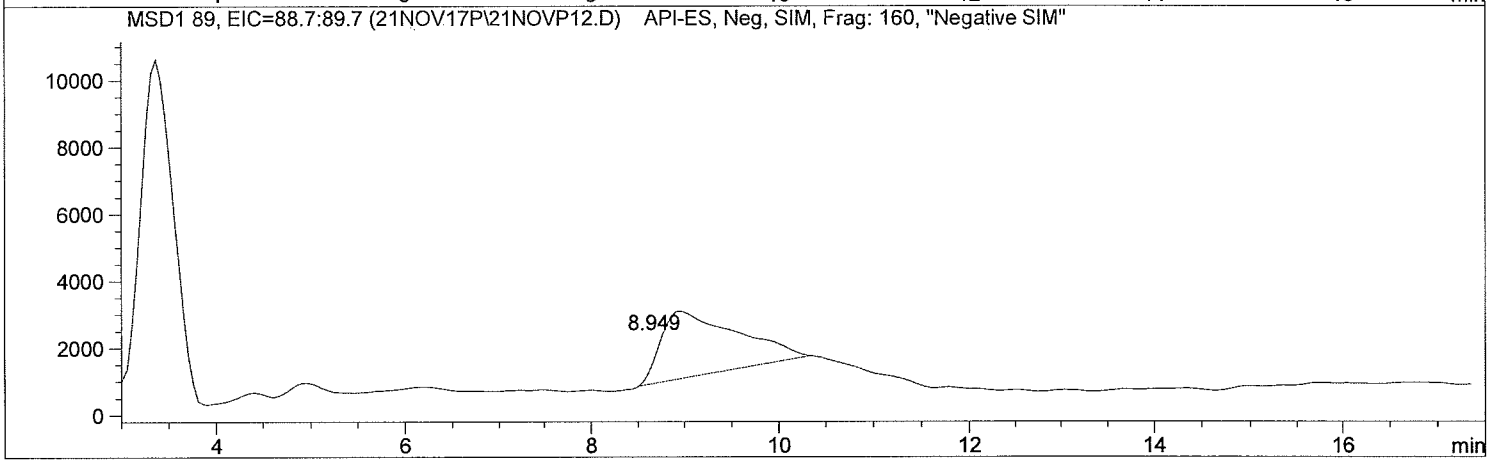
Injection Date:	11/21/2017 12:26:10	Seq Line:	12
Sample Name:	1732090004	Location:	Vial 82
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP12.D Sample Name: 1732090004

Injection Date:	11/21/2017 12:26:10	Seq Line:	12
Sample Name:	1732090004	Location:	Vial 82
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
9.027	PBA	957681984.0	0.0074	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
8.957	PBA	367310848.0	0.0000	
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
8.949	PBA	111870.4	0.0000	
0.000		0.0	0.0000	CLO4-89-ISTD

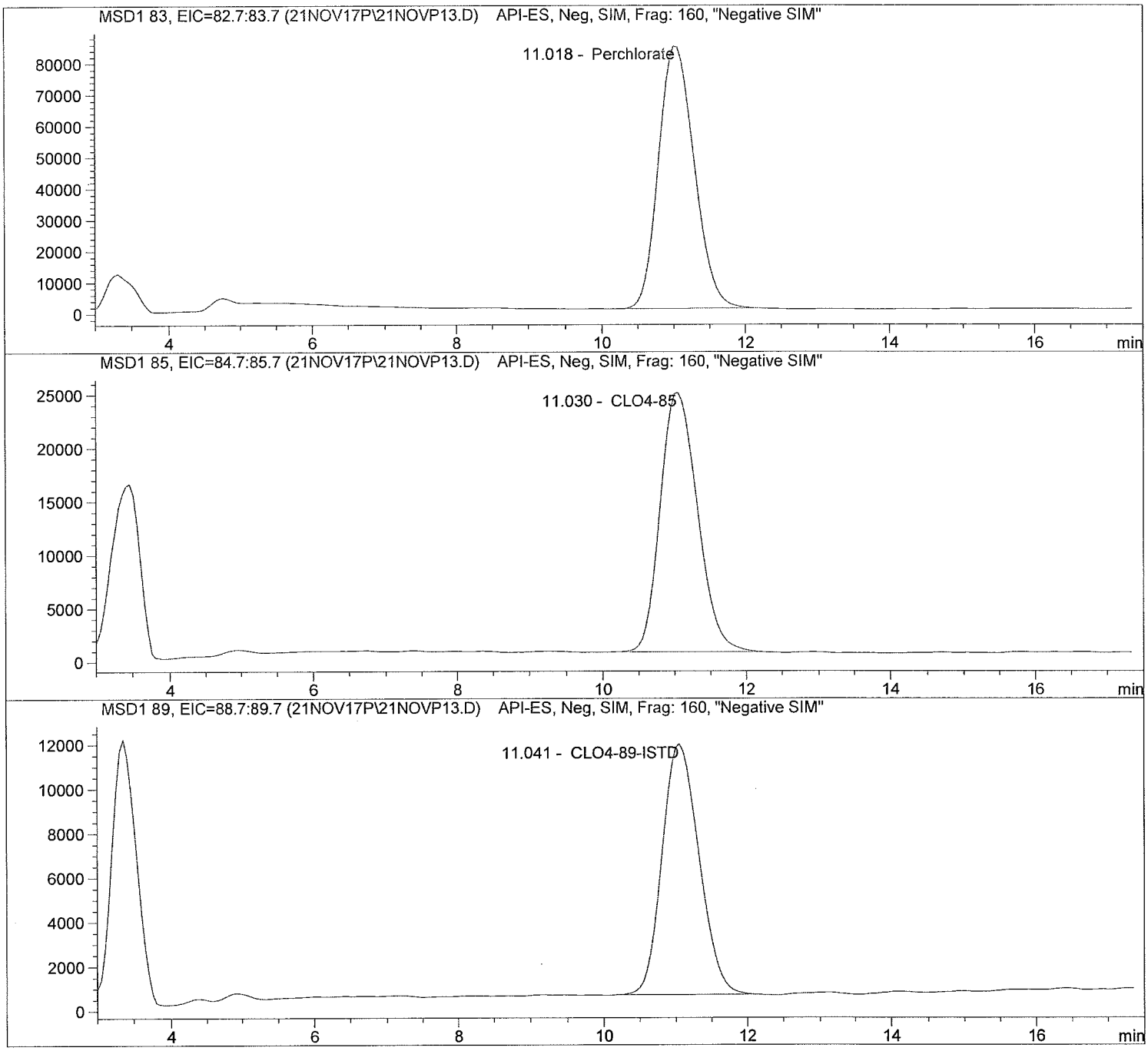
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP13.D Sample Name: 1732090005

Injection Date:	11/21/2017 12:45:30	Seq Line:	13
Sample Name:	1732090005	Location:	Vial 83
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP13.D Sample Name: 1732090005

Injection Date:	11/21/2017 12:45:30	Seq Line:	13
Sample Name:	1732090005	Location:	Vial 83
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method:	CLO4-AQN.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed:	10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.018	PBA	2880371.0	27.4891	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.030	BBA	867168.2	27.0682	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.041	BBA	401470.2	5.0000	CLO4-89-ISTD

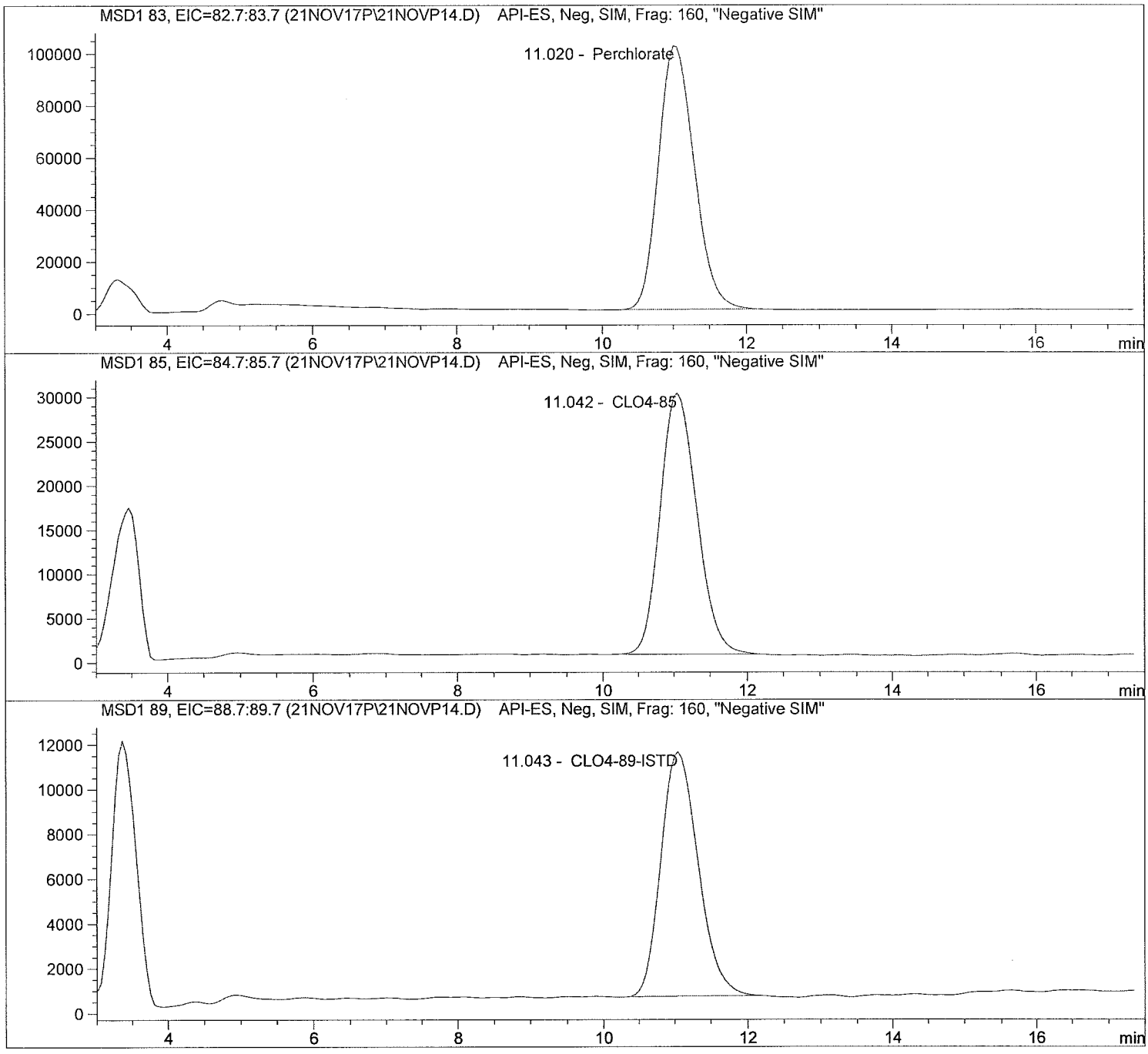
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP14.D Sample Name: 1732090006 MS

Injection Date:	11/21/2017 13:06:15	Seq Line:	14
Sample Name:	1732090006 MS	Location:	Vial 84
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP14.D Sample Name: 1732090006 MS

Injection Date:	11/21/2017 13:06:15	Seq Line:	14
Sample Name:	1732090006 MS	Location:	Vial 84
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.020	BBA	3490214.3	32.9815	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.042	BBA	1040430.4	32.5432	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.043	PBA	391759.4	5.0000	CLO4-89-ISTD

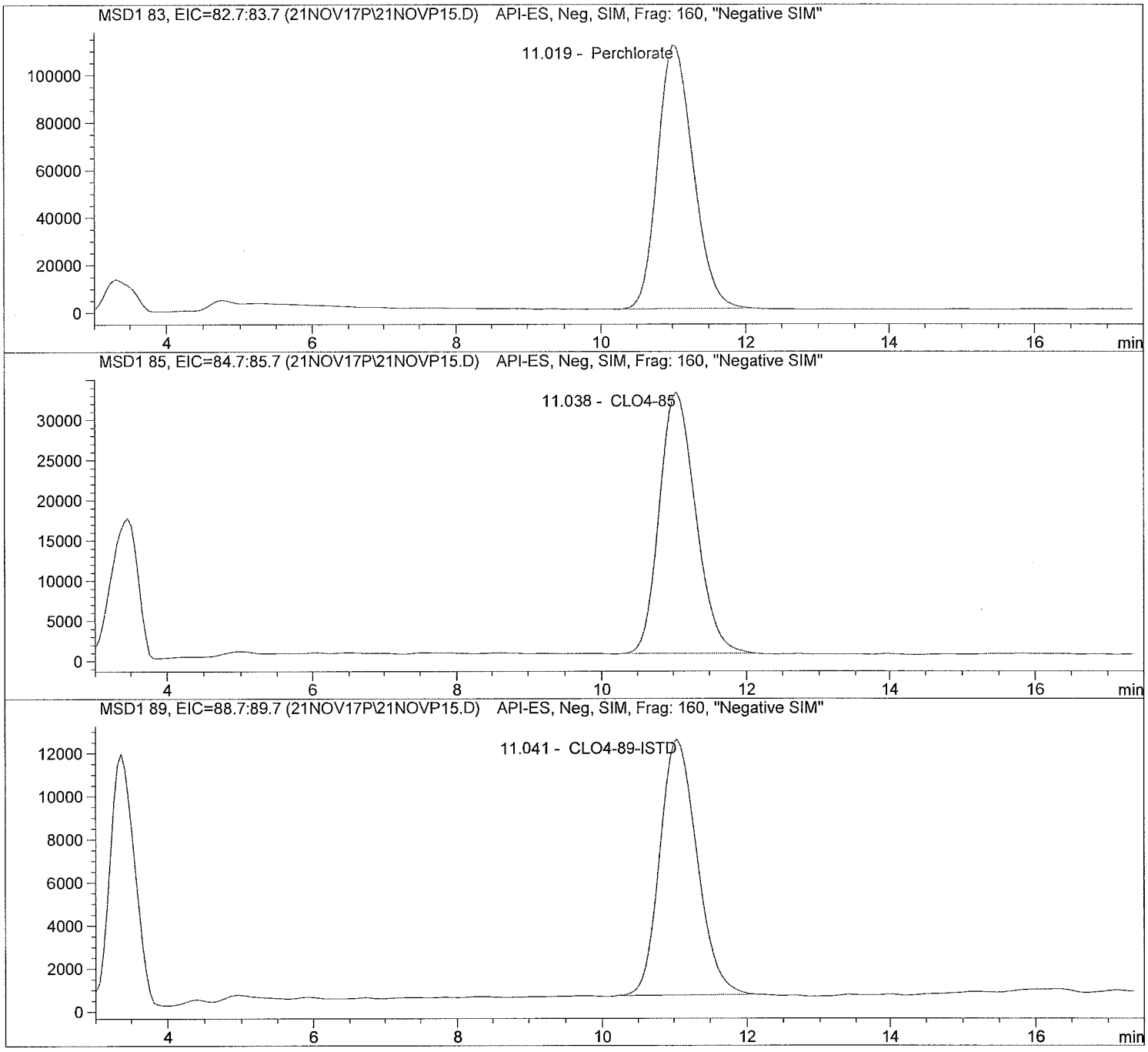
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP15.D Sample Name: 1732090007 MSD

Injection Date:	11/21/2017 13:25:37	Seq Line:	15
Sample Name:	1732090007 MSD	Location:	Vial 85
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP15.D Sample Name: 1732090007 MSD

Injection Date:	11/21/2017 13:25:37	Seq Line:	15
Sample Name:	1732090007 MSD	Location:	Vial 85
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.019	PBA	3805693.3	33.0468	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.038	PBA	1141517.7	32.7904	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.041	BBA	426154.9	5.0000	CLO4-89-ISTD

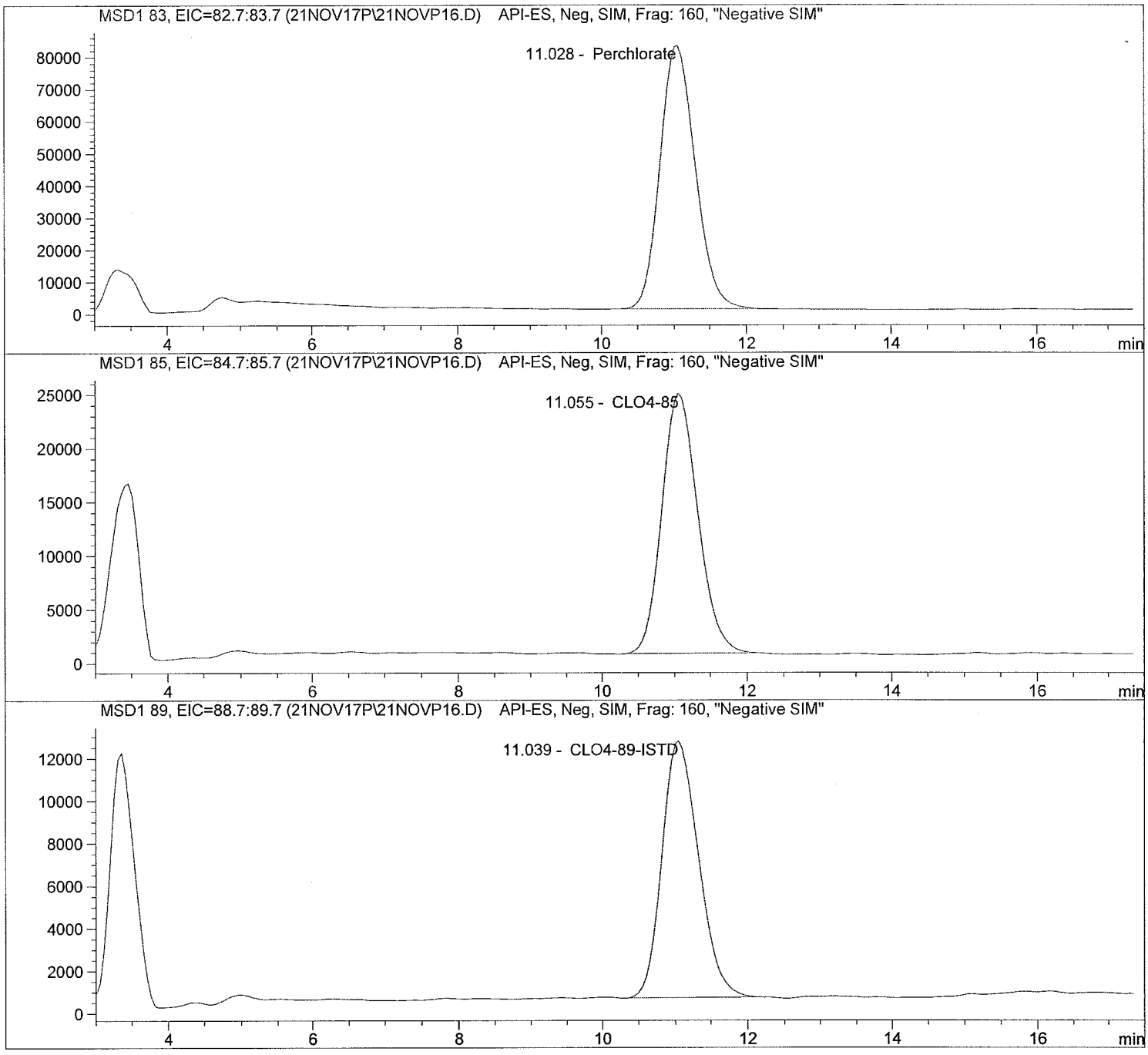
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP16.D Sample Name: 1732090008

Injection Date:	11/21/2017 13:45:00	Seq Line:	16
Sample Name:	1732090008	Location:	Vial 86
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP16.D Sample Name: 1732090008

Injection Date:	11/21/2017 13:45:00	Seq Line:	16
Sample Name:	1732090008	Location:	Vial 86
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method:	CLO4-AQN.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed:	10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.028	BBA	2821677.0	25.4571	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.055	PBA	850148.0	24.9782	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.039	PBA	430249.8	5.0000	CLO4-89-ISTD

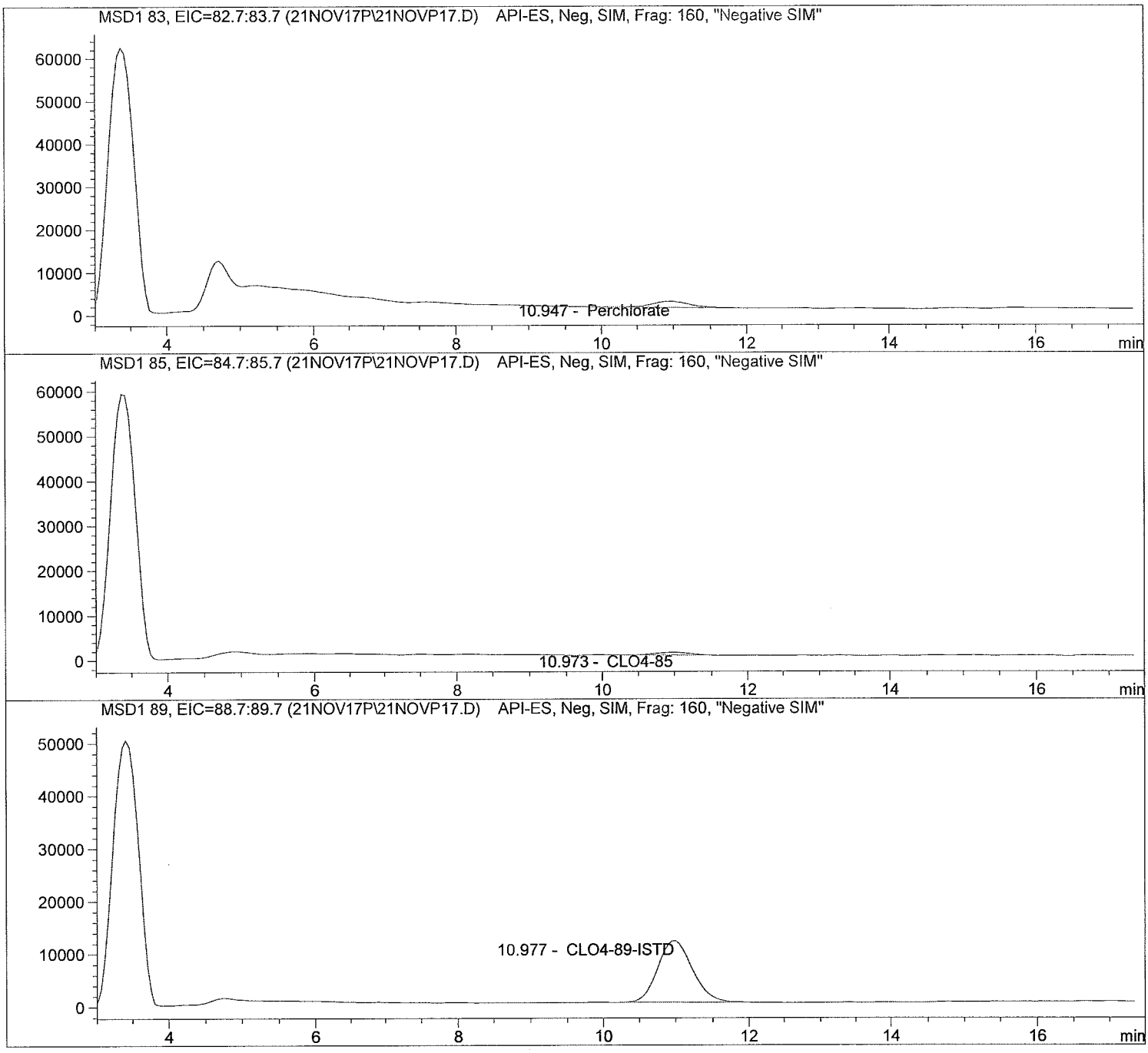
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP17.D Sample Name: 1732090009

Injection Date:	11/21/2017 14:04:23	Seq Line:	17
Sample Name:	1732090009	Location:	Vial 87
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP17.D Sample Name: 1732090009

Injection Date:	11/21/2017 14:04:23	Seq Line:	17
Sample Name:	1732090009	Location:	Vial 87
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method:	CLO4-AQN.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed:	10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.947	BBA	51483.1	0.6253	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.973	PBA	21592.0	0.7890	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.977	BBA	384879.7	5.0000	CLO4-89-ISTD

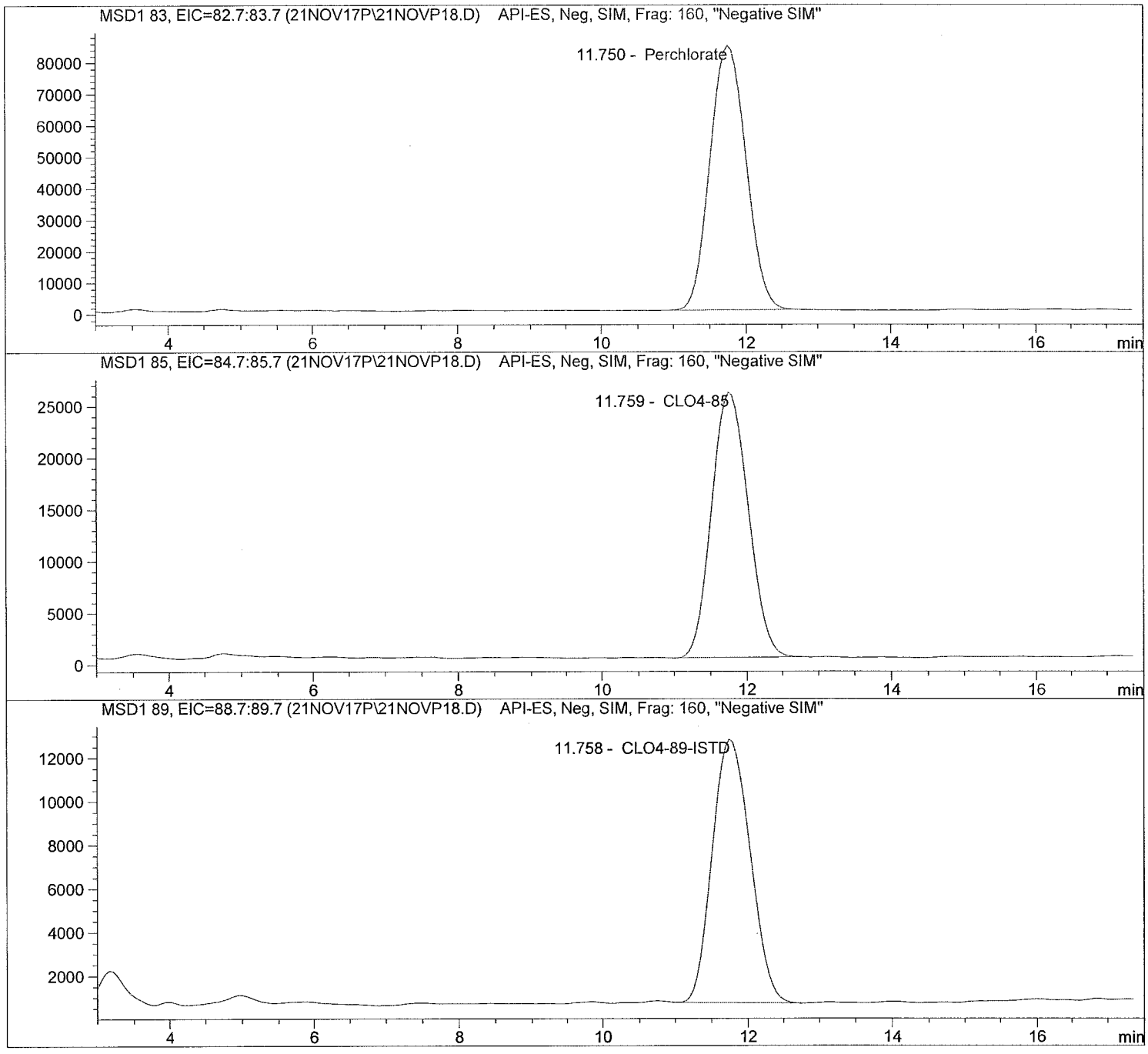
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP18.D Sample Name: 575298 CCV@25

Injection Date:	11/21/2017 14:23:47	Seq Line:	18
Sample Name:	575298 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP18.D Sample Name: 575298 CCV@25

Injection Date:	11/21/2017 14:23:47	Seq Line:	18
Sample Name:	575298 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.750	BBA	2905307.0	25.6866	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.759	PBA	898143.1	25.8086	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.758	BBA	438393.9	5.0000	CLO4-89-ISTD

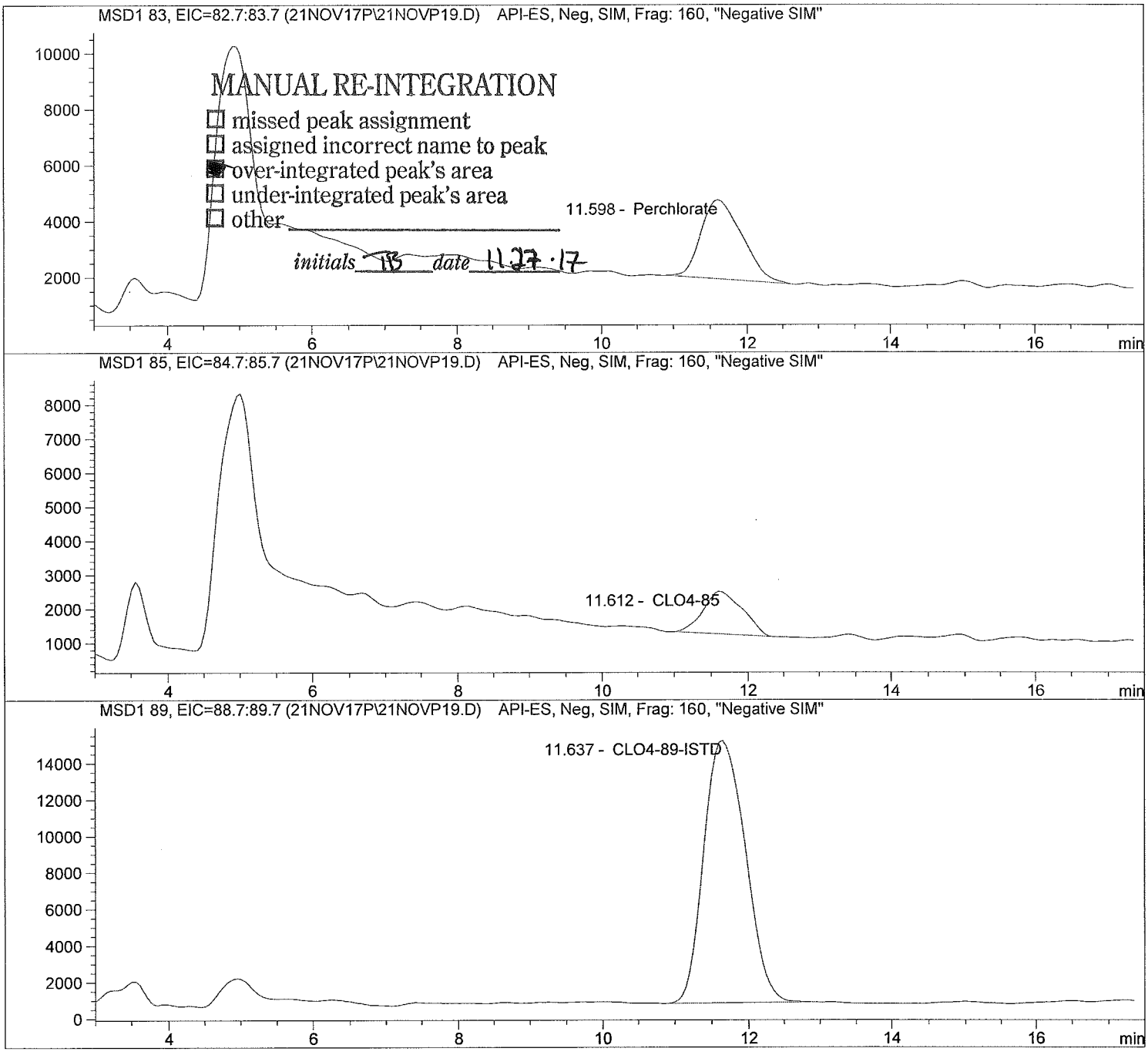
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP19.D Sample Name: 575299 LODV@1.

Injection Date:	11/21/2017 14:43:09	Seq Line:	19
Sample Name:	575299 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP19.D Sample Name: 575299 LODV@1.

Injection Date:	11/21/2017 14:43:09	Seq Line:	19
Sample Name:	575299 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.598	MM	109492.1	0.9032	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.612	PBA	46107.0	1.1489	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.637	PBA	563443.1	5.0000	CLO4-89-ISTD

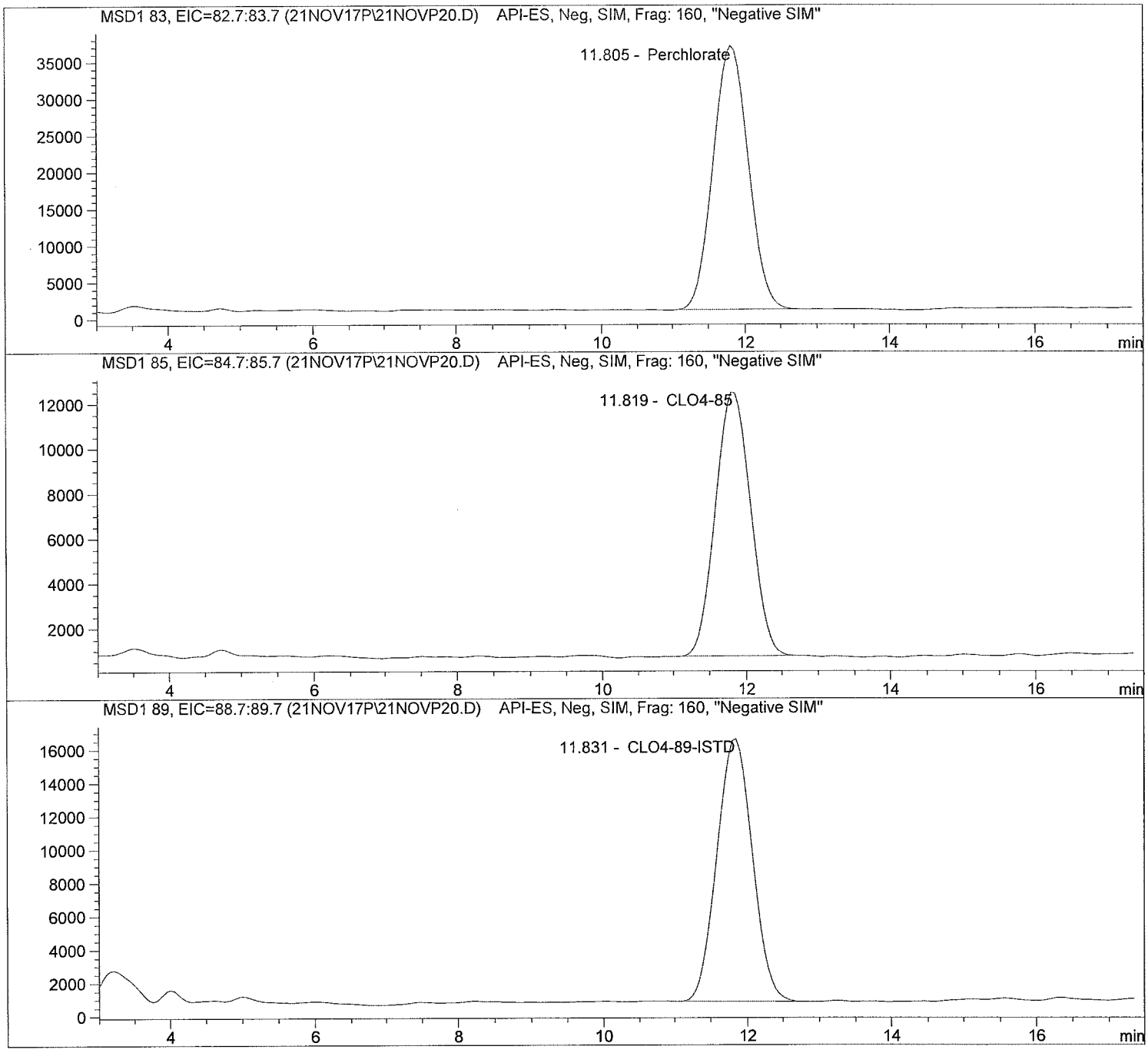
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP20.D Sample Name: 1731766001 1K

Injection Date:	11/21/2017 15:02:33	Seq Line:	20
Sample Name:	1731766001 1K	Location:	Vial 88
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP20.D Sample Name: 1731766001 1K

Injection Date:	11/21/2017 15:02:33	Seq Line:	20
Sample Name:	1731766001 1K	Location:	Vial 88
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method:	CLO4-AQN.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed:	10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.805	PBA	1206275.2	9756.4257	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.819	PBA	394066.1	9950.5183	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.831	PBA	534179.2	5000.0000	CLO4-89-ISTD

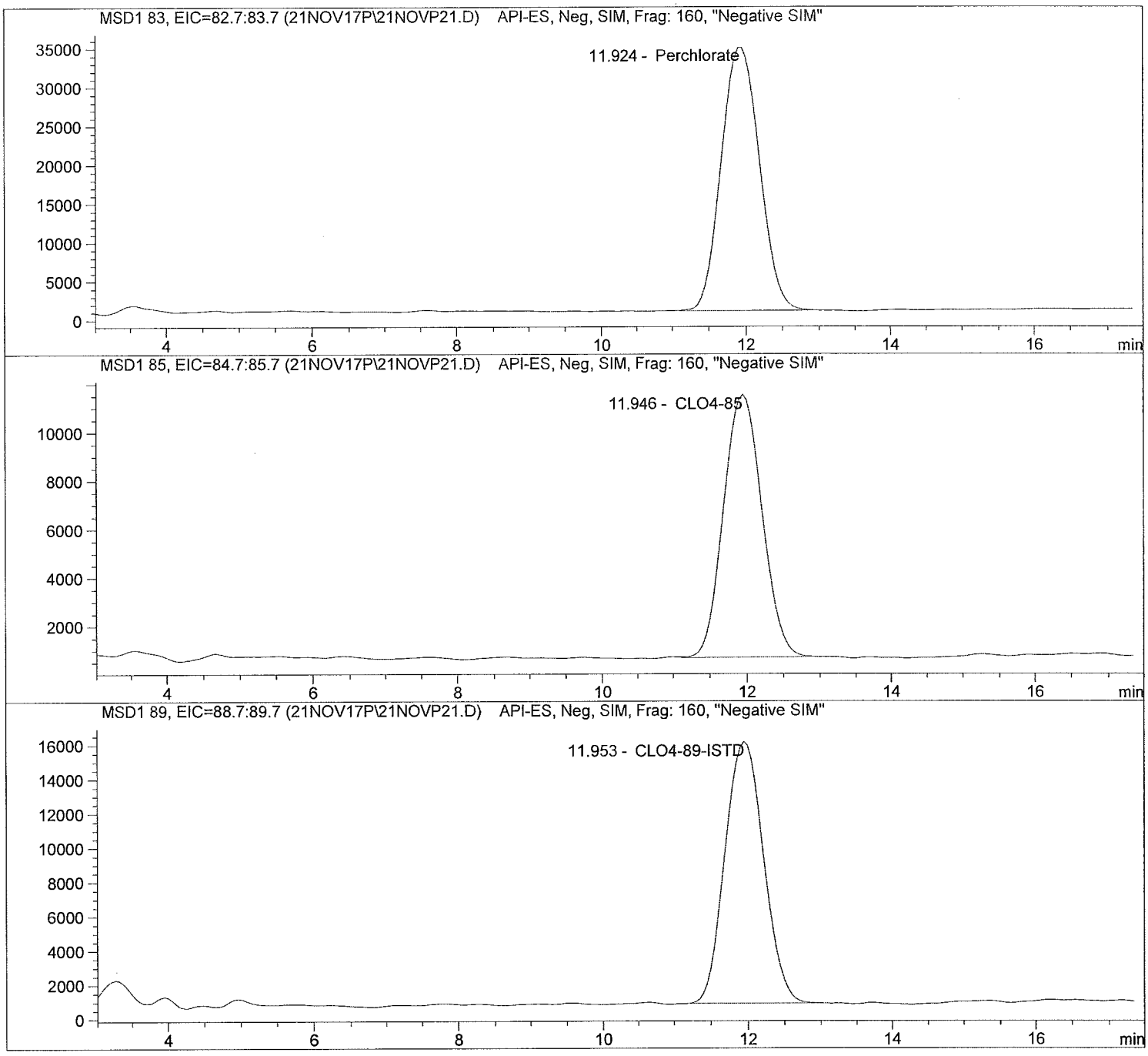
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP21.D Sample Name: 1732090001 100

Injection Date:	11/21/2017 15:21:57	Seq Line:	21
Sample Name:	1732090001 100	Location:	Vial 89
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP21.D Sample Name: 1732090001 100

Injection Date:	11/21/2017 15:21:57	Seq Line:	21
Sample Name:	1732090001 100	Location:	Vial 89
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.924	BBA	1227540.0	952.7269	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.946	BBA	393937.0	954.6697	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.953	PBA	557596.7	500.0000	CLO4-89-ISTD

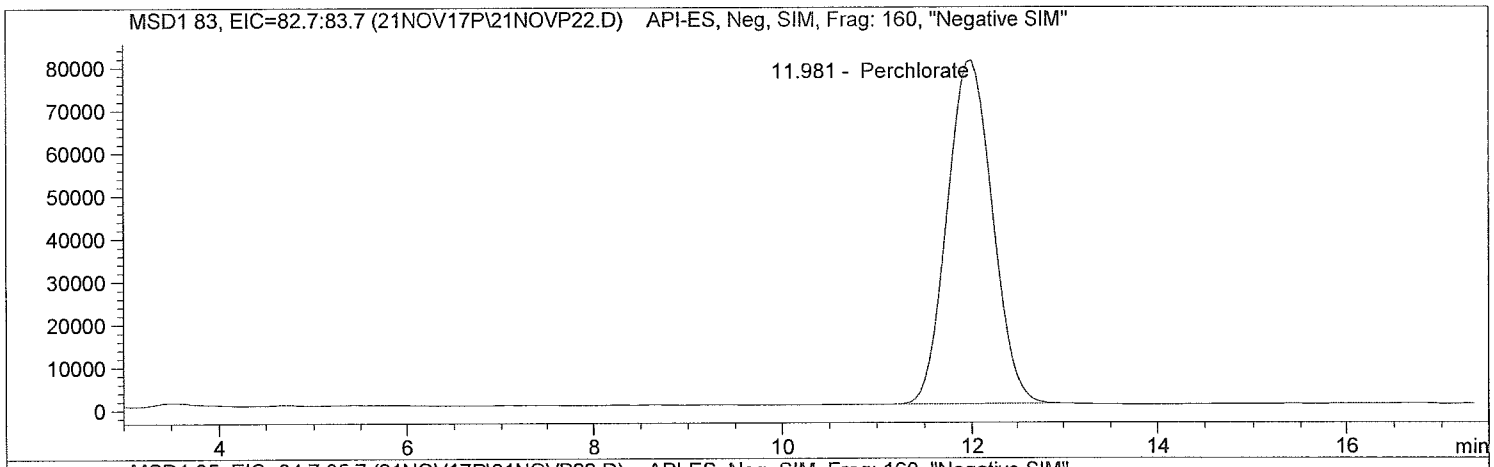
*** End of Report ***

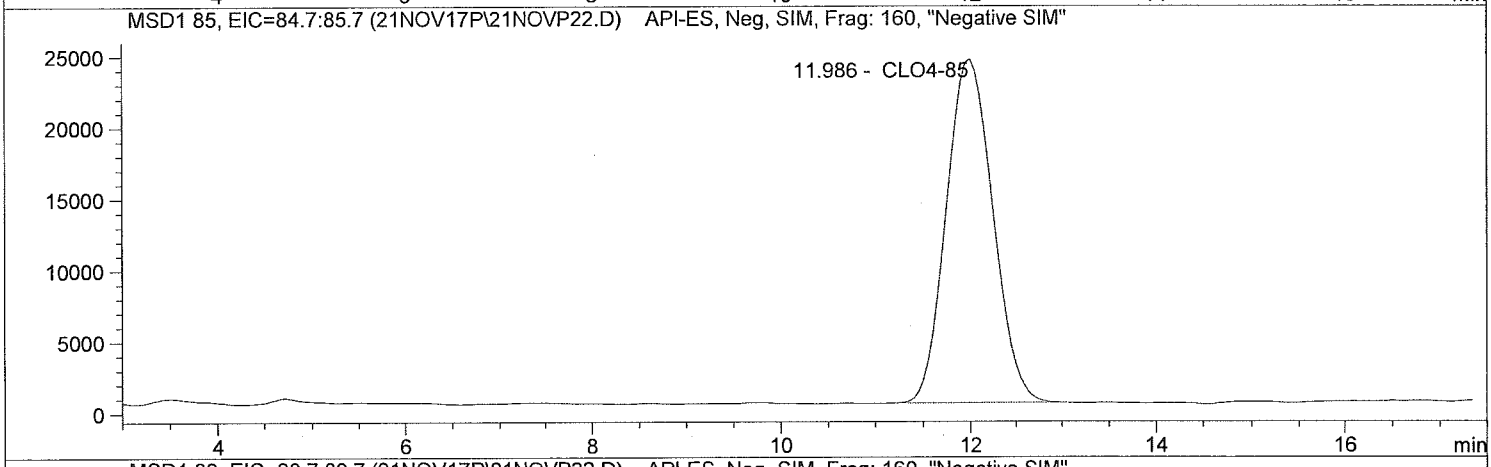
Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP22.D Sample Name: 1732090002 1K

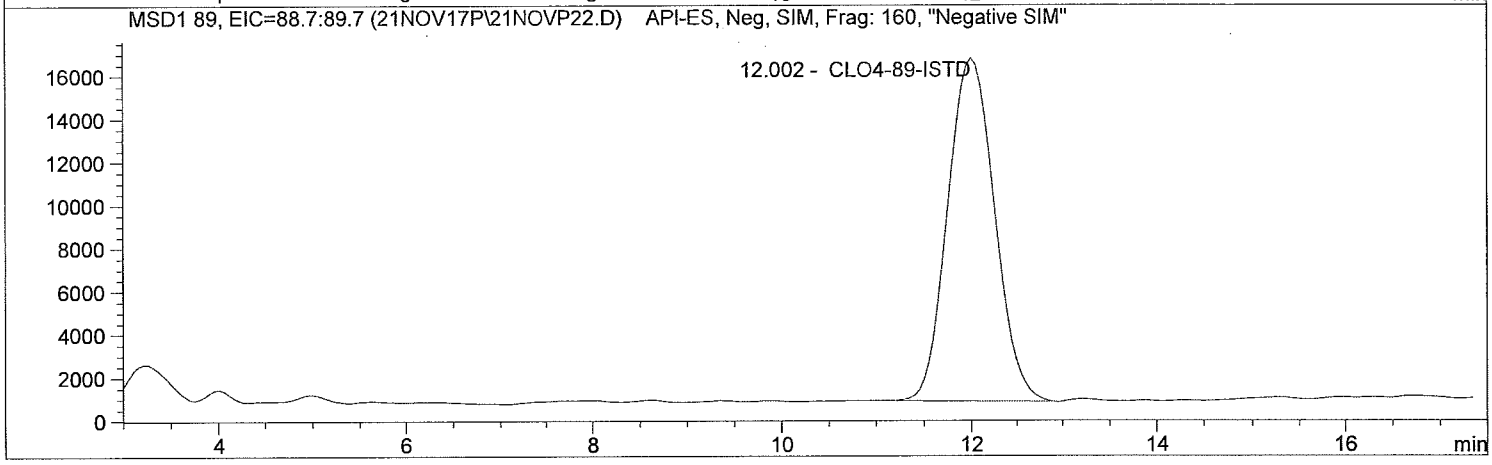
Injection Date:	11/21/2017 15:41:21	Seq Line:	22
Sample Name:	1732090002 1K	Location:	Vial 90
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP22.D Sample Name: 1732090002 1K

Injection Date:	11/21/2017 15:41:21	Seq Line:	22
Sample Name:	1732090002 1K	Location:	Vial 90
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.981	BBA	2701421.3	19523.5581	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.986	BBA	838229.5	19423.8152	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.002	BBA	558493.8	5000.0000	CLO4-89-ISTD

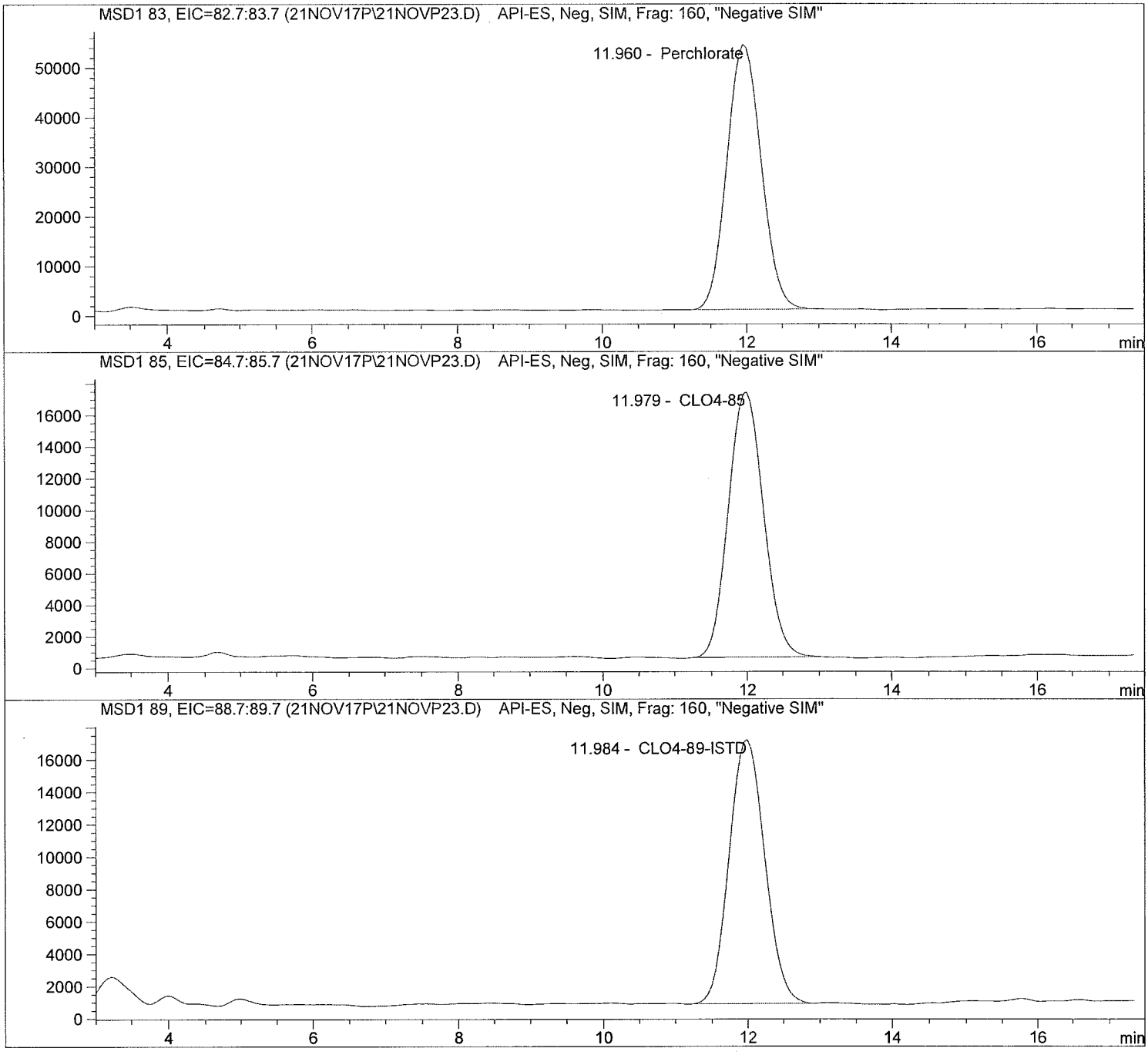
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP23.D Sample Name: 1732090004 1K

Injection Date:	11/21/2017 16:00:47	Seq Line:	23
Sample Name:	1732090004 1K	Location:	Vial 91
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP23.D Sample Name: 1732090004 1K

Injection Date:	11/21/2017 16:00:47	Seq Line:	23
Sample Name:	1732090004 1K	Location:	Vial 91
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.960	PBA	1788923.6	13308.0292	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.979	PBA	574994.3	13484.3199	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.984	PBA	566247.3	5000.0000	CLO4-89-ISTD

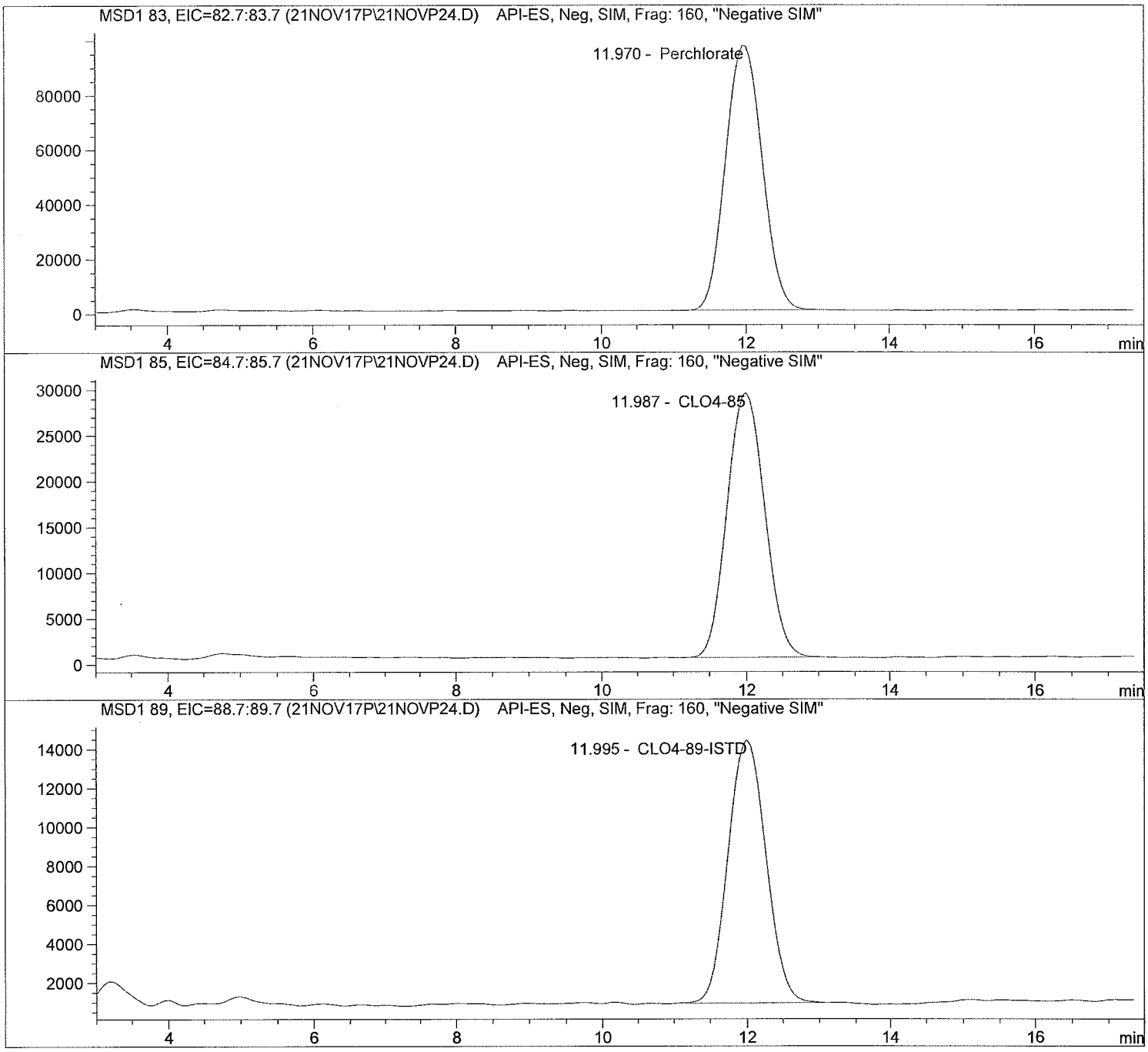
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP24.D Sample Name: 575300 CCV@25

Injection Date:	11/21/2017 16:20:10	Seq Line:	24
Sample Name:	575300 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP24.D Sample Name: 575300 CCV@25

Injection Date:	11/21/2017 16:20:10	Seq Line:	24
Sample Name:	575300 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.970	BBA	3386944.5	26.7050	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.987	BBA	1036548.5	26.6445	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.995	BBA	488376.1	5.0000	CLO4-89-ISTD

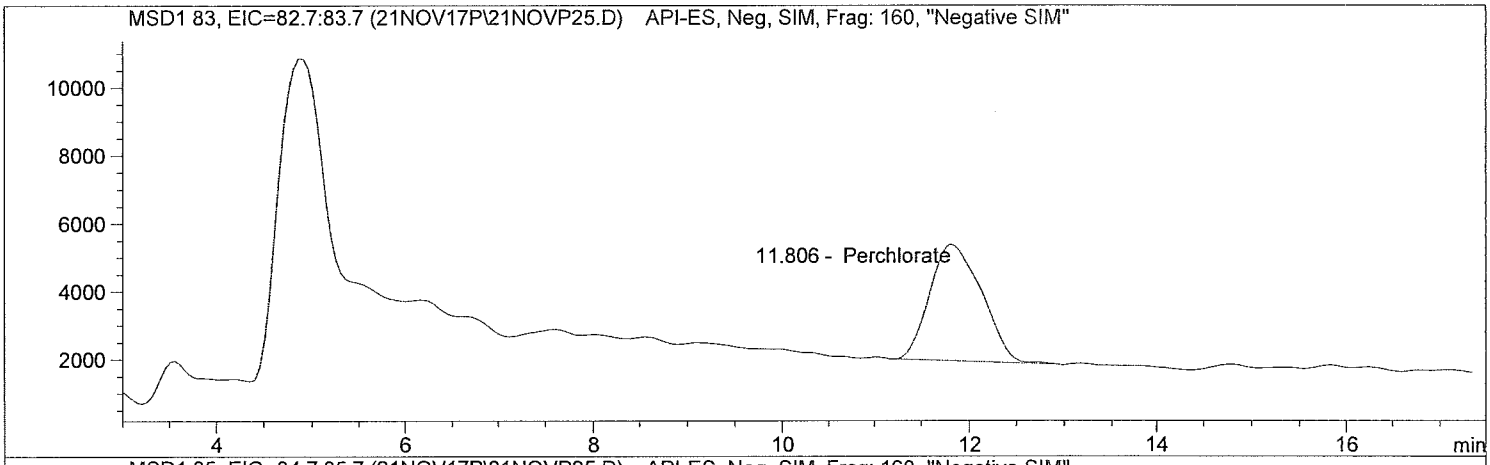
*** End of Report ***

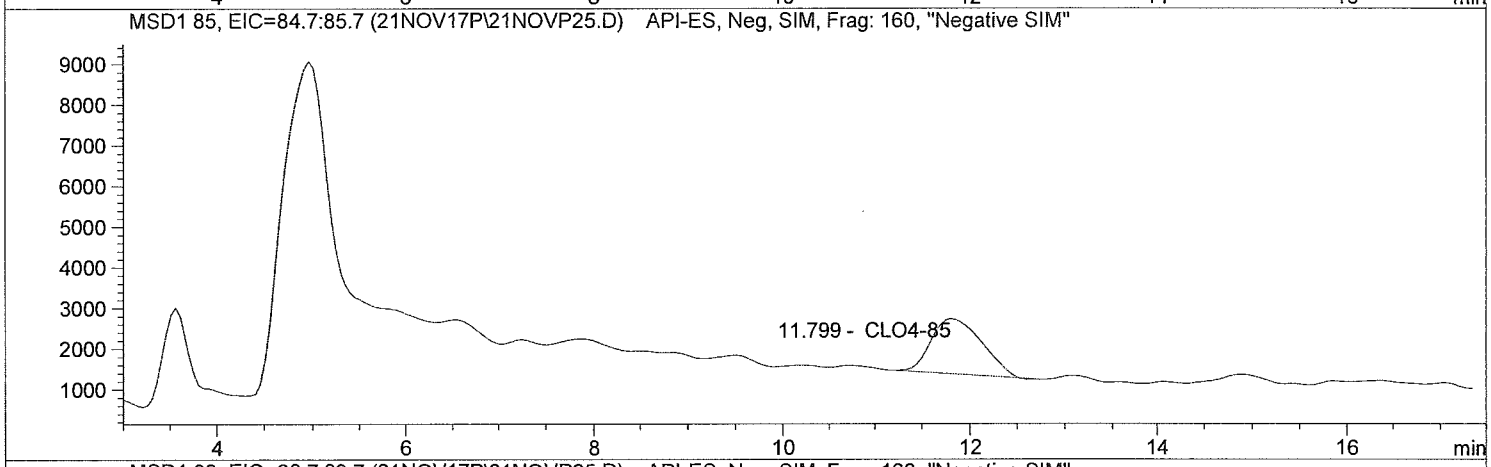
Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP25.D Sample Name: 575301 LODV@1.

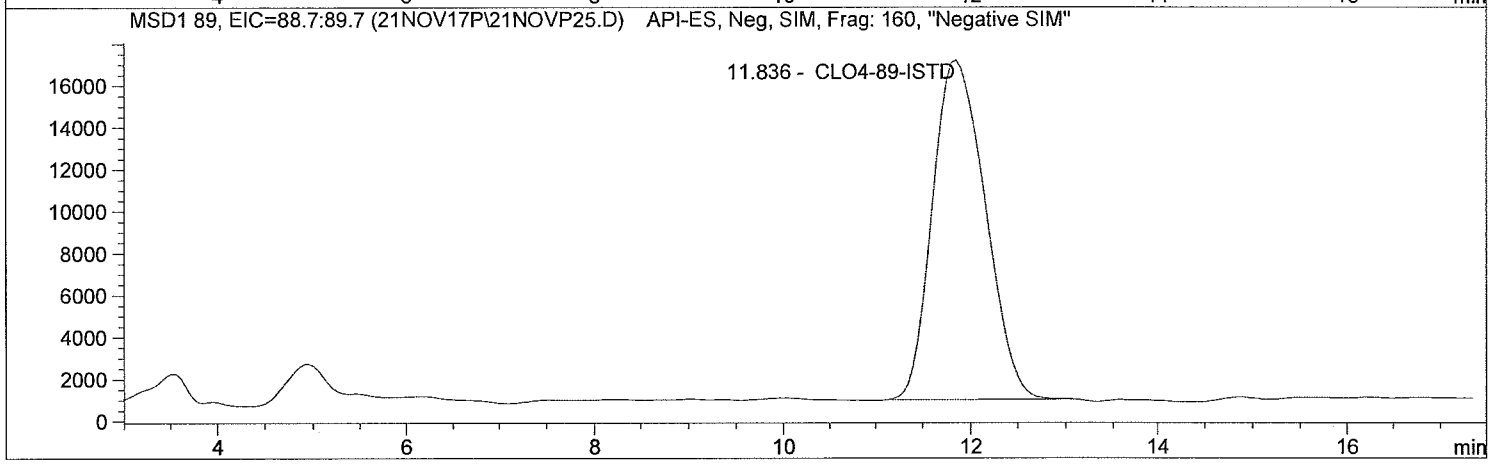
Injection Date:	11/21/2017 16:39:31	Seq Line:	25
Sample Name:	575301 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP25.D Sample Name: 575301 LODV@1.

Injection Date:	11/21/2017 16:39:31	Seq Line:	25
Sample Name:	575301 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.806	PBA	130116.4	0.9640	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.799	PBA	50238.5	1.1256	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.836	PBA	626702.6	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			

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

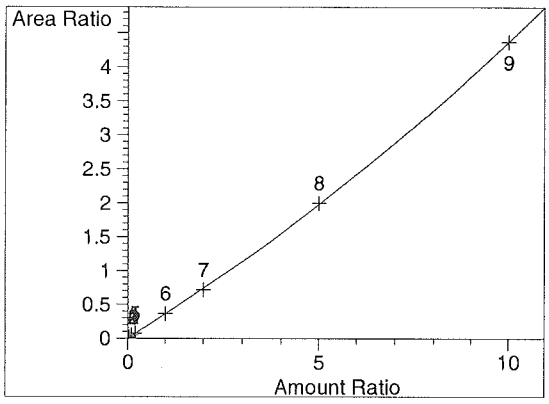
Peak Sum Table

No Entries in table

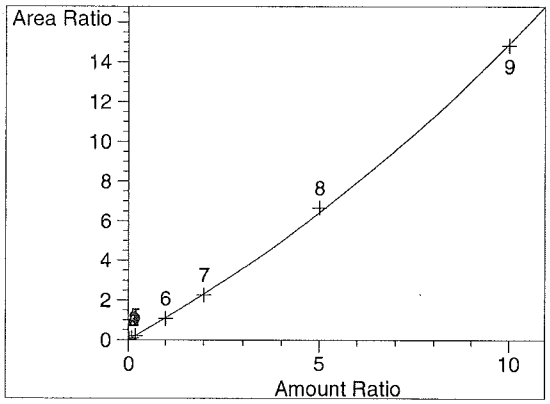
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Calibration Curves

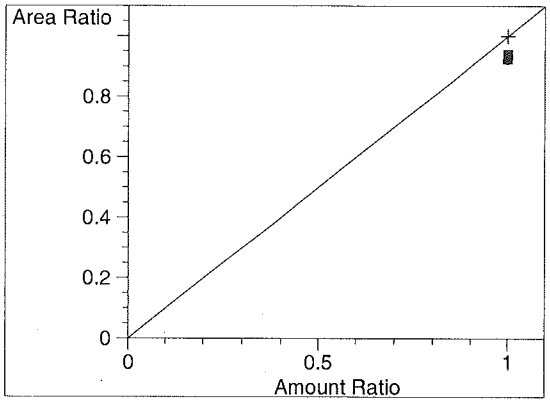
==========



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:

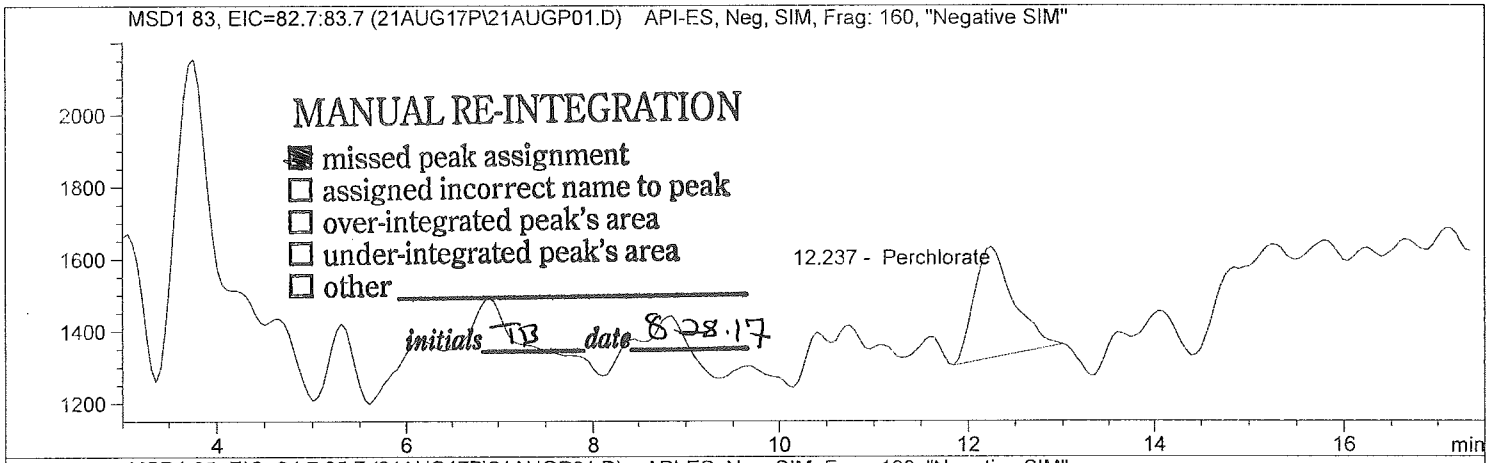
Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	ICAL1@ .05ug/L	CLO4-AQN	1	Ctrl Samp		
2	Vial 72	ICAL2@ .10ug/L	CLO4-AQN	1	Ctrl Samp		
3	Vial 73	ICAL3@ .20ug/L	CLO4-AQN	1	Ctrl Samp		
4	Vial 74	ICAL4@ 0.5ug/L	CLO4-AQN	1	Ctrl Samp		
5	Vial 75	ICAL5@ 1.0ug/L	CLO4-AQN	1	Ctrl Samp		
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		

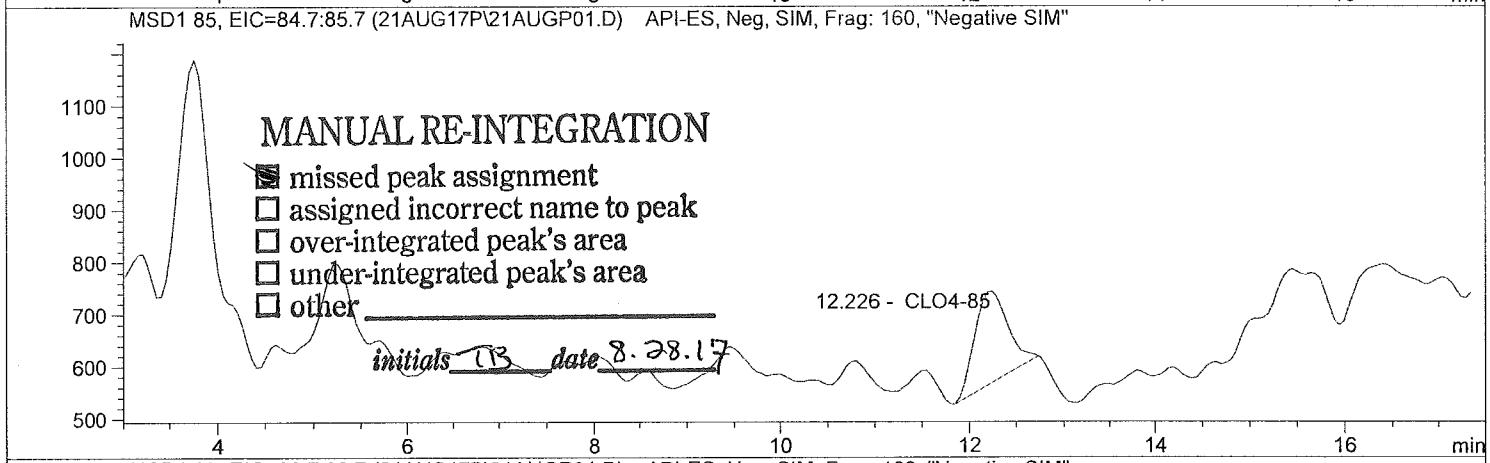
Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP01.D Sample Name: ICAL1@ .05ug/L

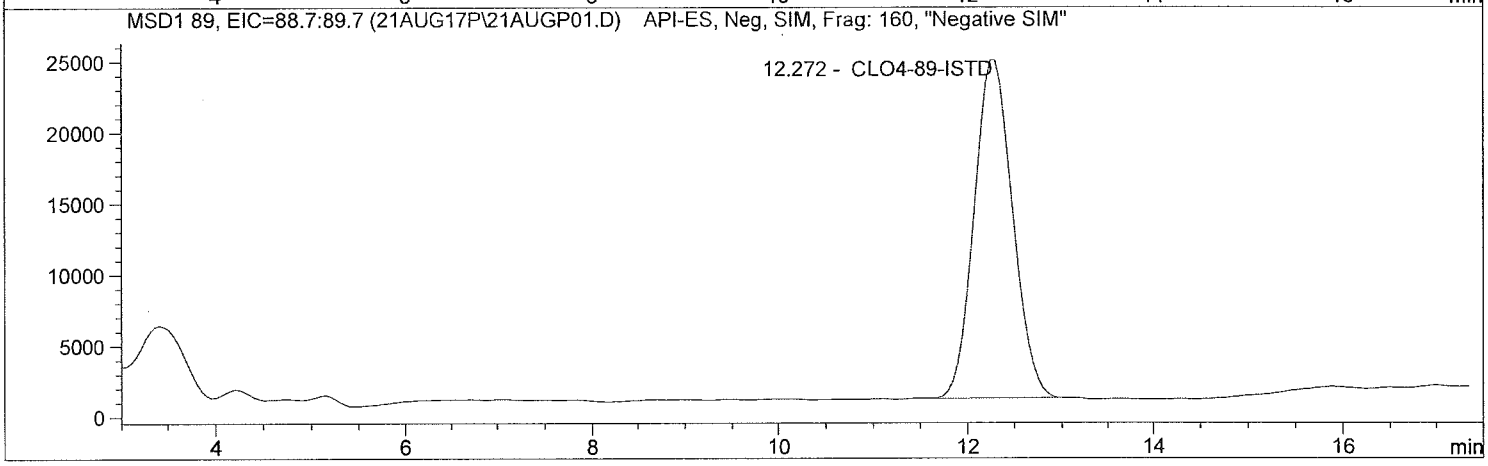
Injection Date:	8/21/2017 09:42:32	Seq Line:	1
Sample Name:	ICAL1@ .05ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

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

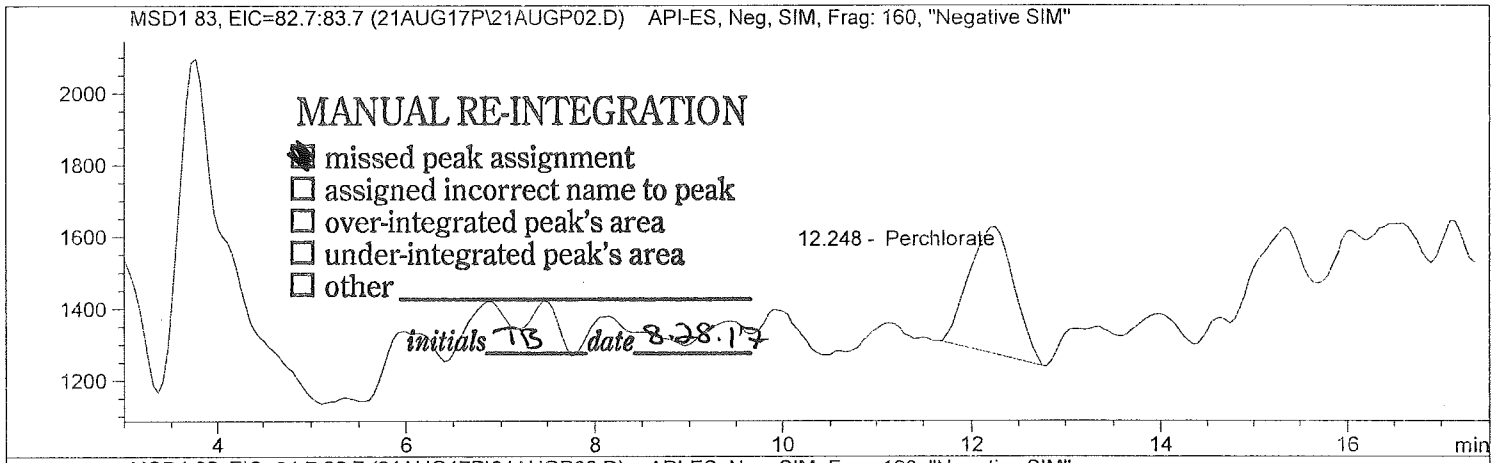
*** End of Report ***

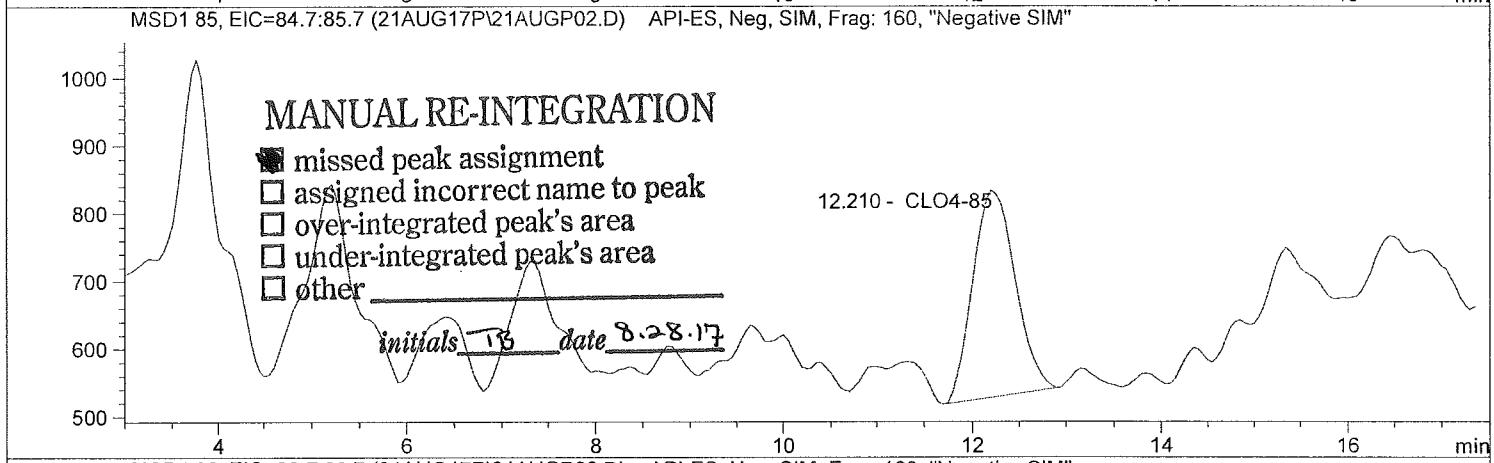
Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP02.D Sample Name: ICAL2@ .10ug/L

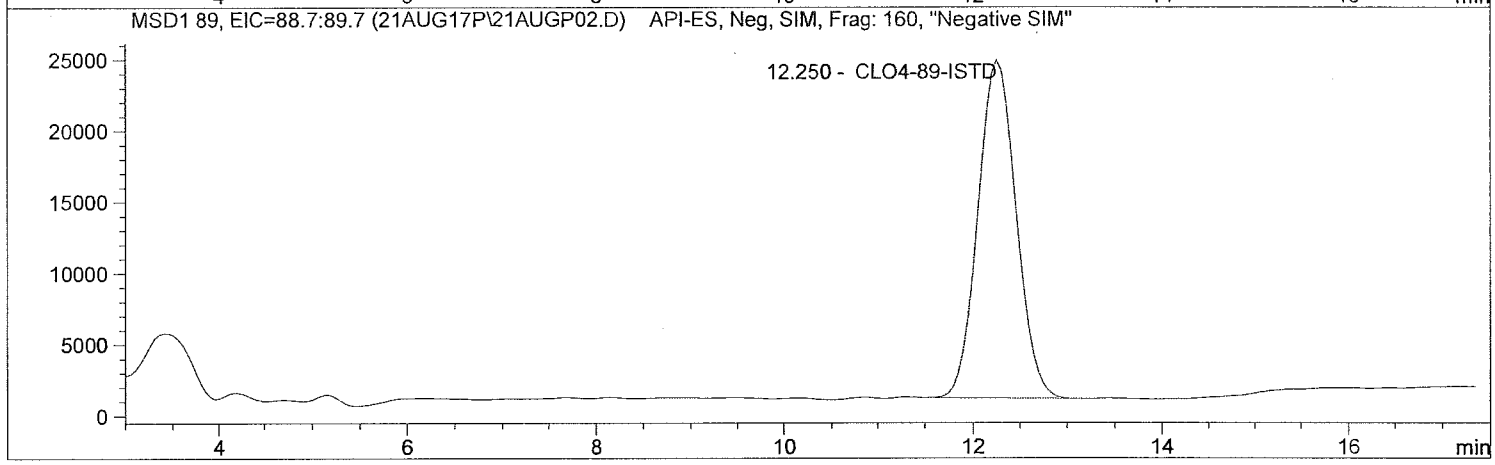
Injection Date:	8/21/2017 10:01:47	Seq Line:	2
Sample Name:	ICAL2@ .10ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

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

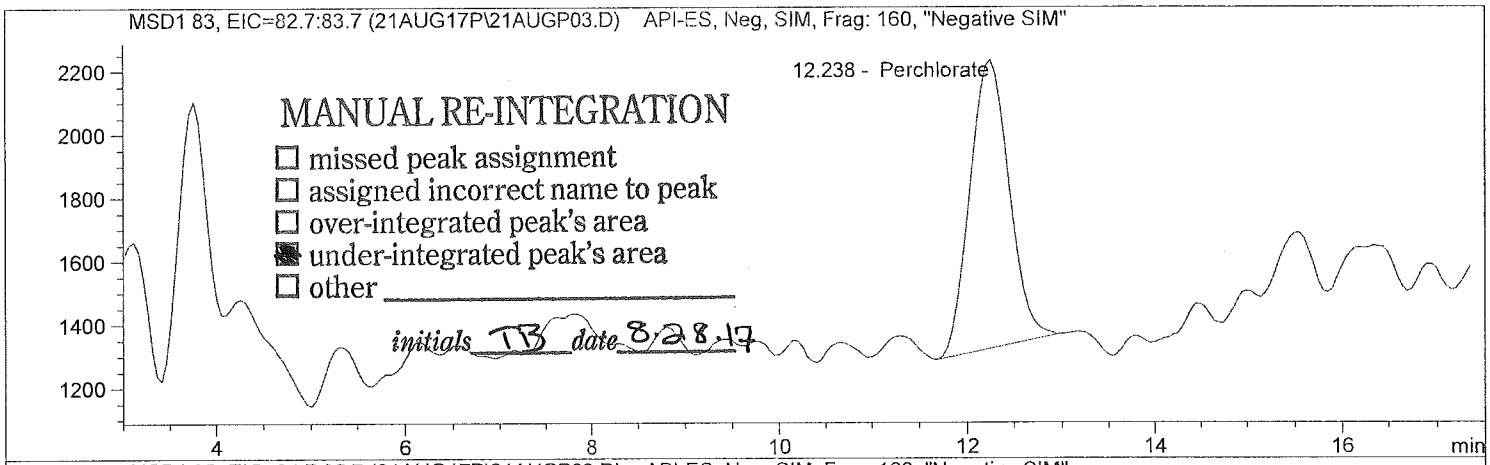
*** End of Report ***

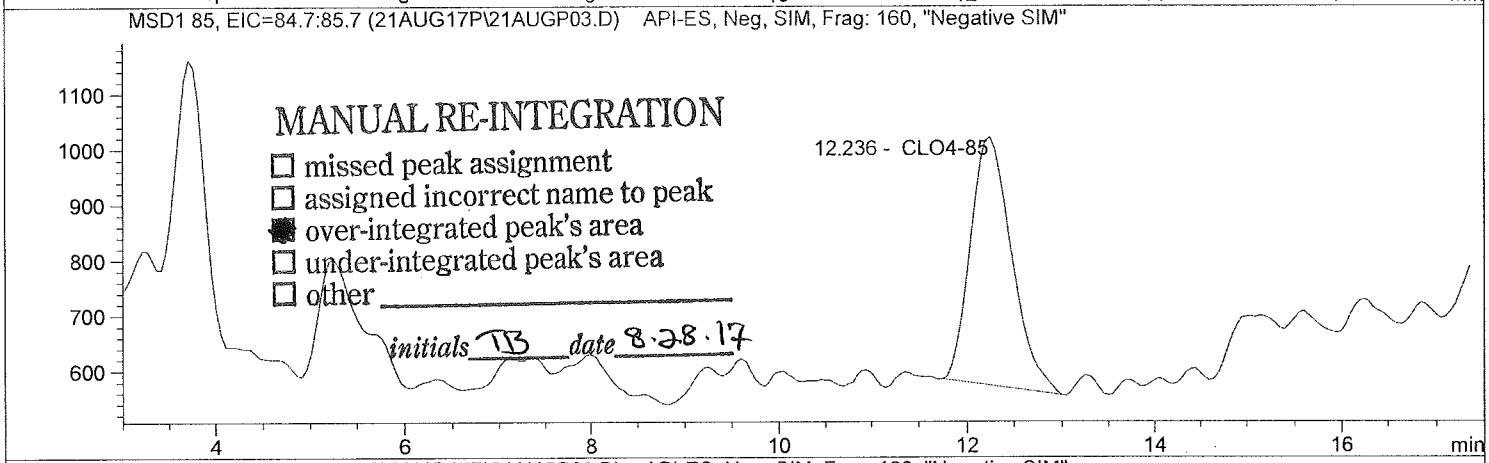
Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP03.D Sample Name: ICAL3@ .20ug/L

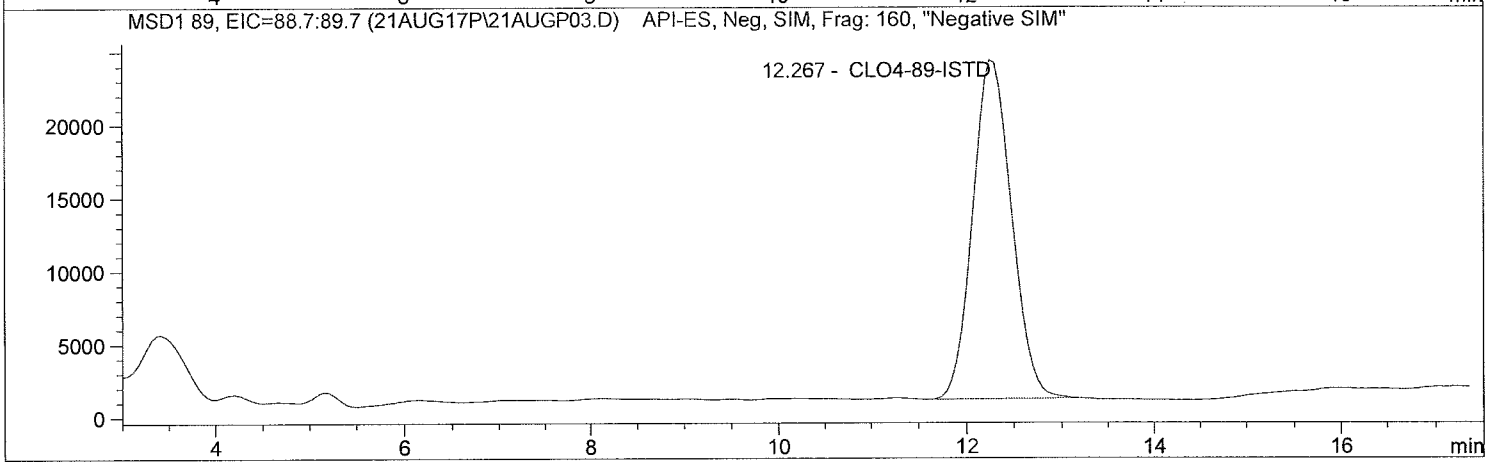
Injection Date:	8/21/2017 10:21:02	Seq Line:	3
Sample Name:	ICAL3@ .20ug/L	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

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

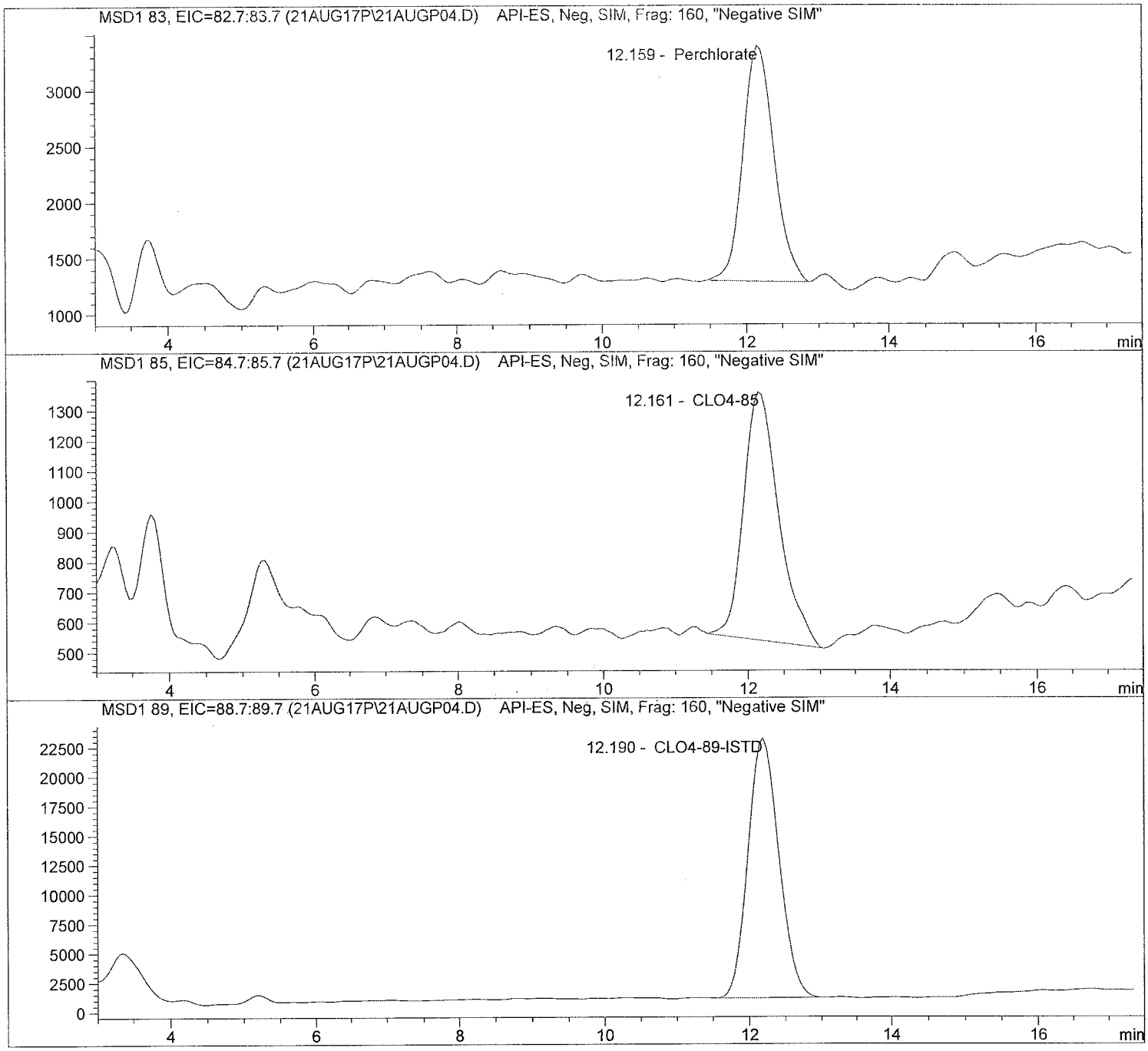
*** End of Report ***

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

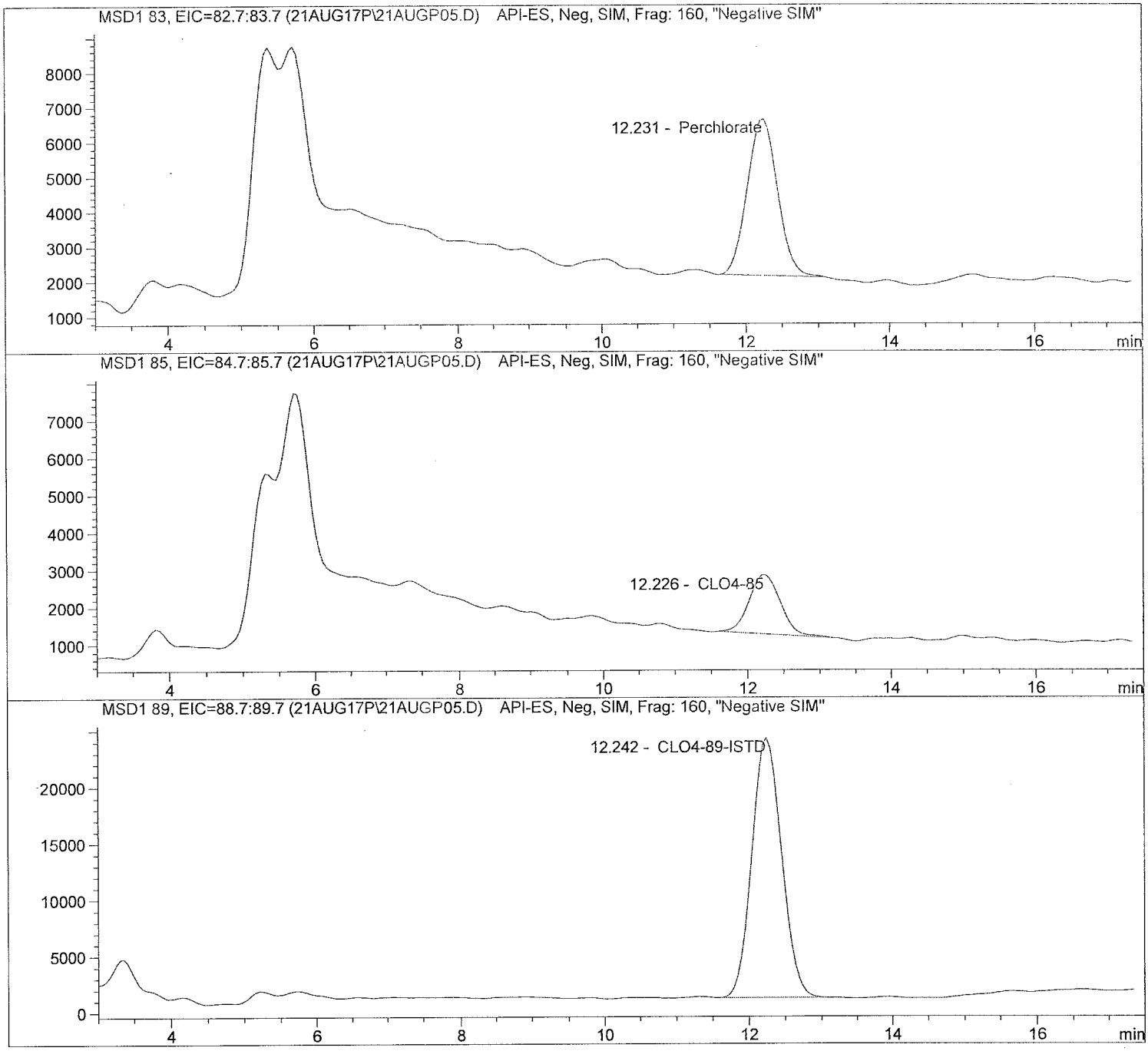
*** End of Report ***

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

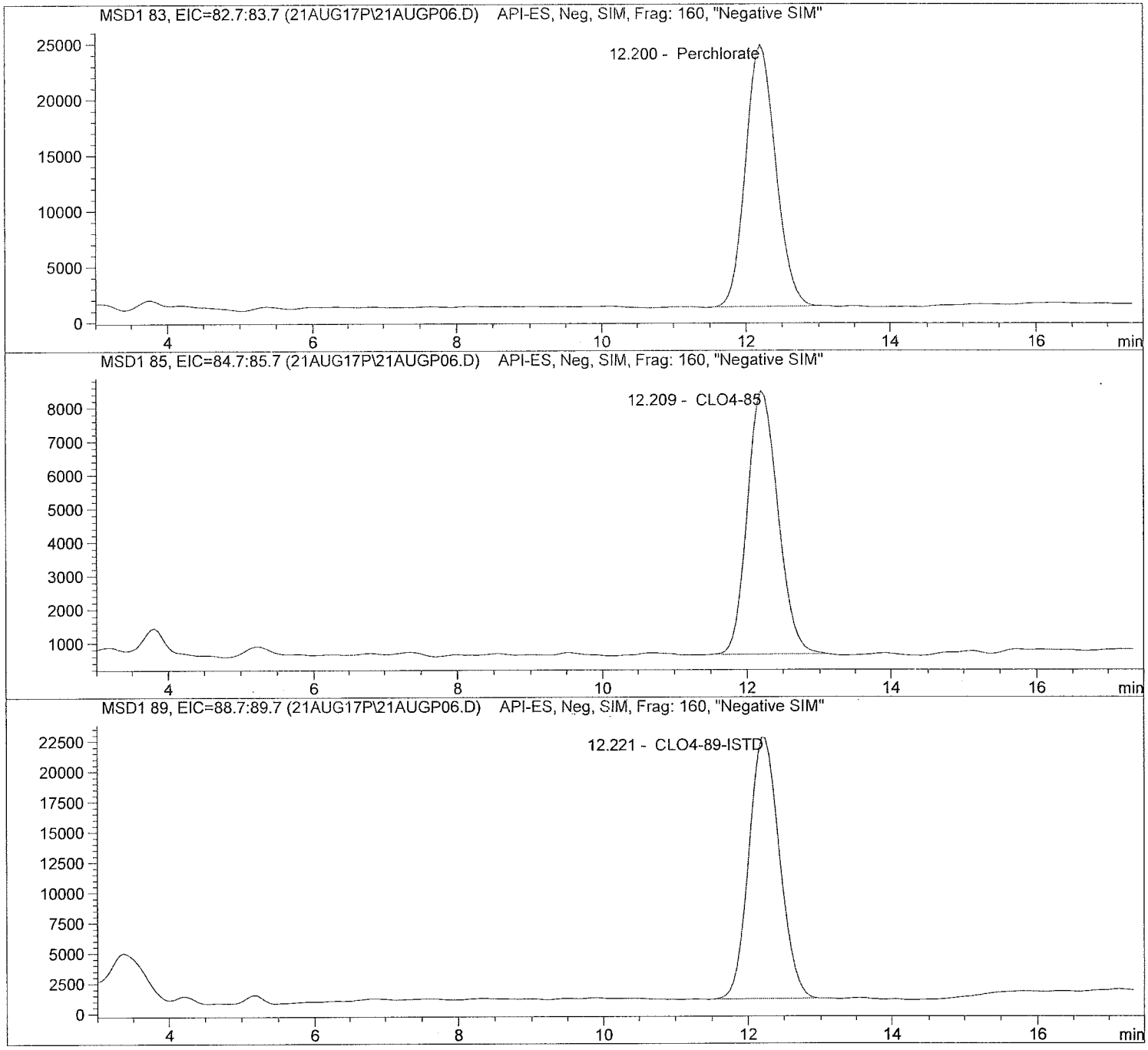
*** End of Report ***

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

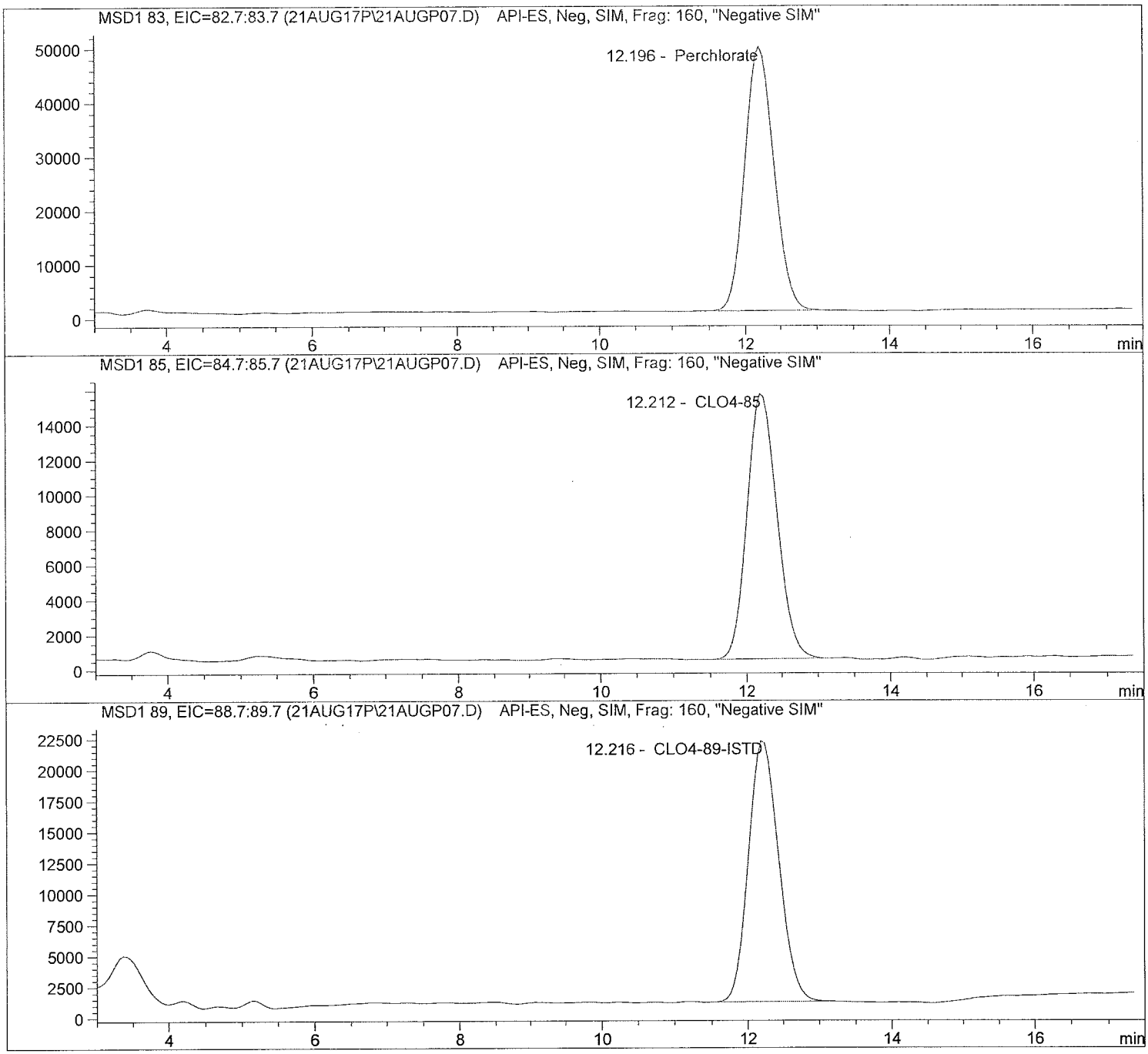
*** End of Report ***

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

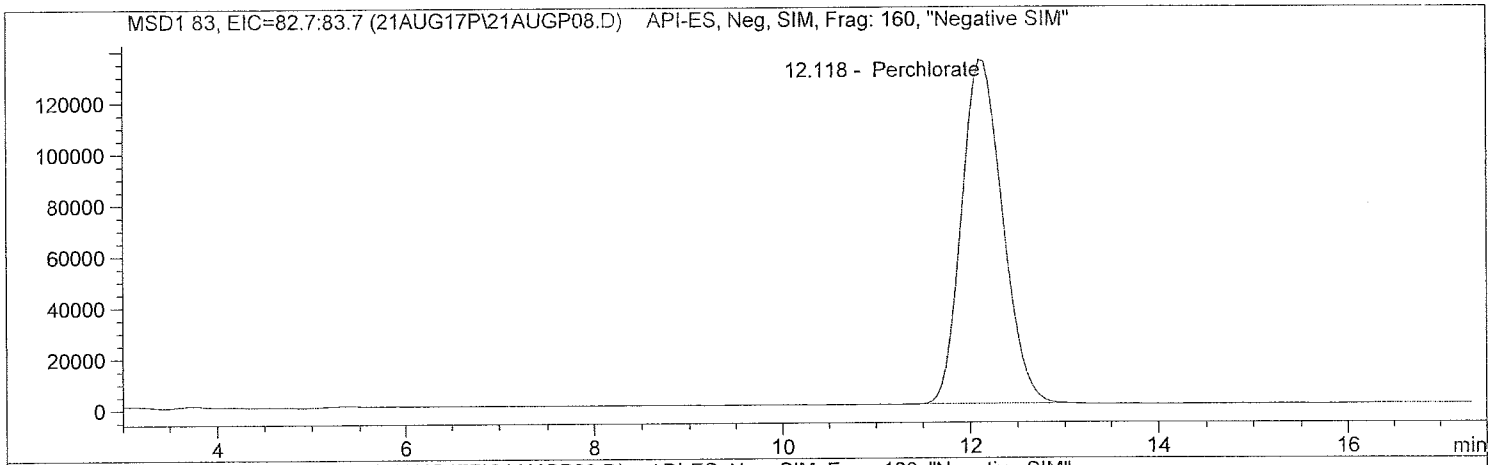
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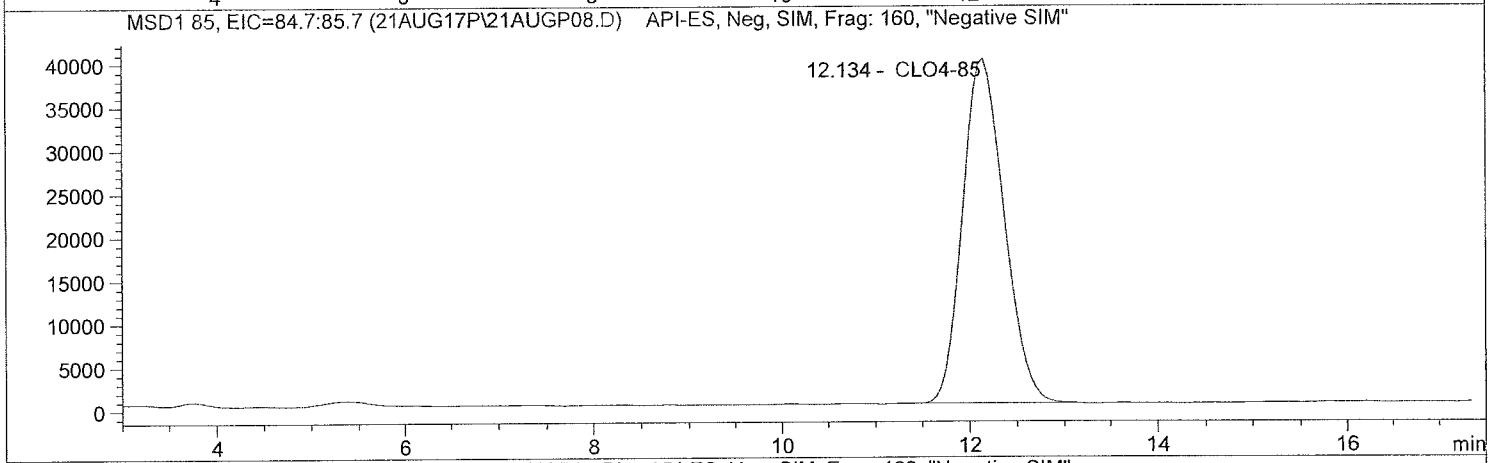
Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP08.D Sample Name: ICAL8@ 25.ug/L

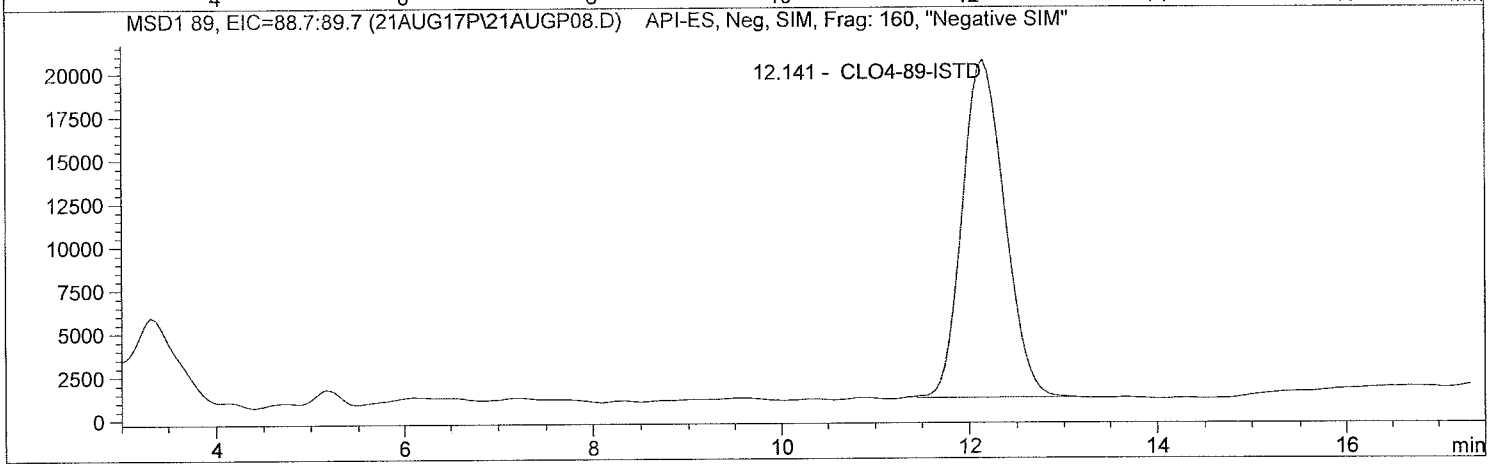
Injection Date:	8/21/2017 13:12:50	Seq Line:	8
Sample Name:	ICAL8@ 25.ug/L	Location:	Vial 78
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

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

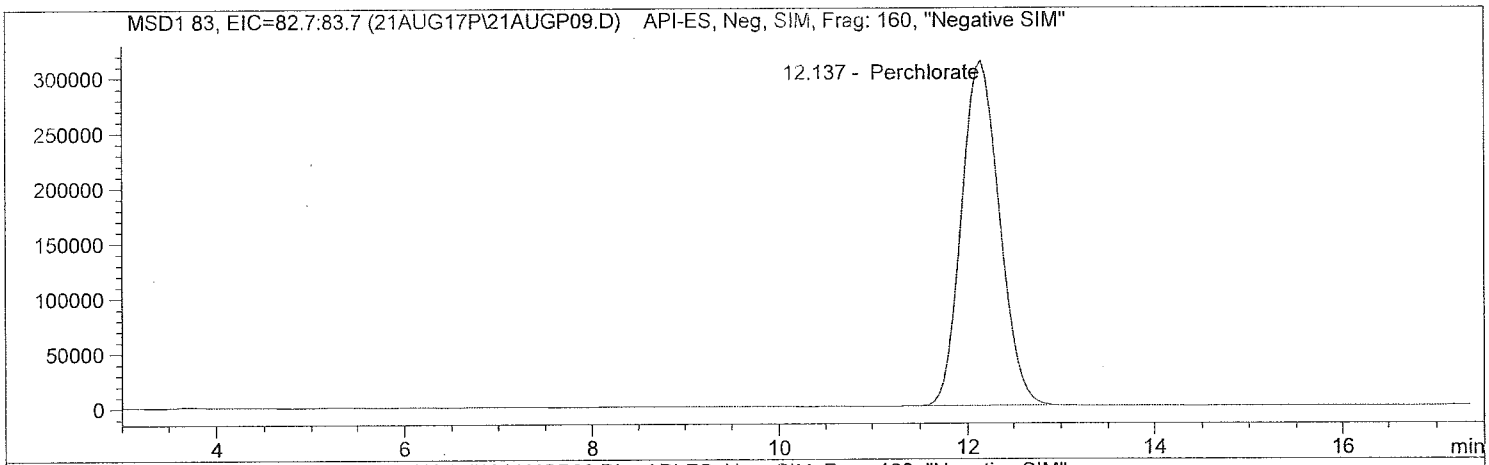
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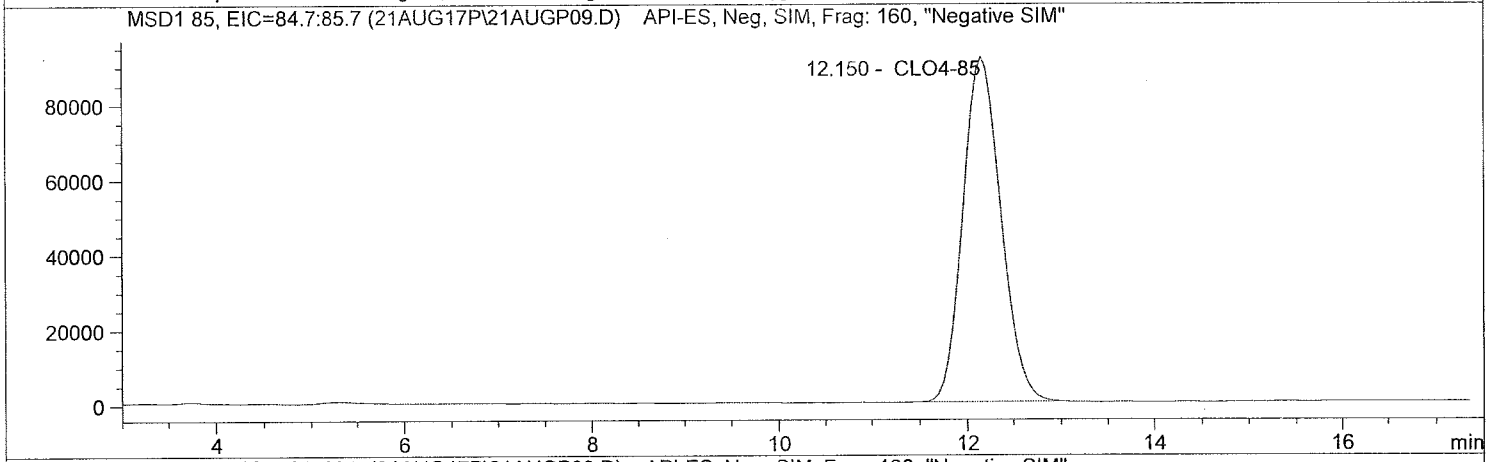
Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP09.D Sample Name: ICAL9@ 50.ug/L

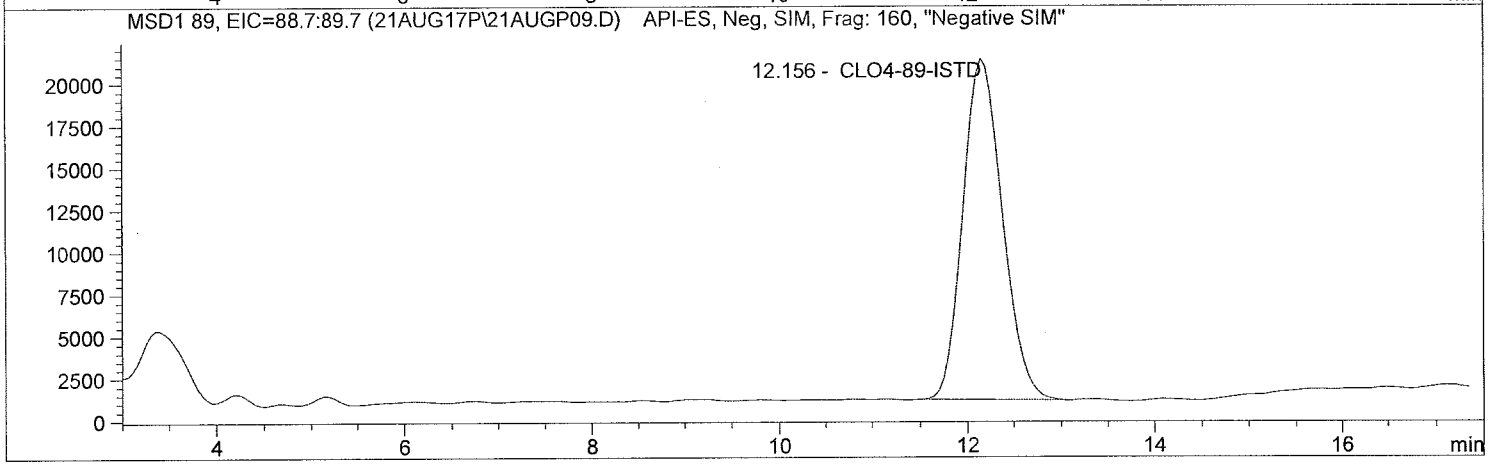
Injection Date:	8/21/2017 13:32:10	Seq Line:	9
Sample Name:	ICAL9@ 50.ug/L	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

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

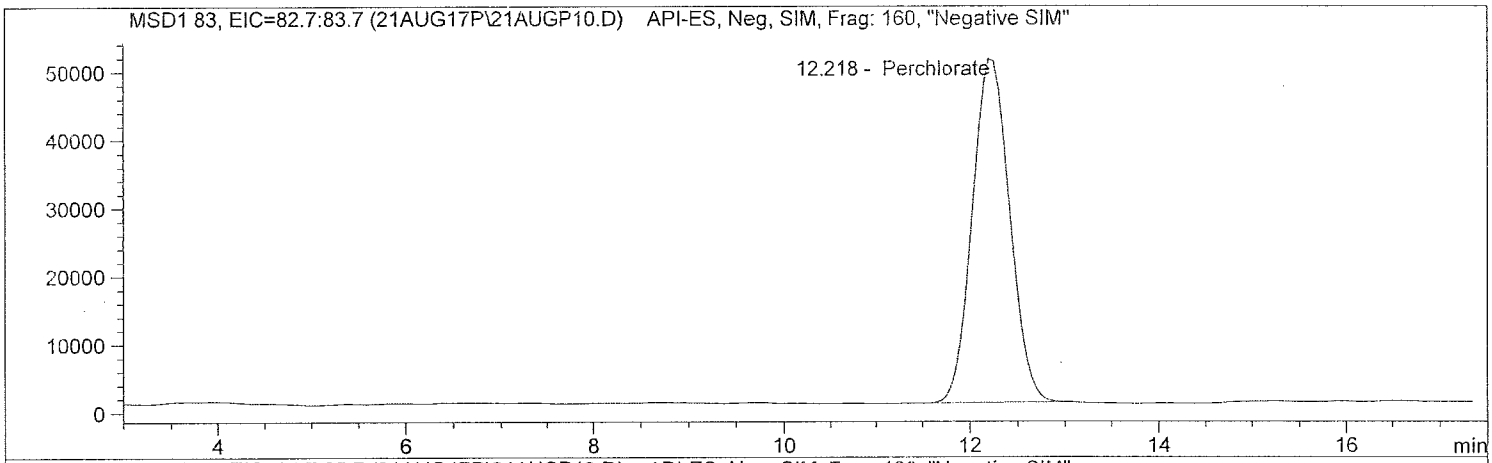
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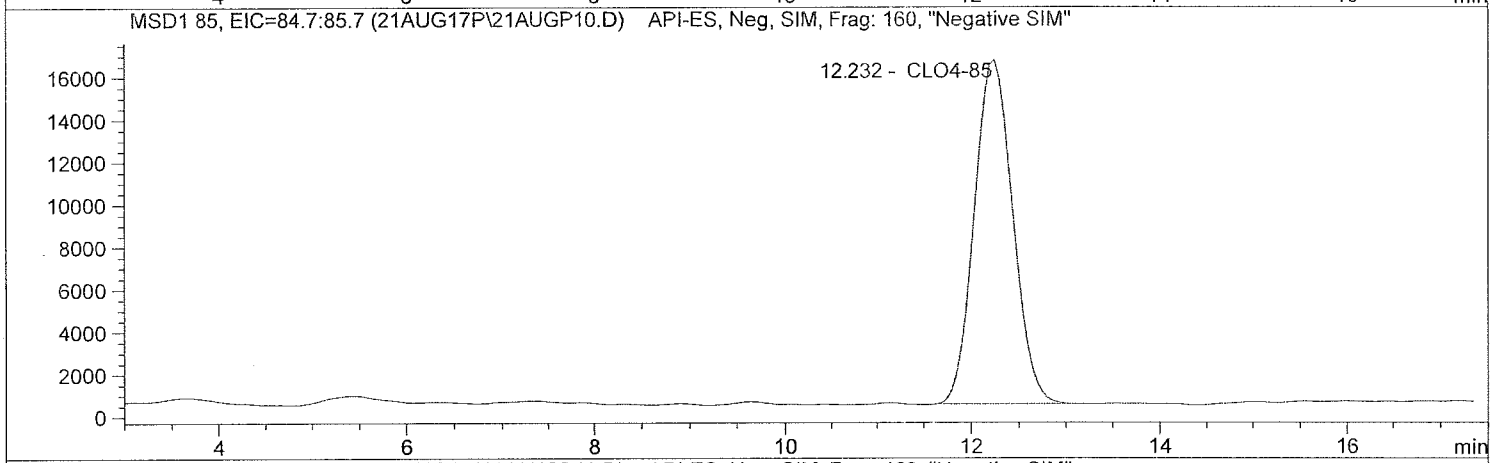
Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP10.D Sample Name: ICAL Verf@10ug/L

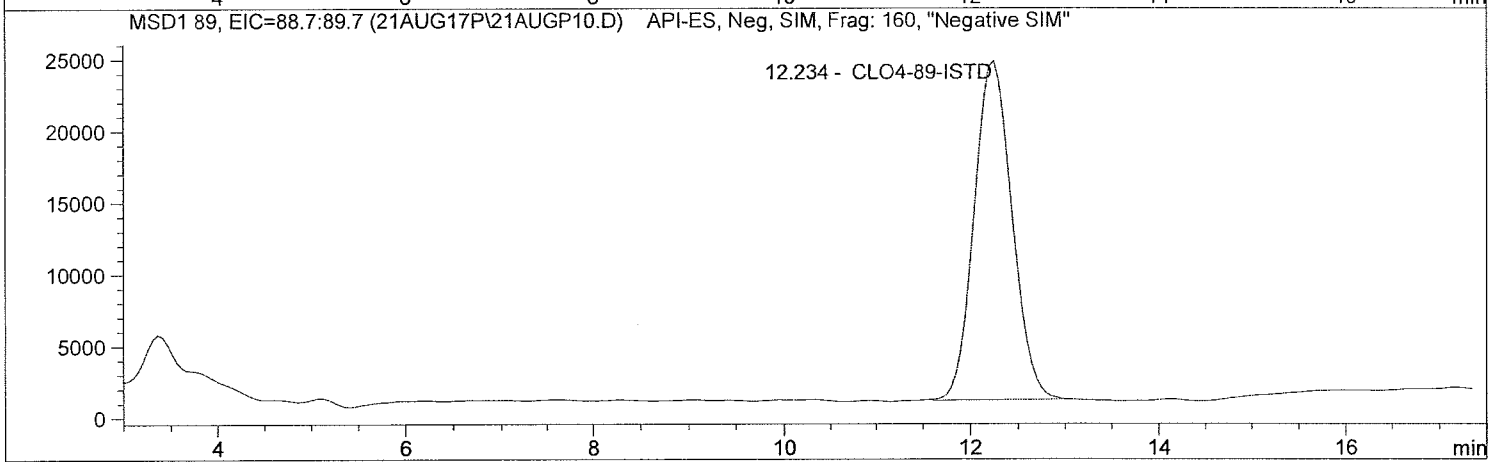
Injection Date:	8/21/2017 13:51:27	Seq Line:	10
Sample Name:	ICAL Verf@10ug/L	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

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

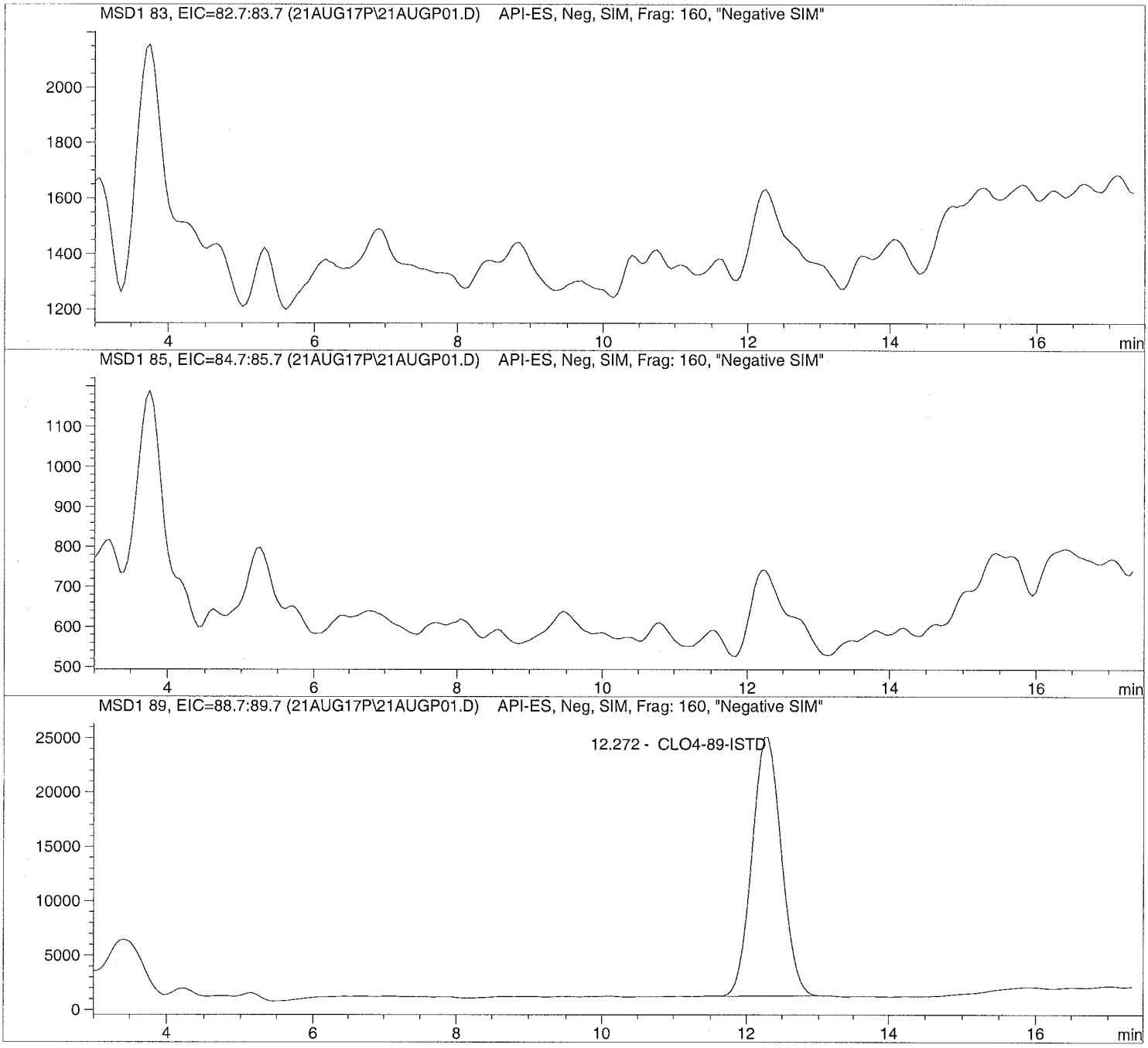
Unmodified

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

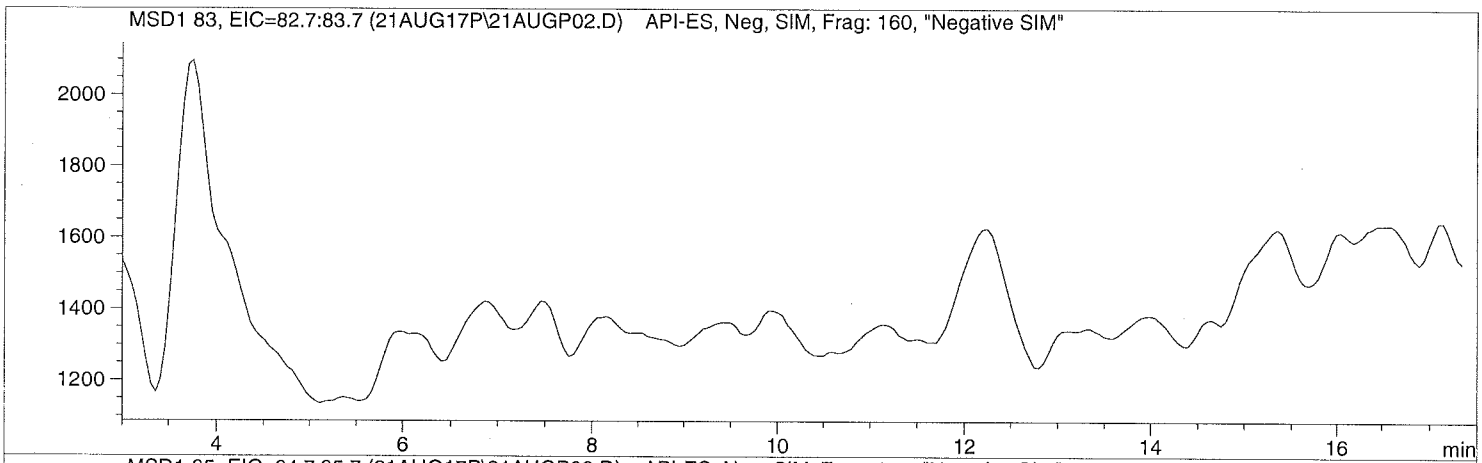
*** End of Report ***

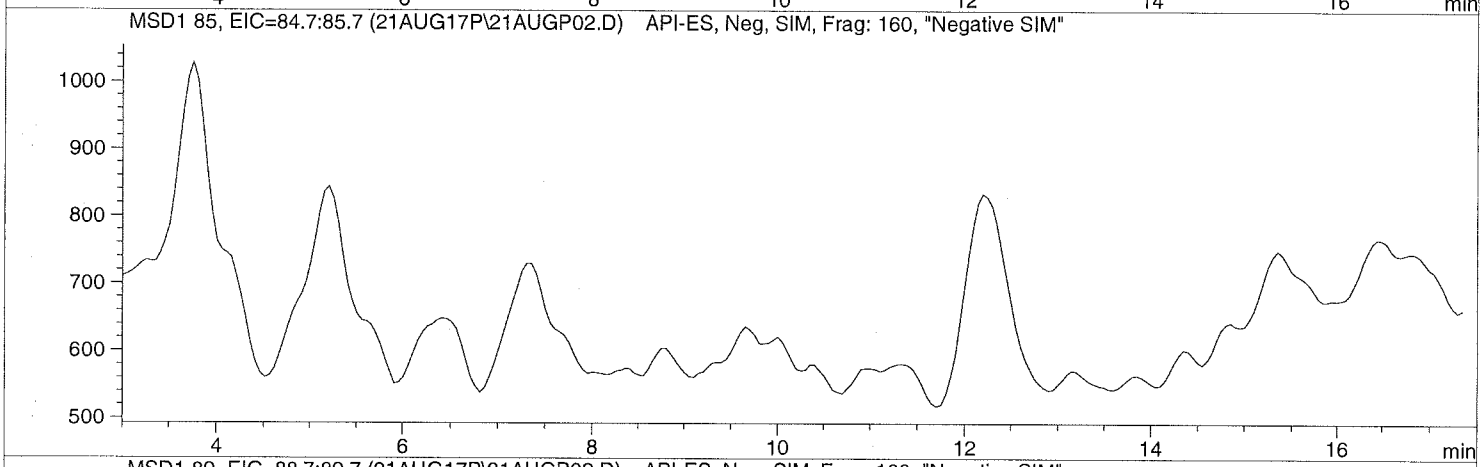
Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP02.D Sample Name: ICAL2@ .10ug/L

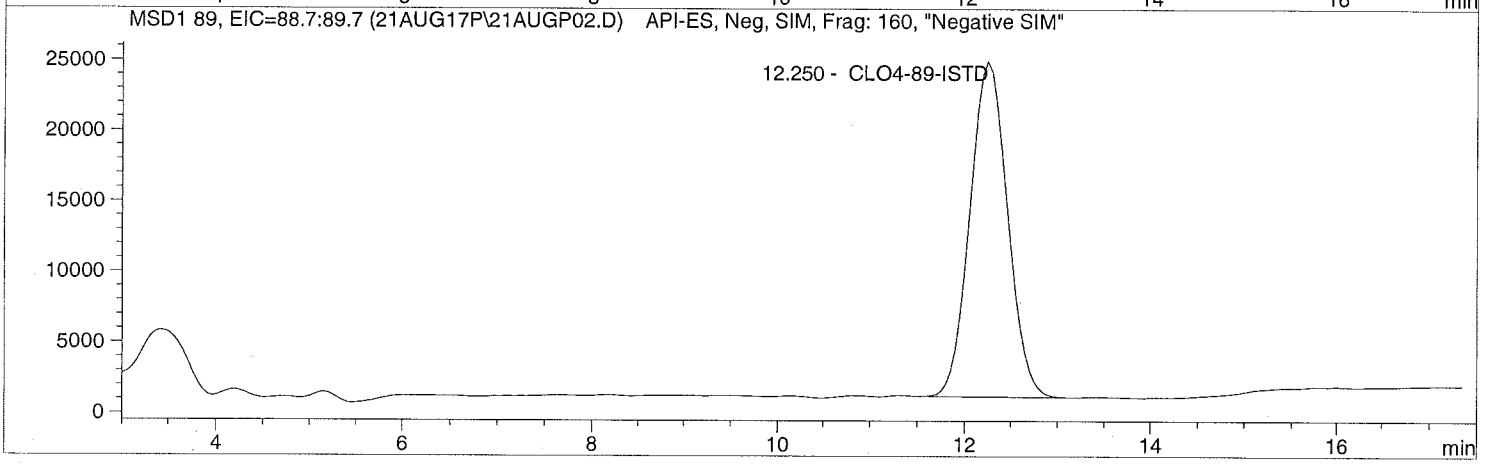
Injection Date:	8/21/2017 10:01:47	Seq Line:	2
Sample Name:	ICAL2@ .10ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

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

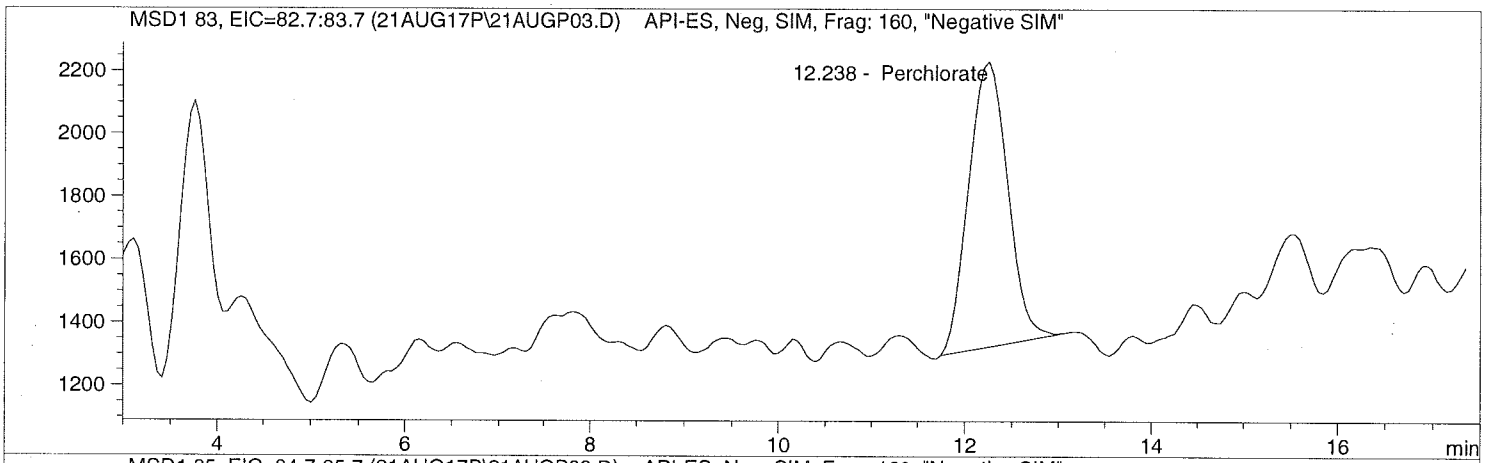
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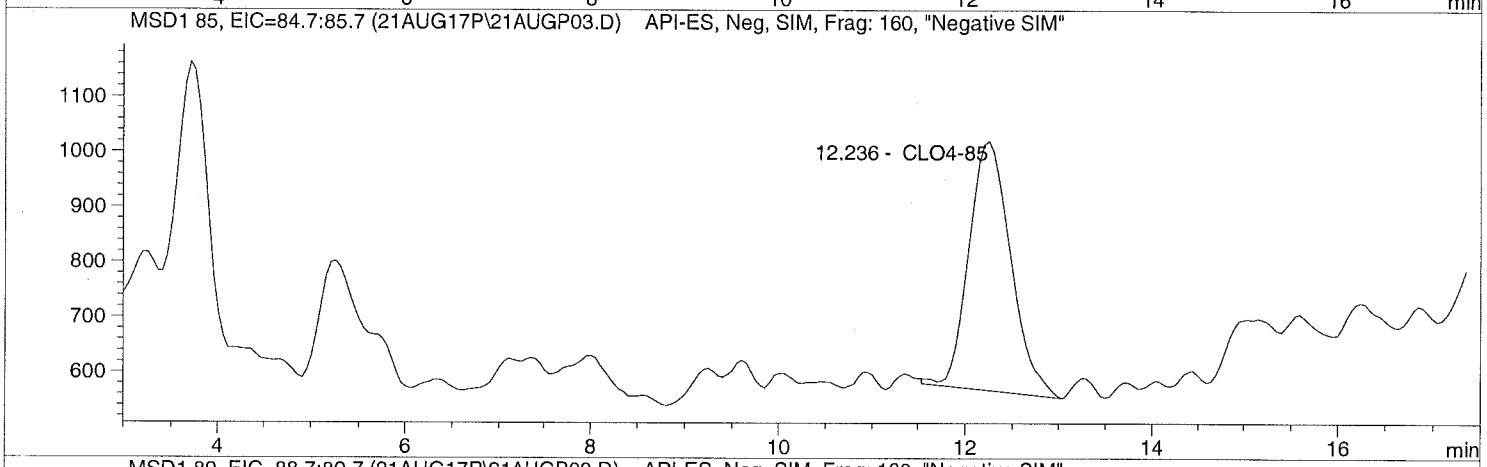
Data file: C:\HPCHEM\1\DATA\21AUG17P\21AUGP03.D Sample Name: ICAL3@ .20ug/L

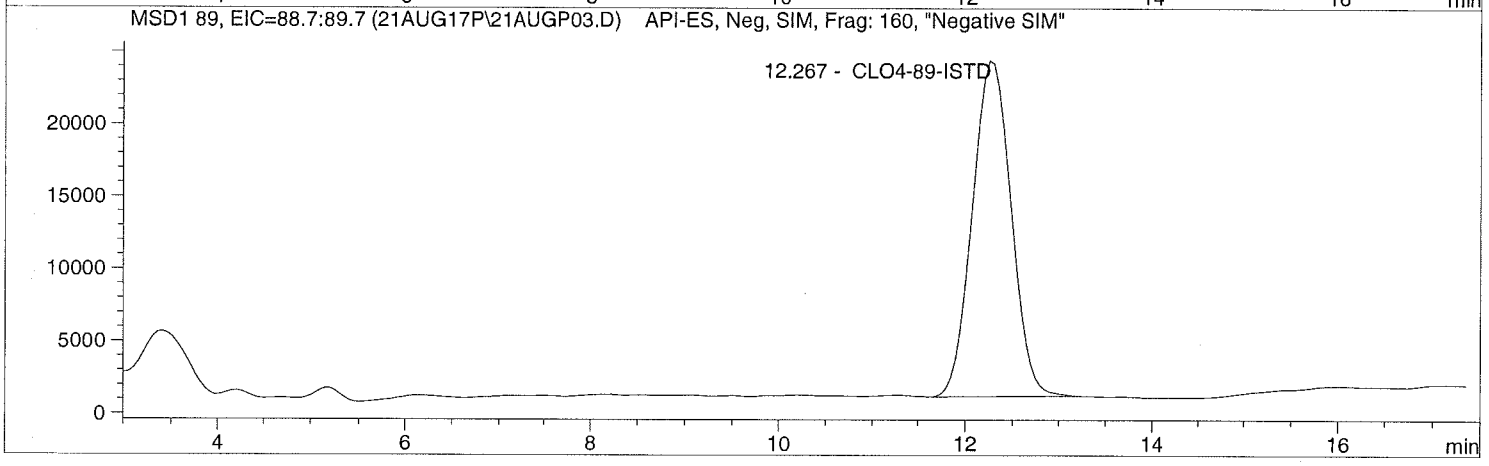
Injection Date:	8/21/2017 10:21:02	Seq Line:	3
Sample Name:	ICAL3@ .20ug/L	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	30 µl

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

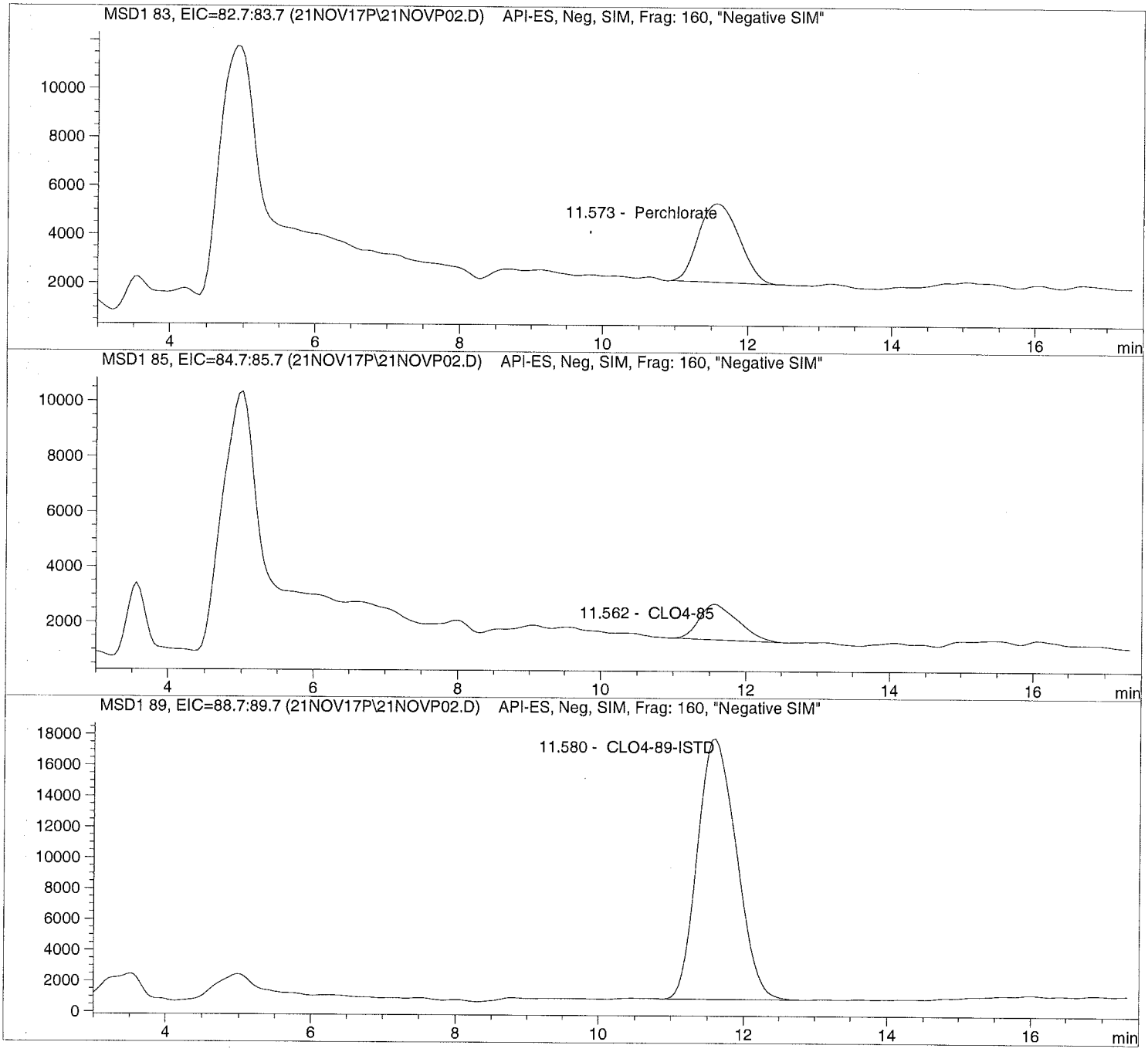
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP02.D Sample Name: 575294 LODV@1.

Injection Date:	11/21/2017 09:11:16	Seq Line:	2
Sample Name:	575294 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP02.D Sample Name: 575294 LODV@1.

Injection Date:	11/21/2017 09:11:16	Seq Line:	2
Sample Name:	575294 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.573	PBA	125210.5	0.9161	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.562	PBA	47999.9	1.0616	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.580	BBA	635086.8	5.0000	CLO4-89-ISTD

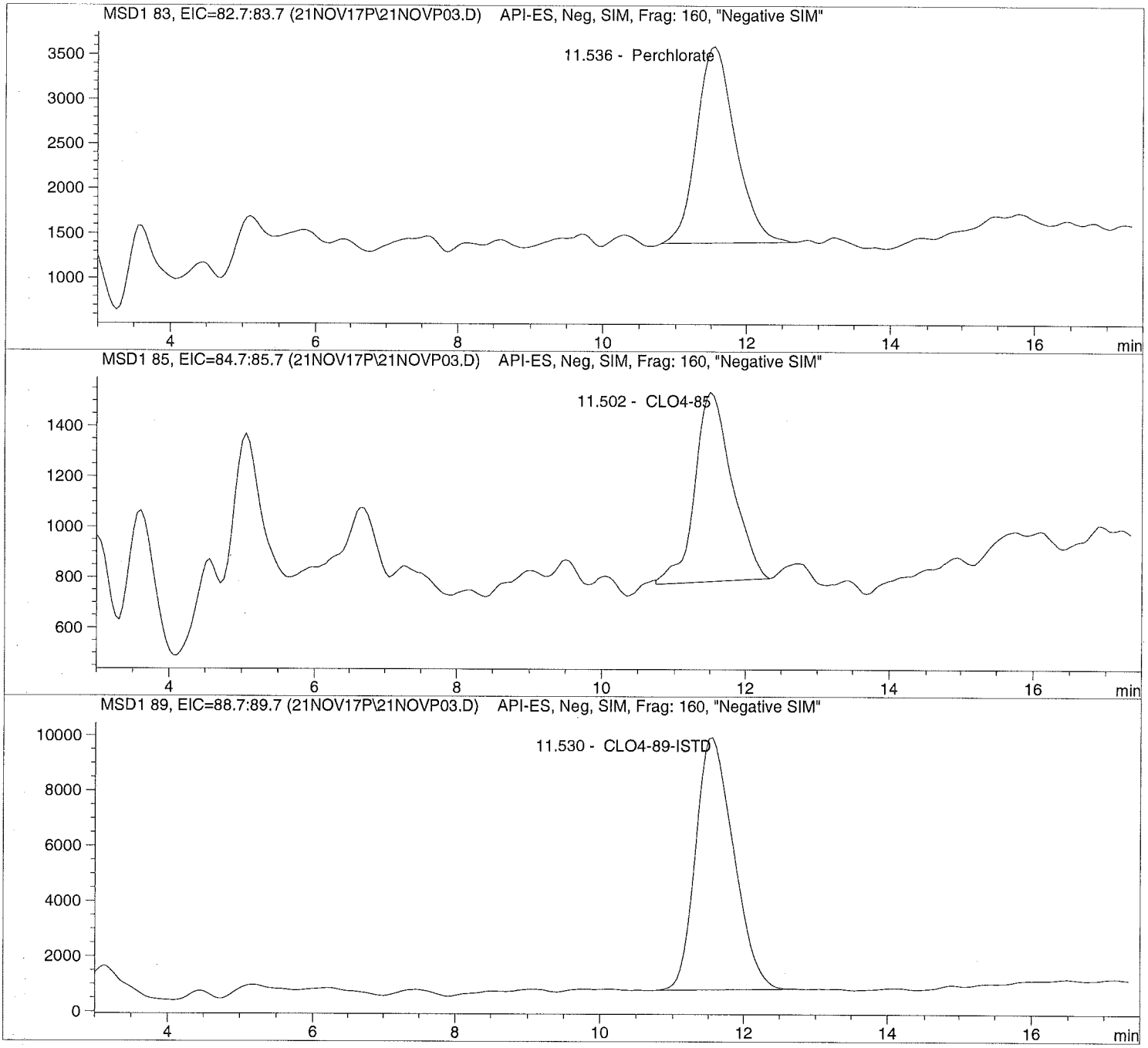
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP03.D Sample Name: 575295 ICS@1.

Injection Date:	11/21/2017 09:30:38	Seq Line:	3
Sample Name:	575295 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP03.D Sample Name: 575295 ICS@1.

Injection Date:	11/21/2017 09:30:38	Seq Line:	3
Sample Name:	575295 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.536	PBA	83947.2	1.1324	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.502	BBA	27699.4	1.1327	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.530	PBA	343352.6	5.0000	CLO4-89-ISTD

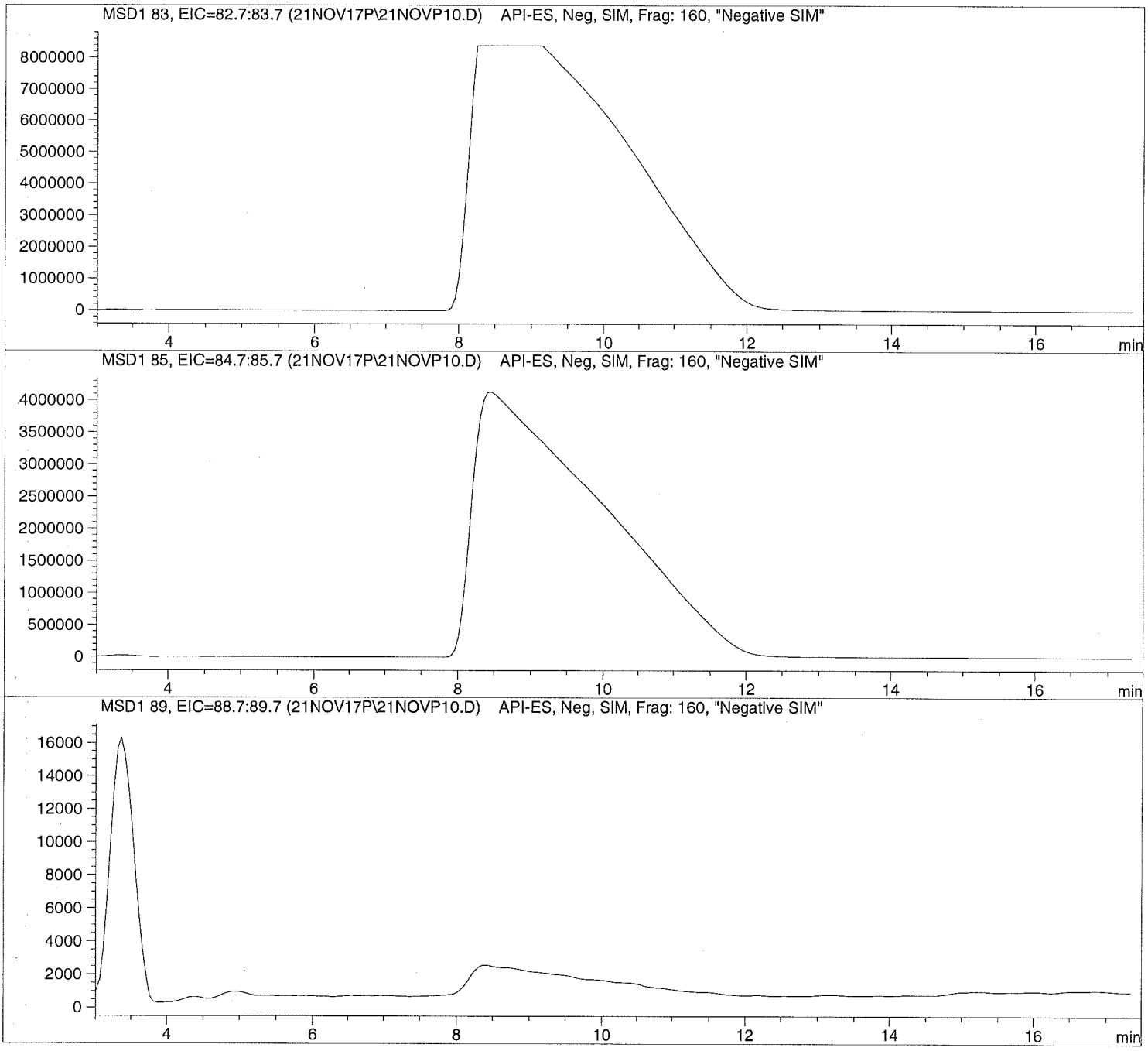
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP10.D Sample Name: 1732090002

Injection Date:	11/21/2017 11:47:26	Seq Line:	10
Sample Name:	1732090002	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP10.D Sample Name: 1732090002

Injection Date:	11/21/2017 11:47:26	Seq Line:	10
Sample Name:	1732090002	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-89-ISTD

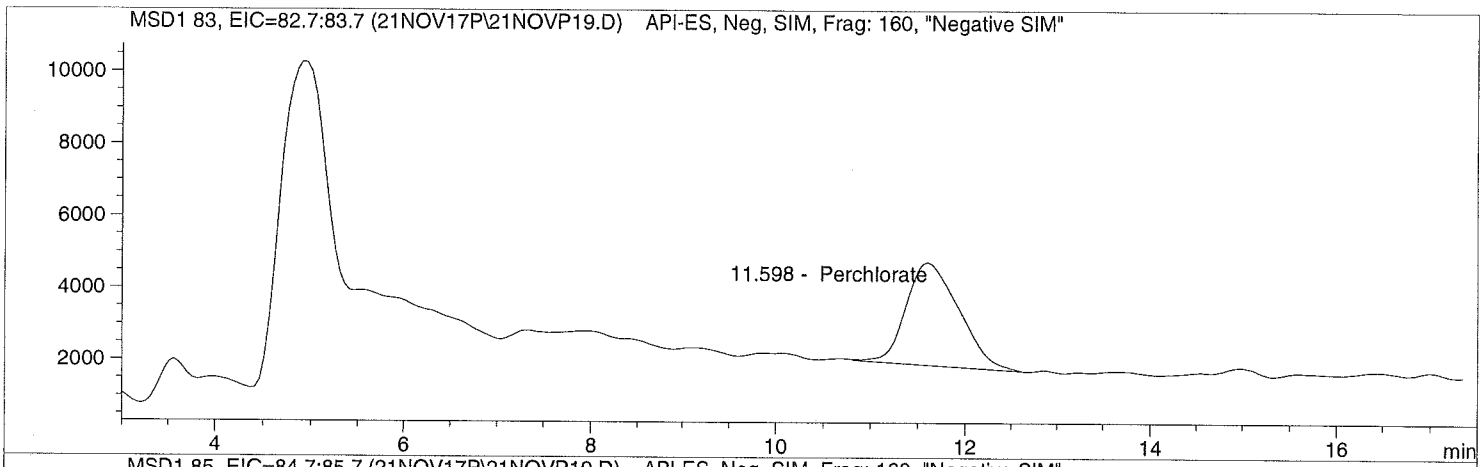
*** End of Report ***

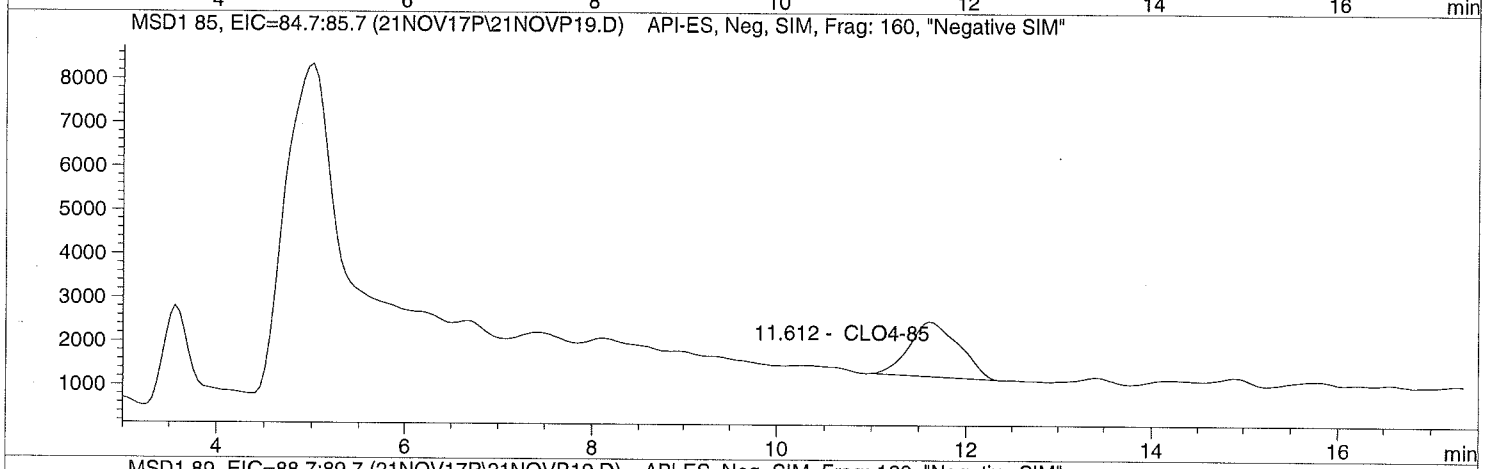
Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP19.D Sample Name: 575299 LODV@1.

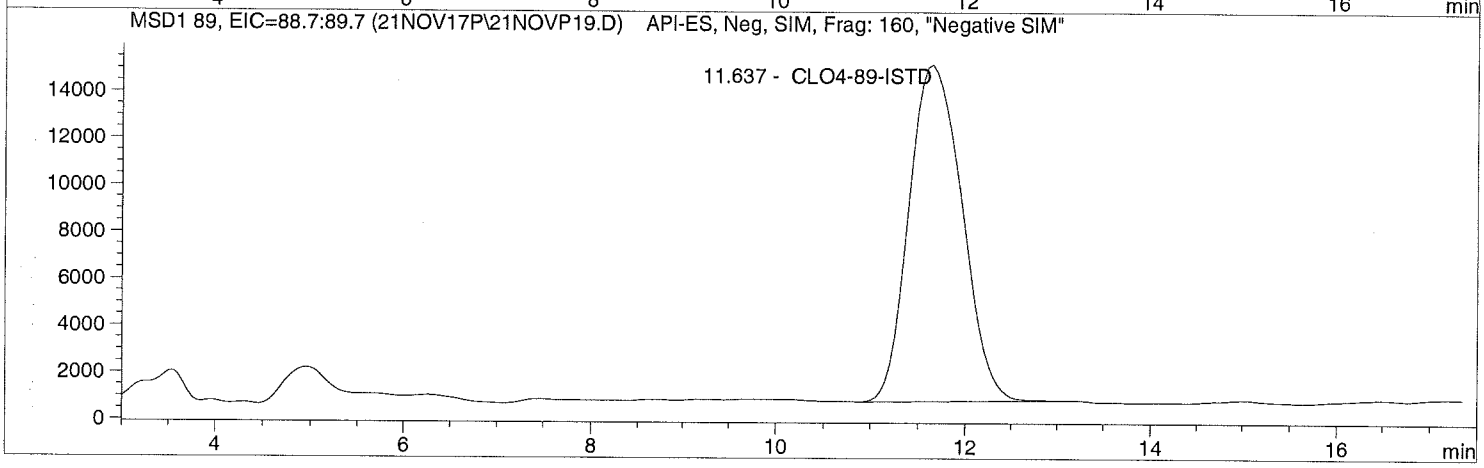
Injection Date:	11/21/2017 14:43:09	Seq Line:	19
Sample Name:	575299 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21NOV17P\21NOVP19.D Sample Name: 575299 LODV@1.

Injection Date:	11/21/2017 14:43:09	Seq Line:	19
Sample Name:	575299 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	35 µl

Acq. Method: CLO4-AQN.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-PR3.M
Last Changed: 10/26/2017 08:21:59

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Thu, 26. Oct. 2017,08:21:56 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
11.598	BBA	111562.0	0.9200	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.612	PBA	46107.0	1.1489	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.637	PBA	563443.1	5.0000	CLO4-89-ISTD

*** End of Report ***

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

WorkOrder: HS17120016

Longhorn GW Treatment Plant Weekly Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

20-Dec-2017

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

December 12, 2017

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

Work Order: **HS17120016**

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

Dear Marcia,

ALS Environmental received 1 sample(s) on Dec 01, 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: 12-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS17120016

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS17120016-01	LH18/24-SP650_112917	Water		29-Nov-2017 14:00	01-Dec-2017 08:50	☐

ALS Group USA, Corp Date: 12-Dec-17

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS17120016

Work Order Comments

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

WetChemistry by Method E415.1

Batch ID: R306861

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

WetChemistry by Method E365.3

Batch ID: R306728

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

WetChemistry by Method E350.3

Batch ID: R306713

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

ALS Group USA, Corp Date: 12-Dec-17

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS17120016
Sample ID: LH18/24-SP650_112917
Lab ID:HS17120016-01
Collection Date: 29-Nov-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: KMU
Nitrogen, Ammonia (As N)	**11**		**0.20**	**0.20**	**0.20**	**mg/L**	1	05-Dec-2017 13:30
ORTHO PHOSPHATE (PO4) AS P BY E365.3		**Method:E365.3**						Analyst: JHD
Phosphorus, Total Orthophosphate (As P)	**2.74**		**0.0500**	**0.0625**	**0.125**	**mg/L**	5	01-Dec-2017 12:30
TOTAL ORGANIC CARBON BY E415.1		**Method:E415.1**						Analyst: KMU
Organic Carbon, Total	**25.5**		**0.500**	**0.500**	**1.00**	**mg/L**	1	08-Dec-2017 15:49
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	12-Dec-2017 14:08

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

ALS Group USA, Corp Date: 12-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS17120016

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R306713	**Test Name :** AMMONIA AS N BY E350.3(ISE)			**Matrix:** Water		
HS17120016-01	LH18/24-SP650_112917	29 Nov 2017 14:00			05 Dec 2017 13:30	1
Batch ID R306728	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3			**Matrix:** Water		
HS17120016-01	LH18/24-SP650_112917	29 Nov 2017 14:00			01 Dec 2017 12:30	5
Batch ID R306861	**Test Name :** TOTAL ORGANIC CARBON BY E415.1			**Matrix:** Water		
HS17120016-01	LH18/24-SP650_112917	29 Nov 2017 14:00			08 Dec 2017 15:49	1
Batch ID R307042	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)			**Matrix:** Water		
HS17120016-01	LH18/24-SP650_112917	29 Nov 2017 14:00			12 Dec 2017 14:08	1

ALS Group USA, Corp Date: 12-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS17120016

QC BATCH REPORT

Batch ID: R306713 **Instrument: WetChem_HS** **Method: E350.3**

MBLK Sample ID: **MBLK-R306713** Units: **mg/L** Analysis Date: **05-Dec-2017 13:30**
Client ID: Run ID: **WetChem_HS_306713** SeqNo: **4340127** 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-R306713** Units: **mg/L** Analysis Date: **05-Dec-2017 13:30**
Client ID: Run ID: **WetChem_HS_306713** SeqNo: **4340126** 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)	10.01	0.20	10	0	100	80 - 120				

MS Sample ID: **HS17111303-01MS** Units: **mg/L** Analysis Date: **05-Dec-2017 13:30**
Client ID: Run ID: **WetChem_HS_306713** SeqNo: **4340129** 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)	9.972	0.20	10	0.03955	99.3	80 - 120				

MSD Sample ID: **HS17111303-01MSD** Units: **mg/L** Analysis Date: **05-Dec-2017 13:30**
Client ID: Run ID: **WetChem_HS_306713** SeqNo: **4340128** 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)	9.966	0.20	10	0.03955	99.3	80 - 120	9.972	0.0602	20	

The following samples were analyzed in this batch: HS17120016-01

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

ALS Group USA, Corp Date: 12-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS17120016

QC BATCH REPORT

Batch ID: R306728 **Instrument: UV-2450** **Method: E365.3**

MBLK Sample ID: **MBLK-R306728** Units: **mg/L** Analysis Date: **01-Dec-2017 12:30**
Client ID: Run ID: **UV-2450_306728** SeqNo: **4340469** 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-R306728** Units: **mg/L** Analysis Date: **01-Dec-2017 12:30**
Client ID: Run ID: **UV-2450_306728** SeqNo: **4340468** 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)	0.225	0.0250	0.25	0	90.0	80 - 120				

LCSD Sample ID: **LCSD-R306728** Units: **mg/L** Analysis Date: **01-Dec-2017 12:30**
Client ID: Run ID: **UV-2450_306728** SeqNo: **4340467** 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)	0.227	0.0250	0.25	0	90.8	80 - 120	0.225	0.885	20	

MS Sample ID: **HS17120016-01MS** Units: **mg/L** Analysis Date: **01-Dec-2017 12:30**
Client ID: **LH18/24-SP650_112917** Run ID: **UV-2450_306728** SeqNo: **4340477** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	3.965	0.125	1.25	2.745	97.6	80 - 120				

MSD Sample ID: **HS17120016-01MSD** Units: **mg/L** Analysis Date: **01-Dec-2017 12:30**
Client ID: **LH18/24-SP650_112917** Run ID: **UV-2450_306728** SeqNo: **4340476** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	3.94	0.125	1.25	2.745	95.6	80 - 120	3.965	0.633	20	

The following samples were analyzed in this batch: HS17120016-01

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

ALS Group USA, Corp Date: 12-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS17120016

QC BATCH REPORT

Batch ID: R306861 **Instrument: TOC_02** **Method: E415.1**

MBLK Sample ID: **WBLKW2-120817** Units: **mg/L** Analysis Date: **08-Dec-2017 12:28**
Client ID: Run ID: **TOC_02_306861** SeqNo: **4343021** 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: **WLCSW2-120817** Units: **mg/L** Analysis Date: **08-Dec-2017 12:41**
Client ID: Run ID: **TOC_02_306861** SeqNo: **4343022** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.482	1.00	10	0	94.8	80 - 120				

LCSD Sample ID: **WLCSDW2-120817** Units: **mg/L** Analysis Date: **08-Dec-2017 12:56**
Client ID: Run ID: **TOC_02_306861** SeqNo: **4343023** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.849	1.00	10	0	98.5	80 - 120	9.482	3.8	20	

MS Sample ID: **HS17111467-01MS** Units: **mg/L** Analysis Date: **08-Dec-2017 17:30**
Client ID: Run ID: **TOC_02_306861** SeqNo: **4343191** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	19.89	1.00	10	9.417	105	80 - 120				

The following samples were analyzed in this batch: HS17120016-01

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

ALS Group USA, Corp Date: 12-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: **HS17120016**

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 Carolina	624-2017	31-Dec-2017
North Dakota	R193 2017-2017	30-Apr-2018
Oklahoma	2017-088	31-Aug-2018
Texas	T104704231-17-19	30-Apr-2018

ALS Group USA, Corp Date: 12-Dec-17

Sample Receipt Checklist

Client Name: Bhate Environmental
Work Order: HS17120016
Date/Time Received: **01-Dec-2017 08:50**
Received by: **JRM**

Checklist completed by: *Cesar A. Lira* eSignature — 1-Dec-2017 Date
Reviewed by: *Sonia West* eSignature — 4-Dec-2017 Date

Matrices: **Water**
Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	0.9c/0.6c uc/c	IR30	
Cooler(s)/Kit(s):	43076		
Date/Time sample(s) sent to storage:	12/01/2017 12:15		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

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

HS17120016

Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant

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_112917	Water	11/29/17 / 14:00		2	X	X			H2SO4	
LH18/24-SP650_112917	Water	11/29/17 / 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	11/29/17	14:30									

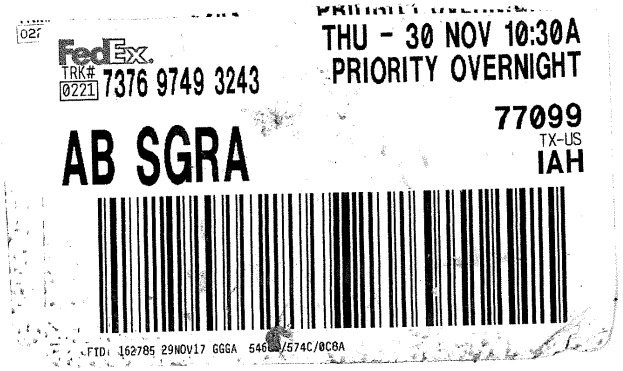
For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
JM	12.1.17	0850					0.9c		Cooler: 43076

Remarks:

w/o 30
CFC-03

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


FedEx.
TRK#
0221 7376 9749 3243
THU - 30 NOV 10:30A
PRIORITY OVERNIGHT
77099
TX-US
IAH
AB SGRA

43076


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
CUSTODY SEAL
Date: 11/29/17
Time: 1430
Name: SCOTT BOEHLINGER
Company: BHTC
Seal Broken By:
Date:

Wet Chemistry Raw Data

Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
ALS WO# HS17120016

HS17120016

	Ty	Analys	Sample Name	Sample ID	Origin	Result	Status	Date / Time	Vial
1	U	NPOC	CCV	304.180.601	10-16-2017_	NPOC:25.60mg/L	Completed	12/8/2017 10:37:11 A	1
2	U	NPOC	CCB	Untitled	10-16-2017_	NPOC:0.2768mg/L	Completed	12/8/2017 10:50:24 A	2
3	U	NPOC	WBLKW1-120817	DISS_5310B	10-16-2017_	NPOC:0.2470mg/L	Completed	12/8/2017 11:03:37 A	3
4	U	NPOC	WLCSW1-120817	297.020.4418	10-16-2017_	NPOC:10.16mg/L	Completed	12/8/2017 11:18:55 A	4
5	U	NPOC	WLCSDW1-120817	Untitled	10-16-2017_	NPOC:9.998mg/L	Completed	12/8/2017 11:34:17 A	5
6	U	NPOC	HS17111242-01	DISS 1/2	10-16-2017_	NPOC:3.851mg/L	Completed	12/8/2017 11:49:38 A	6
7	U	NPOC	HS17111242-01MS	DISS 1/2	10-16-2017_	NPOC:14.03mg/L	Completed	12/8/2017 12:06:20 P	7
8	U	NPOC	HS17111242-02	DISS 1/2	10-16-2017_	NPOC:0.3928mg/L	Completed	12/8/2017 12:19:28 P	8
9	U	NPOC	WBLKW2-120817	5310B	10-16-2017_	NPOC:0.3409mg/L	Completed	12/8/2017 12:32:41 P	9
10	U	NPOC	WLCSW2-120817	Untitled	10-16-2017_	NPOC:9.482mg/L	Completed	12/8/2017 12:47:59 P	10
11	U	NPOC	WLCSDW2-120817	Untitled	10-16-2017_	NPOC:9.849mg/L	Completed	12/8/2017 1:01:07 PM	11
12	U	NPOC	HS17111467-01	1/1	10-16-2017_	NPOC:9.417mg/L	Completed	12/8/2017 1:14:20 PM	12
13	U	NPOC	CCV	Untitled	10-16-2017_	NPOC:24.58mg/L	Completed	12/8/2017 1:28:07 PM	13
14	U	NPOC	CCB	Untitled	10-16-2017_	NPOC:0.4405mg/L	Completed	12/8/2017 1:43:25 PM	14
15	U	NPOC	HS17120186-01	1/1	10-16-2017_	NPOC:0.2917mg/L	Completed	12/8/2017 1:56:33 PM	15
16	U	NPOC	HS17120263-01	1/2	10-16-2017_	NPOC:0.3102mg/L	Completed	12/8/2017 2:09:46 PM	16
17	U	NPOC	HS17120268-01	1/2	10-16-2017_	NPOC:0.2821mg/L	Completed	12/8/2017 2:22:59 PM	17
18	U	NPOC	HS17120038-01	1/2	10-16-2017_	NPOC:13.07mg/L	Completed	12/8/2017 2:36:12 PM	18
19	U	NPOC	HS17111434-01	1/2	10-16-2017_	NPOC:8.353mg/L	Completed	12/8/2017 2:51:30 PM	19
20	U	NPOC	HS17111434-02	1/2	10-16-2017_	NPOC:8.564mg/L	Completed	12/8/2017 3:09:53 PM	20
21	U	NPOC	HS17111434-03	1/2	10-16-2017_	NPOC:5.738mg/L	Completed	12/8/2017 3:25:06 PM	21
22	U	NPOC	HS17111150-01	TOC_W 1/2	10-16-2017_	NPOC:11.71mg/L	Completed	12/8/2017 3:40:19 PM	22
23	U	NPOC	HS17120016-01	TOC_W 1/1	10-16-2017_	NPOC:25.52mg/L	Completed	12/8/2017 3:55:32 PM	23
24	U	NPOC	CCV	Untitled	10-16-2017_	NPOC:24.62mg/L	Completed	12/8/2017 4:11:48 PM	24
25	U	NPOC	CCB	Untitled	10-16-2017_	NPOC:0.3695mg/L	Completed	12/8/2017 4:27:01 PM	25
26	U	NPOC	HS17111467-01MS	1/1	10-16-2017_	NPOC:19.89mg/L	Completed	12/8/2017 5:37:16 PM	26
27	U	NPOC	CCV	Untitled	10-16-2017_	NPOC:24.22mg/L	Completed	12/8/2017 5:53:56 PM	27
28	U	NPOC	CCB	Untitled	10-16-2017_	NPOC:0.4124mg/L	Completed	12/8/2017 6:09:10 PM	28
29	U	NPOC	WBLKW3-120817	5310B	10-16-2017_	NPOC:0.3237mg/L	Completed	12/8/2017 6:46:29 PM	1
30	U	NPOC	WLCSW3-120817	Untitled	10-16-2017_	NPOC:9.821mg/L	Completed	12/8/2017 7:02:21 PM	2
31	U	NPOC	WLCSDW3-120817	Untitled	10-16-2017_	NPOC:9.591mg/L	Completed	12/8/2017 7:17:49 PM	3
32	U	NPOC	HS17120037-01	TOC_W 1/2	10-16-2017_	NPOC:11.96mg/L	Completed	12/8/2017 7:30:57 PM	4
33	U	NPOC	HS17120367-01	TOC_W 1/1	10-16-2017_	NPOC:23.75mg/L	Completed	12/8/2017 7:46:21 PM	5
34	U	NPOC	HS17120141-01	1/2	10-16-2017_	NPOC:14.55mg/L	Completed	12/8/2017 7:59:29 PM	6
35	U	NPOC	HS17120141-01MS	1/2	10-16-2017_	NPOC:24.35mg/L	Completed	12/8/2017 8:15:22 PM	7
36	U	NPOC	HS17120171-01DF5	HI SALT 1/1	10-16-2017_	NPOC:9.521mg/L	Completed	12/8/2017 8:30:35 PM	8
37	U	NPOC	HS17120171-02DF5	HI SALT 1/1	10-16-2017_	NPOC:3.133mg/L	Completed	12/8/2017 8:45:48 PM	9
38	U	NPOC	HS17120171-03DF5	HI SALT 1/1	10-16-2017_	NPOC:0.8851mg/L	Completed	12/8/2017 9:01:01 PM	10
39	U	NPOC	CCV	Untitled	10-16-2017_	NPOC:24.22mg/L	Completed	12/8/2017 9:16:14 PM	11
40	U	NPOC	CCB	Untitled	10-16-2017_	NPOC:0.3626mg/L	Completed	12/8/2017 9:31:27 PM	12
41	U	NPOC	HS17120171-04DF5	HI SALT 1/1	10-16-2017_	NPOC:1.428mg/L	Completed	12/8/2017 9:44:35 PM	13
42	U	NPOC	HS17120171-05DF5	HI SALT 1/1	10-16-2017_	NPOC:1.106mg/L	Completed	12/8/2017 9:57:48 PM	14
43	U	NPOC	HS17120171-06DF5	HI SALT 1/1	10-16-2017_	NPOC:3.072mg/L	Completed	12/8/2017 10:11:01 P	15
44	U	NPOC	HS17120171-07DF5	HI SALT 1/1	10-16-2017_	NPOC:3.479mg/L	Completed	12/8/2017 10:26:19 P	16
45	U	NPOC	CCV	Untitled	10-16-2017_	NPOC:24.31mg/L	Completed	12/8/2017 10:41:32 P	17
46	U	NPOC	CCB	Untitled	10-16-2017_	NPOC:0.3533mg/L	Completed	12/8/2017 10:54:40 P	18
47	U	NPOC	FLUSH	Untitled	10-16-2017_	NPOC:0.3009mg/L	Completed	12/8/2017 11:09:57 P	19
48	U	NPOC	FLUSH	Untitled	10-16-2017_	NPOC:0.2820mg/L	Completed	12/8/2017 11:23:05 P	20

Instr.Information

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

Cal. Curve

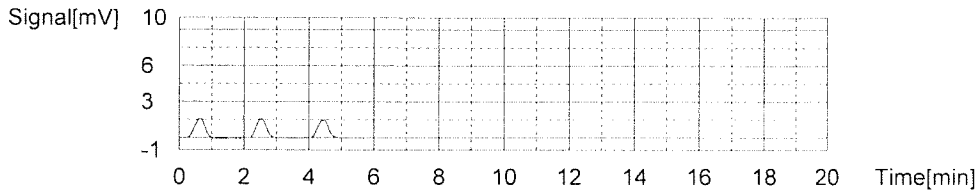
Sample Name:	CAL
Sample ID:	304146903
Cal. Curve:	10-16-2017_W.2017_10_16_17_39_41.cal
Status	Completed

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

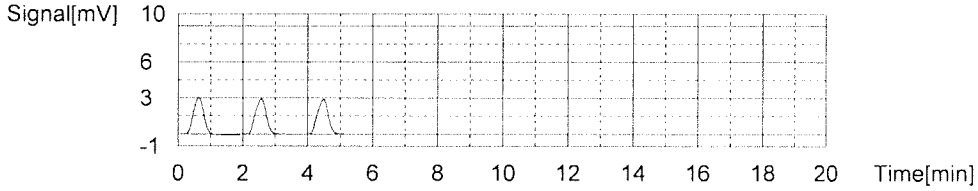
Acid Add. 0.000%
Sp. Time 180.0sec
Mean Area 3.340



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

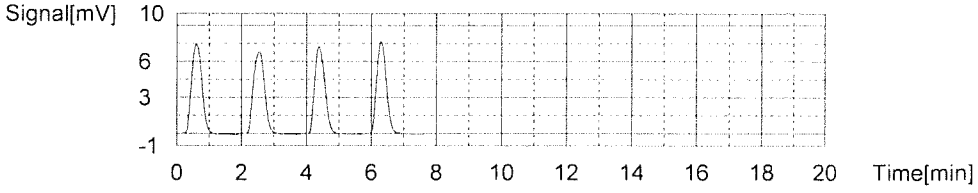
Acid Add. 0.000%
Sp. Time 180.0sec
Mean Area 6.551



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

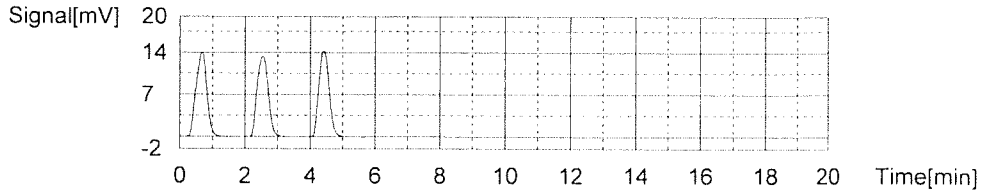
Acid Add. 0.000%
Sp. Time 180.0sec
Mean Area 15.86



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

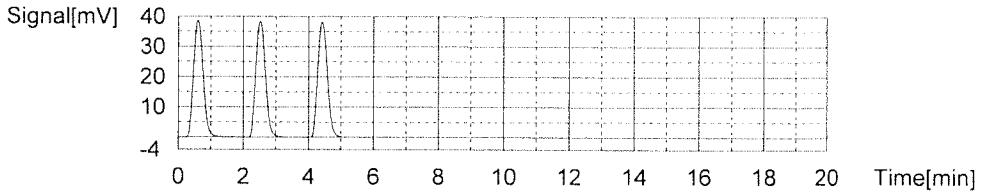
Acid Add. 0.000%
Sp. Time 180.0sec
Mean Area 31.59



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

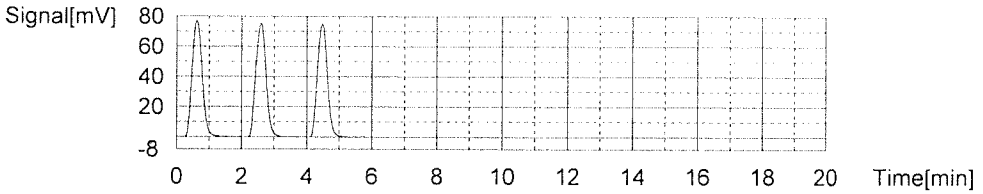
Acid Add. 0.000%
Sp. Time 180.0sec
Mean Area 78.77



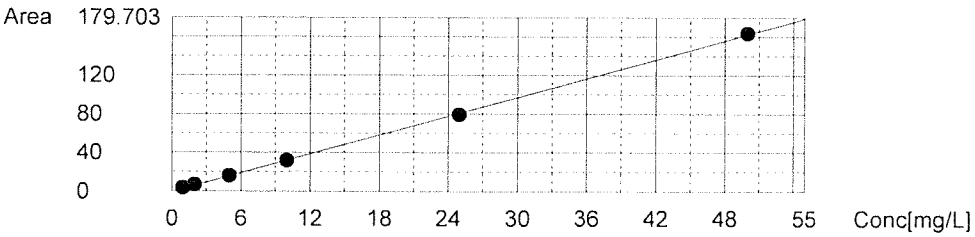
Conc: 50.00mg/L

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

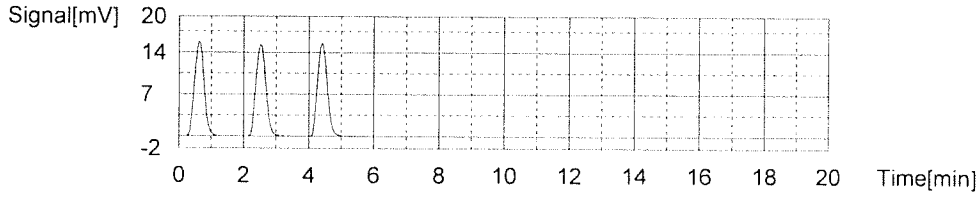
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.16mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	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

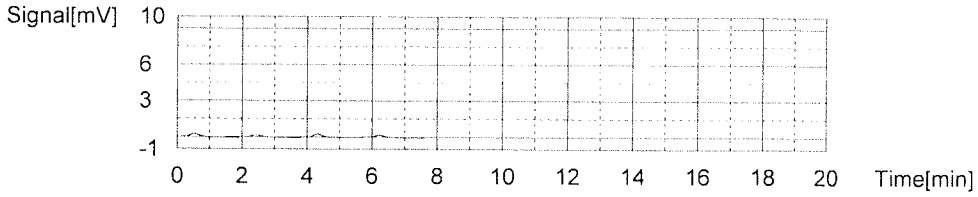
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2618mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.4693	0.3217mg/L	50uL	1	E	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:	304.180.601
Origin:	10-16-2017_W.cal
Status	Completed
Chk. Result	

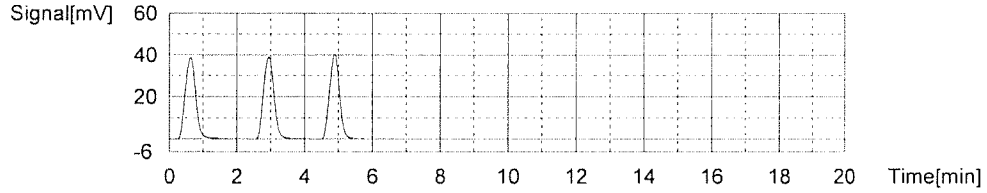
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:25.60mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	83.14	25.70mg/L	50uL	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 10:32:59 AM
2	82.83	25.61mg/L	50uL	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 10:35:06 AM
3	82.43	25.48mg/L	50uL	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 10:37:11 AM

Mean Area	82.80
Mean Conc.	25.60mg/L



Sample

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

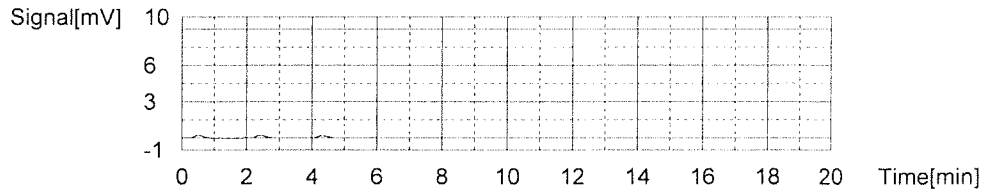
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2768mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.3372	0.2812mg/L	50uL	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 10:46:14 AM
2	0.3416	0.2825mg/L	50uL	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 10:48:19 AM
3	0.2896	0.2666mg/L	50uL	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 10:50:24 AM

Mean Area	0.3228
Mean Conc.	0.2768mg/L



Sample

Sample Name: WBLKW2-120817
Sample ID: 5310B
Origin: 10-16-2017_W.cal
Status Completed
Chk. Result

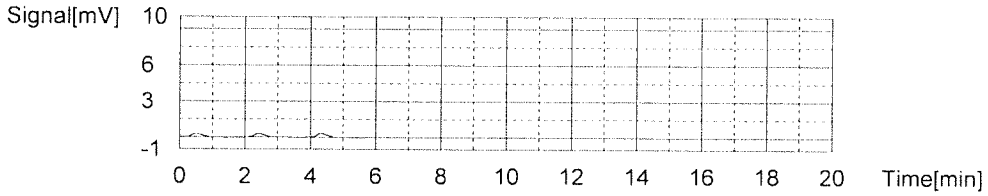
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3409mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.4914	0.3285mg/L	50uL	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 12:28:31 PM
2	0.5238	0.3385mg/L	50uL	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 12:30:36 PM
3	0.5798	0.3557mg/L	50uL	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 12:32:41 PM

Mean Area 0.5317
Mean Conc. 0.3409mg/L



Sample

Sample Name: WLCSW2-120817
Sample ID: Untitled
Origin: 10-16-2017_W.cal
Status Completed
Chk. Result

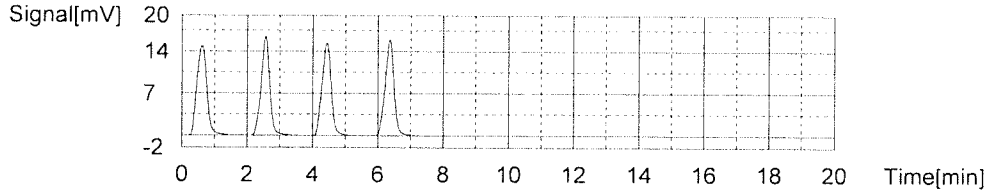
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:9.482mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	31.47	9.839mg/L	50uL	1	E	10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 12:41:44 PM
2	30.45	9.525mg/L	50uL	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 12:43:49 PM
3	30.16	9.436mg/L	50uL	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 12:45:54 PM
4	30.32	9.486mg/L	50uL	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 12:47:59 PM

Mean Area 30.31
Mean Conc. 9.482mg/L



HS17120016

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Logbook **30509**

Ion Selective Electrode Logbook

Analyst: KMH

Date: 12/05/17 @ 1:30pm

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

Std Level | | mV | Conc., mg/L:

STD 1 (mg/L): 0.2 | 109.2 | 0.2050

STD 2 (mg/L): 1.0 | 73.0 | 1.008

STD 3 (mg/L): 5.0 | 33.6 | 4.993

Cal Std ID: 304-180-(801-805) prep: 12/04/17

Probe ID: SR1-15910

Matrix: Water / Soil (1: 10 -- soil -gm : DI Water -ml)

Std Level	mV	Conc., mg/L:
STD 4 (mg/L): 10	15.4	9.958
STD 5 (mg/L): 50	-24.8	49.82

LSC / MS Spike ID: 297-020-5115 / ICVSTD ID: 304-180-(806) KMH

Ical Slope: 97.5% / -57.5mV

Ical Date: 12/04/17

WO # / SX #	Bottle #	Initial g or ml	Final Vol. ml	Dilution Factor	Initial Conc. mg/L	Final Conc. mg/L	Comments
ICV		50	50	1	9.995		
ICB/CCB-1					0.03652		
LRBLKW-120517					0.01924		
LRCSW-120517					10.01		
HS17111303-01					0.03955		
1303-01MS					9.972		
1303-01MSD					9.966		
1370-02					0.08317		
1371-02					0.07122		
1338-01					0.09076		
1400-01		10mL		5X	7.509		+Cl2 ✓ DF due to high Cl2
1402-01		10mL		5X	1.818		+Cl2 ✓
CCV-2		50		1	10.45		
CCB-2				1	0.04911		
HS17111403-01		10		5X	3.370		+Cl2 ✓ DF due to High Cl2
HS17120034-01		50		1	0.1006		
HS17120016-01				1	10.69		M-Amm-WC351.3-ISE -ODOR R#3067131
181-01					1.315		Trace Chlorine solution
CCV-3					10.48		
CCB-3					0.03283		

Batch ID: R#3066609 / 351.3 R#3167131

Reported By: KMH

Reviewed By: 12/5/17

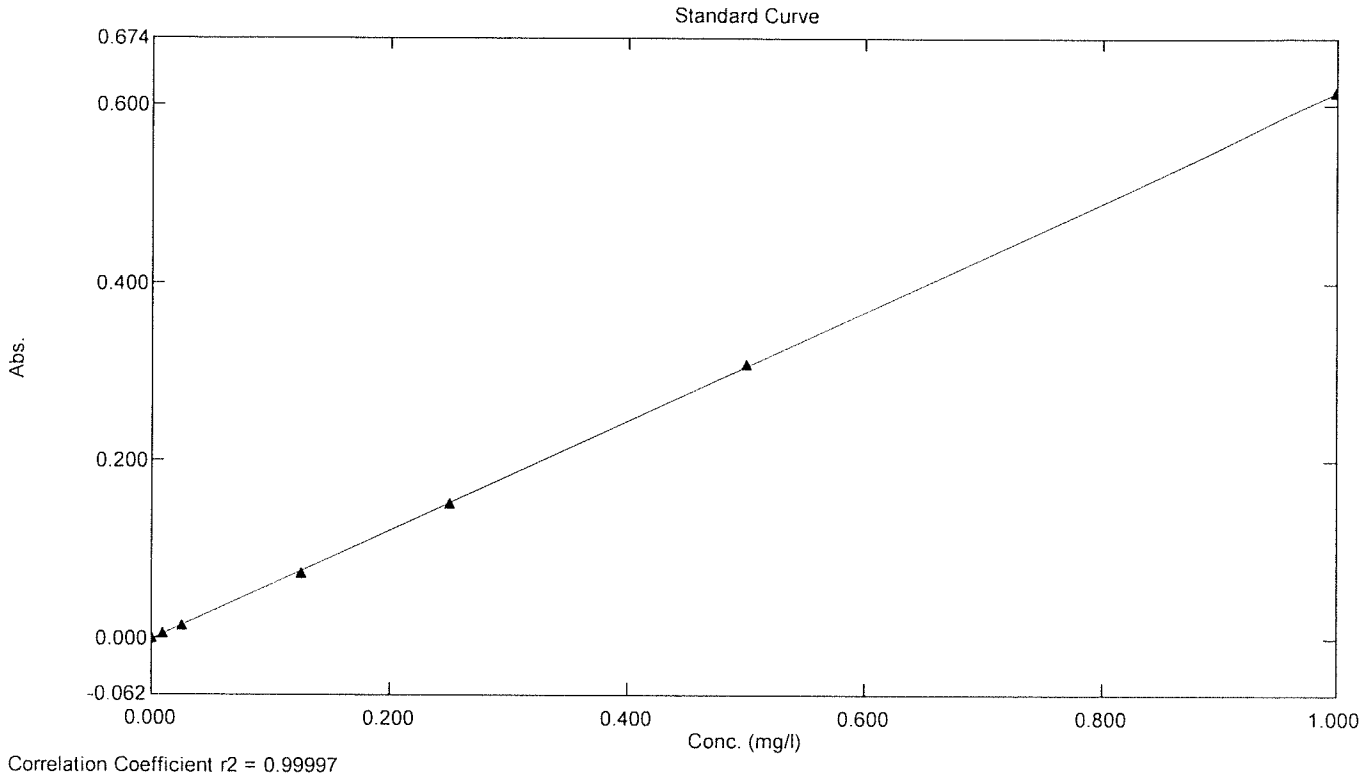
©2013 ALS Laboratory Group

H5171200016

Standard Table Report

12/18/2017 06:11:34 PM

File Name: Q:\UVProbe\O_PO4_UNKNOWN\171201_P_ORTHO_W.pho



Correlation Coefficient r2 = 0.99997

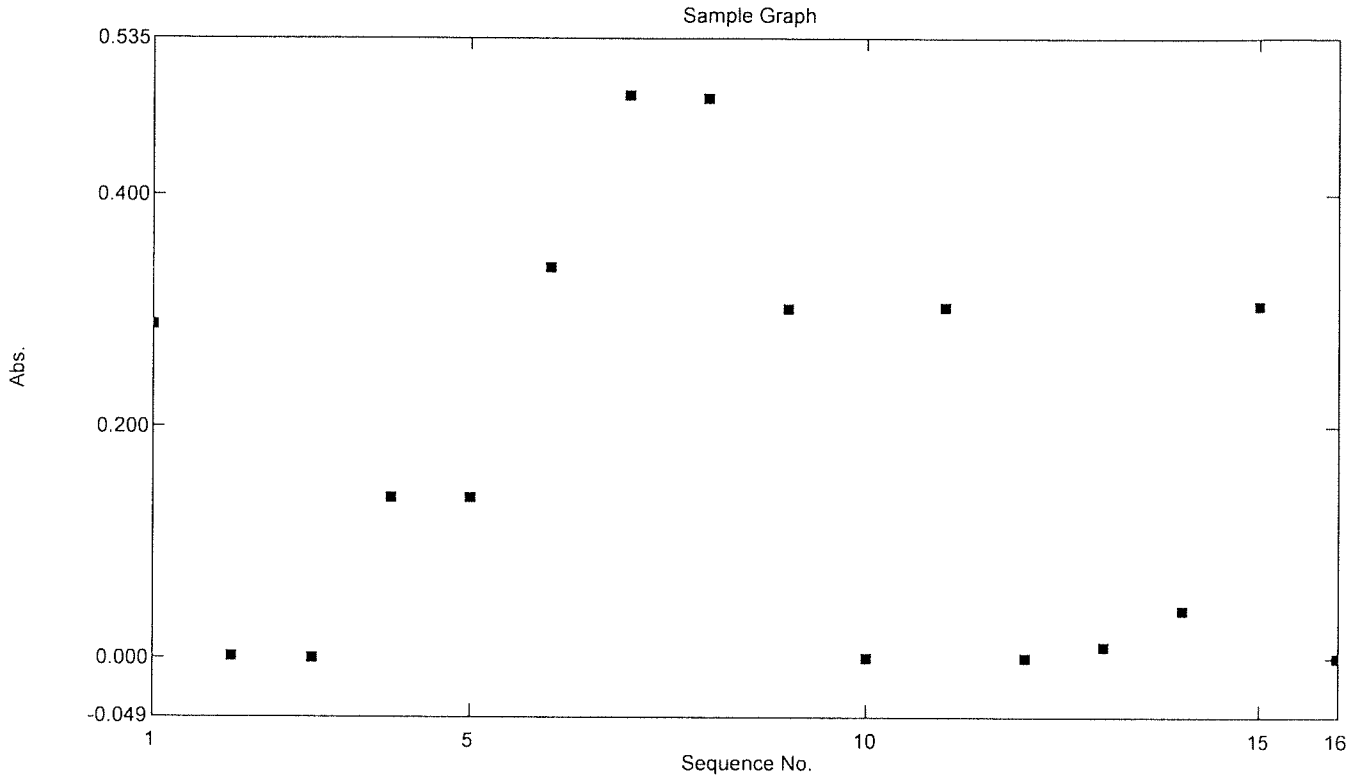
Standard Table

	Sample ID	Type	Ex	Conc	WL880.0	Wgt.Facto	Comments
1	STD1	Standard		0.000	0.000	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	0.074	1.000	
5	STD5	Standard		0.250	0.152	1.000	
6	STD6	Standard		0.500	0.308	1.000	
7	STD7	Standard		1.000	0.613	1.000	
8							

Sample Table Report

12/18/2017 06:11:28 PM

File Name: Q:\UVProbe\O_PO4_UNKNOWN\171201_P_ORTHO_W.pho



Sample Table

	Sample ID	Type	Ex	Conc	WL880.0	Comments
1	CCV	Unknown		0.470	0.288	
2	CCB	Unknown		0.004	0.002	
3	MBLK	Unknown		0.002	0.001	
4	LCS	Unknown		0.225	0.138	
5	LCSD	Unknown		0.227	0.139	
6	17120016.01	Unknown		0.549	0.336	PF-5X,12:50PM
7	17120016.01MS	Unknown		0.793	0.486	PF-5X
8	17120016.01MSD	Unknown		0.788	0.483	PF-5X
9	CCV2	Unknown		0.491	0.301	
10	CCB2	Unknown		0.001	-0.000	
11	CCV3	Unknown		0.494	0.303	
12	CCB3	Unknown		0.002	0.000	
13	17120019.01	Unknown		0.018	0.010	05:36PM
14	17120019.02	Unknown		0.068	0.041	
15	CCV4	Unknown		0.495	0.304	
16	CCB4	Unknown		0.002	0.000	
17						

Sub Contract Raw Data

Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
ALS WO# HS17120016

Case Narrative

Method: 6850
Analysis: Perchlorate
Analysis SOP: LC-MS-CLO4
ALS WO ID(s): 1733231; 1733874

Client: ALS Laboratories (Houston, TX)
Matrix: Water
ELMS Batch (HBN): 2006 (204446)

General Set Information: There were eight 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: NA

Method QC data: The method blank (LMB 577683) was less than 1/2 the CRDL. The recovery for the LCS (577684) was within acceptable parameters.

MS/MSD Analysis: The matrix spike and matrix spike duplicate (MS/MSD) was performed on samples 1733231003/04 (Client ID: 27WW04-112017). 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 07DECP03/17.

Thomas Bosch December 11, 2017
Date

ANALYTICAL REPORT

Report Date: December 12, 2017

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

Phone: (281) 530-5656

E-mail: Sonia.West@alsglobal.com

Workorder: **34-1733874**
Project ID: HS17120016 112917
Purchase Order: NA
Project Manager Kevin W. Griffiths

Client Sample ID	Lab ID	Collect Date	Receive Date	Sampling Site
LH18/24-SP650_112917	1733874001	11/29/17	12/02/17	

ANALYTICAL REPORT

Workorder: 34-1733874
Client: ALS Environmental (Houston)
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **LH18/24-SP650_112917**	Sampling Site: NA	Collected: 11/29/2017
Lab ID: 1733874001	Media: Liquid	Received: 12/02/2017
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/2006 (HBN: 204446)	**Percent Solid:** NA
	Analyzed: 12/07/2017 13:13	**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 12/07/2017 14:51	/S/ Stephen Brose 12/12/2017 08:05

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: 34-1733874
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: 34-1733874
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: 1733874

Limits:	Client SOW/Contract Specified	**Preparation:**	NA	**Analysis:**	EPA 6850
Basis:	DoD QSM	**Batch:**	NA	**Batch:**	ELMS/2006 (HBN: 204446)
		Prepared By:	NA	**Analyzed By:**	Thomas Bosch

Blank

LMB: 577683
Analyzed: 12/07/2017 09:41
Units: ug/L

Analyte	Result	MDL	RL
Perchlorate	ND	1	2.00

Laboratory Control Sample

LCS: 577684
Analyzed: 12/07/2017 10:00
Dilution: 1
Units: ug/L

Analyte	Result	Target	% Rec	QC Limits	
Perchlorate	5.18	5.00	104	78.8	123.8

Matrix Spike - Matrix Spike Duplicate

Sample:	1733231002	**MS:**	1733231003				**MSD:**	1733231004			
Analyzed:	12/07/2017 10:40	**Analyzed:**	12/07/2017 10:59				**Analyzed:**	12/07/2017 11:18			
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	4.59	5	91.8	78.8	123.8	4.95	99.0	7.59	0.0	20.0

Continuing Calibration Verification

CCV:	577680			**CCV:**	577685	
Analyzed:	12/07/2017 08:42			**Analyzed:**	12/07/2017 13:33	
Units:	ug/L			**Units:**	ug/L	
Criteria:	± 15%			**Criteria:**	± 15%	

Analyte	Result	Target	% Rec.	Result	Target	% Rec.
Perchlorate	25.5	25.0	102	23.7	25.0	94.9

Interference Check Sample

ICSA: 577682
Analyzed: 12/07/2017 09:22
Units: ug/L
Criteria: ± 30%

Analyte	Result	Target	% Rec.
Perchlorate	0.927	1.00	92.7

Limit of Detection Verification

LODV:	577681			**LODV:**	577686	
Analyzed:	12/07/2017 09:03			**Analyzed:**	12/07/2017 13:52	
Units:	ug/L			**Units:**	ug/L	
Criteria:	± 50%			**Criteria:**	± 50%	

Analyte	Result	Target	% Rec.	Result	Target	% Rec.
Perchlorate	1.10	1.00	110	1.06	1.00	106

Quality Control Sample
Batch Report

Analysis Information

Workorder: **1733874**

Limits:	Client SOW/Contract Specified	**Preparation:**	NA	**Analysis:**	EPA 6850
Basis:	DoD QSM	**Batch:**	NA	**Batch:**	ELMS/2006 (HBN: 204446)
		Prepared By:	NA	**Analyzed By:**	Thomas Bosch

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

Analyst	Peer Review
/S/ Thomas Bosch	/S/ Stephen Brose
12/07/2017 14:51	12/12/2017 08:05

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

00878039

18698/#2

1733874

1733874

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: 8133

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:	HS17120016
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS17120016-01**	**LH18/24-SP650_112917**	**Water**	**29 Nov 2017 14:00**
	SUB_Perch-6850			08 Dec 2017

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: 12.1.17 1800

Received By: _____ Date/Time: 12/2/17 0815

Cooler ID(s): 8048 Temperature(s): 3°

00878040

ALS Environmental

CHAIN-OF-CUSTODY

Project / Job / Task:	Split:	Workorder ID: 1733874	Level: ENV_LVL4	Requested Analysis
Client: ALS Environmental (Houston)		Account: 8101	Type: LIQUID	
Comments:			Preservatives	

Item	Collect Date/Time	Sample ID	Lab ID	QC	Matrix	Containers ID(s)	Containers Count	COOL	EPA 6850, DoD QSM												
1	11/29/2017 14:00	HS17120016-01	1733874001		Water	A	1		A												
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

35 of 122

ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Reason for Transfer / Storage Location
Van Tassell, Tami	12/02/2017 09:03	ALS Sample Receiving	Sample Login
Tami Van Tassell 12-04-17 15:15 BC			Storage
R.33.1 12.7.17/0800 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

ALS - Salt Lake City-Related Information Report (CRIR)

Cooler or Container Information Checklist (Fill In or Circle)

Client Name: ALS Hanger

Project/Task/Site: 1

Date/Time of Receipt: 12/2/17 1103

Number of Coolers Received:

Condition of Coolers:	Acceptable/Unacceptable	Temperature Control:	Present/Not Included
Cooler Custody Seals:	Present/Absent/NA Intact/Broken/NA	Location Temp Taken:	Control/Between Samples
Container Custody Seals:	Present/Absent/NA Intact/Broken/NA	Are all temperatures within project specific guidelines?	Yes/No/NA
Ice Present:	Yes/No/NA Frozen/Melted/NA	VOA Headspace Present?	Yes/No/NA

pH Check Performed:							
	Metals	Yes/No/NA	Total Phenolics	Yes/No/NA	NO3/NO2	Yes/No/NA
	Cyanide	Yes/No/NA	TPH – 418.1	Yes/No/NA	Oil & Grease	Yes/No/NA
	Sulfide	Yes/No/NA	COD	Yes/No/NA	Total Phosphorous	Yes/No/NA
	Ammonia	Yes/No/NA	TKN	Yes/No/NA	TOC Preserved	Yes/No/NA

Cooler Received	ALS Cooler No.	Temp.	Cooler Received	ALS Cooler No.	Temp.	Cooler Received	ALSL Cooler No.	Temp.
1	C17- 8648	3 °C	4	C17-	°C	7	C17-	°C
2	C17-	°C	5	C17-	°C	8	C17-	°C
3	C17-	°C	6	C17-	°C	9	C17-	°C

Taken By: Abroad Dlew (Signature) Meredith Edwards (Printed Name) 12/2/17 (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



ALS
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Houston, Texas 77099
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ALS

ORIGIN ID:SGRA (281) 530-5656
SHIPPING DEPT
ALS LABORATORY GROUP
10450 STANCLIFF RD
SUITE 210
HOUSTON, TX 77099
UNITED STATES US

SHIP DATE: 01DEC17
ACTWGT: 7.90 LB
CAD: 300130/CAFE3108
DIMS: 14x11x10 IN

BILL SENDER

TO BRENT STEPHENS
ALS LABORATORY GROUP
960 WEST LEVOY DRIVE

SALT LAKE CITY UT 84123
(800) 356-9135
REF: HS17120016

FedEx Express

TRK# 0201 7376 9750 6902

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO BTFA

84123
UT-US SLC

:ch Worklist

Batch: ELMS/ 2006 **Created:** 12/7/2017 07:47 **Instrument:** HBN: 204446

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

Workorder: 1733231 [ENV_LVL4]

Workorder: 1733874 [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	577680	CCV for HBN 204446 [ELMS/2006]				CCV	3		E685041C3Q	5311		12/12/2017	
2	577681	LODV for HBN 204446 [ELMS/2006				LODV	3		E6850..D3Q	5311		12/12/2017	
3	577682	ICS for HBN 204446 [ELMS/2006]				ICS	3		E6850..D3Q	5311		12/12/2017	
4	577683	LMB for HBN 204446 [ELMS/2006]				LMB	3		E6850Q413Q	5311		12/12/2017	
5	577684	LCS for HBN 204446 [ELMS/2006]				LCS	3		E6850Q413Q	5311		12/12/2017	
6	1733231001	27WW02-112017				SAMPLE	3	1733231001-A	E6850Q41.3	5480	12/18/2017	12/12/2017	
7	1733231002	27WW04-112017				SAMPLE	3	1733231002-A	E6850Q41.3	5480	12/18/2017	12/12/2017	
8	1733231003	27WW04-112017MS				MS	3	1733231003-A	E6850Q413Q	5480		12/12/2017	
9	1733231004	27WW04-112017MSD				MSD	3	1733231004-A	E6850Q413Q	5480		12/12/2017	
10	1733231005	131-112117				SAMPLE	3	1733231005-A	E6850Q41.3	5480	12/19/2017	12/12/2017	
11	1733231006	132-112117				SAMPLE	3	1733231006-A	E6850Q41.3	5480	12/19/2017	12/12/2017	
12	1733231007	27WW03-112117				SAMPLE	3	1733231007-A	E6850Q41.3	5480	12/19/2017	12/12/2017	
13	1733231008	27WW01-112117				SAMPLE	3	1733231008-A	E6850Q41.3	5480	12/19/2017	12/12/2017	
14	1733231009	27WW01-112117-a				SAMPLE	3	1733231009-A	E6850Q41.3	5480	12/19/2017	12/12/2017	
15	1733874001	LH18/24-SP650_112917				SAMPLE	3	1733874001-A	E6850Q41.3	5480	12/27/2017	12/15/2017	
16	577685	CCV for HBN 204446 [ELMS/2006]				CCV	3		E685041C3Q	5311		12/12/2017	
17	577686	LODV for HBN 204446 [ELMS/2006				LODV	3		E6850..D3Q	5311		12/12/2017	

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Analytical Documentation

ALS Work Order #'s & Sample #( )'s: 1733231 (001-09); 1733874 (001)
ELMS Batch/HBN ID: 2006 (204446)
Prep Date: 12/07/2017 Analysis Date: 12/07/2017 Analyst: T. Bosch
Analyte: **Perchlorate** Matrix: **Water** Method: **6850**
Sequence:\\HPCHEM\1\SEQUENCE\CLO4\2017\DEC\07DEC17P.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 577684; Target = 5.0µg/L. ASTM type II water was used for LMB 577683.

MS/MSD: MS/MSD was performed on samples 1733231003/04 (Client ID: 27WW04-112017). 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.
2) All QC, Blank, CCV, and MS/MSD results were within method parameters.
3) Sample data can be viewed at two directories within the ALS system: \\ALSLTWS013\LCMS\LCMS04\2017\DEC\HBN# or through NuGenesis\Tree\PrintData\LCMS\DefaultView.
4) Due to limitations of the Chemstation Software, many of the chromatographic peaks require manual integration. Manual Integrations were performed for some of the Initial Calibration analyses (datafiles: 28NOVP01,02) along with datafiles 07DECP03/17.
5) Notebook: \\alsltws013\ORGANIC\BOSCH\LCMS\Perchlorates\Waters\2017\CLO4-204446-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
MFG: ALS/SLC
MFG Lot: TNB: 05/11/2017
Part ID:

Created By: T. Bosch
Create Date: 05/11/2017
Lab Lot: CLO4 QC INT 10.ug/mL

Amount: 10 mL
Expires: 05/11/2018
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	10 ug/mL

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
109	ASTM H2O	ASTM Type II Water	LAB 109	9.9 mL	11/07/2025
36748	CLO4 QCSTOCK	6850 QC Stock STD 1,000ug/mL	CLO4 QC STOCK	0.1 mL	03/31/2020

STANDARD REPORT

Constituent

Solvent Standard - ASTM H2O

ASTM H2O		Description - ASTM Type II Water
Standard: 109	Created By: ALS Support (Lims)	Amount: 1000 L
MFG: DCL In House	Create Date: 10/6/2005	Expires: 11/7/2025
MFG Lot:	Lab Lot: LAB 109	Usable: Yes
Part ID:		

Pos.	Analyte	Name	Concentration
Solvent - Analyte(s) not applicable			

STANDARD REPORT

Constituent

Stock Standard - CLO4 QCSTOCK

CLO4 QCSTOCK Description - 6850 QC Stock STD 1,000ug/mL

Standard: 36748
MFG: Ultra Scientific
MFG Lot: CP-0860
Part ID: ICC-013

Created By: T. Bosch
Create Date: 5/11/2017
Lab Lot: CLO4 QC STOCK

Amount: 100 mL
Expires: 3/31/2020
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	1000 ug/mL

STANDARD REPORT

Working Standard - CLO4ISTDWRK

CLO4ISTDWRK — **Description - Perchlorate ISTD Wrk 1,000ug/L**

Standard: **38780**
MFG: ALS/SLC
MFG Lot: TNB: 10/09/17
Pipette ID: Not Provided

Created By: Thomas Bosch
Create Date: 10/09/2017 01:10PM
Verified By: Thomas Bosch
Verify Date:

Amount: 10 mL
Expires: 10/09/2018
Usable: Yes
Lab Lot: CLO4ISTDWRK

Pos.	Analyte	Name	Concentration
1	14797-73-0-8385	Perchlorate 83:85 Ratio	1000 ug/L
2	14797-73-0-89	Perchlorate 89	1000 ug/L

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
23118	CLO4ISTDSTK	Perchlorate ISTD Stock	CLO4ISTDSTK	0.1 mL	02/27/2024

STANDARD REPORT

Constituent

Stock Standard - CLO4ISTDSTK

CLO4ISTDSTK		Description - Perchlorate ISTD Stock
Standard: 23118	Created By: Thomas Bosch	Amount: 1 mL
MFG: Cambridge Isotope	Create Date: 04/04/2014 03:04PM	Expires: 02/27/2024
MFG Lot: SDDG-013	Verified By: Thomas Bosch	Usable: Yes
Part ID: OLM-7310-S	Verify Date: 02/05/2009 12:02AM	Lab Lot: CLO4ISTDSTK

Pos.	Analyte	Name	Concentration
1	14797-73-0-8385	Perchlorate 83:85 Ratio	100 ug/mL
2	14797-73-0-89	Perchlorate 89	100 ug/mL

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

ISO Guide 34 Reference Material

Product Number: ICC-013
Lot Number: CP-0860

Lot Issue Date: 29-Feb 2016
Expiration Date: 31-Mar 2020

Product Name: Perchlorate IC Standard

Description:
This Reference Material (RM) was gravimetrically prepared in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered quality system. The neat materials used for this product have been verified by ULTRA's ISO 17025 laboratory and under ULTRA's ISO Guide 34 accreditation. The analyte concentrations were verified by ULTRA's ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported below.

Analyte	Starting Material	Lot Number	Purity (%)	Calculated Value	True Value	Traceability & Method
perchlorate	potassium perchlorate	RM07987	100	1001 ± 5 µg/mL	976 ± 6 µg/mL	NIST SRM 3141A; ICP-OES

Solvent: water (low TOC, < 50 ppb)

Storage: Store at Room Temperature (15° to 30°C).

Traceability:
Traceability has been established through an unbroken chain of comparisons, each having stated uncertainties. Comparisons are based on appropriate physical or chemical measurements, including gravimetric or volumetric dilution, where the mass or volume of a solution before and after dilution is measured. The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1, ISO 9001, ISO 17025, and ISO Guide 34. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 819.

Estimation of Uncertainties:
The true value is reported, with its uncertainty value calculated at the 95% confidence level.

Homogeneity:
This RM was formulated and unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods and continuing calibration verification.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening and should be processed without delay for the true value to be valid within the stated uncertainties. Do not pipet from the bottle. Do not return any material removed for pipetting to the bottle. Tightly cap the bottle after removing any material and store according to the instructions noted above.

Hazards:
Refer to the Safety Data Sheet for information regarding this RM.

Expiration of Certification:
The certification of this RM is valid, within the measurement uncertainty specified, until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER
ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

ISO Guide 34 Reference Material

Product Number: ICC-013
Lot Number: CP-0860

Lot Issue Date: 29-Feb 2016
Expiration Date: 31-Mar 2020

Maintenance of Certification:
The real-time, long term stability of the RM may be monitored over the lifetime of the certification. If substantive changes occur that affect the certification before the expiration of this certificate, ULTRA Scientific will notify the purchaser.

Peter A. King, Ph.D.
VP, Technical Operations

Daniel J. Lamendola
Director of QA/RA

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

AccuTrace™ Reference Standard

Catalog No: IC-PER-10X-1
Description: Perchlorate Standard
Element: Perchlorate (ClO_4)
SRM: Ind. Std.
Lot: 216095148
Matrix: Water
Hazards: *Refer to SDS for complete safety information*

Signal Word: Warning

Date Certified: Oct 4, 2016
Expiration: Oct 4, 2018
Sample Size: 100 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes

Component		SRM #	Prepared Concentration (µg/mL)
ClO_4	Perchlorate	Ind. Std.	1000

The gravimetric uncertainty for this product is ±0.2%. See reverse side for details.

The final solution was checked against an independent standard to verify its concentration.

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as ASTM Type I 18 megohm deionized water.

All solutions are filtered through a 0.2 µm filter prior to being bottled.

All glassware used in preparation is Class A and calibrated regularly.

All weights are traceable through NIST, Test No. 822-275872-11

All bottles are triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware.

We certify the accuracy of this standard to be ±0.5% of the stated value until its expiration date provided it is kept tightly capped and stored under the conditions stated above.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

OR-ORG/INO-001
Rev. 5/16

Cambridge Isotope Laboratories, Inc.

Certificate of Analysis

Quality Standards:
ISO Guide 34 • ISO/IEC 17025 • ISO 13485 • cGMP

23118

Product Name: (Isotopic Label & Enrichment Specification)	PERCHLORIC ACID, SODIUM SALT (18O4, 90%+) 100 UG/ML IN WATER
Lot Number:	SDDG-013
Catalog Number:	OLM-7310-S

Product Information

Chemical Purity Specification:	≥98%
Labeled CAS Number:	NA
Unlabeled CAS Number:	7601-89-0
MW*:	130.4
Chemical Formula:	NaCl*O4
Storage:	Store at room temperature away from light and moisture.
Stability:	See storage and expiration date.

Certification

Cambridge Isotope Laboratories, Inc. guarantees that this material meets or exceeds the specifications stated. Absolute identity as well as chemical and isotopic purities are assured by the use of unambiguous synthetic routes and multiple chemical analyses whenever possible. Results are representative of QC testing at time of release from Quality Control unless otherwise stated.

Volumetric measurements were made with Class A glassware. Gravimetry is traceable to the NIST through calibrated balances and certified, calibrated, standard weights. The calibrations are traceable to the NIST under Test No. 822/270236-04. The calibrations also meet specifications outlined in ISO 9001, ISO/IEC 17025, ANSI/NSCL Z540-1-1994, NCR Document 10CFR50 Appendix B, and applicable subdocuments.

This COA references the bulk catalog number before packaging. The COA also applies to the CIL finished good catalog number. Some possible packaging sizes and their corresponding suffix are -1.2, -1, -0.5, -10, or -0.1.

* *For isotopically labeled compounds, MW listed is for the fully enriched product.*

Approved by: T. J. Eckersley

Timothy J. Eckersley, Ph.D., Quality Assurance

Quality Control Tests and Results

QC Release Date	2/27/2014
Expiration Date	2/27/2024
Concentration Based on Gravimetry	102 µg/mL
Chemical Purity of Neat Material(s)	98%
LC/MS for Concentration	109.4 ± 2.8 µg/mL (k=2)

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Raw Data

Batch Report: C:\HPCHEM\1\DATA\07DEC17P\07DEC17P.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
*	577680 CCV@25	Vial 71	1	Control	1	1.07936e6	12.278	25.45668
*	577681 LODV@1.	Vial 72	1	Control	2	4.99378e4	12.318	1.09535
*	577682 ICS@1.	Vial 73	1	Control	3	2.98292e4	12.228	9.27102e-1
*	577683 LMB	Vial 74	1	Control	4	0.00000	0.000	0.00000
*	577684 LCS@5.	Vial 75	1	Control	5	1.98421e5	12.303	5.18387
*	1733231001	Vial 76	1	Sample	6	0.00000	0.000	0.00000
*	1733231002	Vial 77	1	Sample	7	0.00000	0.000	0.00000
*	1733231003 MS	Vial 78	1	Sample	8	1.20912e5	11.705	4.58757
*	1733231004 MSD	Vial 79	1	Sample	9	1.29308e5	11.696	4.94966
*	1733231005	Vial 80	1	Sample	10	0.00000	0.000	0.00000
*	1733231006	Vial 81	1	Sample	11	0.00000	0.000	0.00000
*	1733231007	Vial 82	1	Sample	12	0.00000	0.000	0.00000
*	1733231008	Vial 83	1	Sample	13	0.00000	0.000	0.00000
*	1733231009	Vial 84	1	Sample	14	0.00000	0.000	0.00000
*	1733874001	Vial 85	1	Sample	15	3.81121e4	12.194	1.47251
*	577685 CCV@25	Vial 71	1	Control	16	8.37964e5	12.297	23.72144
*	577686 LODV@1.	Vial 72	1	Control	17	4.16165e4	12.345	1.06333

#	Sample	Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
*	577680 CCV@25	Vial 71	1	Control	1	3.38906e5	12.288	25.33203
*	577681 LODV@1.	Vial 72	1	Control	2	1.87449e4	12.340	1.04596
*	577682 ICS@1.	Vial 73	1	Control	3	9907.45410	12.223	7.28225e-1
*	577683 LMB	Vial 74	1	Control	4	0.00000	0.000	0.00000
*	577684 LCS@5.	Vial 75	1	Control	5	6.52562e4	12.322	5.10368
*	1733231001	Vial 76	1	Sample	6	0.00000	0.000	0.00000
*	1733231002	Vial 77	1	Sample	7	0.00000	0.000	0.00000
*	1733231003 MS	Vial 78	1	Sample	8	4.44681e4	11.723	5.03069
*	1733231004 MSD	Vial 79	1	Sample	9	4.55772e4	11.704	5.21719
*	1733231005	Vial 80	1	Sample	10	0.00000	0.000	0.00000
*	1733231006	Vial 81	1	Sample	11	0.00000	0.000	0.00000
*	1733231007	Vial 82	1	Sample	12	0.00000	0.000	0.00000
*	1733231008	Vial 83	1	Sample	13	0.00000	0.000	0.00000
*	1733231009	Vial 84	1	Sample	14	0.00000	0.000	0.00000
*	1733874001	Vial 85	1	Sample	15	1.31291e4	12.201	1.34868
*	577685 CCV@25	Vial 71	1	Control	16	2.68589e5	12.309	24.00641
*	577686 LODV@1.	Vial 72	1	Control	17	1.72904e4	12.385	1.13755

#	Sample	Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
*	577680 CCV@25	Vial 71	1	Control	1	1.73402e5	12.293	5.00000
*	577681 LODV@1.	Vial 72	1	Control	2	2.15150e5	12.334	5.00000
*	577682 ICS@1.	Vial 73	1	Control	3	1.52601e5	12.225	5.00000
*	577683 LMB	Vial 74	1	Control	4	1.62415e5	12.487	5.00000
*	577684 LCS@5.	Vial 75	1	Control	5	1.73685e5	12.322	5.00000
*	1733231001	Vial 76	1	Sample	6	1.21551e5	11.723	5.00000
*	1733231002	Vial 77	1	Sample	7	1.19567e5	11.735	5.00000
*	1733231003 MS	Vial 78	1	Sample	8	1.20041e5	11.733	5.00000
*	1733231004 MSD	Vial 79	1	Sample	9	1.18714e5	11.725	5.00000
*	1733231005	Vial 80	1	Sample	10	1.20686e5	11.908	5.00000
*	1733231006	Vial 81	1	Sample	11	1.14150e5	11.731	5.00000
*	1733231007	Vial 82	1	Sample	12	1.12995e5	11.770	5.00000
*	1733231008	Vial 83	1	Sample	13	1.10308e5	11.759	5.00000
*	1733231009	Vial 84	1	Sample	14	1.11211e5	11.776	5.00000
*	1733874001	Vial 85	1	Sample	15	1.21194e5	12.209	5.00000
*	577685 CCV@25	Vial 71	1	Control	16	1.45668e5	12.315	5.00000
*	577686 LODV@1.	Vial 72	1	Control	17	1.84854e5	12.376	5.00000

*** End of Report ***

Sequence: C:\HPCHEM\1\SEQUENCE\CLO4\2017\DEC\07DEC17P.S

Sequence Table:

Method and Injection Info Part:

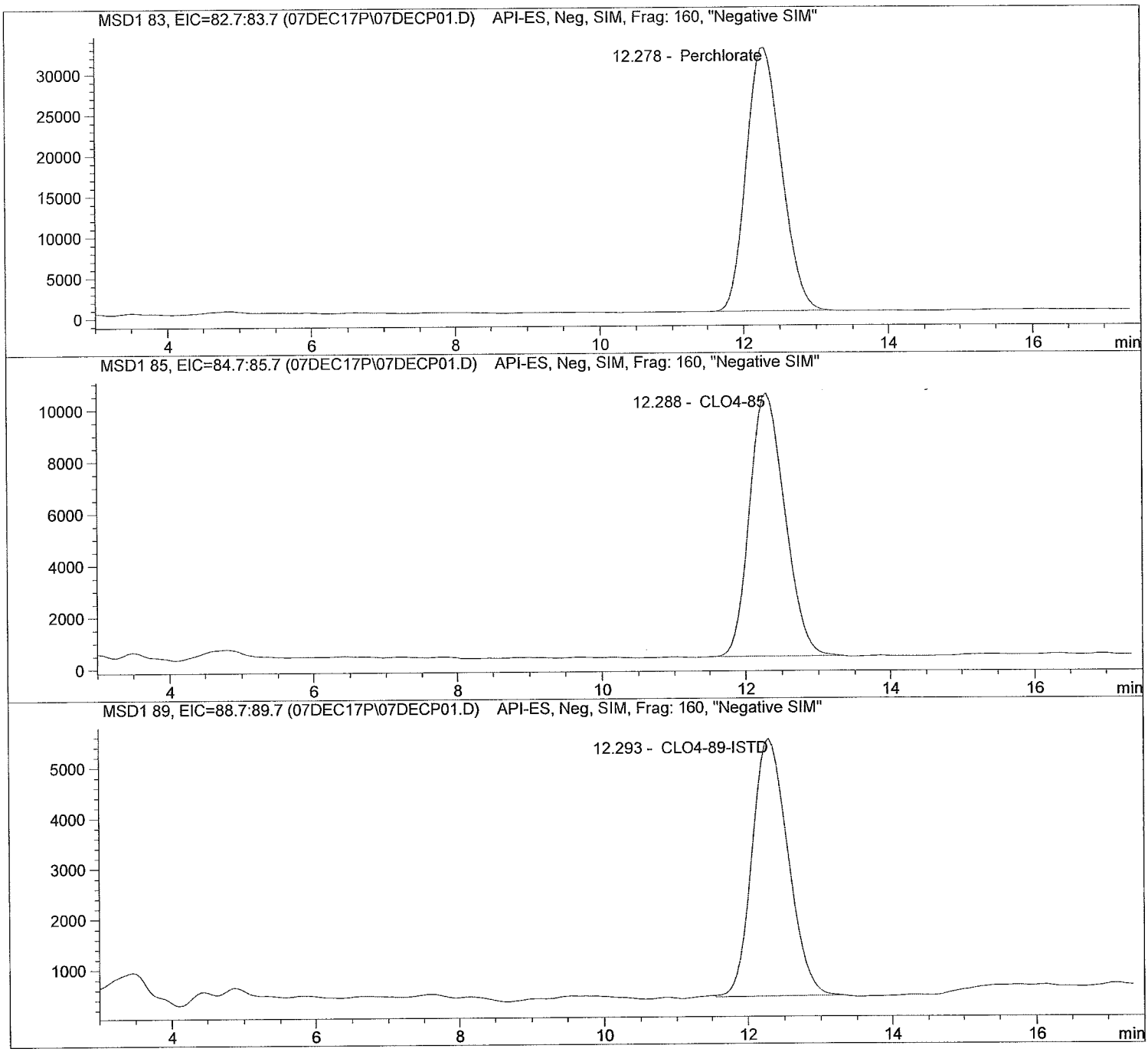
Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	577680 CCV@25	CLO4-DOD	1	Ctrl Samp		
2	Vial 72	577681 LODV@1.	CLO4-DOD	1	Ctrl Samp		
3	Vial 73	577682 ICS@1.	CLO4-DOD	1	Ctrl Samp		
4	Vial 74	577683 LMB	CLO4-DOD	1	Ctrl Samp		
5	Vial 75	577684 LCS@5.	CLO4-DOD	1	Ctrl Samp		
6	Vial 76	1733231001	CLO4-DOD	1	Sample		
7	Vial 77	1733231002	CLO4-DOD	1	Sample		
8	Vial 78	1733231003 MS	CLO4-DOD	1	Sample		
9	Vial 79	1733231004 MSD	CLO4-DOD	1	Sample		
10	Vial 80	1733231005	CLO4-DOD	1	Sample		
11	Vial 81	1733231006	CLO4-DOD	1	Sample		
12	Vial 82	1733231007	CLO4-DOD	1	Sample		
13	Vial 83	1733231008	CLO4-DOD	1	Sample		
14	Vial 84	1733231009	CLO4-DOD	1	Sample		
15	Vial 85	1733874001	CLO4-DOD	1	Sample		
16	Vial 71	577685 CCV@25	CLO4-DOD	1	Ctrl Samp		
17	Vial 72	577686 LODV@1.	CLO4-DOD	1	Ctrl Samp		

Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP01.D Sample Name: 577680 CCV@25

Injection Date:	12/07/2017 08:42:35	Seq Line:	1
Sample Name:	577680 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: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP01.D Sample Name: 577680 CCV@25

Injection Date:	12/07/2017 08:42:35	Seq Line:	1
Sample Name:	577680 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:	12/3/2017 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
12.278	PBA	1079359.2	25.4567	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.288	BBA	338906.2	25.3320	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.293	BBA	173402.2	5.0000	CLO4-89-ISTD

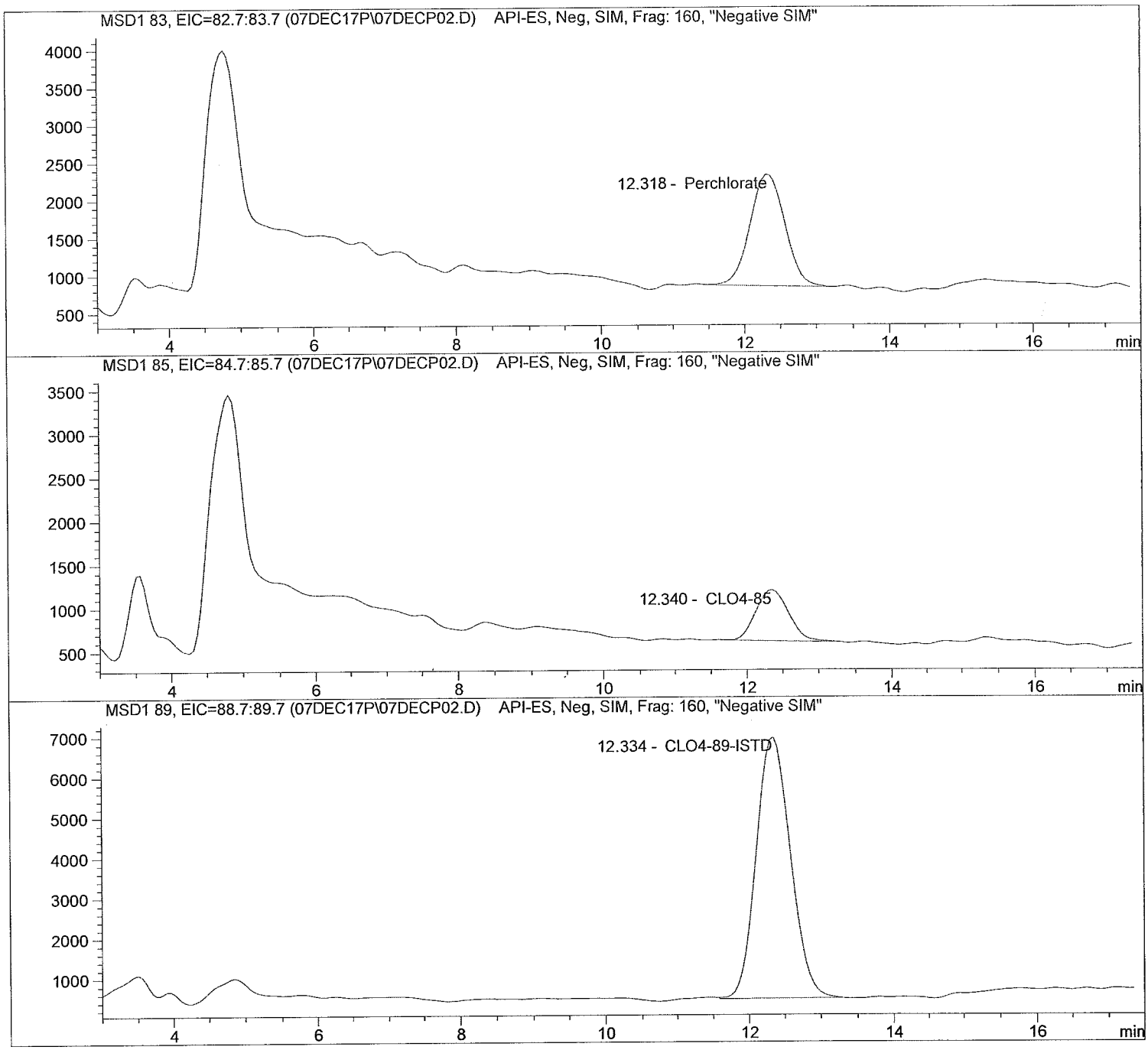
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP02.D Sample Name: 577681 LODV@1.

Injection Date:	12/07/2017 09:03:22	Seq Line:	2
Sample Name:	577681 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: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP02.D Sample Name: 577681 LODV@1.

Injection Date:	12/07/2017 09:03:22	Seq Line:	2
Sample Name:	577681 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: 12/3/2017 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
12.318	BBA	49937.8	1.0953	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.340	BBA	18744.9	1.0460	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.334	BBA	215149.6	5.0000	CLO4-89-ISTD

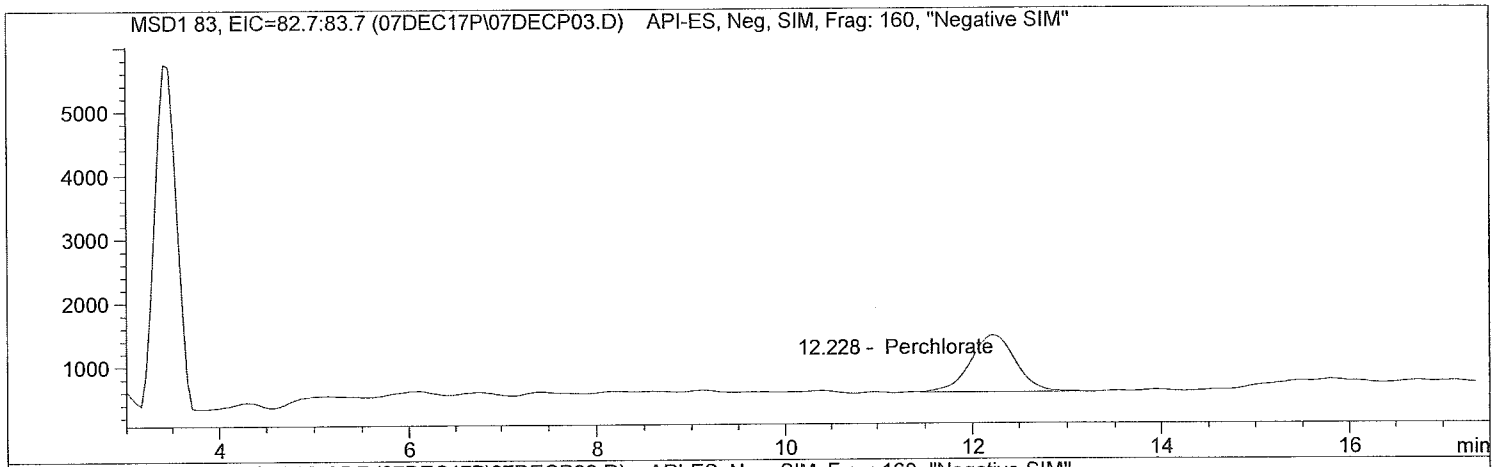
*** End of Report ***

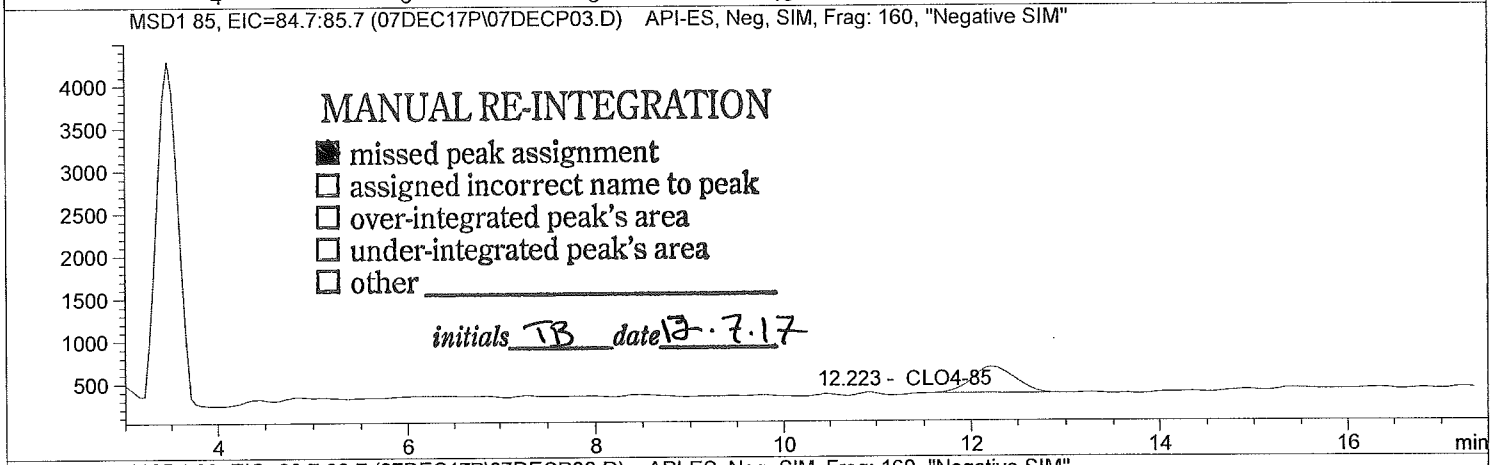
Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP03.D Sample Name: 577682 ICS@1.

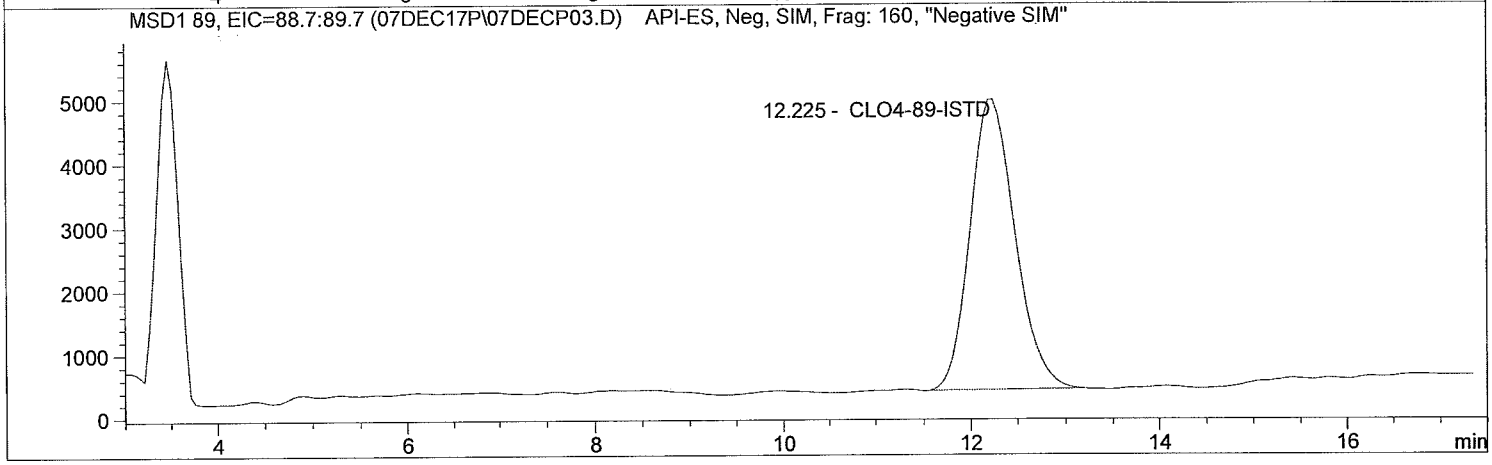
Injection Date:	12/07/2017 09:22:29	Seq Line:	3
Sample Name:	577682 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP03.D Sample Name: 577682 ICS@1.

Injection Date:	12/07/2017 09:22:29	Seq Line:	3
Sample Name:	577682 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:	12/3/2017 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
12.228	BBA	29829.2	0.9271	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.223	MM	9907.5	0.7282	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.225	PBA	152600.9	5.0000	CLO4-89-ISTD

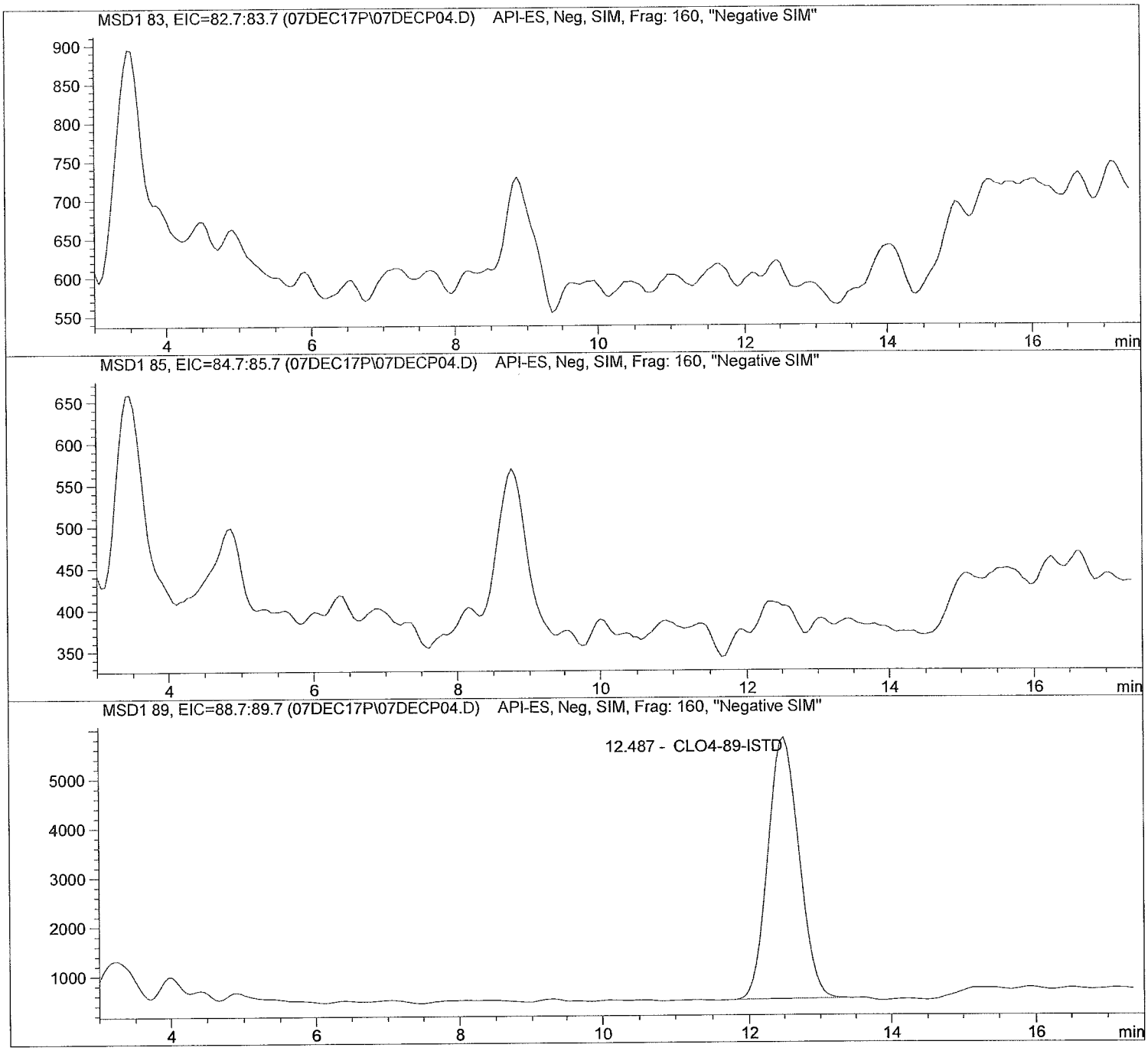
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP04.D Sample Name: 577683 LMB

Injection Date:	12/07/2017 09:41:40	Seq Line:	4
Sample Name:	577683 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: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP04.D Sample Name: 577683 LMB

Injection Date:	12/07/2017 09:41:40	Seq Line:	4
Sample Name:	577683 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:	12/3/2017 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:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.487	PBA	162415.5	5.0000	CLO4-89-ISTD

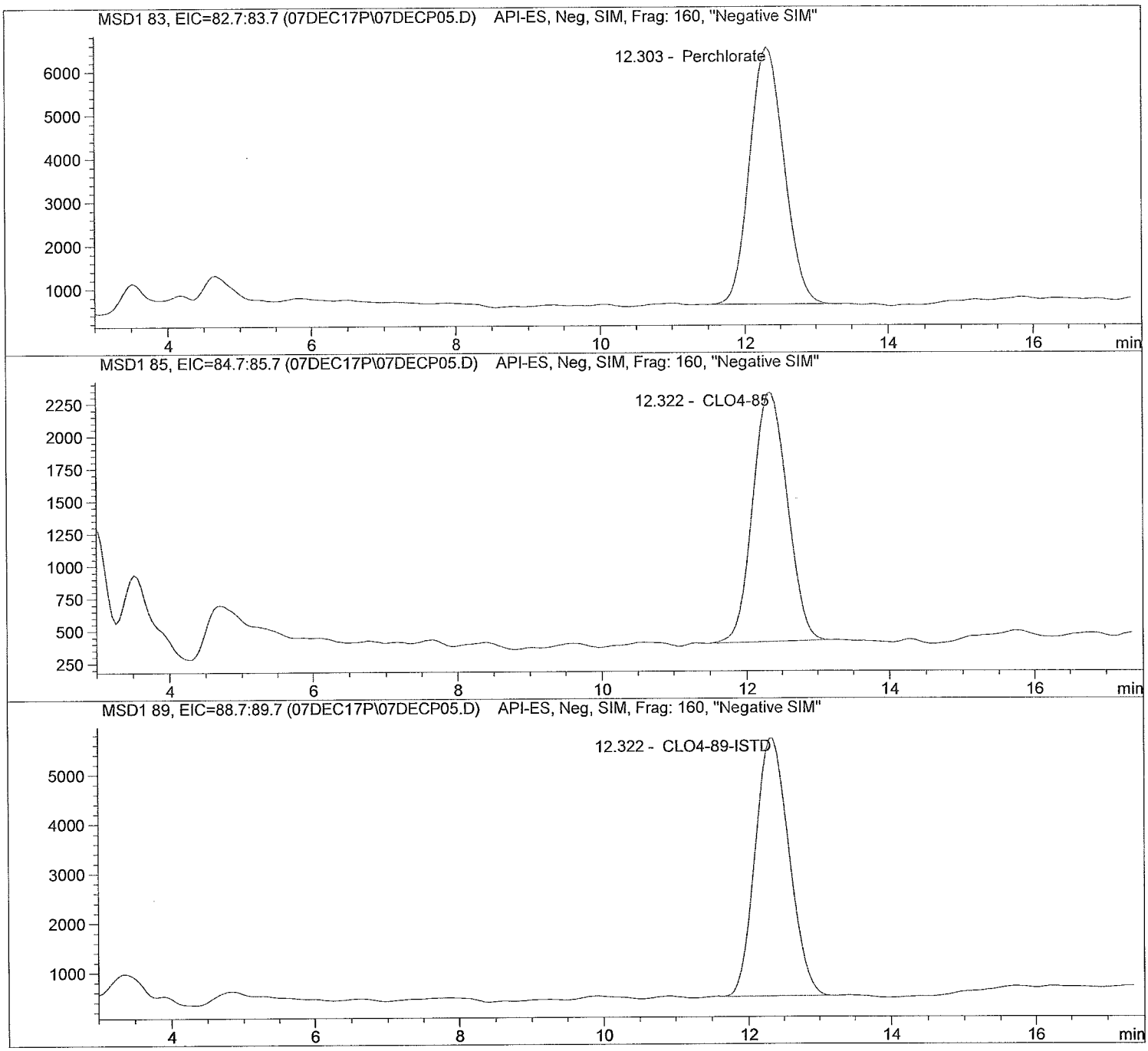
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP05.D Sample Name: 577684 LCS@5.

Injection Date:	12/07/2017 10:00:48	Seq Line:	5
Sample Name:	577684 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: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP05.D Sample Name: 577684 LCS@5.

Injection Date:	12/07/2017 10:00:48	Seq Line:	5
Sample Name:	577684 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:	12/3/2017 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
12.303	PBA	198421.5	5.1839	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.322	BBA	65256.2	5.1037	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.322	BBA	173685.1	5.0000	CLO4-89-ISTD

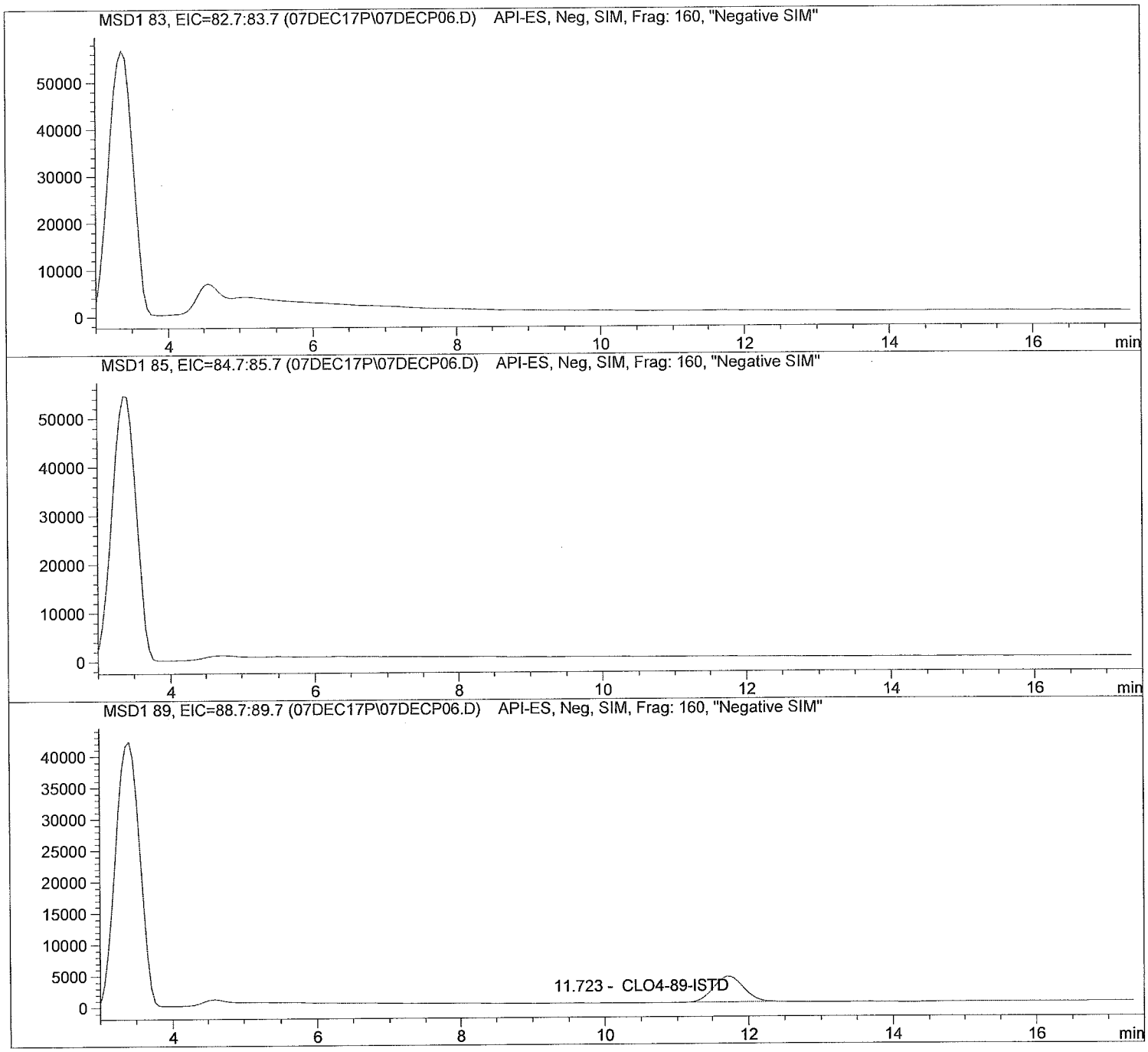
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP06.D Sample Name: 1733231001

Injection Date:	12/07/2017 10:19:59	Seq Line:	6
Sample Name:	1733231001	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\07DEC17P\07DECP06.D Sample Name: 1733231001

Injection Date:	12/07/2017 10:19:59	Seq Line:	6
Sample Name:	1733231001	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:	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
11.723	PBA	121551.4	5.0000	CLO4-89-ISTD

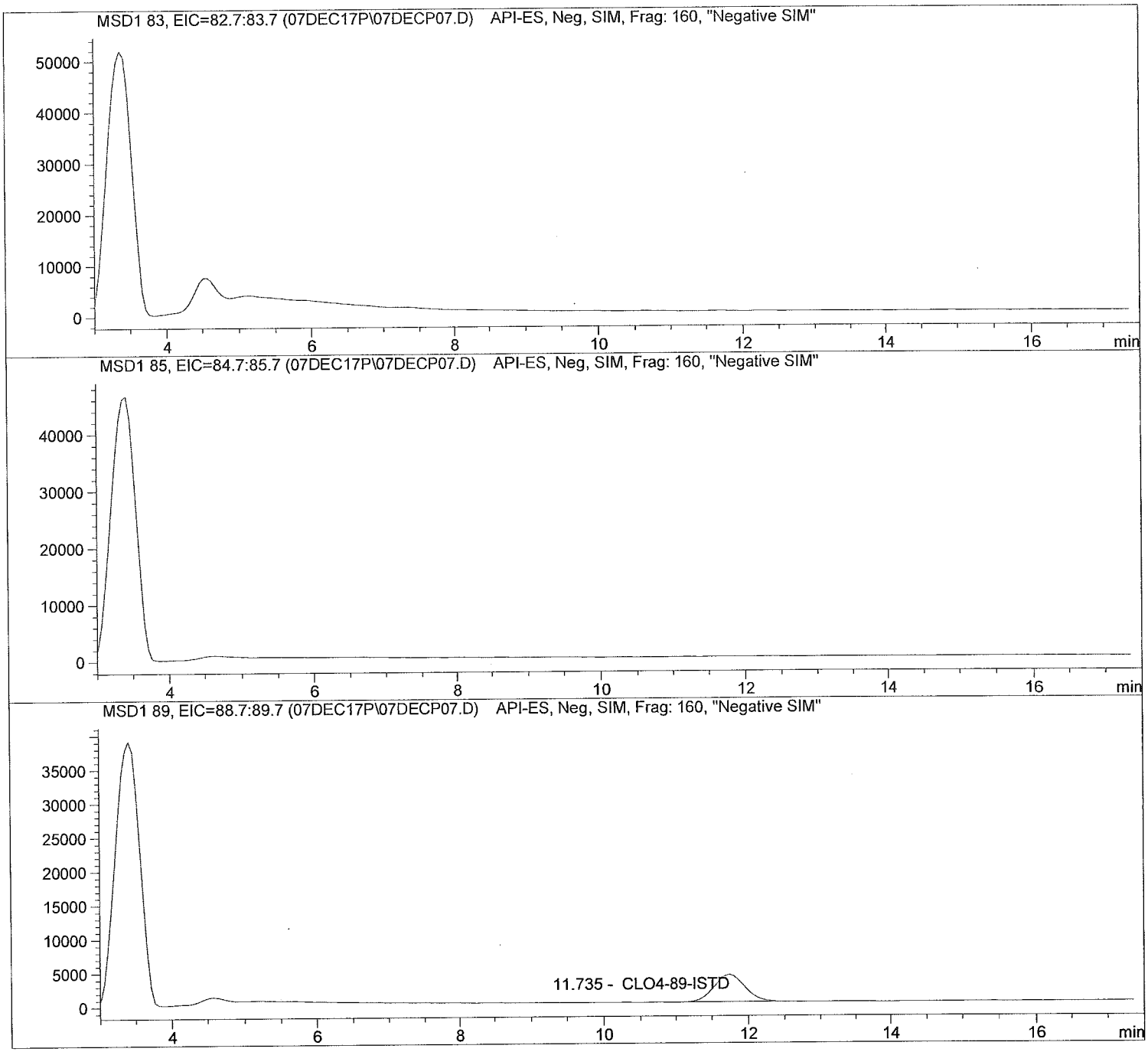
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP07.D Sample Name: 1733231002

Injection Date:	12/07/2017 10:40:35	Seq Line:	7
Sample Name:	1733231002	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\07DEC17P\07DECP07.D Sample Name: 1733231002

Injection Date:	12/07/2017 10:40:35	Seq Line:	7
Sample Name:	1733231002	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:	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
11.735	PBA	119566.6	5.0000	CLO4-89-ISTD

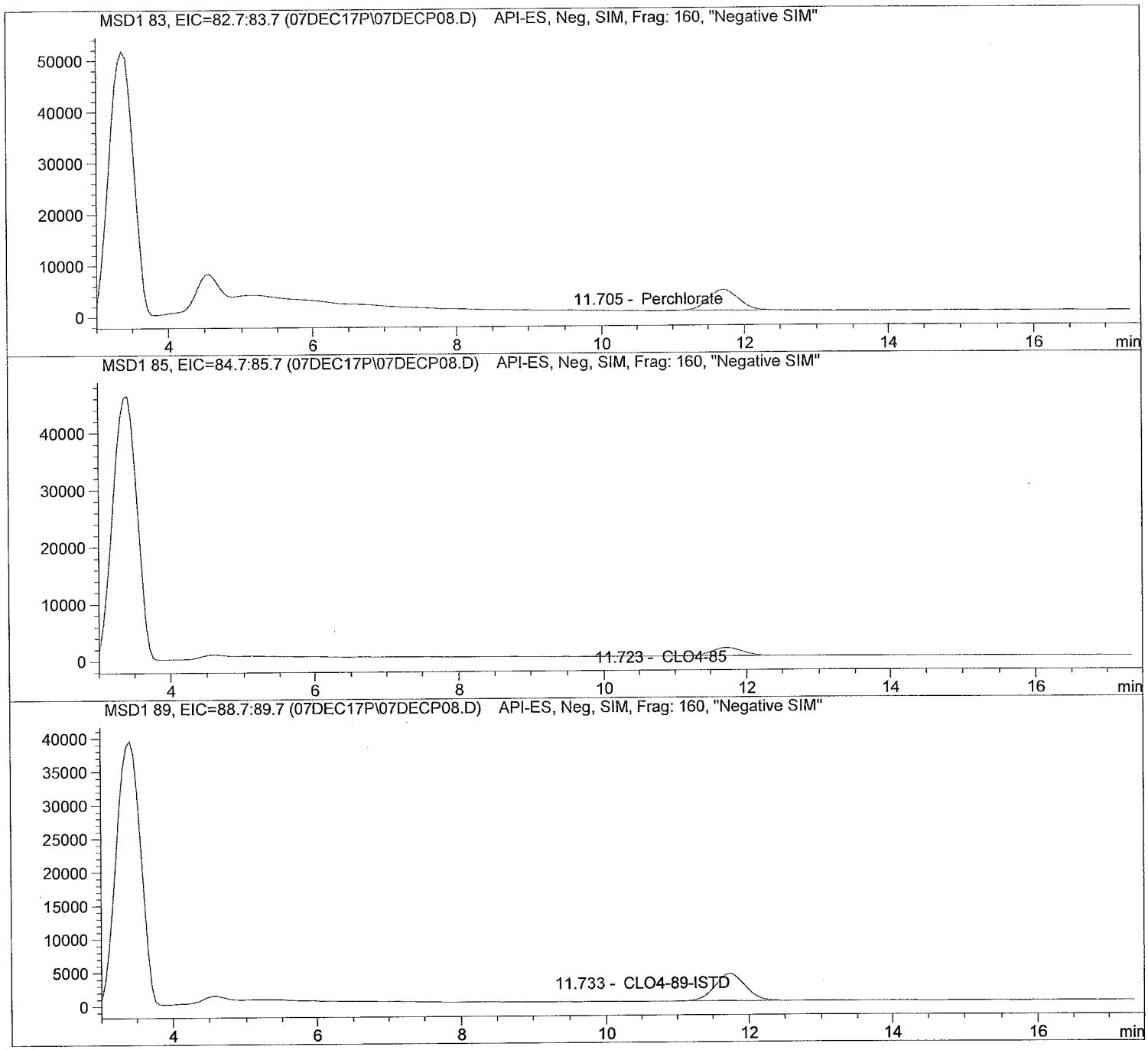
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP08.D Sample Name: 1733231003 MS

Injection Date:	12/07/2017 10:59:46	Seq Line:	8
Sample Name:	1733231003 MS	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\07DEC17P\07DECP08.D Sample Name: 1733231003 MS

Injection Date:	12/07/2017 10:59:46	Seq Line:	8
Sample Name:	1733231003 MS	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:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.705	BBA	120911.8	4.5876	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.723	BBA	44468.1	5.0307	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.733	BBA	120040.7	5.0000	CLO4-89-ISTD

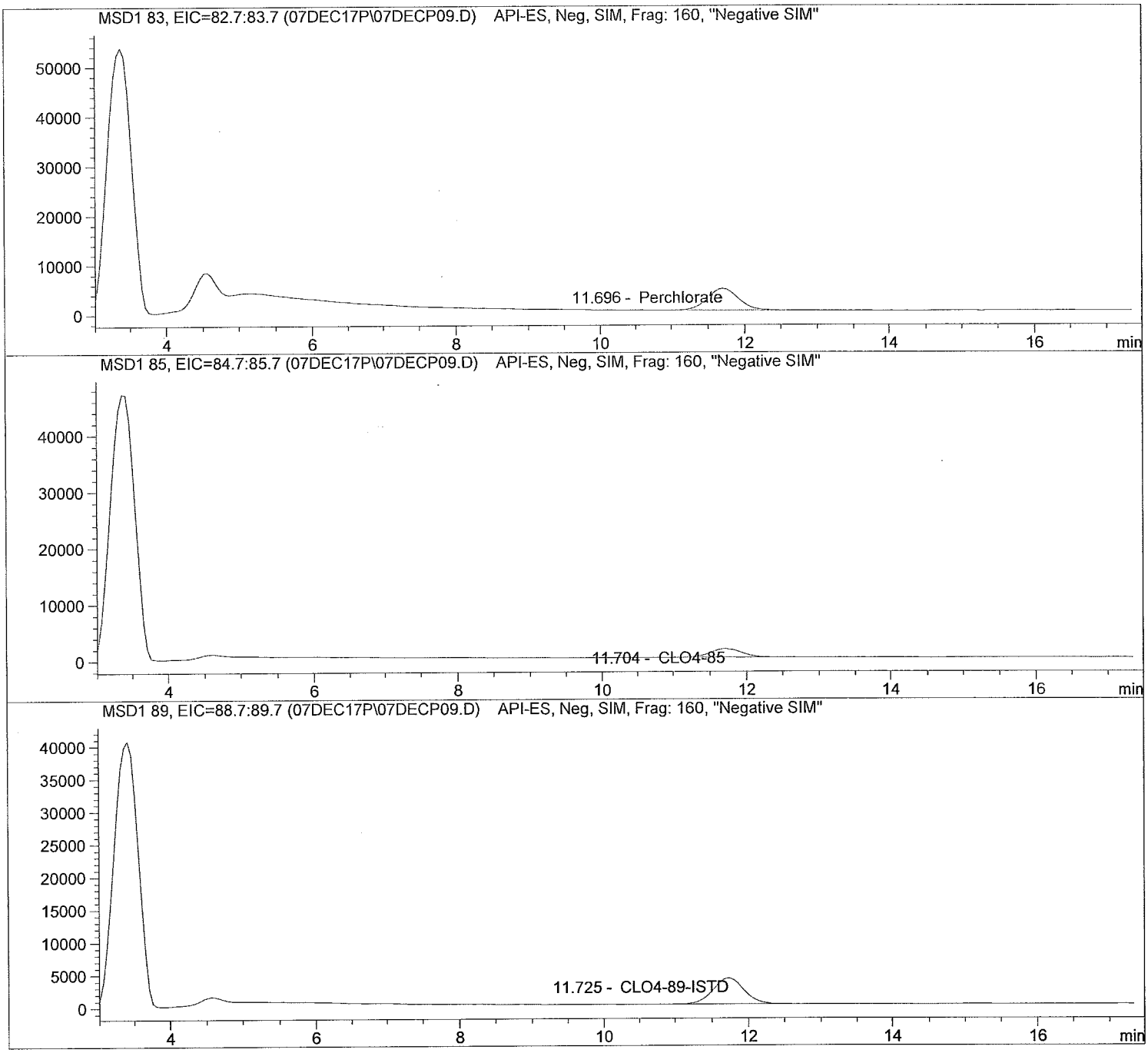
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP09.D Sample Name: 1733231004 MSD

Injection Date:	12/07/2017 11:18:56	Seq Line:	9
Sample Name:	1733231004 MSD	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: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP09.D Sample Name: 1733231004 MSD

Injection Date:	12/07/2017 11:18:56	Seq Line:	9
Sample Name:	1733231004 MSD	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:	12/3/2017 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:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.696	BBA	129307.8	4.9497	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.704	BBA	45577.2	5.2172	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.725	BBA	118714.4	5.0000	CLO4-89-ISTD

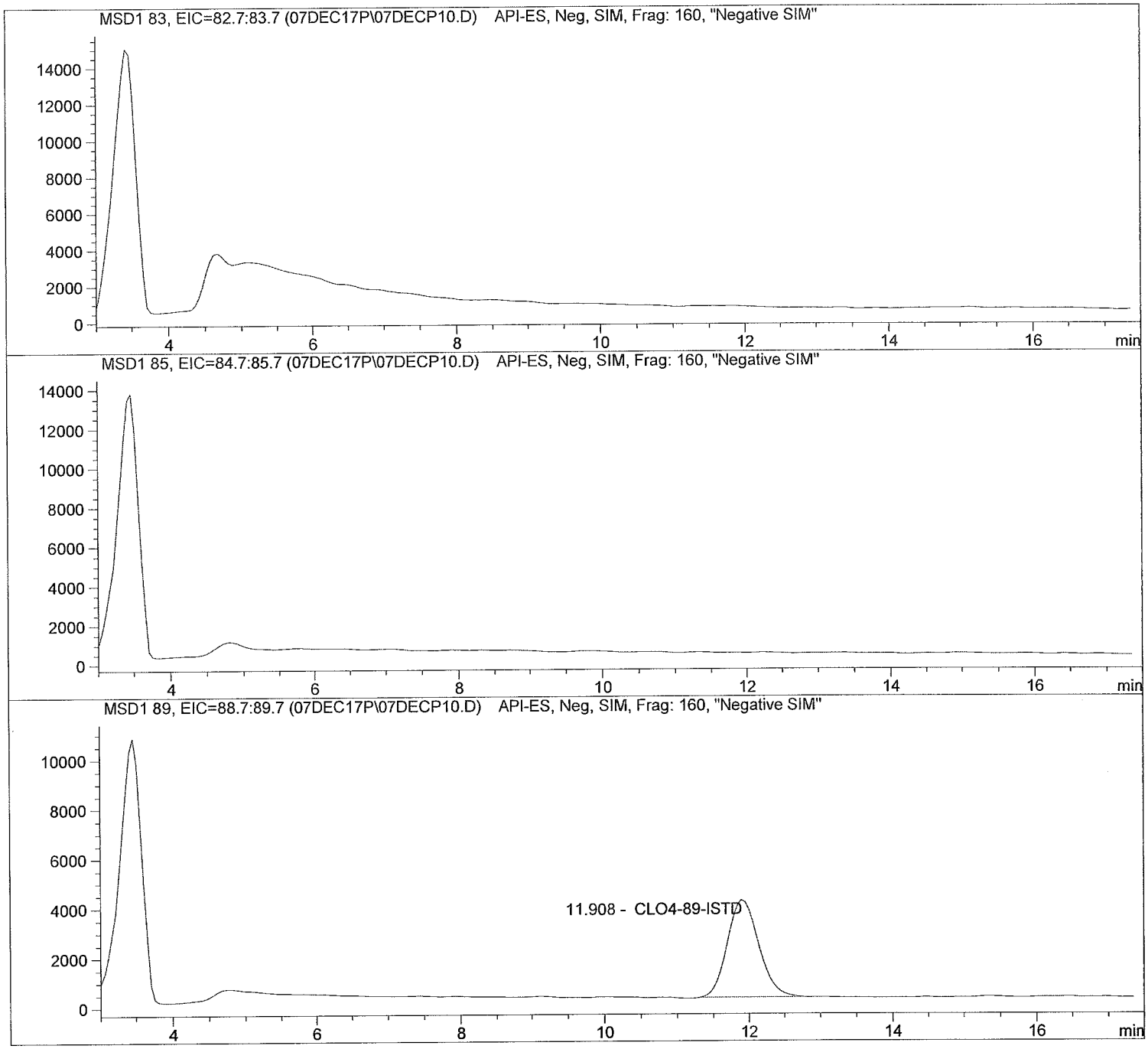
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP10.D Sample Name: 1733231005

Injection Date:	12/07/2017 11:38:08	Seq Line:	10
Sample Name:	1733231005	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: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP10.D Sample Name: 1733231005

Injection Date:	12/07/2017 11:38:08	Seq Line:	10
Sample Name:	1733231005	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:	12/3/2017 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:	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
11.908	PBA	120685.7	5.0000	CLO4-89-ISTD

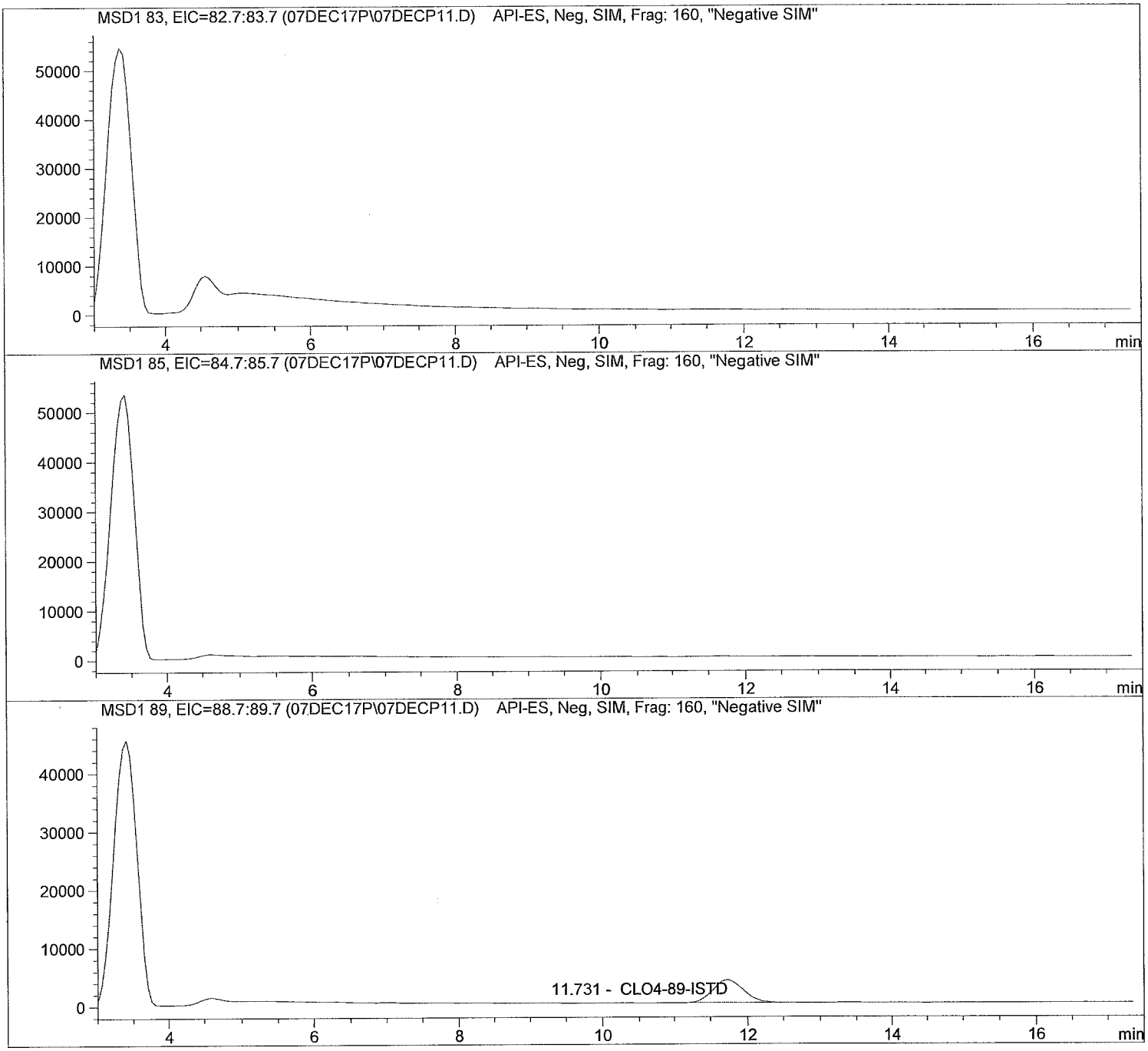
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP11.D Sample Name: 1733231006

Injection Date:	12/07/2017 11:57:19	Seq Line:	11
Sample Name:	1733231006	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: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP11.D Sample Name: 1733231006

Injection Date:	12/07/2017 11:57:19	Seq Line:	11
Sample Name:	1733231006	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:	12/3/2017 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:	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
11.731	BBA	114150.3	5.0000	CLO4-89-ISTD

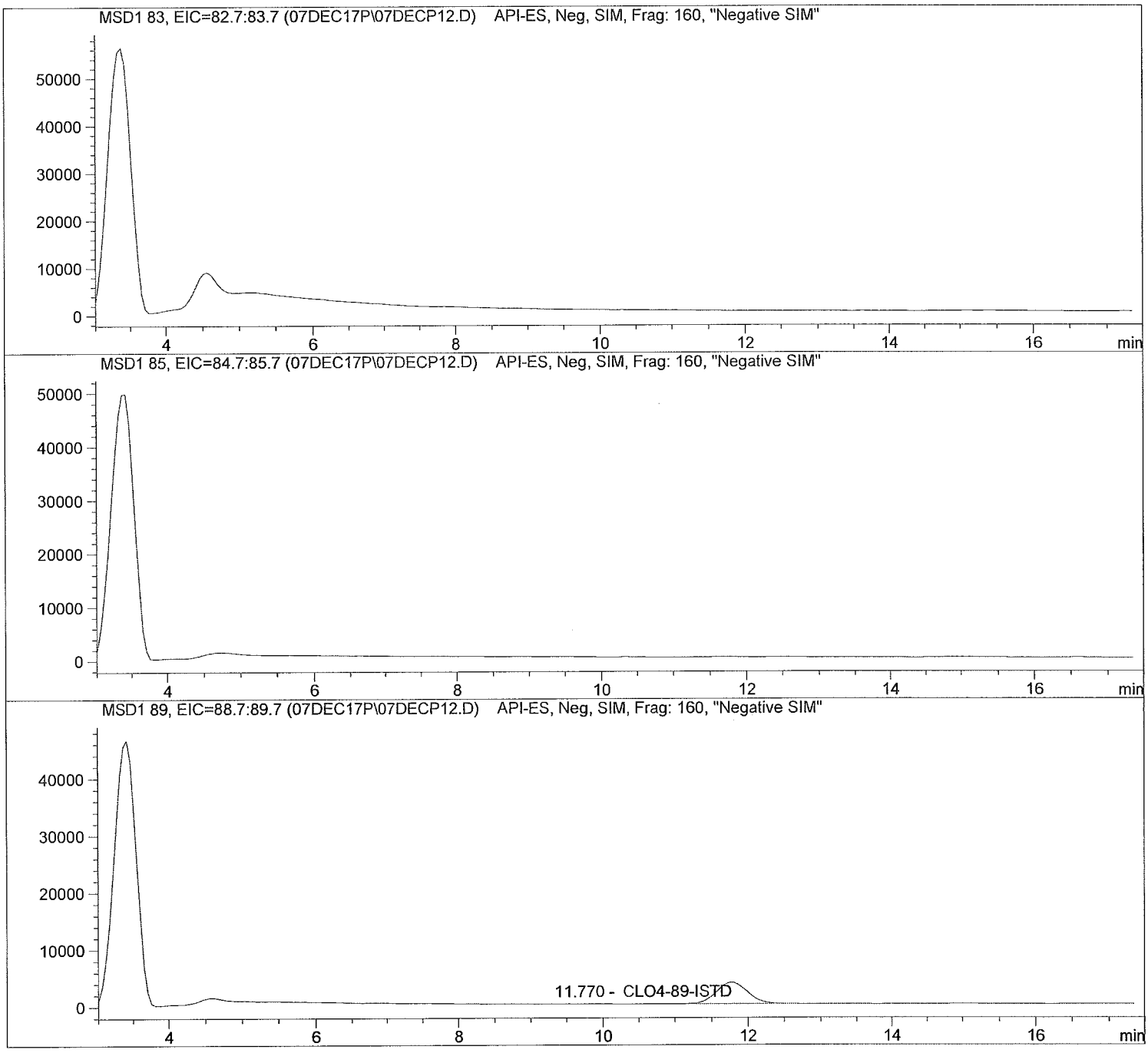
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP12.D Sample Name: 1733231007

Injection Date:	12/07/2017 12:16:26	Seq Line:	12
Sample Name:	1733231007	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: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP12.D Sample Name: 1733231007

Injection Date:	12/07/2017 12:16:26	Seq Line:	12
Sample Name:	1733231007	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:	12/3/2017 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:	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
11.770	PBA	112994.9	5.0000	CLO4-89-ISTD

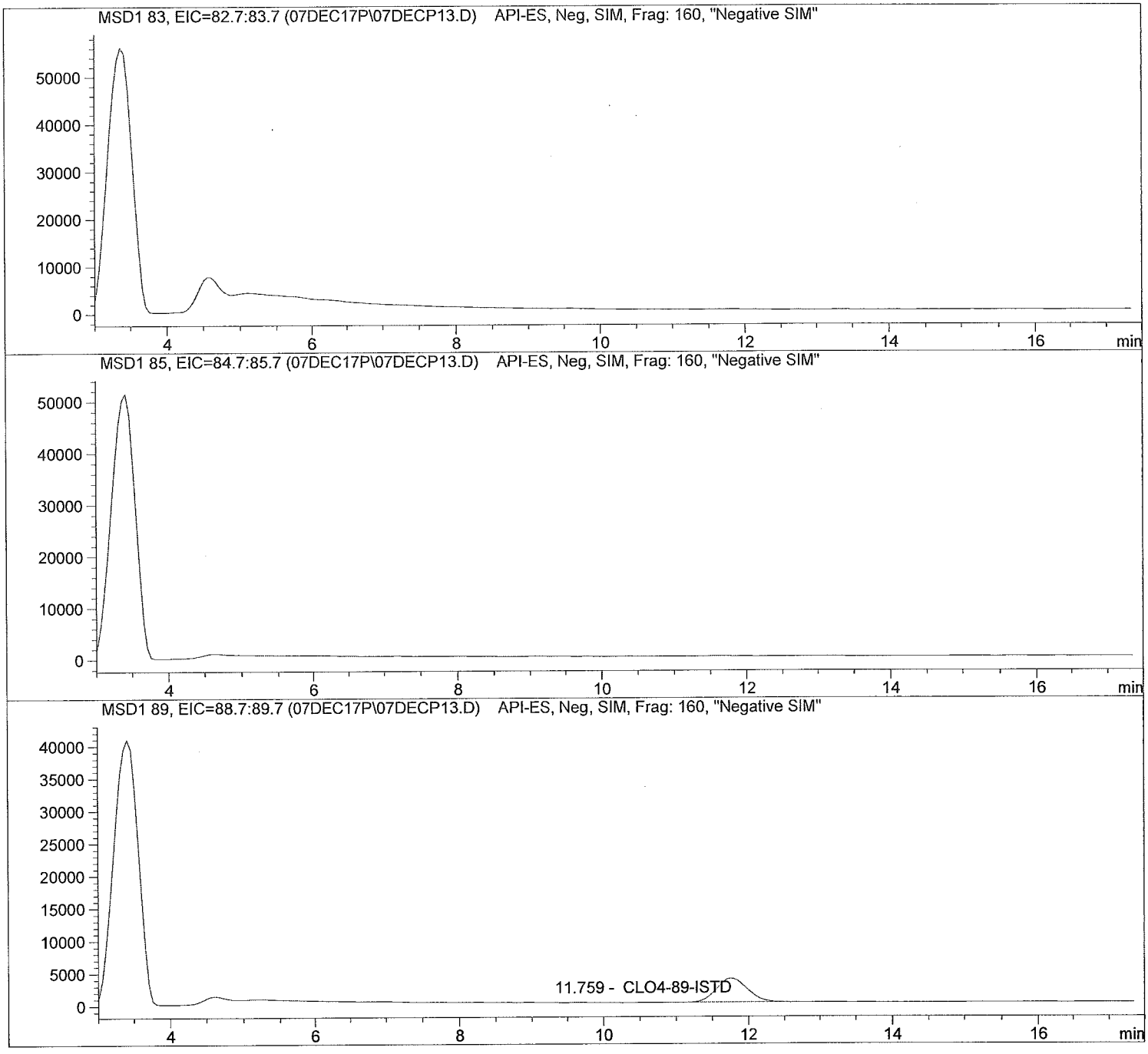
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP13.D Sample Name: 1733231008

Injection Date:	12/07/2017 12:35:33	Seq Line:	13
Sample Name:	1733231008	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: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP13.D Sample Name: 1733231008

Injection Date:	12/07/2017 12:35:33	Seq Line:	13
Sample Name:	1733231008	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:	12/3/2017 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:	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
11.759	BBA	110308.3	5.0000	CLO4-89-ISTD

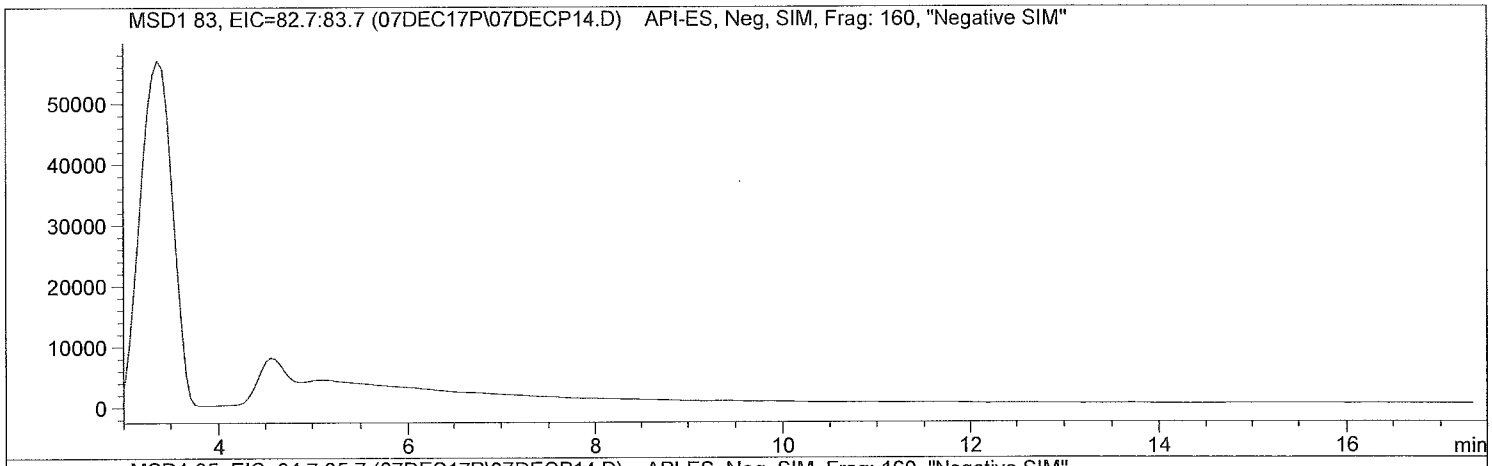
*** End of Report ***

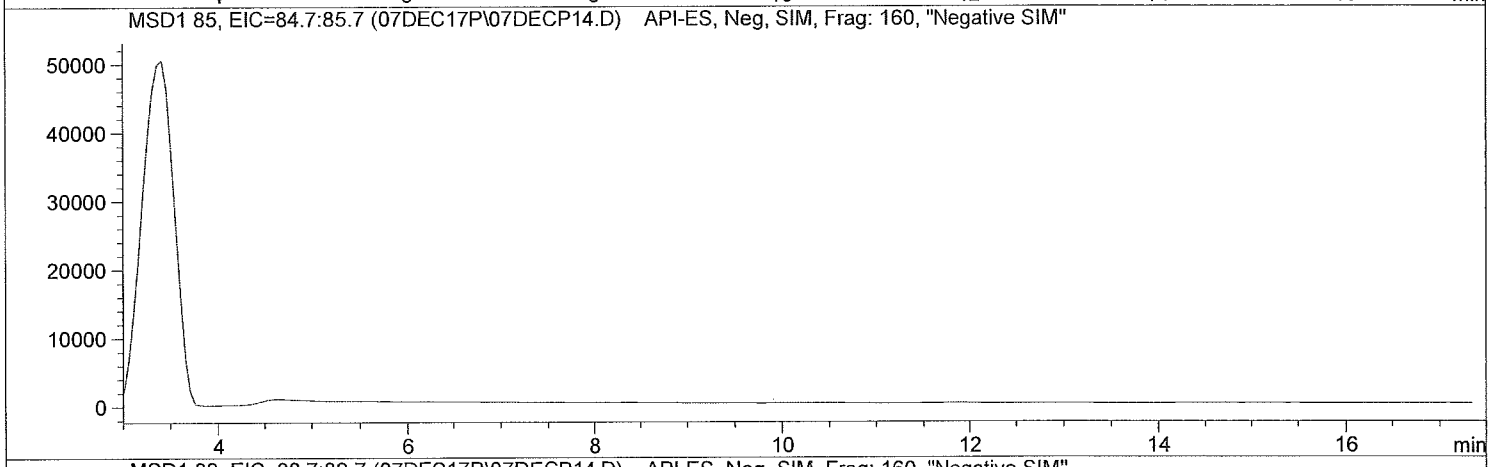
Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP14.D Sample Name: 1733231009

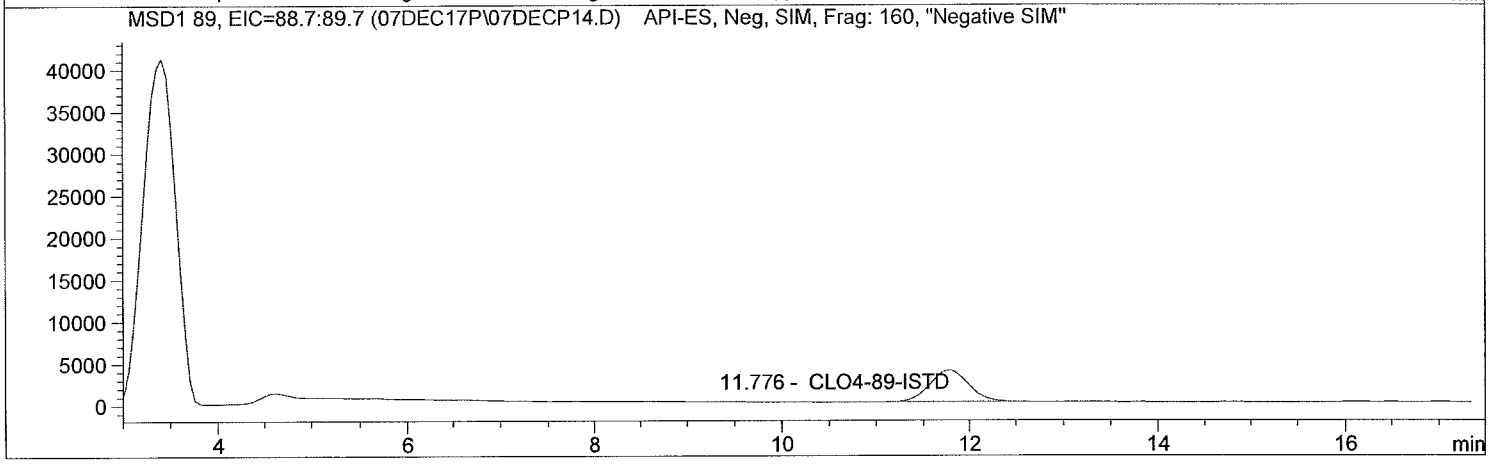
Injection Date:	12/07/2017 12:54:41	Seq Line:	14
Sample Name:	1733231009	Location:	Vial 84
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP14.D Sample Name: 1733231009

Injection Date:	12/07/2017 12:54:41	Seq Line:	14
Sample Name:	1733231009	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:	12/3/2017 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:	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
11.776	BBA	111211.3	5.0000	CLO4-89-ISTD

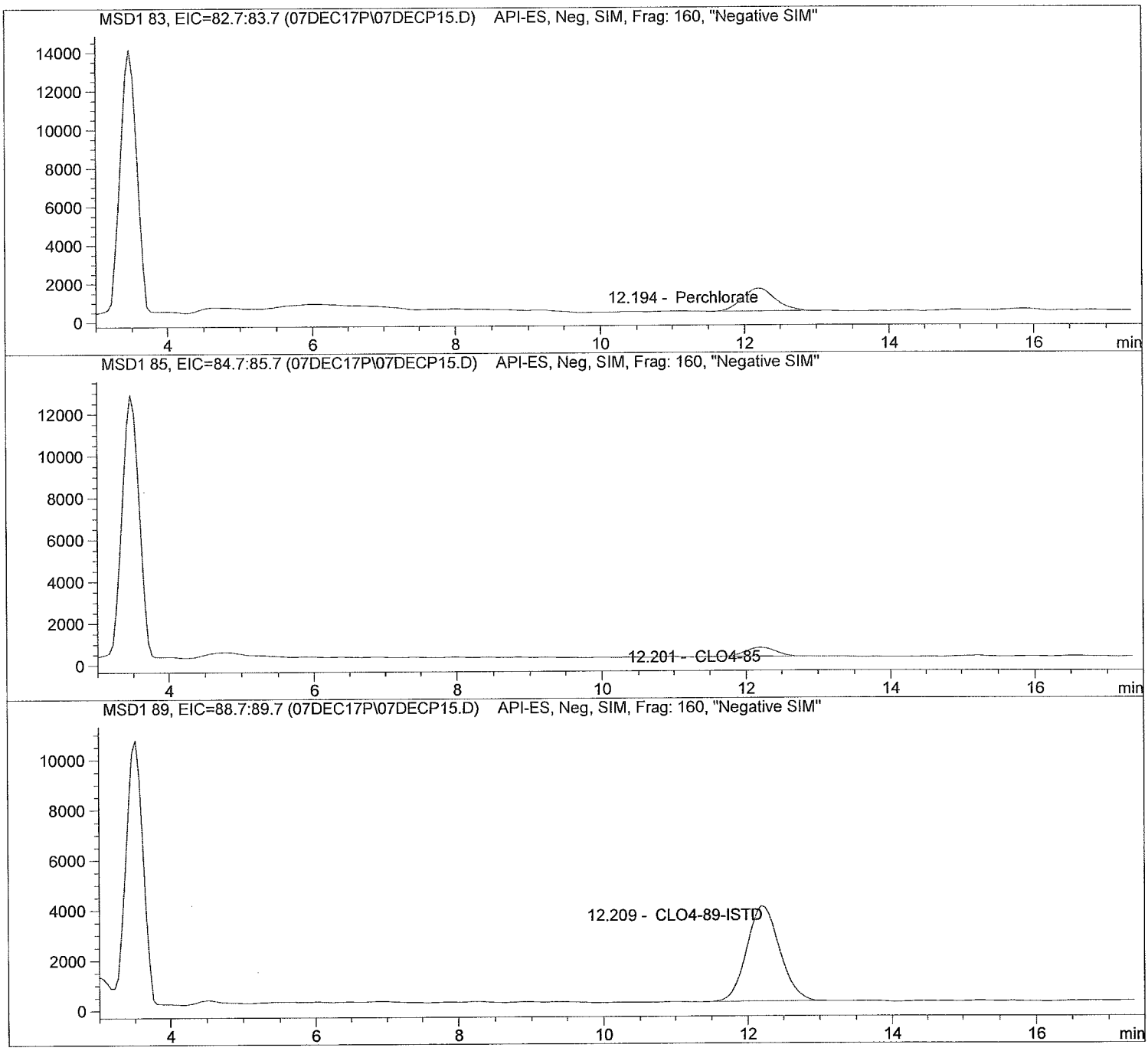
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP15.D Sample Name: 1733874001

Injection Date:	12/07/2017 13:13:51	Seq Line:	15
Sample Name:	1733874001	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: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP15.D Sample Name: 1733874001

Injection Date:	12/07/2017 13:13:51	Seq Line:	15
Sample Name:	1733874001	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: 12/3/2017 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: 0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.194	PBA	38112.1	1.4725	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.201	PBA	13129.1	1.3487	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.209	PBA	121194.1	5.0000	CLO4-89-ISTD

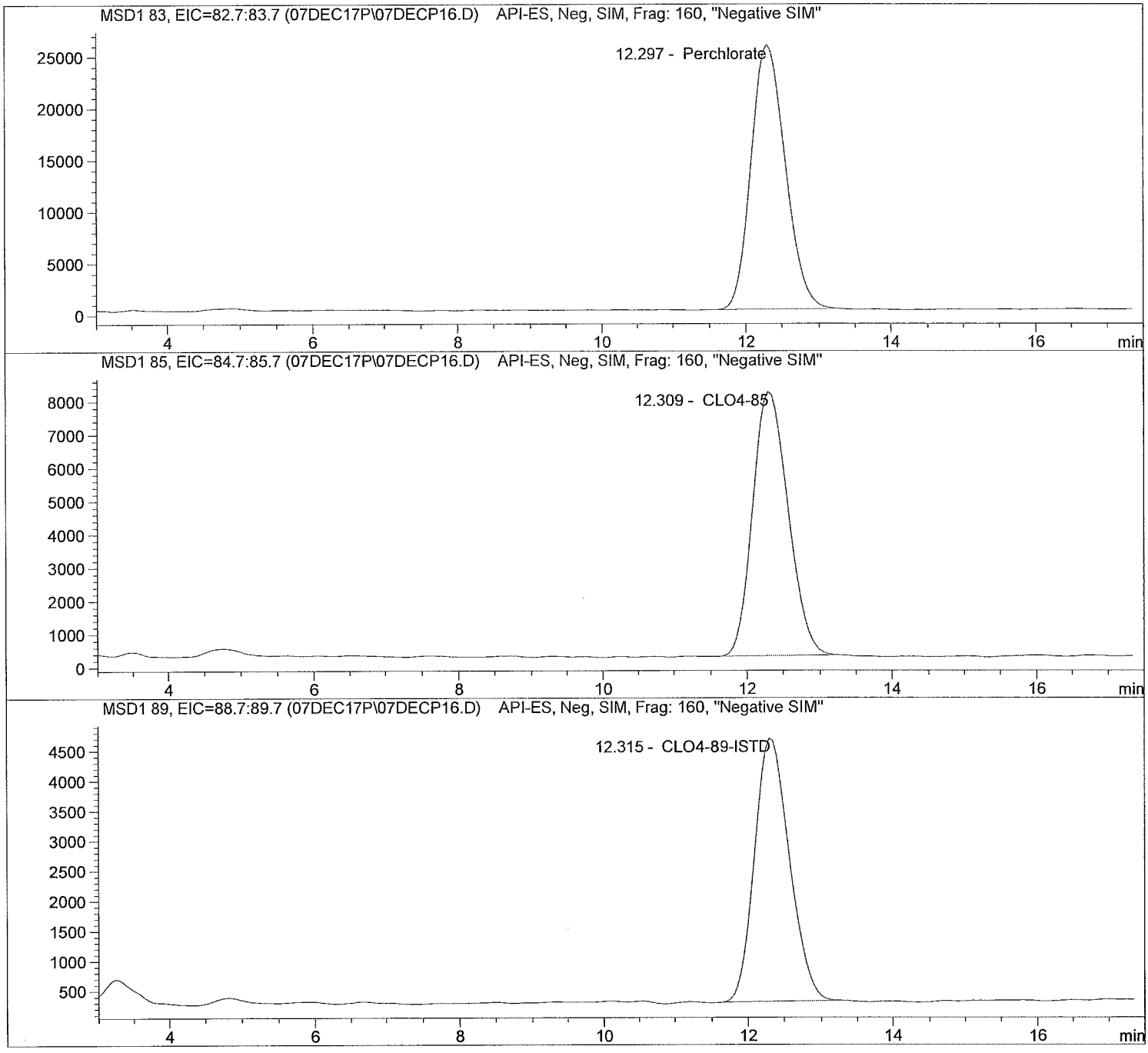
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP16.D Sample Name: 577685 CCV@25

Injection Date:	12/07/2017 13:33:00	Seq Line:	16
Sample Name:	577685 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: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP16.D Sample Name: 577685 CCV@25

Injection Date:	12/07/2017 13:33:00	Seq Line:	16
Sample Name:	577685 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: 12/3/2017 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
12.297	PBA	837963.8	23.7214	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.309	PBA	268589.1	24.0064	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.315	PBA	145667.7	5.0000	CLO4-89-ISTD

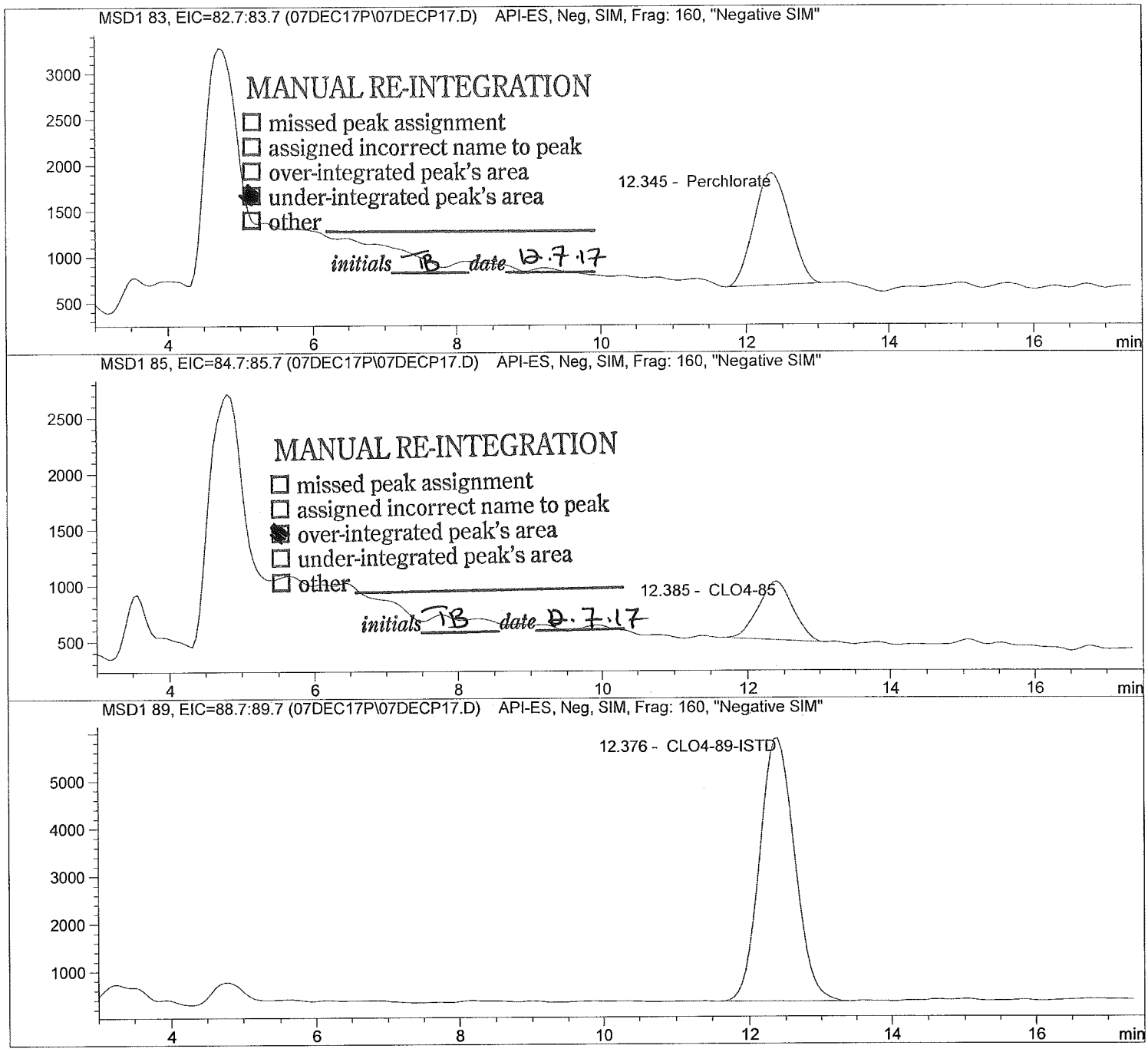
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP17.D Sample Name: 577686 LODV@1.

Injection Date:	12/07/2017 13:52:07	Seq Line:	17
Sample Name:	577686 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: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP17.D Sample Name: 577686 LODV@1.

Injection Date:	12/07/2017 13:52:07	Seq Line:	17
Sample Name:	577686 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: 12/3/2017 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
12.345	MM	41616.5	1.0633	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.385	MM	17290.4	1.1375	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.376	PBA	184854.0	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

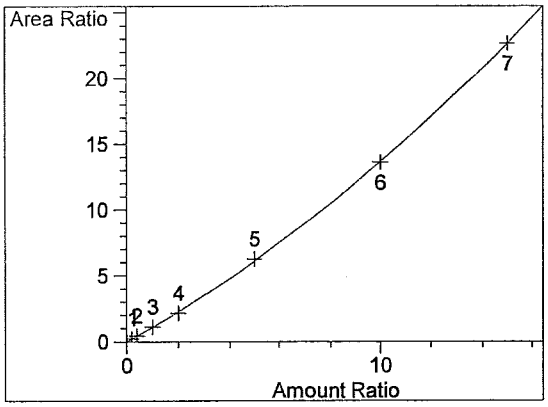
Compound: CLO4-85
- Time Window : From 8.366 min To 13.046 min
- Curve Type : Quadratic
- Origin : Ignored
- Calibration Level Weights:/
  - Level 1 : 1
  - Level 2 : 0.5
  - Level 3 : 0.2
  - Level 4 : 0.1
  - Level 5 : 0.04
  - Level 6 : 0.02
  - Level 7 : 0.013333

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

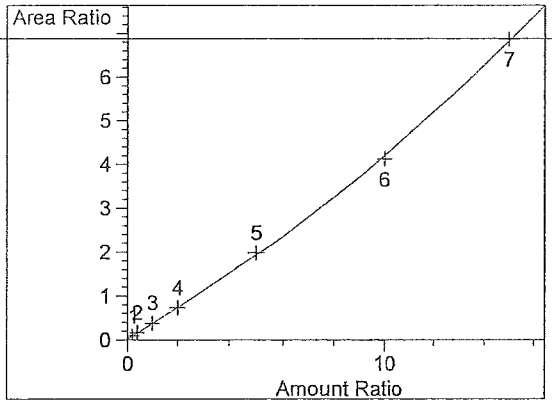
Calibration Curves



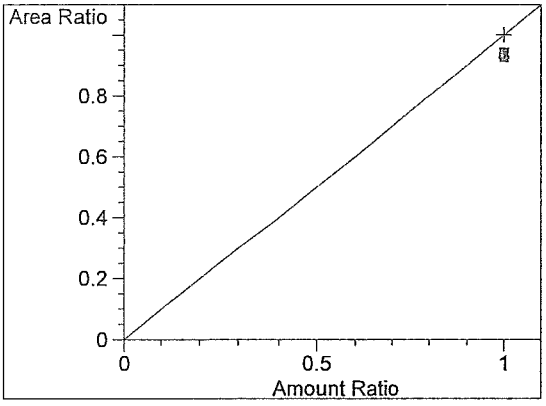
Perchlorate at exp. RT: 12.090
MSD1 83, EIC=82.7:83.7
Correlation: 0.99991
Residual Std. Dev.: 0.08487
Formula: $y = ax^2 + bx + c$
- a: 2.87739e-2
- b: 1.07712
- c: -5.23718e-3
- x: Amount Ratio
- y: Area Ratio

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 = ax² + bx + c
a: 7.12800e-3
b: 3.46840e-1
c: 1.42573e-2
x: Amount Ratio
y: Area Ratio
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.5
Level 3 : 0.2
Level 4 : 0.1
Level 5 : 0.04
Level 6 : 0.02
Level 7 : 0.013333



CLO4-89-ISTD at exp. RT: 12.107
MSD1 89, EIC=88.7:89.7
Correlation: 1.00000
Residual Std. Dev.: 0.00000
Formula: y = mx + b
m: 1.00000
b: 0.00000
x: Amount Ratio
y: Area Ratio
Calibration Level Weights:
Level 1 : 1
Level 2 : 1
Level 3 : 1
Level 4 : 1
Level 5 : 1
Level 6 : 1
Level 7 : 1

Batch Report: C:\HPCHEM\1\DATA\28NOV17P\28NOV17P.B

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

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

#*	Sample Location	Inj	SampleType	Run	Perchlorate Area	Perchlorate RT	Perchlorate Amount
*	ICAL1@ 1.0ug/L Vial 71	1	Control	1	4.10942e4	12.029	1.02861
*	ICAL2@ 2.0ug/L Vial 72	1	Control	2	7.74077e4	12.054	1.98725
*	ICAL3@ 5.0ug/L Vial 73	1	Control	3	1.92985e5	12.090	5.00575
*	ICAL4@ 10.ug/L Vial 74	1	Control	4	3.91583e5	12.084	9.57892
*	ICAL5@ 25.ug/L Vial 75	1	Control	5	1.09763e6	12.065	25.55231
*	ICAL6@ 50.ug/L Vial 76	1	Control	6	2.29834e6	12.065	49.83164
*	ICAL7@ 75.ug/L Vial 77	1	Control	7	3.73021e6	12.090	74.99992
*	ICAL Verf@10ug/L Vial 78	1	Control	8	3.83615e5	12.163	9.59533

#*	Sample Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
*	ICAL1@ 1.0ug/L Vial 71	1	Control	1	1.56787e4	12.053	9.87106e-1
*	ICAL2@ 2.0ug/L Vial 72	1	Control	2	2.80487e4	12.066	2.01046
*	ICAL3@ 5.0ug/L Vial 73	1	Control	3	6.51323e4	12.106	5.05104
*	ICAL4@ 10.ug/L Vial 74	1	Control	4	1.31325e5	12.101	9.85678
*	ICAL5@ 25.ug/L Vial 75	1	Control	5	3.46913e5	12.084	25.58435
*	ICAL6@ 50.ug/L Vial 76	1	Control	6	6.96156e5	12.080	49.18282
*	ICAL7@ 75.ug/L Vial 77	1	Control	7	1.13077e6	12.106	75.33907
*	ICAL Verf@10ug/L Vial 78	1	Control	8	1.31460e5	12.177	10.08554

#*	Sample Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
*	ICAL1@ 1.0ug/L Vial 71	1	Control	1	1.88880e5	12.050	5.00000
*	ICAL2@ 2.0ug/L Vial 72	1	Control	2	1.81109e5	12.078	5.00000
*	ICAL3@ 5.0ug/L Vial 73	1	Control	3	1.75128e5	12.110	5.00000
*	ICAL4@ 10.ug/L Vial 74	1	Control	4	1.80962e5	12.109	5.00000
*	ICAL5@ 25.ug/L Vial 75	1	Control	5	1.75597e5	12.084	5.00000
*	ICAL6@ 50.ug/L Vial 76	1	Control	6	1.69148e5	12.086	5.00000
*	ICAL7@ 75.ug/L Vial 77	1	Control	7	1.64867e5	12.107	5.00000
*	ICAL Verf@10ug/L Vial 78	1	Control	8	1.76961e5	12.181	5.00000

*** End of Report ***

equence: C:\HPCHEM\1\SEQUENCE\CLO4\2017\NOV\28NOV17P.S

Sequence Table:

Method and Injection Info Part:

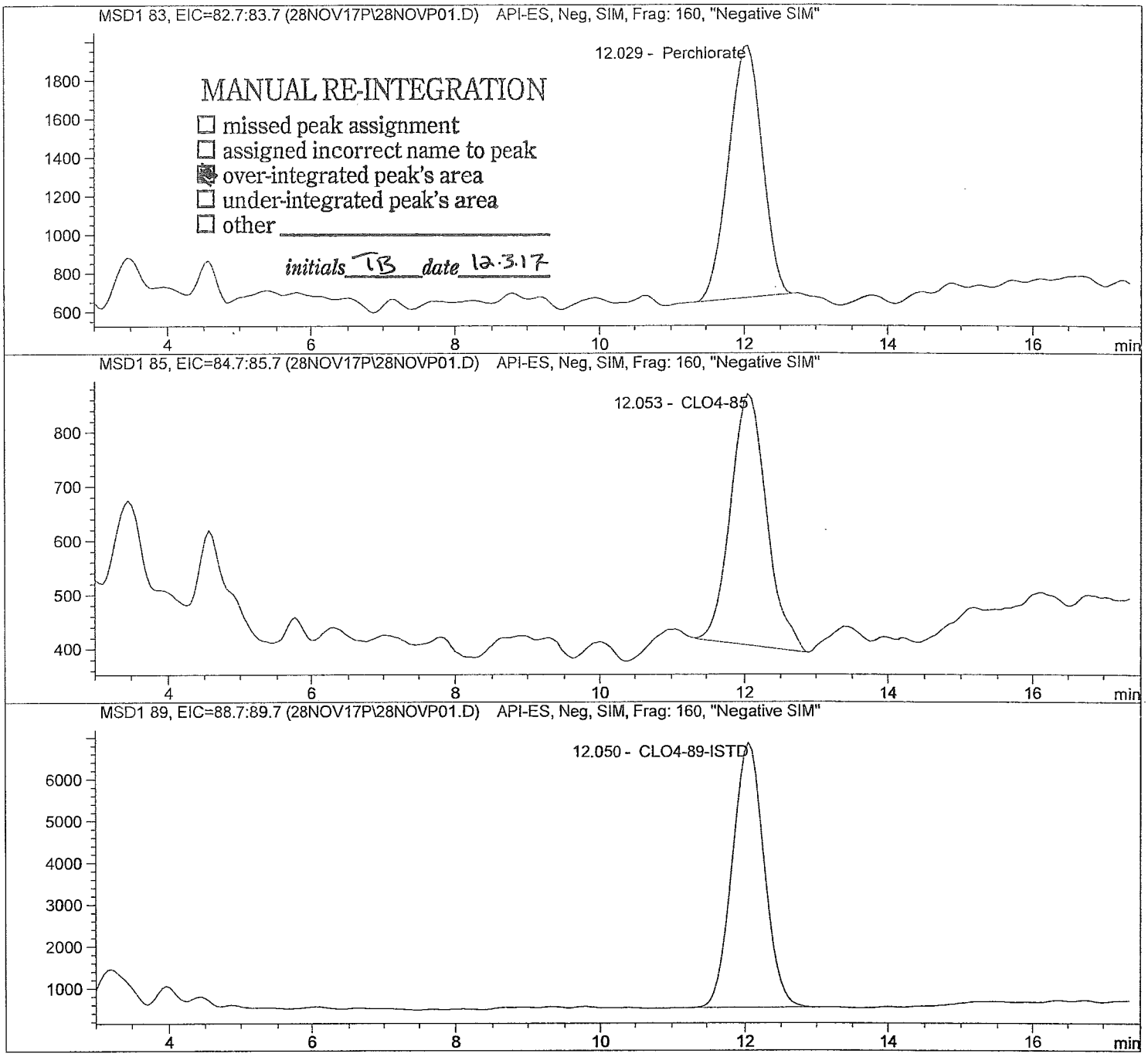
Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	ICAL1@ 1.0ug/L	CLO4-DOD	1	Ctrl Samp		
2	Vial 72	ICAL2@ 2.0ug/L	CLO4-DOD	1	Ctrl Samp		
3	Vial 73	ICAL3@ 5.0ug/L	CLO4-DOD	1	Ctrl Samp		
4	Vial 74	ICAL4@ 10.ug/L	CLO4-DOD	1	Ctrl Samp		
5	Vial 75	ICAL5@ 25.ug/L	CLO4-DOD	1	Ctrl Samp		
6	Vial 76	ICAL6@ 50.ug/L	CLO4-DOD	1	Ctrl Samp		
7	Vial 77	ICAL7@ 75.ug/L	CLO4-DOD	1	Ctrl Samp		
8	Vial 78	ICAL Verf@10ug/L	CLO4-DOD	1	Ctrl Samp		

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP01.D Sample Name: ICAL1@ 1.0ug/L

Injection Date:	11/28/2017 09:08:10	Seq Line:	1
Sample Name:	ICAL1@ 1.0ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP01.D Sample Name: ICAL1@ 1.0ug/L

Injection Date:	11/28/2017 09:08:10	Seq Line:	1
Sample Name:	ICAL1@ 1.0ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.029	MM	41094.2	1.0286	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.053	BBA	15678.7	0.9871	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.050	BBA	188880.3	5.0000	CLO4-89-ISTD

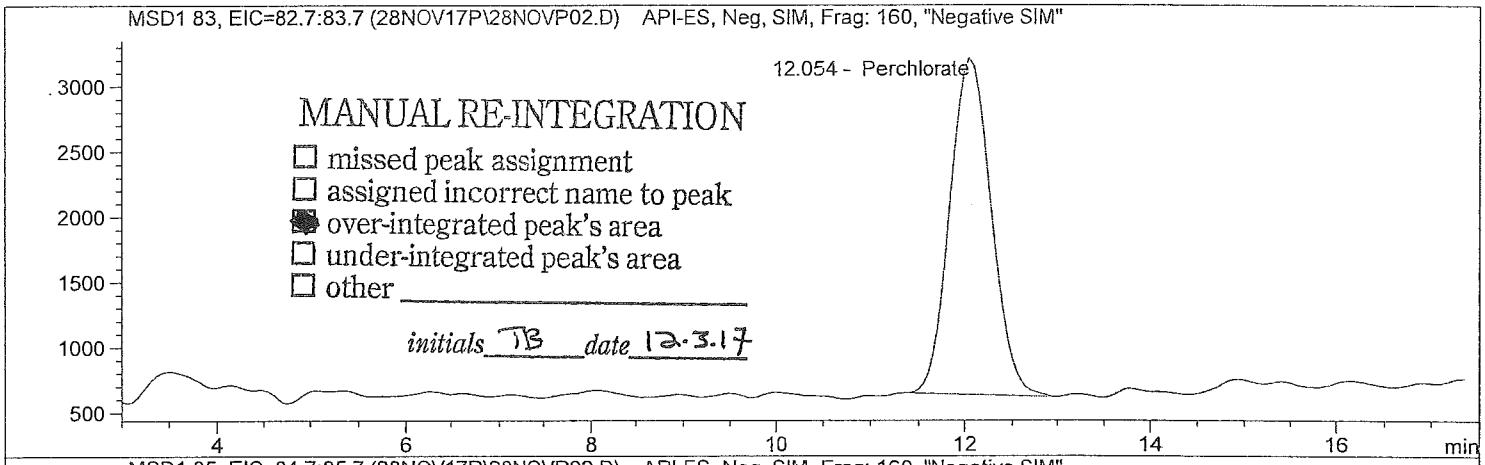
*** End of Report ***

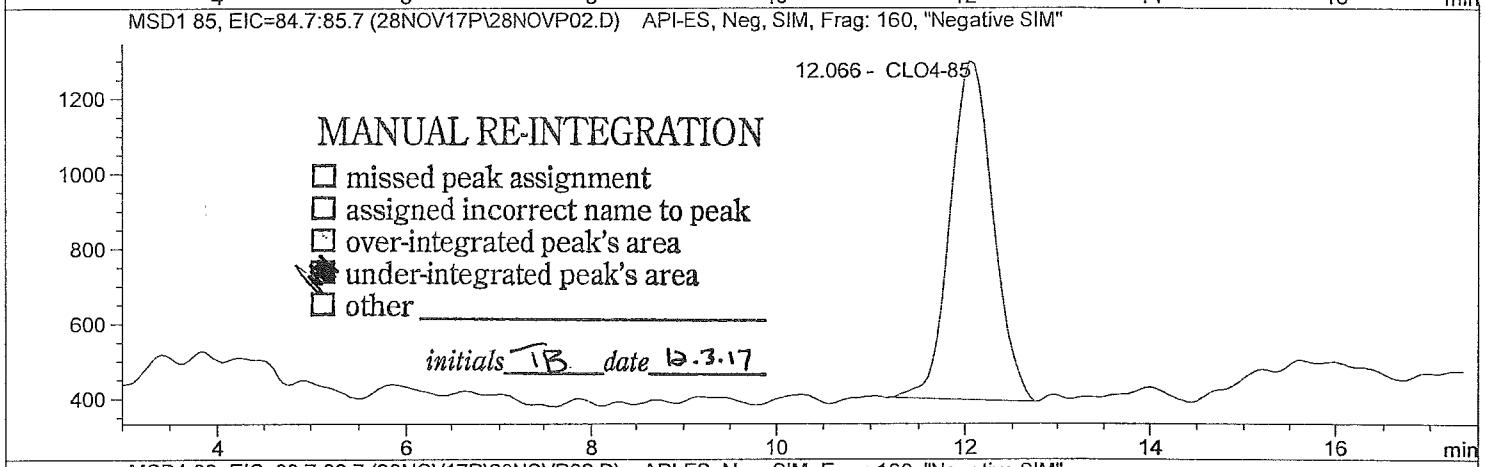
Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP02.D Sample Name: ICAL2@ 2.0ug/L

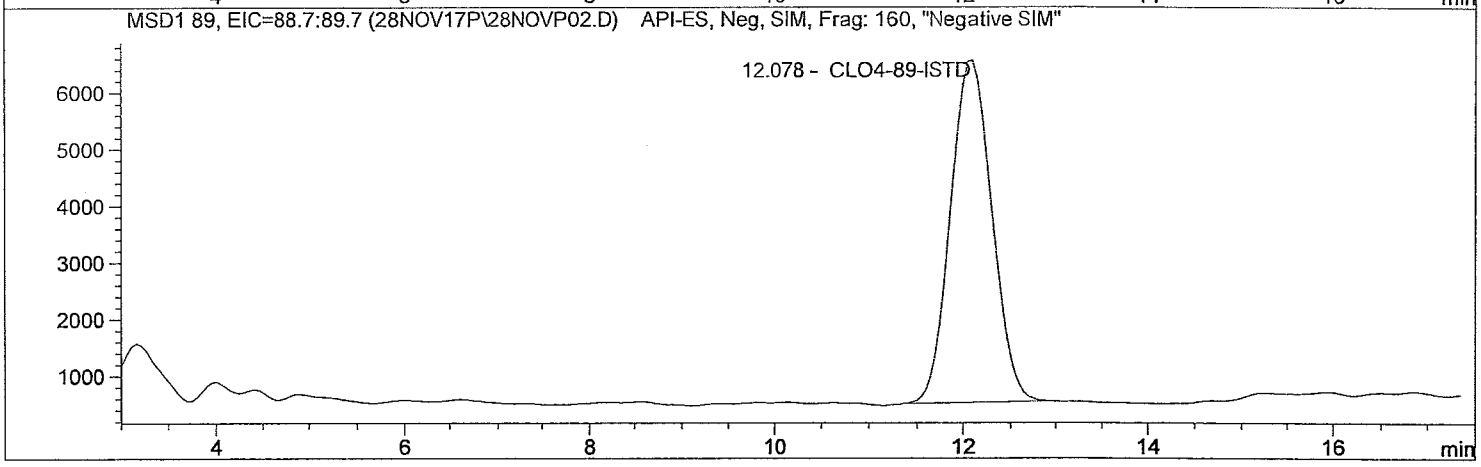
Injection Date:	11/28/2017 09:33:49	Seq Line:	2
Sample Name:	ICAL2@ 2.0ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP02.D Sample Name: ICAL2@ 2.0ug/L

Injection Date:	11/28/2017 09:33:49	Seq Line:	2
Sample Name:	ICAL2@ 2.0ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	2.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.054	MM	77407.7	1.9872	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.066	MM	28048.7	2.0105	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.078	PBA	181109.4	5.0000	CLO4-89-ISTD

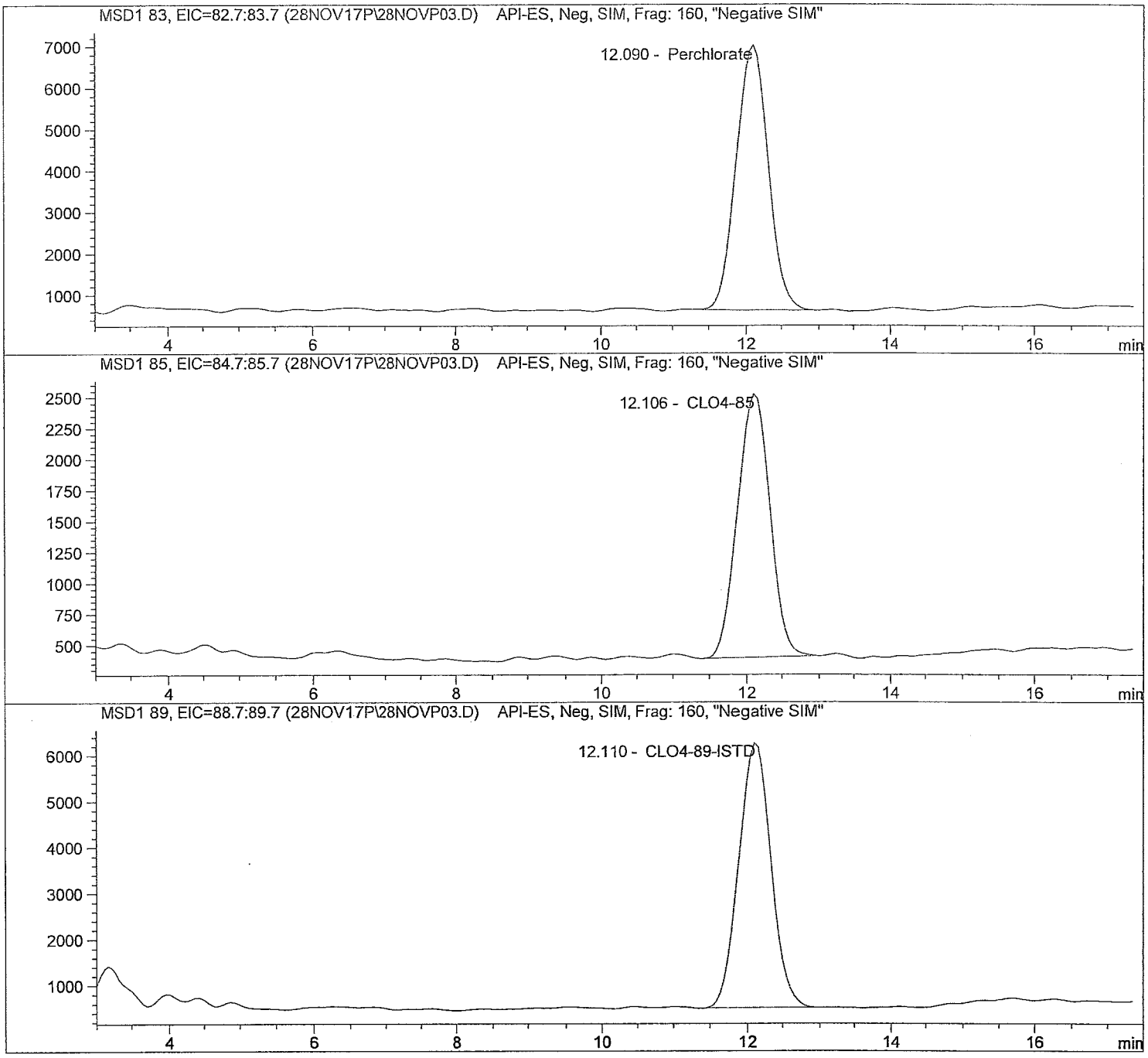
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP03.D Sample Name: ICAL3@ 5.0ug/L

Injection Date:	11/28/2017 09:53:00	Seq Line:	3
Sample Name:	ICAL3@ 5.0ug/L	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP03.D Sample Name: ICAL3@ 5.0ug/L

Injection Date:	11/28/2017 09:53:00	Seq Line:	3
Sample Name:	ICAL3@ 5.0ug/L	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By: Signal
Calib. Data Modified: Wed, 29. Nov. 2017,08:02:06 am
Multiplier: 1.000000
Dilution: 1.000000
Sample Amount: 5.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.090	BBA	192984.6	5.0058	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.106	PBA	65132.3	5.0510	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.110	PBA	175128.5	5.0000	CLO4-89-ISTD

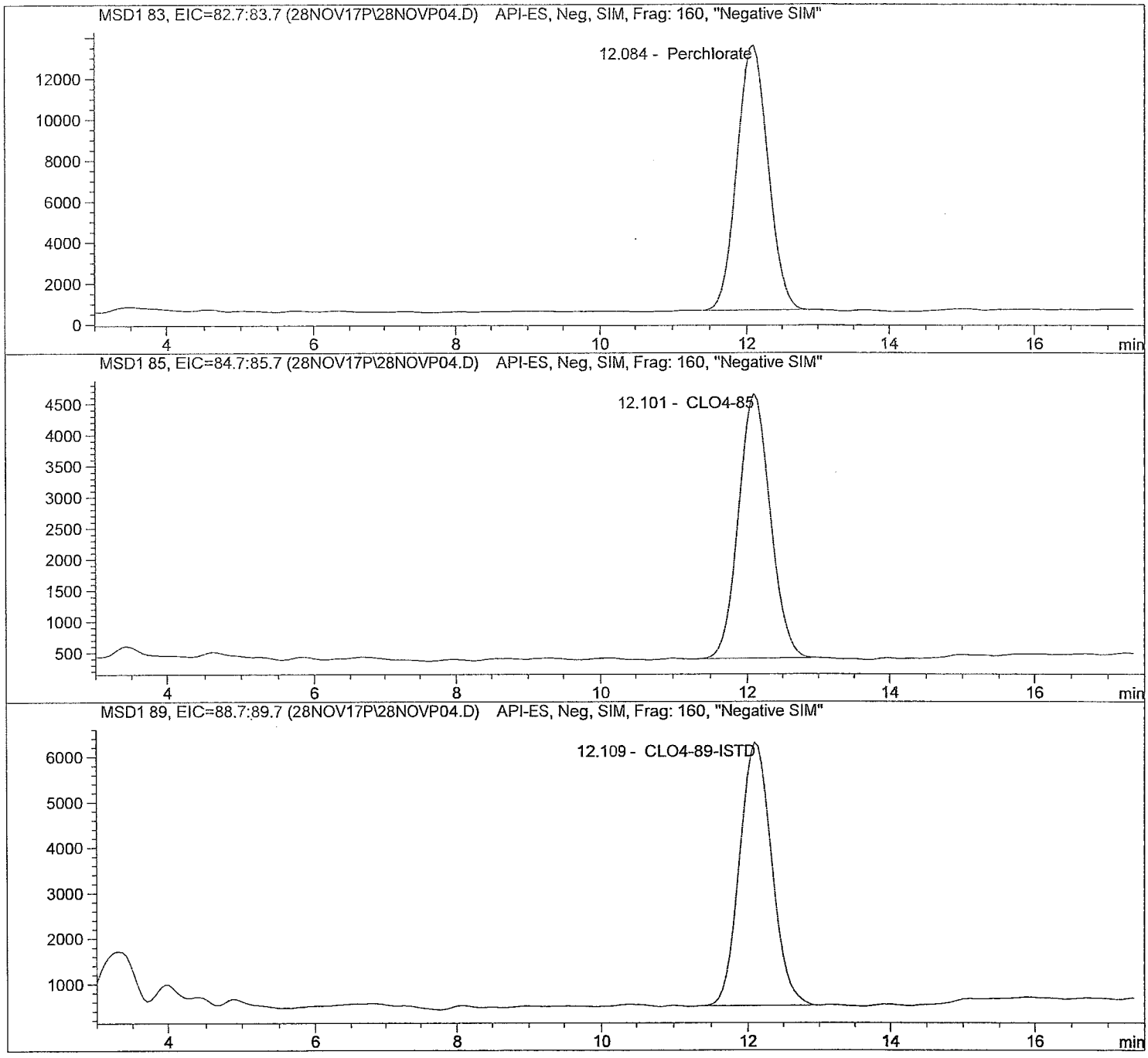
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP04.D Sample Name: ICAL4@ 10.ug/L

Injection Date:	11/28/2017 10:12:13	Seq Line:	4
Sample Name:	ICAL4@ 10.ug/L	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP04.D Sample Name: ICAL4@ 10.ug/L

Injection Date:	11/28/2017 10:12:13	Seq Line:	4
Sample Name:	ICAL4@ 10.ug/L	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By: Signal
Calib. Data Modified: Wed, 29. Nov. 2017,08:02:06 am
Multiplier: 1.000000
Dilution: 1.000000
Sample Amount: 10.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.084	BBA	391582.9	9.5789	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.101	PBA	131324.7	9.8568	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.109	PBA	180962.1	5.0000	CLO4-89-ISTD

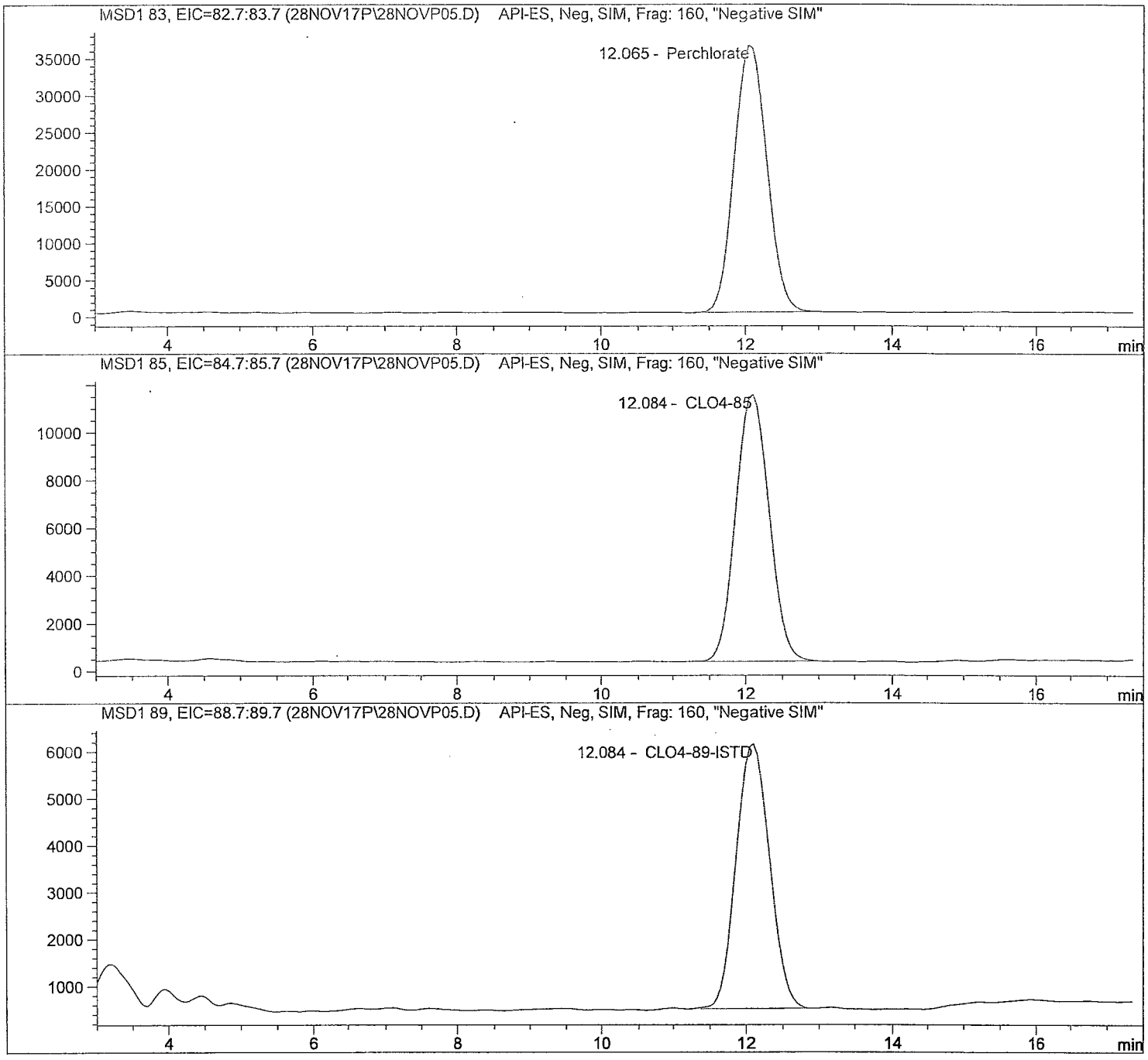
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP05.D Sample Name: ICAL5@ 25.ug/L

Injection Date:	11/28/2017 10:31:23	Seq Line:	5
Sample Name:	ICAL5@ 25.ug/L	Location:	Vial 75
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP05.D Sample Name: ICAL5@ 25.ug/L

Injection Date:	11/28/2017 10:31:23	Seq Line:	5
Sample Name:	ICAL5@ 25.ug/L	Location:	Vial 75
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	25.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.065	PBA	1097625.1	25.5523	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.084	PBA	346912.7	25.5843	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.084	BBA	175597.1	5.0000	CLO4-89-ISTD

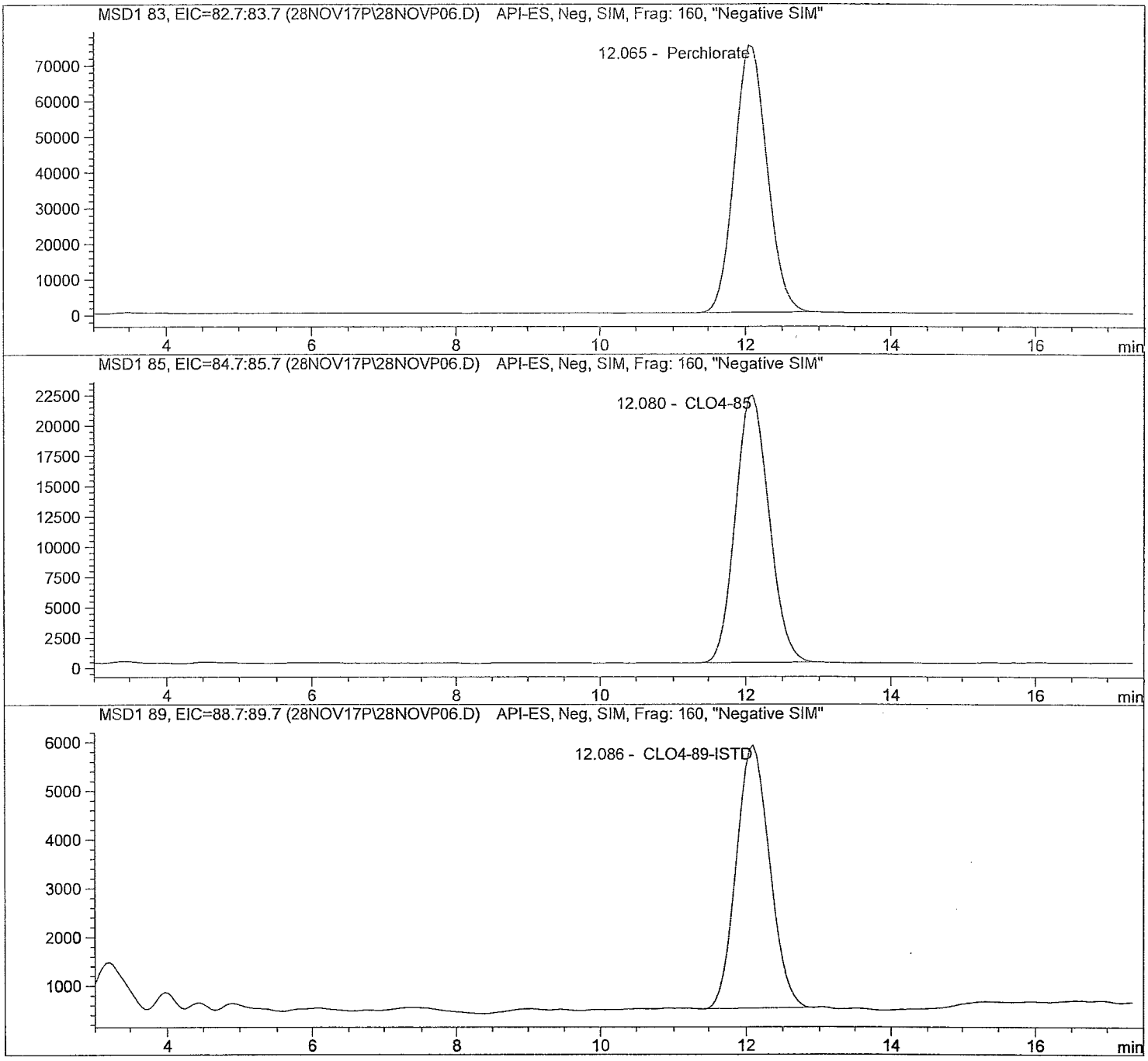
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP06.D Sample Name: ICAL6@ 50.ug/L

Injection Date:	11/28/2017 10:50:33	Seq Line:	6
Sample Name:	ICAL6@ 50.ug/L	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP06.D Sample Name: ICAL6@ 50.ug/L

Injection Date:	11/28/2017 10:50:33	Seq Line:	6
Sample Name:	ICAL6@ 50.ug/L	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	50.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.065	BBA	2298336.2	49.8316	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.080	PBA	696155.7	49.1828	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.086	PBA	169148.1	5.0000	CLO4-89-ISTD

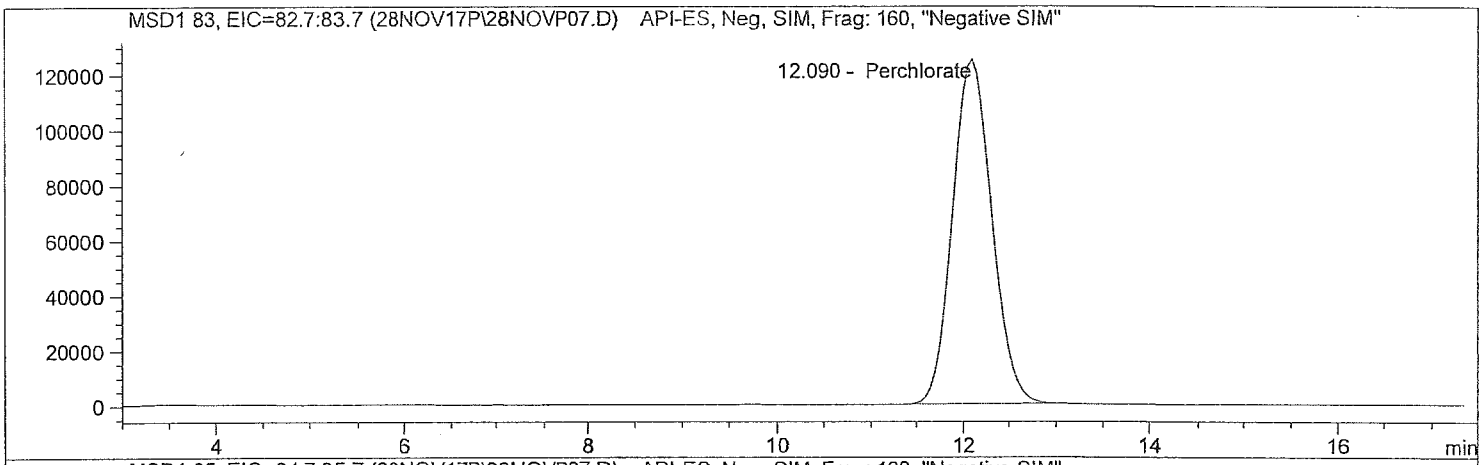
*** End of Report ***

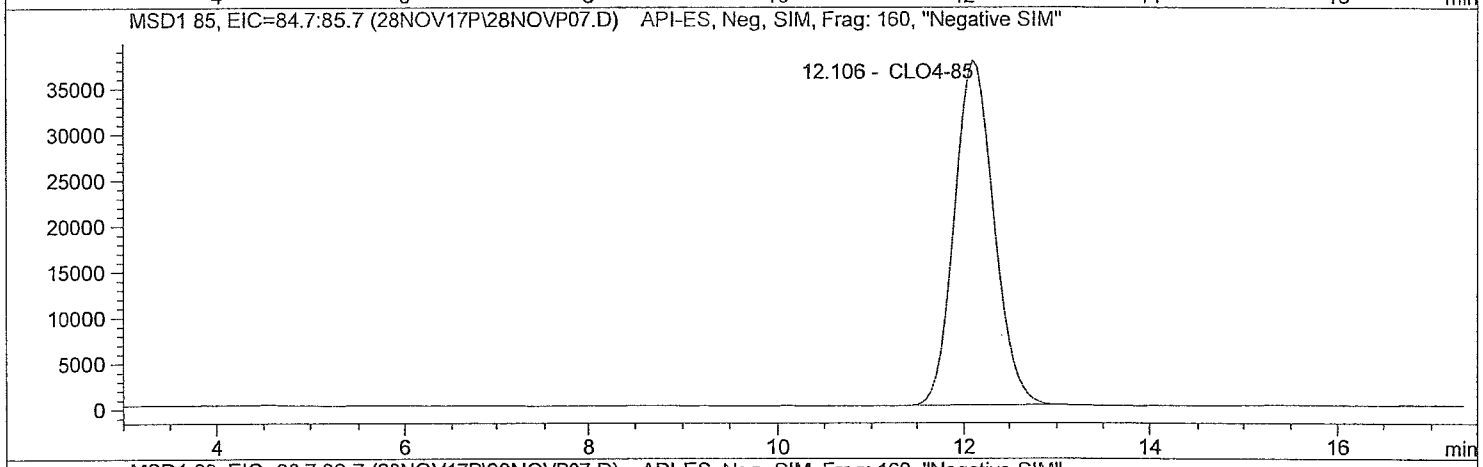
Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP07.D Sample Name: ICAL7@ 75.ug/L

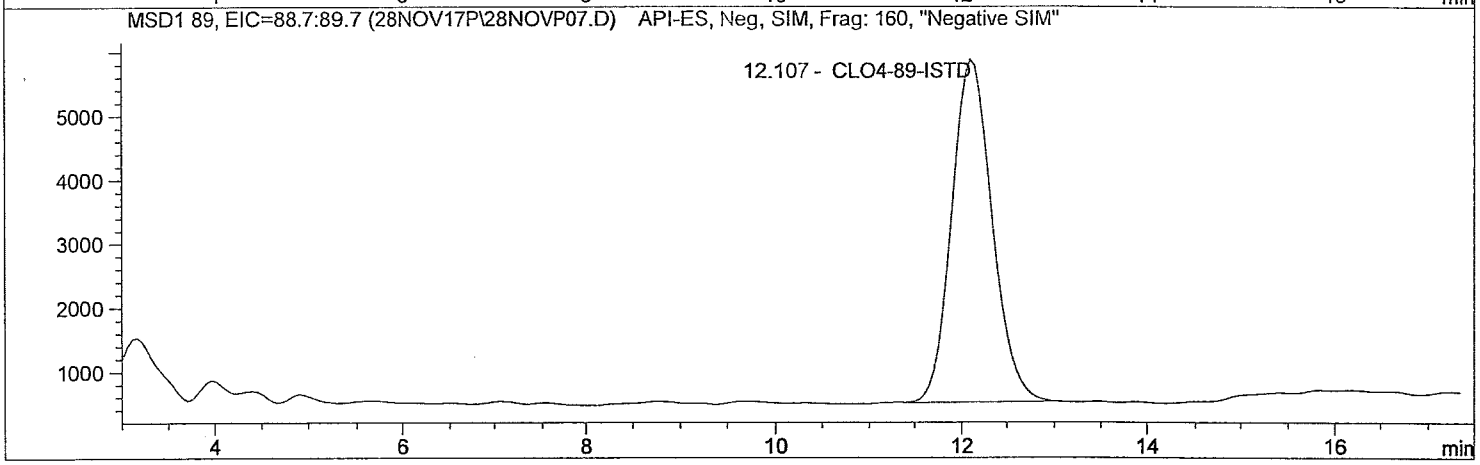
Injection Date:	11/28/2017 11:09:43	Seq Line:	7
Sample Name:	ICAL7@ 75.ug/L	Location:	Vial 77
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP07.D Sample Name: ICAL7@ 75.ug/L

Injection Date:	11/28/2017 11:09:43	Seq Line:	7
Sample Name:	ICAL7@ 75.ug/L	Location:	Vial 77
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By: Signal
Calib. Data Modified: Wed, 29. Nov. 2017,08:02:06 am
Multiplier: 1.000000
Dilution: 1.000000
Sample Amount: 75.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.090	PBA	3730211.3	74.9999	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.106	PBA	1130772.0	75.3391	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.107	BBA	164866.7	5.0000	CLO4-89-ISTD

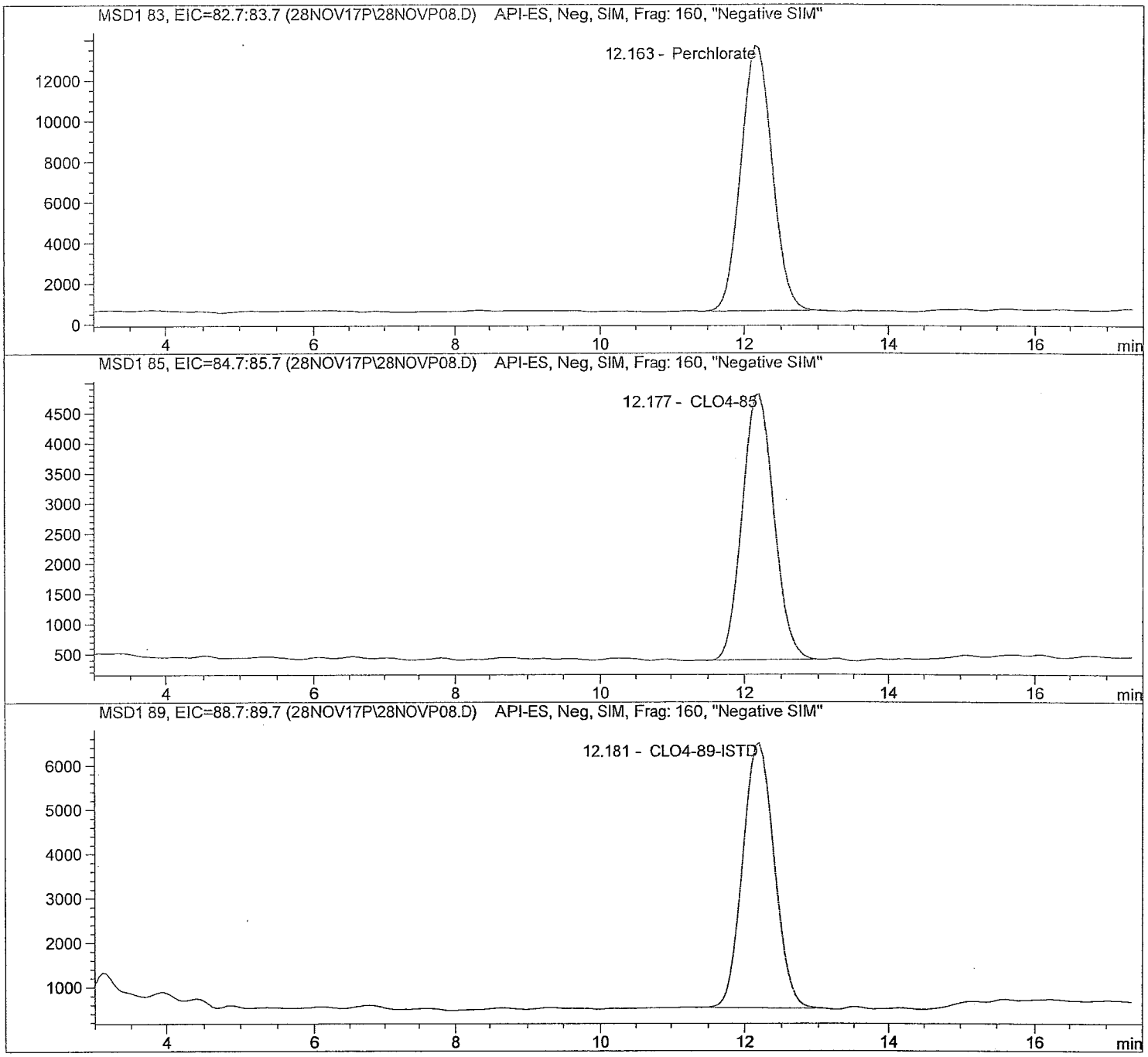
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP08.D Sample Name: ICAL Verf@10ug/L

Injection Date:	11/28/2017 11:28:53	Seq Line:	8
Sample Name:	ICAL Verf@10ug/L	Location:	Vial 78
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP08.D Sample Name: ICAL Verf@10ug/L

Injection Date:	11/28/2017 11:28:53	Seq Line:	8
Sample Name:	ICAL Verf@10ug/L	Location:	Vial 78
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	10.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.163	PBA	383615.2	9.5953	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.177	PBA	131459.5	10.0855	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.181	BBA	176961.2	5.0000	CLO4-89-ISTD

*** End of Report ***

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Raw Data

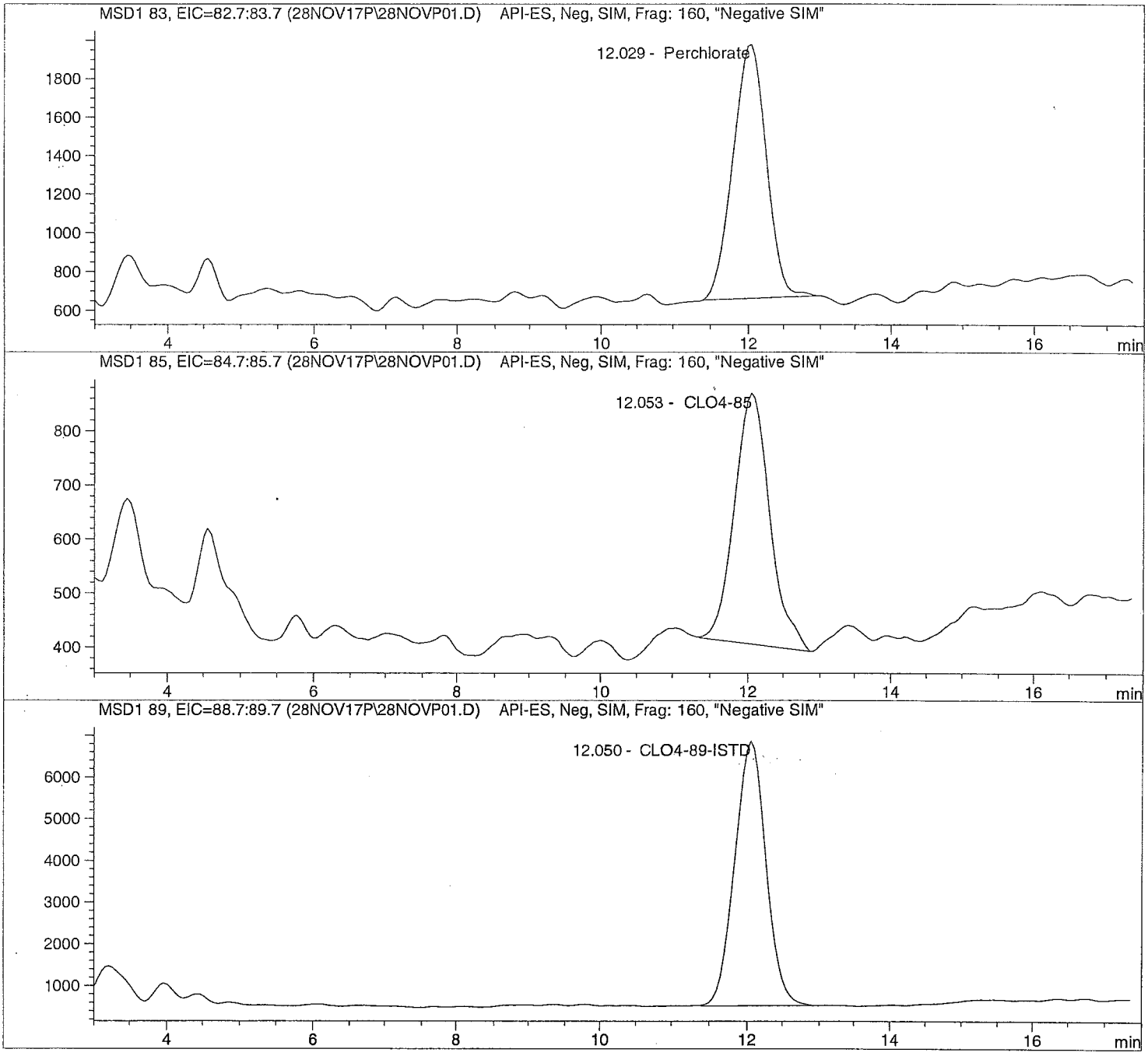
Unmodified

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP01.D Sample Name: ICAL1@ 1.0ug/L

Injection Date:	11/28/2017 09:08:10	Seq Line:	1
Sample Name:	ICAL1@ 1.0ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP01.D Sample Name: ICAL1@ 1.0ug/L

Injection Date:	11/28/2017 09:08:10	Seq Line:	1
Sample Name:	ICAL1@ 1.0ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.029	BBA	42017.4	1.0510	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.053	BBA	15678.7	0.9871	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.050	BBA	188880.3	5.0000	CLO4-89-ISTD

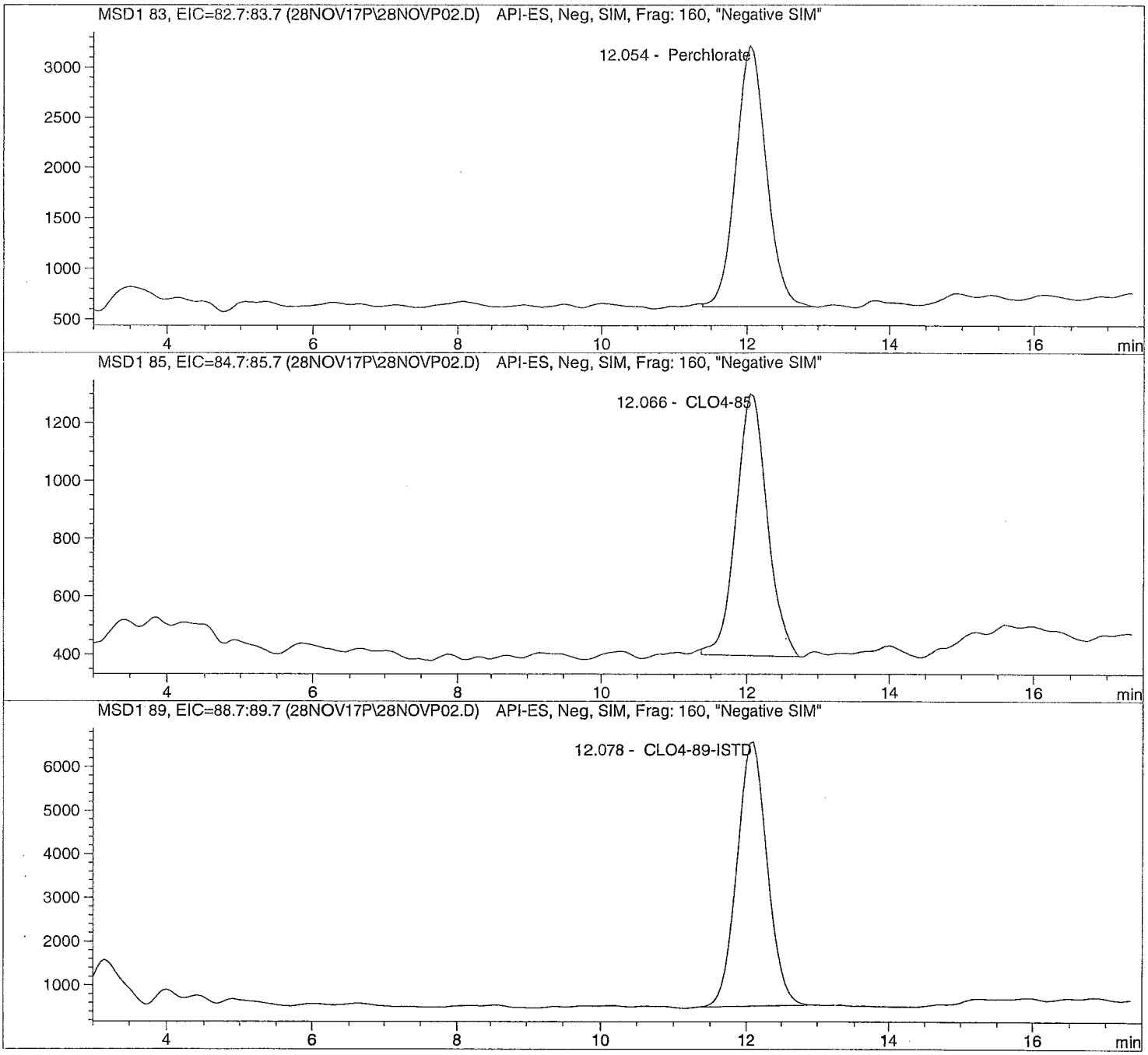
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP02.D Sample Name: ICAL2@ 2.0ug/L

Injection Date:	11/28/2017 09:33:49	Seq Line:	2
Sample Name:	ICAL2@ 2.0ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP02.D Sample Name: ICAL2@ 2.0ug/L

Injection Date:	11/28/2017 09:33:49	Seq Line:	2
Sample Name:	ICAL2@ 2.0ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	2.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.054	BBA	78519.1	2.0151	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.066	BBA	28009.6	2.0074	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.078	PBA	181109.4	5.0000	CLO4-89-ISTD

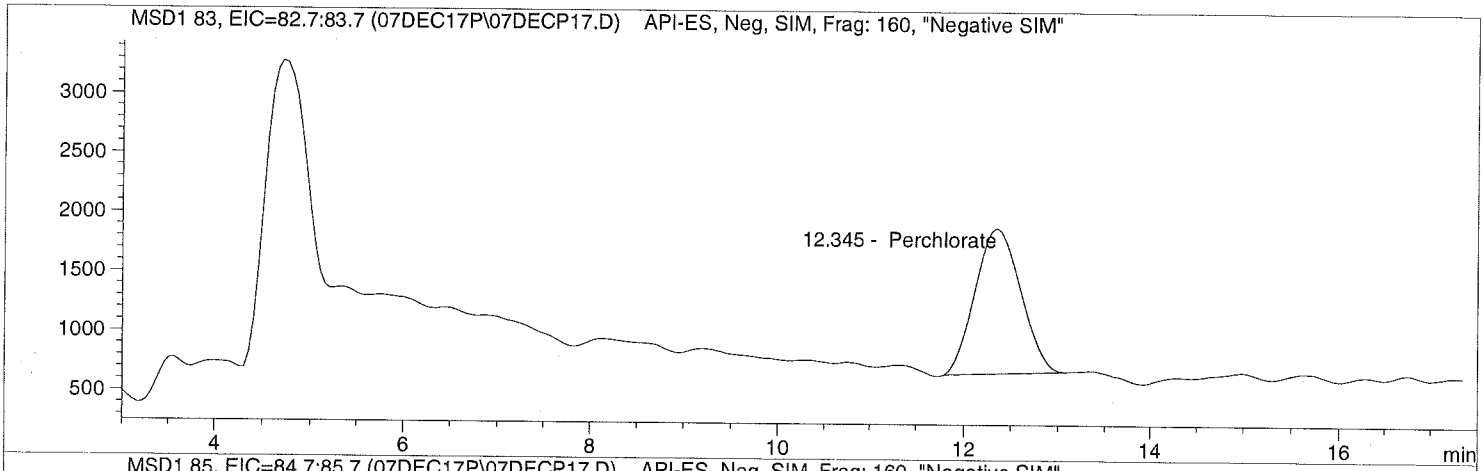
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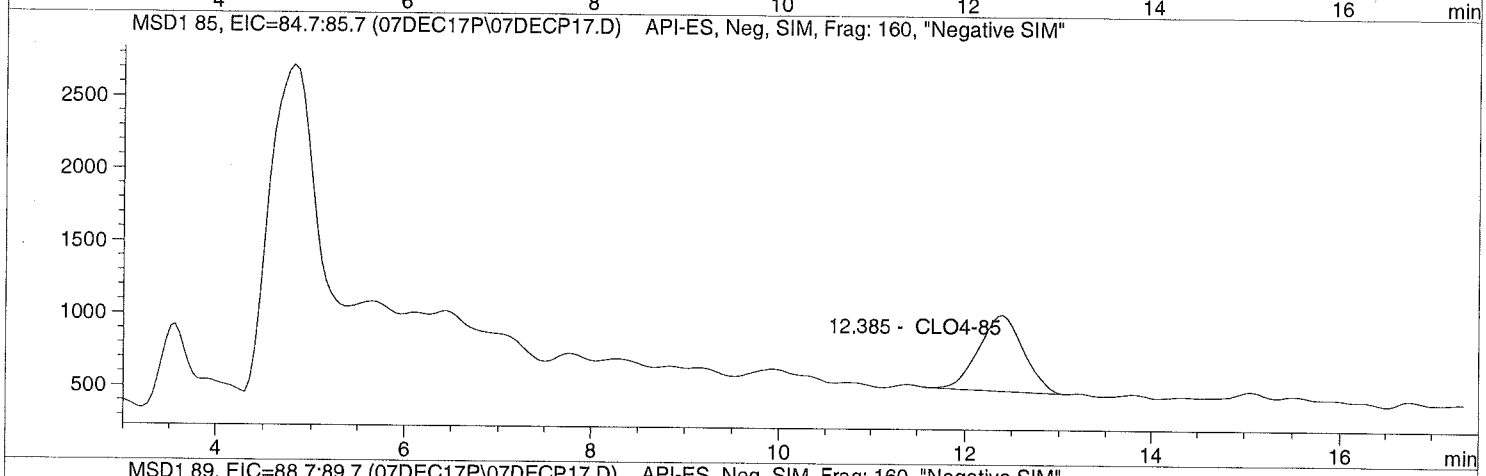
Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP17.D Sample Name: 577686 LODV@1.

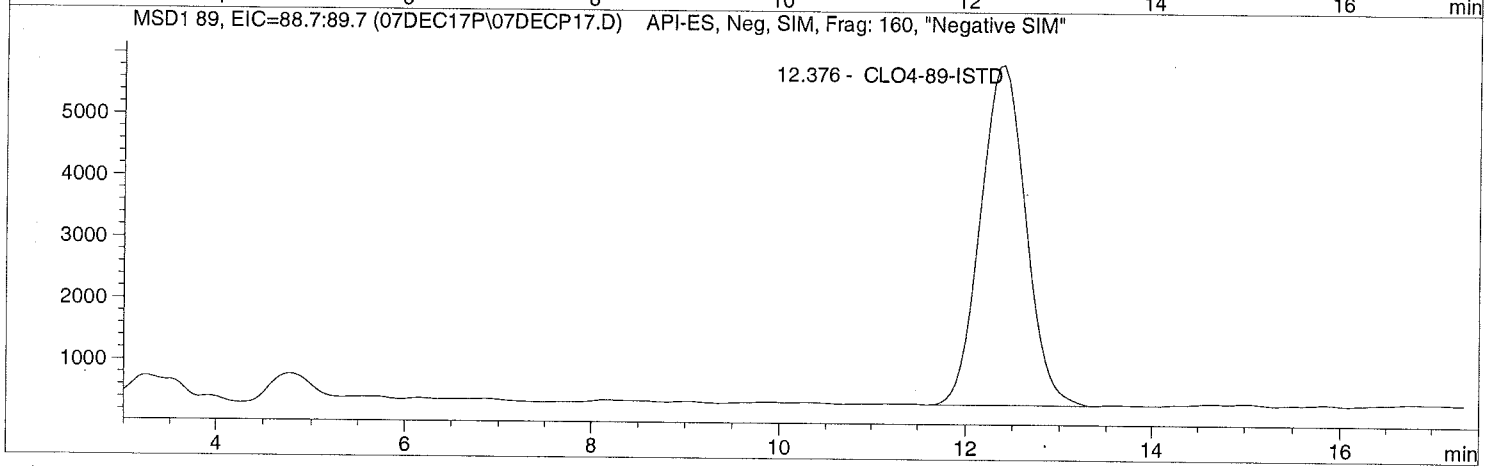
Injection Date:	12/07/2017 13:52:07	Seq Line:	17
Sample Name:	577686 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP17.D Sample Name: 577686 LODV@1.

Injection Date:	12/07/2017 13:52:07	Seq Line:	17
Sample Name:	577686 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: 12/3/2017 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
12.345	PBA	41109.0	1.0507	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.385	BBA	17417.8	1.1474	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.376	PBA	184854.0	5.0000	CLO4-89-ISTD

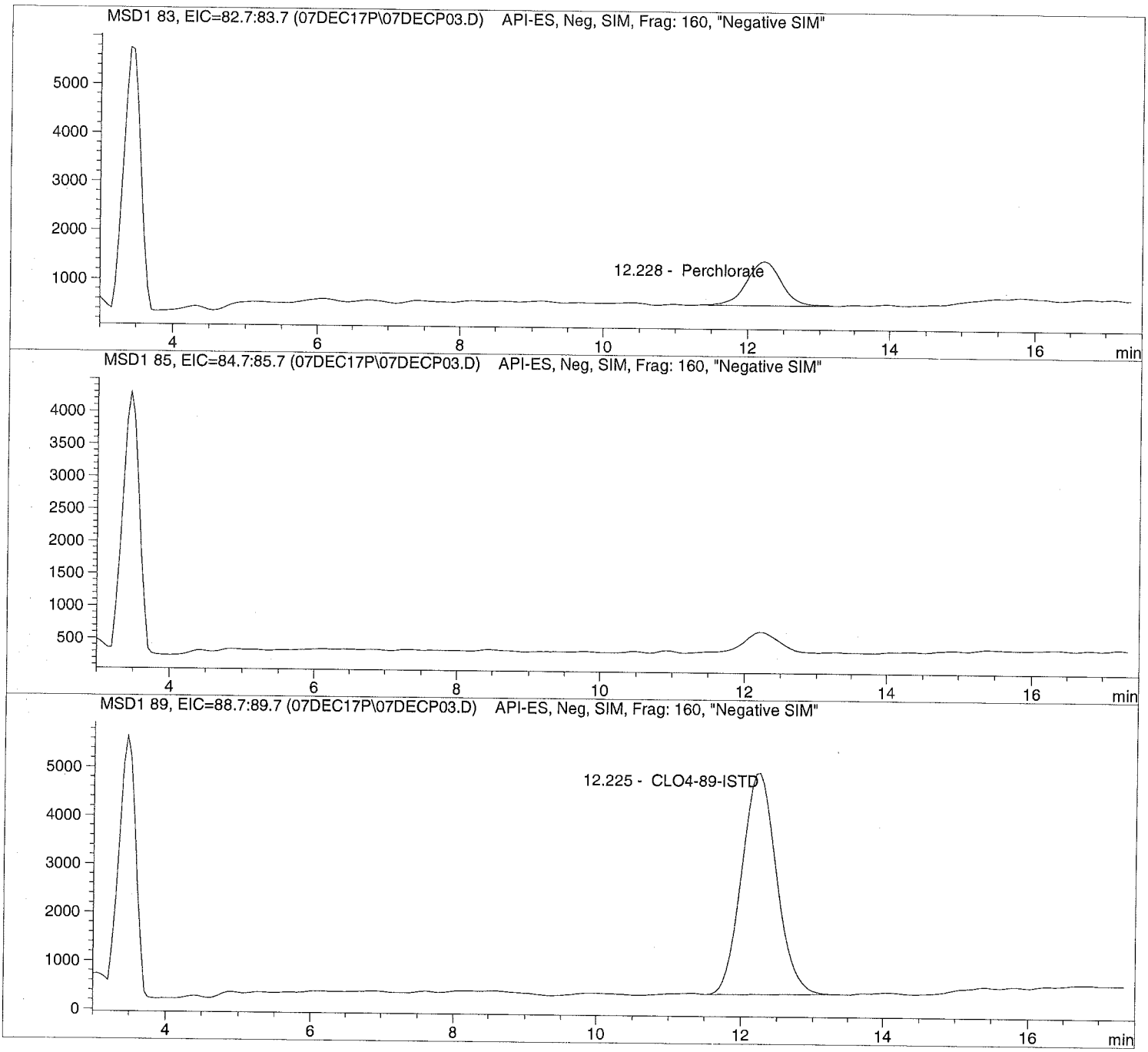
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP03.D Sample Name: 577682 ICS@1.

Injection Date:	12/07/2017 09:22:29	Seq Line:	3
Sample Name:	577682 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: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\07DEC17P\07DECP03.D Sample Name: 577682 ICS@1.

Injection Date:	12/07/2017 09:22:29	Seq Line:	3
Sample Name:	577682 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: 12/3/2017 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
12.228	BBA	29829.2	0.9271	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
12.225	PBA	152600.9	5.0000	CLO4-89-ISTD

*** End of Report ***

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

December 09, 2017

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

Work Order: **HS17120018**

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

Dear Marcia,

ALS Environmental received 2 sample(s) on Dec 01, 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: 09-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
Work Order: HS17120018

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS17120018-01	LH18/24-SP650_112917	Water		29-Nov-2017 14:00	01-Dec-2017 08:50	☐
HS17120018-02	Trip Blank	Water	NON ALS	29-Nov-2017 00:01	01-Dec-2017 08:50	☑

ALS Group USA, Corp Date: 09-Dec-17

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
Work Order: HS17120018

GCMS Volatiles by Method SW8260

Batch ID: R306582

Sample ID: HS17111395-03MS

- MS and MSD are for an unrelated sample

WetChemistry by Method SW9056

Batch ID: R306806

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

ALS Group USA, Corp Date: 09-Dec-17

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

Project: Longhorn GW Treatment Plant Bi-Weekly Samples WorkOrder:HS17120018

Sample ID: LH18/24-SP650_112917 Lab ID:HS17120018-01

Collection Date: 29-Nov-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	05-Dec-2017 13:20
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2017 13:20
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	05-Dec-2017 13:20
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2017 13:20
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2017 13:20
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2017 13:20
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2017 13:20
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	05-Dec-2017 13:20
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	05-Dec-2017 13:20
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	05-Dec-2017 13:20
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2017 13:20
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2017 13:20
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2017 13:20
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	05-Dec-2017 13:20
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2017 13:20
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	05-Dec-2017 13:20
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2017 13:20
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	05-Dec-2017 13:20
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2017 13:20
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	05-Dec-2017 13:20
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2017 13:20
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	05-Dec-2017 13:20
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2017 13:20
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	05-Dec-2017 13:20
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	05-Dec-2017 13:20
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2017 13:20
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	05-Dec-2017 13:20
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	05-Dec-2017 13:20
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2017 13:20
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	05-Dec-2017 13:20
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2017 13:20
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2017 13:20
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	05-Dec-2017 13:20
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	05-Dec-2017 13:20
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	05-Dec-2017 13:20
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	05-Dec-2017 13:20
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2017 13:20
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2017 13:20

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

ALS Group USA, Corp Date: 09-Dec-17

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Bi-Weekly Samples WorkOrder:HS17120018
Sample ID: LH18/24-SP650_112917 Lab ID:HS17120018-01
Collection Date: 29-Nov-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	05-Dec-2017 13:20
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2017 13:20
cis-1,2-Dichloroethene	**3.7**		**0.20**	**0.50**	**1.0**	**ug/L**	1	05-Dec-2017 13:20
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	05-Dec-2017 13:20
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2017 13:20
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2017 13:20
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2017 13:20
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2017 13:20
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	05-Dec-2017 13:20
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2017 13:20
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	05-Dec-2017 13:20
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	05-Dec-2017 13:20
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	05-Dec-2017 13:20
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2017 13:20
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2017 13:20
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2017 13:20
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2017 13:20
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2017 13:20
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2017 13:20
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2017 13:20
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2017 13:20
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2017 13:20
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2017 13:20
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2017 13:20
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	05-Dec-2017 13:20
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	05-Dec-2017 13:20
Surr: 1,2-Dichloroethane-d4	*93.8*			**0**	*81-118*	*%REC*	*1*	*05-Dec-2017 13:20*
Surr: 4-Bromofluorobenzene	*99.8*			**0**	*85-114*	*%REC*	*1*	*05-Dec-2017 13:20*
Surr: Dibromofluoromethane	*89.1*			**0**	*80-119*	*%REC*	*1*	*05-Dec-2017 13:20*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*05-Dec-2017 13:20*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: JBA
Chloride	**607**		**2.00**	**2.50**	**5.00**	**mg/L**	10	07-Dec-2017 18:28
Sulfate	**74.5**		**2.00**	**2.50**	**5.00**	**mg/L**	10	07-Dec-2017 18:28

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

ALS Group USA, Corp Date: 09-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS17120018

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R306582	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C			**Matrix:** Water		
HS17120018-01	LH18/24-SP650_112917	29 Nov 2017 14:00			05 Dec 2017 13:20	1
Batch ID R306806	**Test Name :** ANIONS BY SW9056A			**Matrix:** Water		
HS17120018-01	LH18/24-SP650_112917	29 Nov 2017 14:00			07 Dec 2017 18:28	10

ALS Group USA, Corp Date: 09-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS17120018

QC BATCH REPORT

Batch ID: R306582 **Instrument: VOA2** **Method: SW8260**

MBLK Sample ID: **VBLKW-171205** Units: **ug/L** Analysis Date: **05-Dec-2017 11:18**
Client ID: Run ID: **VOA2_306582** SeqNo: **4336160** 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: 09-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS17120018

QC BATCH REPORT

Batch ID: R306582 **Instrument: VOA2** **Method: SW8260**

MBLK Sample ID: **VBLKW-171205** Units: **ug/L** Analysis Date: **05-Dec-2017 11:18**
Client ID: Run ID: **VOA2_306582** SeqNo: **4336160** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	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	*47.29*	*1.0*	*50*	*0*	*94.6*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.54*	*1.0*	*50*	*0*	*99.1*	*85 - 114*				
Surr: Dibromofluoromethane	*45.4*	*1.0*	*50*	*0*	*90.8*	*80 - 119*				
Surr: Toluene-d8	*52.11*	*1.0*	*50*	*0*	*104*	*89 - 112*				

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

ALS Group USA, Corp Date: 09-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS17120018

QC BATCH REPORT

Batch ID: R306582 **Instrument: VOA2** **Method: SW8260**

LCS Sample ID: **VLCSW-171205** Units: **ug/L** Analysis Date: **05-Dec-2017 10:29**
Client ID: Run ID: **VOA2_306582** SeqNo: **4336170** 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	47.21	1.0	50	0	94.4	78 - 124				
1,1,1-Trichloroethane	46.38	1.0	50	0	92.8	74 - 131				
1,1,2,2-Tetrachloroethane	45.74	1.0	50	0	91.5	71 - 121				
1,1,2-Trichloroethane	45.15	1.0	50	0	90.3	80 - 119				
1,1-Dichloroethane	46.74	1.0	50	0	93.5	77 - 125				
1,1-Dichloroethene	47.92	1.0	50	0	95.8	71 - 131				
1,1-Dichloropropene	41.26	1.0	50	0	82.5	79 - 125				
1,2,3-Trichlorobenzene	51.71	1.0	50	0	103	69 - 129				
1,2,3-Trichloropropane	47.16	1.0	50	0	94.3	73 - 122				
1,2,4-Trichlorobenzene	50.66	1.0	50	0	101	69 - 130				
1,2,4-Trimethylbenzene	48.71	1.0	50	0	97.4	76 - 124				
1,2-Dibromo-3-chloropropane	55.49	1.0	50	0	111	62 - 128				
1,2-Dibromoethane	46.56	1.0	50	0	93.1	77 - 121				
1,2-Dichlorobenzene	44.01	1.0	50	0	88.0	80 - 119				
1,2-Dichloroethane	49.26	1.0	50	0	98.5	73 - 128				
1,2-Dichloropropane	46.54	1.0	50	0	93.1	78 - 122				
1,3,5-Trimethylbenzene	48.95	1.0	50	0	97.9	75 - 124				
1,3-Dichlorobenzene	42.62	1.0	50	0	85.2	80 - 119				
1,3-Dichloropropane	46.39	1.0	50	0	92.8	80 - 119				
1,4-Dichlorobenzene	41.83	1.0	50	0	83.7	79 - 118				
2,2-Dichloropropane	47.52	1.0	50	0	95.0	60 - 139				
2-Butanone	102.3	2.0	100	0	102	56 - 143				
2-Chlorotoluene	39.91	1.0	50	0	79.8	79 - 122				
2-Hexanone	102.6	2.0	100	0	103	57 - 139				
4-Chlorotoluene	50.68	1.0	50	0	101	78 - 122				
4-Isopropyltoluene	38.72	1.0	50	0	77.4	77 - 127				
4-Methyl-2-pentanone	96.66	2.0	100	0	96.7	67 - 130				
Acetone	146	2.0	100	0	146	39 - 160				
Benzene	44.86	1.0	50	0	89.7	79 - 120				
Bromobenzene	43.63	1.0	50	0	87.3	80 - 120				
Bromochloromethane	52.61	1.0	50	0	105	78 - 123				
Bromodichloromethane	54.48	1.0	50	0	109	79 - 125				
Bromoform	54.46	1.0	50	0	109	66 - 130				
Bromomethane	40.71	1.0	50	0	81.4	53 - 141				

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

ALS Group USA, Corp Date: 09-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS17120018

QC BATCH REPORT

Batch ID: R306582 **Instrument: VOA2** **Method: SW8260**

LCS Sample ID: **VLCSW-171205** Units: **ug/L** Analysis Date: **05-Dec-2017 10:29**
Client ID: Run ID: **VOA2_306582** SeqNo: **4336170** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	114.2	2.0	100	0	114	64 - 133				
Carbon tetrachloride	43.27	1.0	50	0	86.5	72 - 136				
Chlorobenzene	44.92	1.0	50	0	89.8	80 - 120				
Chloroethane	45.71	1.0	50	0	91.4	82 - 118				
Chloroform	45.27	1.0	50	0	90.5	79 - 124				
Chloromethane	41.14	1.0	50	0	82.3	50 - 139				
cis-1,2-Dichloroethene	47	1.0	50	0	94.0	78 - 123				
cis-1,3-Dichloropropene	52.44	1.0	50	0	105	75 - 124				
Dibromochloromethane	49.77	1.0	50	0	99.5	74 - 126				
Dibromomethane	52.76	1.0	50	0	106	79 - 123				
Dichlorodifluoromethane	43.26	1.0	50	0	86.5	32 - 152				
Ethylbenzene	42.73	1.0	50	0	85.5	79 - 121				
Hexachlorobutadiene	44.45	1.0	50	0	88.9	66 - 134				
Isopropylbenzene	43.33	1.0	50	0	86.7	72 - 131				
m,p-Xylene	81.4	2.0	100	0	81.4	80 - 121				
Methylene chloride	60.03	2.0	50	0	120	74 - 124				
Naphthalene	59.19	1.0	50	0	118	61 - 128				
n-Butylbenzene	39.93	1.0	50	0	79.9	75 - 128				
n-Propylbenzene	46.55	1.0	50	0	93.1	76 - 126				
o-Xylene	43.16	1.0	50	0	86.3	78 - 122				
sec-Butylbenzene	45.02	1.0	50	0	90.0	77 - 126				
Styrene	44.43	1.0	50	0	88.9	78 - 128				
tert-Butylbenzene	46.07	1.0	50	0	92.1	78 - 124				
Tetrachloroethene	41.28	1.0	50	0	82.6	74 - 129				
Toluene	41.67	1.0	50	0	83.3	80 - 121				
trans-1,2-Dichloroethene	55.25	1.0	50	0	111	75 - 124				
trans-1,3-Dichloropropene	54.58	1.0	50	0	109	73 - 127				
Trichloroethene	47.35	1.0	50	0	94.7	79 - 123				
Trichlorofluoromethane	45.06	1.0	50	0	90.1	65 - 141				
Vinyl chloride	44.37	1.0	50	0	88.7	58 - 137				
Surr: 1,2-Dichloroethane-d4	*48.24*	*1.0*	*50*	*0*	*96.5*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.52*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*42.6*	*1.0*	*50*	*0*	*85.2*	*80 - 119*				
Surr: Toluene-d8	*49.96*	*1.0*	*50*	*0*	*99.9*	*89 - 112*				

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

ALS Group USA, Corp Date: 09-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS17120018

QC BATCH REPORT

Batch ID: R306582 **Instrument: VOA2** **Method: SW8260**

MS Sample ID: **HS17111395-03MS** Units: **ug/L** Analysis Date: **05-Dec-2017 15:01**
Client ID: Run ID: **VOA2_306582** SeqNo: **4337403** 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	47.9	1.0	50	0	95.8	78 - 124				
1,1,1-Trichloroethane	50.96	1.0	50	0	102	74 - 131				
1,1,2,2-Tetrachloroethane	42.48	1.0	50	0	85.0	71 - 121				
1,1,2-Trichloroethane	48.11	1.0	50	5.088	86.0	80 - 119				
1,1-Dichloroethane	78.64	1.0	50	19.35	119	77 - 125				
1,1-Dichloroethene	322.9	1.0	50	326.1	-6.36	71 - 131				SEO
1,1-Dichloropropene	46.77	1.0	50	0	93.5	79 - 125				
1,2,3-Trichlorobenzene	48.54	1.0	50	0	97.1	69 - 129				
1,2,3-Trichloropropane	43.51	1.0	50	0	87.0	73 - 122				
1,2,4-Trichlorobenzene	48.69	1.0	50	0	97.4	69 - 130				
1,2,4-Trimethylbenzene	50.57	1.0	50	0	101	76 - 124				
1,2-Dibromo-3-chloropropane	50.27	1.0	50	0	101	62 - 128				
1,2-Dibromoethane	43.63	1.0	50	0	87.3	77 - 121				
1,2-Dichlorobenzene	42.66	1.0	50	0	85.3	80 - 119				
1,2-Dichloroethane	73.34	1.0	50	31.85	83.0	73 - 128				
1,2-Dichloropropane	45.71	1.0	50	0	91.4	78 - 122				
1,3,5-Trimethylbenzene	51.82	1.0	50	0	104	75 - 124				
1,3-Dichlorobenzene	42.76	1.0	50	0	85.5	80 - 119				
1,3-Dichloropropane	45.36	1.0	50	0	90.7	80 - 119				
1,4-Dichlorobenzene	41.25	1.0	50	0	82.5	79 - 118				
2,2-Dichloropropane	54.82	1.0	50	0	110	60 - 139				
2-Butanone	101	2.0	100	0	101	56 - 143				
2-Chlorotoluene	41.94	1.0	50	0	83.9	79 - 122				
2-Hexanone	96.39	2.0	100	0	96.4	57 - 139				
4-Chlorotoluene	50.16	1.0	50	0	100	78 - 122				
4-Isopropyltoluene	42.3	1.0	50	0	84.6	77 - 127				
4-Methyl-2-pentanone	91.9	2.0	100	0	91.9	67 - 130				
Acetone	116	2.0	100	0	116	39 - 160				
Benzene	45.31	1.0	50	0	90.6	79 - 120				
Bromobenzene	43.64	1.0	50	0	87.3	80 - 120				
Bromochloromethane	52.6	1.0	50	0	105	78 - 123				
Bromodichloromethane	50.86	1.0	50	0	102	79 - 125				
Bromoform	50.36	1.0	50	0	101	66 - 130				
Bromomethane	32.23	1.0	50	0	64.5	53 - 141				

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

ALS Group USA, Corp Date: 09-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS17120018

QC BATCH REPORT

Batch ID: R306582 **Instrument: VOA2** **Method: SW8260**

MS Sample ID: **HS17111395-03MS** Units: **ug/L** Analysis Date: **05-Dec-2017 15:01**
Client ID: Run ID: **VOA2_306582** SeqNo: **4337403** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	116.2	2.0	100	0	116	64 - 133				
Carbon tetrachloride	49.85	1.0	50	0	99.7	72 - 136				
Chlorobenzene	44.78	1.0	50	0	89.6	80 - 120				
Chloroethane	47.3	1.0	50	0	94.6	82 - 118				
Chloroform	45.49	1.0	50	0	91.0	79 - 124				
Chloromethane	36.52	1.0	50	0	73.0	50 - 139				
cis-1,2-Dichloroethene	52.96	1.0	50	0	106	78 - 123				
cis-1,3-Dichloropropene	50.31	1.0	50	0	101	75 - 124				
Dibromochloromethane	48.53	1.0	50	0	97.1	74 - 126				
Dibromomethane	47.93	1.0	50	0	95.9	79 - 123				
Dichlorodifluoromethane	45.3	1.0	50	0	90.6	32 - 152				
Ethylbenzene	45.64	1.0	50	0	91.3	79 - 121				
Hexachlorobutadiene	49.4	1.0	50	0	98.8	66 - 134				
Isopropylbenzene	48.32	1.0	50	0	96.6	72 - 131				
m,p-Xylene	87.22	2.0	100	0	87.2	80 - 121				
Methylene chloride	60.06	2.0	50	0	120	74 - 124				
Naphthalene	53.24	1.0	50	0	106	61 - 128				
n-Butylbenzene	43.69	1.0	50	0	87.4	75 - 128				
n-Propylbenzene	51.2	1.0	50	0	102	76 - 126				
o-Xylene	44.45	1.0	50	0	88.9	78 - 122				
sec-Butylbenzene	50.85	1.0	50	0	102	77 - 126				
Styrene	44.3	1.0	50	0	88.6	78 - 128				
tert-Butylbenzene	51.45	1.0	50	0	103	78 - 124				
Tetrachloroethene	47.74	1.0	50	0	95.5	74 - 129				
Toluene	44.05	1.0	50	0	88.1	80 - 121				
trans-1,2-Dichloroethene	66.15	1.0	50	0	132	75 - 124				S
trans-1,3-Dichloropropene	50.18	1.0	50	0	100	73 - 127				
Trichloroethene	50.19	1.0	50	0	100	79 - 123				
Trichlorofluoromethane	53.26	1.0	50	0	107	65 - 141				
Vinyl chloride	49.49	1.0	50	0	99.0	58 - 137				
Surr: 1,2-Dichloroethane-d4	*48.78*	*1.0*	*50*	*0*	*97.6*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*42.96*	*1.0*	*50*	*0*	*85.9*	*80 - 119*				
Surr: Toluene-d8	*50.54*	*1.0*	*50*	*0*	*101*	*89 - 112*				

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

ALS Group USA, Corp Date: 09-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS17120018

QC BATCH REPORT

Batch ID: R306582 **Instrument: VOA2** **Method: SW8260**

MSD Sample ID: **HS17111395-03MSD** Units: **ug/L** Analysis Date: **05-Dec-2017 15:25**
Client ID: Run ID: **VOA2_306582** SeqNo: **4337404** 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	47.9	1.0	50	0	95.8	78 - 124	47.9	0.00138	20	
1,1,1-Trichloroethane	51.29	1.0	50	0	103	74 - 131	50.96	0.657	20	
1,1,2,2-Tetrachloroethane	43.57	1.0	50	0	87.1	71 - 121	42.48	2.54	20	
1,1,2-Trichloroethane	53.52	1.0	50	5.088	96.9	80 - 119	48.11	10.6	20	
1,1-Dichloroethane	63.42	1.0	50	19.35	88.1	77 - 125	78.64	21.4	20	R
1,1-Dichloroethene	308.6	1.0	50	326.1	-35.1	71 - 131	322.9	4.55	20	SEO
1,1-Dichloropropene	45.5	1.0	50	0	91.0	79 - 125	46.77	2.76	20	
1,2,3-Trichlorobenzene	49.96	1.0	50	0	99.9	69 - 129	48.54	2.89	20	
1,2,3-Trichloropropane	44.7	1.0	50	0	89.4	73 - 122	43.51	2.71	20	
1,2,4-Trichlorobenzene	50.35	1.0	50	0	101	69 - 130	48.69	3.34	20	
1,2,4-Trimethylbenzene	50.17	1.0	50	0	100	76 - 124	50.57	0.793	20	
1,2-Dibromo-3-chloropropane	52.67	1.0	50	0	105	62 - 128	50.27	4.66	20	
1,2-Dibromoethane	44.78	1.0	50	0	89.6	77 - 121	43.63	2.61	20	
1,2-Dichlorobenzene	42.84	1.0	50	0	85.7	80 - 119	42.66	0.424	20	
1,2-Dichloroethane	80.73	1.0	50	31.85	97.7	73 - 128	73.34	9.59	20	
1,2-Dichloropropane	44.68	1.0	50	0	89.4	78 - 122	45.71	2.27	20	
1,3,5-Trimethylbenzene	51.86	1.0	50	0	104	75 - 124	51.82	0.0728	20	
1,3-Dichlorobenzene	42.82	1.0	50	0	85.6	80 - 119	42.76	0.148	20	
1,3-Dichloropropane	48.25	1.0	50	0	96.5	80 - 119	45.36	6.16	20	
1,4-Dichlorobenzene	41.29	1.0	50	0	82.6	79 - 118	41.25	0.0919	20	
2,2-Dichloropropane	50.57	1.0	50	0	101	60 - 139	54.82	8.07	20	
2-Butanone	96.44	2.0	100	0	96.4	56 - 143	101	4.58	20	
2-Chlorotoluene	41.8	1.0	50	0	83.6	79 - 122	41.94	0.332	20	
2-Hexanone	99.84	2.0	100	0	99.8	57 - 139	96.39	3.51	20	
4-Chlorotoluene	50.28	1.0	50	0	101	78 - 122	50.16	0.225	20	
4-Isopropyltoluene	42.25	1.0	50	0	84.5	77 - 127	42.3	0.118	20	
4-Methyl-2-pentanone	97.64	2.0	100	0	97.6	67 - 130	91.9	6.06	20	
Acetone	121.4	2.0	100	0	121	39 - 160	116	4.57	20	
Benzene	47.17	1.0	50	0	94.3	79 - 120	45.31	4.02	20	
Bromobenzene	43.15	1.0	50	0	86.3	80 - 120	43.64	1.13	20	
Bromochloromethane	50.33	1.0	50	0	101	78 - 123	52.6	4.41	20	
Bromodichloromethane	51.41	1.0	50	0	103	79 - 125	50.86	1.09	20	
Bromoform	54.07	1.0	50	0	108	66 - 130	50.36	7.12	20	
Bromomethane	35.03	1.0	50	0	70.1	53 - 141	32.23	8.32	20	

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

ALS Group USA, Corp Date: 09-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS17120018

QC BATCH REPORT

Batch ID: R306582 **Instrument: VOA2** **Method: SW8260**

MSD Sample ID: **HS17111395-03MSD** Units: **ug/L** Analysis Date: **05-Dec-2017 15:25**
Client ID: Run ID: **VOA2_306582** SeqNo: **4337404** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	114.2	2.0	100	0	114	64 - 133	116.2	1.75	20	
Carbon tetrachloride	50.57	1.0	50	0	101	72 - 136	49.85	1.44	20	
Chlorobenzene	43.97	1.0	50	0	87.9	80 - 120	44.78	1.83	20	
Chloroethane	47.16	1.0	50	0	94.3	82 - 118	47.3	0.294	20	
Chloroform	46.62	1.0	50	0	93.2	79 - 124	45.49	2.45	20	
Chloromethane	38.81	1.0	50	0	77.6	50 - 139	36.52	6.09	20	
cis-1,2-Dichloroethene	47.5	1.0	50	0	95.0	78 - 123	52.96	10.9	20	
cis-1,3-Dichloropropene	51.26	1.0	50	0	103	75 - 124	50.31	1.86	20	
Dibromochloromethane	48.89	1.0	50	0	97.8	74 - 126	48.53	0.749	20	
Dibromomethane	49.24	1.0	50	0	98.5	79 - 123	47.93	2.7	20	
Dichlorodifluoromethane	45.9	1.0	50	0	91.8	32 - 152	45.3	1.31	20	
Ethylbenzene	45.49	1.0	50	0	91.0	79 - 121	45.64	0.317	20	
Hexachlorobutadiene	51.79	1.0	50	0	104	66 - 134	49.4	4.73	20	
Isopropylbenzene	47.89	1.0	50	0	95.8	72 - 131	48.32	0.894	20	
m,p-Xylene	90.99	2.0	100	0	91.0	80 - 121	87.22	4.23	20	
Methylene chloride	43.74	2.0	50	0	87.5	74 - 124	60.06	31.4	20	R
Naphthalene	56.34	1.0	50	0	113	61 - 128	53.24	5.65	20	
n-Butylbenzene	43.73	1.0	50	0	87.5	75 - 128	43.69	0.0967	20	
n-Propylbenzene	50.66	1.0	50	0	101	76 - 126	51.2	1.06	20	
o-Xylene	45.31	1.0	50	0	90.6	78 - 122	44.45	1.91	20	
sec-Butylbenzene	51.09	1.0	50	0	102	77 - 126	50.85	0.486	20	
Styrene	45.57	1.0	50	0	91.1	78 - 128	44.3	2.82	20	
tert-Butylbenzene	51.63	1.0	50	0	103	78 - 124	51.45	0.347	20	
Tetrachloroethene	50.95	1.0	50	0	102	74 - 129	47.74	6.5	20	
Toluene	44.3	1.0	50	0	88.6	80 - 121	44.05	0.56	20	
trans-1,2-Dichloroethene	47.21	1.0	50	0	94.4	75 - 124	66.15	33.4	20	R
trans-1,3-Dichloropropene	52.21	1.0	50	0	104	73 - 127	50.18	3.98	20	
Trichloroethene	49.39	1.0	50	0	98.8	79 - 123	50.19	1.6	20	
Trichlorofluoromethane	52.79	1.0	50	0	106	65 - 141	53.26	0.886	20	
Vinyl chloride	50.25	1.0	50	0	101	58 - 137	49.49	1.52	20	
Surr: 1,2-Dichloroethane-d4	*49.97*	*1.0*	*50*	*0*	*99.9*	*81 - 118*	*48.78*	*2.4*	*20*	
Surr: 4-Bromofluorobenzene	*50.41*	*1.0*	*50*	*0*	*101*	*85 - 114*	*51*	*1.17*	*20*	
Surr: Dibromofluoromethane	*44.23*	*1.0*	*50*	*0*	*88.5*	*80 - 119*	*42.96*	*2.9*	*20*	
Surr: Toluene-d8	*51.48*	*1.0*	*50*	*0*	*103*	*89 - 112*	*50.54*	*1.84*	*20*	

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

ALS Group USA, Corp Date: 09-Dec-17

Client:	Bhate Environmental Associates, Inc.
Project:	Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder:	HS17120018

QC BATCH REPORT

Batch ID:	**R306582**	**Instrument:**	**VOA2**	**Method:**	**SW8260**

The following samples were analyzed in this batch: HS17120018-01

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

ALS Group USA, Corp Date: 09-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: HS17120018

QC BATCH REPORT

Batch ID: R306806 **Instrument: ICS3K2** **Method: SW9056**

MBLK Sample ID: **WBLKW1-120717** Units: **mg/L** Analysis Date: **07-Dec-2017 19:33**
Client ID: Run ID: **ICS3K2_306806** SeqNo: **4342176** 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: **WLCSW1-120717** Units: **mg/L** Analysis Date: **07-Dec-2017 14:17**
Client ID: Run ID: **ICS3K2_306806** SeqNo: **4342171** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.98	0.500	20	0	99.9	80 - 120				
Sulfate	19.84	0.500	20	0	99.2	80 - 120				

LCSD Sample ID: **WLCSDW1-120717** Units: **mg/L** Analysis Date: **07-Dec-2017 14:38**
Client ID: Run ID: **ICS3K2_306806** SeqNo: **4342172** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.76	0.500	20	0	98.8	80 - 120	19.98	1.07	20	
Sulfate	19.83	0.500	20	0	99.1	80 - 120	19.84	0.0756	20	

MS Sample ID: **HS17120353-08MS** Units: **mg/L** Analysis Date: **07-Dec-2017 13:33**
Client ID: Run ID: **ICS3K2_306806** SeqNo: **4342169** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	31.31	0.500	10	21.43	98.8	80 - 120				
Sulfate	66.55	0.500	10	56.76	97.9	80 - 120				O

MSD Sample ID: **HS17120353-08MSD** Units: **mg/L** Analysis Date: **07-Dec-2017 13:55**
Client ID: Run ID: **ICS3K2_306806** SeqNo: **4342170** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	31.57	0.500	10	21.43	101	80 - 120	31.31	0.817	20	
Sulfate	67.55	0.500	10	56.76	108	80 - 120	66.55	1.49	20	O

The following samples were analyzed in this batch: HS17120018-01

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

ALS Group USA, Corp Date: 09-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
WorkOrder: **HS17120018**

QUALIFIERS, ACRONYMS, UNITS

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

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

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

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

ALS Group USA, Corp Date: 09-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi-Weekly Samples
Work Order: HS17120018

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS17120018-01	LH18/24-SP650_112917	Login	12/1/2017 12:48:47 PM	CL	WET078
HS17120018-01	LH18/24-SP650_112917	Login	12/1/2017 12:48:47 PM	CL	WET078
HS17120018-01	LH18/24-SP650_112917	Login	12/1/2017 12:48:47 PM	CL	WET078
HS17120018-01	LH18/24-SP650_112917	Login	12/1/2017 12:48:47 PM	CL	Sub

ALS Group USA, Corp Date: 09-Dec-17

Sample Receipt Checklist

Client Name: Bhate Environmental
Work Order: HS17120018
Date/Time Received: **01-Dec-2017 08:50**
Received by: **JRM**

Checklist completed by: *Cesar A. Lira* eSignature 1-Dec-2017 Date
Reviewed by: *Sonia West* eSignature 4-Dec-2017 Date

Matrices: **Water**
Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	0.9c/0.6c uc/c	IR30	
Cooler(s)/Kit(s):	43076		
Date/Time sample(s) sent to storage:	12/01/2017 12:15		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

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

HS17120018
Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant

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_112917	Water	11/29/17 / 14:00		3	3		HCL	
LH18/24-SP650_112917	Water	11/29/17 / 14:00		1		1	NONE	
Trip Blank	Water	11/29/17		2	2		HCL	

Additional Remarks: STANDARD TAT ON ALL PARAMETERS.

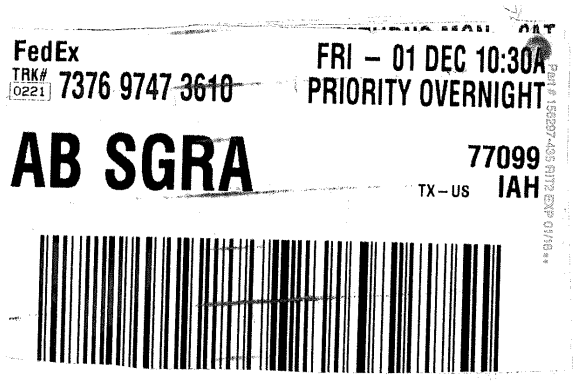
Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	11/29/17	14:30									

9For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
JM	12.1.17	0850					0.9c		Cooler 43076

Remarks
Lot# 30
COC-03

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


FedEx
TRK# 0221 7376 9747 3610
FRI – 01 DEC 10:30A
PRIORITY OVERNIGHT
AB SGRA
77099
TX – US IAH

42783

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

CUSTODY SEAL
Date: 11-30-17 Time: 4020
Name: I Lopez
Company: ALS

Seal Broken By:
Date: 12/1

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

WorkOrder: HS17120365

Groundwater Treatment Plant Monthly Effluent Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

08-Feb-2018

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

December 28, 2017

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

Work Order: **HS17120365**

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

Dear Marcia,

ALS Environmental received 2 sample(s) on Dec 07, 2017 for the analysis presented in the following report.

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

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

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

Sincerely,

Sonia West

Generated By: Jumoke.Lawal
Sonia West
Project Manager

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
Work Order: HS17120365

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS17120365-01	LH18/24-SP650_120617	Water		06-Dec-2017 14:00	07-Dec-2017 08:50	☐
HS17120365-02	Trip Blank	Water		06-Dec-2017 00:01	07-Dec-2017 08:50	☐

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

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Groundwater Treatment Plant Monthly Effluent Samples
Work Order: HS17120365

Work Order Comments

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

GCMS Semivolatiles by Method SW8270SIM

Batch ID: 123073

Sample ID: HS17120283-03MSD

- MSD is for an unrelated sample.

Sample ID: LCS-123073

- High %R for 2-Fluorobiphenyl, it is not associated with target compound.

Sample ID: LH18/24-SP650_120617 (HS17120365-01)

- low area counts for Acenaphthene-d10 and Phenanthrene-d10, they are not associated with target compound.
- The GCMS semi-volatile extract of this sample was run at a dilution due to a high level of matrix interference.

GCMS Volatiles by Method SW8260

Batch ID: R307031

Sample ID: HS17120435-01MS

- MS and MSD are for an unrelated sample

Sample ID: VSTD050

- Hexachlorobutadiene exceeded %D limits for CCV. Samples are ND for this compound.

Metals by Method SW6020

Batch ID: 123278

Sample ID: HS17120435-01MS

- MS and MSD are for an unrelated sample

Sample ID: HS17120435-01PDS

- PDS is for an unrelated sample

WetChemistry by Method SW7196

Batch ID: R306743

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

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

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Groundwater Treatment Plant Monthly Effluent Samples WorkOrder:HS17120365
Sample ID: LH18/24-SP650_120617 Lab ID:HS17120365-01
Collection Date: 06-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: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:46
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:46
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	11-Dec-2017 14:46
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:46
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:46
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:46
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:46
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	11-Dec-2017 14:46
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	11-Dec-2017 14:46
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	11-Dec-2017 14:46
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:46
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:46
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:46
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	11-Dec-2017 14:46
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:46
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	11-Dec-2017 14:46
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:46
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	11-Dec-2017 14:46
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:46
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	11-Dec-2017 14:46
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:46
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Dec-2017 14:46
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:46
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Dec-2017 14:46
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	11-Dec-2017 14:46
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:46
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Dec-2017 14:46
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Dec-2017 14:46
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:46
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	11-Dec-2017 14:46
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:46
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:46
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	11-Dec-2017 14:46
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	11-Dec-2017 14:46
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Dec-2017 14:46
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	11-Dec-2017 14:46
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:46
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:46

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

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

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Groundwater Treatment Plant Monthly Effluent Samples WorkOrder:HS17120365
Sample ID: LH18/24-SP650_120617 Lab ID:HS17120365-01
Collection Date: 06-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: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:46
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:46
cis-1,2-Dichloroethene	**3.6**		**0.20**	**0.50**	**1.0**	**ug/L**	1	11-Dec-2017 14:46
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	11-Dec-2017 14:46
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:46
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:46
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:46
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:46
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Dec-2017 14:46
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:46
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Dec-2017 14:46
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Dec-2017 14:46
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	11-Dec-2017 14:46
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:46
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:46
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:46
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:46
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:46
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:46
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:46
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:46
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:46
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:46
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:46
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:46
Vinyl chloride	**0.73**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	11-Dec-2017 14:46
Surr: 1,2-Dichloroethane-d4	*90.7*			**0**	*81-118*	*%REC*	*1*	*11-Dec-2017 14:46*
Surr: 4-Bromofluorobenzene	*102*			**0**	*85-114*	*%REC*	*1*	*11-Dec-2017 14:46*
Surr: Dibromofluoromethane	*97.7*			**0**	*80-119*	*%REC*	*1*	*11-Dec-2017 14:46*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*11-Dec-2017 14:46*
SEMIVOLATILES SIM		**Method:SW8270SIM**				Prep:SW3510 / 08-Dec-2017		Analyst: ACN
1,4-Dioxane	**4.7**		**0.20**	**0.20**	**0.20**	**ug/L**	20	13-Dec-2017 15:17
Surr: 2-Fluorobiphenyl	*133*			**0**	*40-140*	*%REC*	*20*	*13-Dec-2017 15:17*
Surr: 4-Terphenyl-d14	*54.5*			**0**	*40-140*	*%REC*	*20*	*13-Dec-2017 15:17*
Surr: Nitrobenzene-d5	*74.8*			**0**	*40-140*	*%REC*	*20*	*13-Dec-2017 15:17*

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

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

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder:HS17120365
Sample ID: LH18/24-SP650_120617
Lab ID:HS17120365-01
Collection Date: 06-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 / 13-Dec-2017		Analyst: RPM
Barium	**0.227**		**0.00190**	**0.00100**	**0.00400**	**mg/L**	1	14-Dec-2017 14:04
Lead	0.00100	U	0.000600	0.00100	0.00200	mg/L	1	14-Dec-2017 14:04
Selenium	0.00100	U	0.00110	0.00100	0.00200	mg/L	1	14-Dec-2017 14:04
Silver	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	14-Dec-2017 14:04
HEXAVALENT CHROMIUM BY SW7196A		**Method:SW7196**				Prep:SW7196		Analyst: JHD
Chromium, Hexavalent	0.00500	U	0.00600	0.00500	0.0100	mg/L	1	07-Dec-2017 13:26
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	28-Dec-2017 10:59

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

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

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Groundwater Treatment Plant Monthly Effluent Samples WorkOrder:HS17120365
Sample ID: Trip Blank Lab ID:HS17120365-02
Collection Date: 06-Dec-2017 00:01 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:21
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:21
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	11-Dec-2017 14:21
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:21
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:21
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:21
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:21
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	11-Dec-2017 14:21
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	11-Dec-2017 14:21
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	11-Dec-2017 14:21
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:21
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:21
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:21
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	11-Dec-2017 14:21
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:21
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	11-Dec-2017 14:21
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:21
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	11-Dec-2017 14:21
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:21
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	11-Dec-2017 14:21
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:21
2-Butanone	1.0	U	0.50	1.0	2.0	ug/L	1	11-Dec-2017 14:21
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:21
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	11-Dec-2017 14:21
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	11-Dec-2017 14:21
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:21
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	11-Dec-2017 14:21
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	11-Dec-2017 14:21
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:21
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	11-Dec-2017 14:21
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:21
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:21
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	11-Dec-2017 14:21
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	11-Dec-2017 14:21
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	11-Dec-2017 14:21
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	11-Dec-2017 14:21
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:21
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:21

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

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

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

Project: Groundwater Treatment Plant Monthly Effluent Samples WorkOrder:HS17120365

Sample ID: Trip Blank Lab ID:HS17120365-02

Collection Date: 06-Dec-2017 00:01 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:21
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:21
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:21
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	11-Dec-2017 14:21
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:21
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:21
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:21
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:21
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	11-Dec-2017 14:21
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:21
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	11-Dec-2017 14:21
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	11-Dec-2017 14:21
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	11-Dec-2017 14:21
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:21
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:21
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:21
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:21
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:21
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:21
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:21
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:21
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:21
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:21
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:21
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	11-Dec-2017 14:21
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	11-Dec-2017 14:21
Surr: 1,2-Dichloroethane-d4	*87.8*			**0**	*81-118*	*%REC*	*1*	*11-Dec-2017 14:21*
Surr: 4-Bromofluorobenzene	*104*			**0**	*85-114*	*%REC*	*1*	*11-Dec-2017 14:21*
Surr: Dibromofluoromethane	*96.5*			**0**	*80-119*	*%REC*	*1*	*11-Dec-2017 14:21*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*1*	*11-Dec-2017 14:21*

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

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

WEIGHT LOG

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365

Batch ID: 123073 **Method:** SEMIVOLATILES SIM **Prep:** 3510_B_SIM

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS17120365-01	1	1000	1 (mL)	0.001

Batch ID: 123278 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS17120365-01	1	10	10 (mL)	1

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 123073	**Test Name :** SEMIVOLATILES SIM			**Matrix:** Water		
HS17120365-01	LH18/24-SP650_120617	06 Dec 2017 14:00		08 Dec 2017 10:10	13 Dec 2017 15:17	20
Batch ID 123278	**Test Name :** ICP-MS METALS BY SW6020A			**Matrix:** Water		
HS17120365-01	LH18/24-SP650_120617	06 Dec 2017 14:00		13 Dec 2017 11:45	14 Dec 2017 14:04	1
Batch ID R306743	**Test Name :** HEXAVALENT CHROMIUM BY SW7196A			**Matrix:** Water		
HS17120365-01	LH18/24-SP650_120617	06 Dec 2017 14:00			07 Dec 2017 13:26	1
Batch ID R307031	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C			**Matrix:** Water		
HS17120365-01	LH18/24-SP650_120617	06 Dec 2017 14:00			11 Dec 2017 14:46	1
HS17120365-02	Trip Blank	06 Dec 2017 00:01			11 Dec 2017 14:21	1
Batch ID R308041	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)			**Matrix:** Water		
HS17120365-01	LH18/24-SP650_120617	06 Dec 2017 14:00			28 Dec 2017 10:59	1

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365

QC BATCH REPORT

Batch ID: 123278 **Instrument: ICPMS05** **Method: SW6020**

MBLK Sample ID: **MBLK-123278** Units: **mg/L** Analysis Date: **14-Dec-2017 14:00**
Client ID: Run ID: **ICPMS05_307200** SeqNo: **4351736** PrepDate: **13-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.00250	0.00400								U
Lead	0.00100	0.00200								U
Selenium	0.00200	0.00200								U
Silver	0.00100	0.00200								U

LCS Sample ID: **LCS-123278** Units: **mg/L** Analysis Date: **14-Dec-2017 14:02**
Client ID: Run ID: **ICPMS05_307200** SeqNo: **4351737** PrepDate: **13-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.04295	0.00400	0.05	0	85.9	80 - 120				
Lead	0.04885	0.00200	0.05	0	97.7	80 - 120				
Selenium	0.04267	0.00200	0.05	0	85.3	80 - 120				
Silver	0.0448	0.00200	0.05	0	89.6	80 - 120				

MS Sample ID: **HS17120435-01MS** Units: **mg/L** Analysis Date: **14-Dec-2017 14:12**
Client ID: Run ID: **ICPMS05_307200** SeqNo: **4351742** PrepDate: **13-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	1.085	0.00400	0.05	0.9274	316	80 - 120				SO
Lead	0.04661	0.00200	0.05	0.000619	92.0	80 - 120				
Selenium	0.04524	0.00200	0.05	0.000147	90.2	80 - 120				
Silver	0.04174	0.00200	0.05	0.000001	83.5	80 - 120				

MSD Sample ID: **HS17120435-01MSD** Units: **mg/L** Analysis Date: **14-Dec-2017 14:14**
Client ID: Run ID: **ICPMS05_307200** SeqNo: **4351743** PrepDate: **13-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	1.075	0.00400	0.05	0.9274	295	80 - 120	1.085	0.969	20	SO
Lead	0.04635	0.00200	0.05	0.000619	91.5	80 - 120	0.04661	0.572	20	
Selenium	0.04406	0.00200	0.05	0.000147	87.8	80 - 120	0.04524	2.66	20	
Silver	0.04186	0.00200	0.05	0.000001	83.7	80 - 120	0.04174	0.287	20	

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

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365

QC BATCH REPORT

Batch ID: 123278 **Instrument: ICPMS05** **Method: SW6020**

PDS Sample ID: **HS17120435-01PDS** Units: **mg/L** Analysis Date: **14-Dec-2017 14:16**
Client ID: Run ID: **ICPMS05_307200** SeqNo: **4351744** PrepDate: **13-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	1.032	0.00400	0.1	0.9274	105	75 - 125				O
Lead	0.08645	0.00200	0.1	0.000619	85.8	75 - 125				
Selenium	0.09018	0.00200	0.1	0.000147	90.0	75 - 125				
Silver	0.07849	0.00200	0.1	0.000001	78.5	75 - 125				

SD Sample ID: **HS17120435-01SD** Units: **mg/L** Analysis Date: **14-Dec-2017 14:10**
Client ID: Run ID: **ICPMS05_307200** SeqNo: **4351741** PrepDate: **13-Dec-2017** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Barium	0.8599	0.0200					0.9274	7.28	10	
Lead	0.00500	0.0100					0.000619	0	10	U
Selenium	0.0100	0.0100					0.000147	0	10	U
Silver	0.00500	0.0100					0.000001	0	10	U

The following samples were analyzed in this batch: HS17120365-01

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

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365

QC BATCH REPORT

Batch ID: 123073 **Instrument: SV-5** **Method: SW8270SIM**

MBLK Sample ID: **MBLK-123073** Units: **ug/L** Analysis Date: **13-Dec-2017 11:45**
Client ID: Run ID: **SV-5_307176** SeqNo: **4350084** PrepDate: **08-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	*0.1025*	*0*	*0.08*	*0*	*128*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.08573*	*0*	*0.08*	*0*	*107*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.04778*	*0*	*0.08*	*0*	*59.7*	*40 - 140*				

LCS Sample ID: **LCS-123073** Units: **ug/L** Analysis Date: **13-Dec-2017 12:05**
Client ID: Run ID: **SV-5_307176** SeqNo: **4350085** PrepDate: **08-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	0.08463	0.010	0.08	0	106	40 - 140				
Surr: 2-Fluorobiphenyl	*0.1149*	*0*	*0.08*	*0*	*144*	*40 - 140*				S
Surr: 4-Terphenyl-d14	*0.104*	*0*	*0.08*	*0*	*130*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.05427*	*0*	*0.08*	*0*	*67.8*	*40 - 140*				

MS Sample ID: **HS17120283-03MS** Units: **ug/L** Analysis Date: **13-Dec-2017 13:53**
Client ID: Run ID: **SV-5_307176** SeqNo: **4350089** PrepDate: **08-Dec-2017** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	1.763	0.10	0.08081	1.721	51.6	40 - 140				O
Surr: 2-Fluorobiphenyl	*0.1099*	*0*	*0.08081*	*0*	*136*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.1021*	*0*	*0.08081*	*0*	*126*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.03594*	*0*	*0.08081*	*0*	*44.5*	*40 - 140*				

MSD Sample ID: **HS17120283-03MSD** Units: **ug/L** Analysis Date: **13-Dec-2017 14:13**
Client ID: Run ID: **SV-5_307176** SeqNo: **4350090** PrepDate: **08-Dec-2017** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	1.649	0.10	0.08	1.721	-90.0	40 - 140	1.763	6.66	20	SO
Surr: 2-Fluorobiphenyl	*0.095*	*0*	*0.08*	*0*	*119*	*40 - 140*	*0.1099*	*14.5*	*20*	
Surr: 4-Terphenyl-d14	*0.08896*	*0*	*0.08*	*0*	*111*	*40 - 140*	*0.1021*	*13.7*	*20*	
Surr: Nitrobenzene-d5	*0.03591*	*0*	*0.08*	*0*	*44.9*	*40 - 140*	*0.03594*	*0.0818*	*20*	

The following samples were analyzed in this batch: HS17120365-01

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

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365

QC BATCH REPORT

Batch ID: R307031 **Instrument: VOA6** **Method: SW8260**

MBLK Sample ID: **VBLKW-171211** Units: **ug/L** Analysis Date: **11-Dec-2017 13:56**
Client ID: Run ID: **VOA6_307031** SeqNo: **4346935** 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	1.0	2.0								U
2-Chlorotoluene	0.50	1.0								U
2-Hexanone	1.0	2.0								U
4-Chlorotoluene	0.50	1.0								U
4-Isopropyltoluene	0.50	1.0								U
4-Methyl-2-pentanone	1.0	2.0								U
Acetone	1.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	0.50	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	0.50	1.0								U
Bromomethane	0.50	1.0								U

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

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365

QC BATCH REPORT

Batch ID: R307031 **Instrument: VOA6** **Method: SW8260**

MBLK Sample ID: **VBLKW-171211** Units: **ug/L** Analysis Date: **11-Dec-2017 13:56**
Client ID: Run ID: **VOA6_307031** SeqNo: **4346935** 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	1.0	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	*44.58*	*1.0*	*50*	*0*	*89.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.65*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*47.66*	*1.0*	*50*	*0*	*95.3*	*80 - 119*				
Surr: Toluene-d8	*52.13*	*1.0*	*50*	*0*	*104*	*89 - 112*				

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

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365

QC BATCH REPORT

Batch ID: R307031 **Instrument: VOA6** **Method: SW8260**

LCS Sample ID: **VLCSW-171211** Units: **ug/L** Analysis Date: **11-Dec-2017 12:41**
Client ID: Run ID: **VOA6_307031** SeqNo: **4346934** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	49.71	1.0	50	0	99.4	78 - 124				
1,1,1-Trichloroethane	49.83	1.0	50	0	99.7	74 - 131				
1,1,2,2-Tetrachloroethane	46.9	1.0	50	0	93.8	71 - 121				
1,1,2-Trichloroethane	47.73	1.0	50	0	95.5	80 - 119				
1,1-Dichloroethane	48.61	1.0	50	0	97.2	77 - 125				
1,1-Dichloroethene	47.52	1.0	50	0	95.0	71 - 131				
1,1-Dichloropropene	50.48	1.0	50	0	101	79 - 125				
1,2,3-Trichlorobenzene	45.53	1.0	50	0	91.1	69 - 129				
1,2,3-Trichloropropane	42.77	1.0	50	0	85.5	73 - 122				
1,2,4-Trichlorobenzene	47.49	1.0	50	0	95.0	69 - 130				
1,2,4-Trimethylbenzene	52.44	1.0	50	0	105	76 - 124				
1,2-Dibromo-3-chloropropane	40.81	1.0	50	0	81.6	62 - 128				
1,2-Dibromoethane	49.32	1.0	50	0	98.6	77 - 121				
1,2-Dichlorobenzene	48.15	1.0	50	0	96.3	80 - 119				
1,2-Dichloroethane	46.6	1.0	50	0	93.2	73 - 128				
1,2-Dichloropropane	49.42	1.0	50	0	98.8	78 - 122				
1,3,5-Trimethylbenzene	51.85	1.0	50	0	104	75 - 124				
1,3-Dichlorobenzene	47.45	1.0	50	0	94.9	80 - 119				
1,3-Dichloropropane	46.23	1.0	50	0	92.5	80 - 119				
1,4-Dichlorobenzene	53.08	1.0	50	0	106	79 - 118				
2,2-Dichloropropane	47.23	1.0	50	0	94.5	60 - 139				
2-Butanone	91.71	2.0	100	0	91.7	56 - 143				
2-Chlorotoluene	52.61	1.0	50	0	105	79 - 122				
2-Hexanone	90.28	2.0	100	0	90.3	57 - 139				
4-Chlorotoluene	52.5	1.0	50	0	105	78 - 122				
4-Isopropyltoluene	47.52	1.0	50	0	95.0	77 - 127				
4-Methyl-2-pentanone	83.43	2.0	100	0	83.4	67 - 130				
Acetone	88.41	2.0	100	0	88.4	39 - 160				
Benzene	51.57	1.0	50	0	103	79 - 120				
Bromobenzene	49.72	1.0	50	0	99.4	80 - 120				
Bromochloromethane	55.14	1.0	50	0	110	78 - 123				
Bromodichloromethane	51.35	1.0	50	0	103	79 - 125				
Bromoform	48.56	1.0	50	0	97.1	66 - 130				
Bromomethane	47.6	1.0	50	0	95.2	53 - 141				

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

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365

QC BATCH REPORT

Batch ID: R307031 **Instrument: VOA6** **Method: SW8260**

LCS Sample ID: **VLCSW-171211** Units: **ug/L** Analysis Date: **11-Dec-2017 12:41**
Client ID: Run ID: **VOA6_307031** SeqNo: **4346934** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	99.02	2.0	100	0	99.0	64 - 133				
Carbon tetrachloride	50.73	1.0	50	0	101	72 - 136				
Chlorobenzene	49.48	1.0	50	0	99.0	80 - 120				
Chloroethane	45.36	1.0	50	0	90.7	82 - 118				
Chloroform	48.71	1.0	50	0	97.4	79 - 124				
Chloromethane	49.4	1.0	50	0	98.8	50 - 139				
cis-1,2-Dichloroethene	50.4	1.0	50	0	101	78 - 123				
cis-1,3-Dichloropropene	51.01	1.0	50	0	102	75 - 124				
Dibromochloromethane	47.43	1.0	50	0	94.9	74 - 126				
Dibromomethane	48.38	1.0	50	0	96.8	79 - 123				
Dichlorodifluoromethane	50.54	1.0	50	0	101	32 - 152				
Ethylbenzene	49.29	1.0	50	0	98.6	79 - 121				
Hexachlorobutadiene	57.94	1.0	50	0	116	66 - 134				
Isopropylbenzene	49.41	1.0	50	0	98.8	72 - 131				
m,p-Xylene	97.61	2.0	100	0	97.6	80 - 121				
Methylene chloride	52.19	2.0	50	0	104	74 - 124				
Naphthalene	44.88	1.0	50	0	89.8	61 - 128				
n-Butylbenzene	48.62	1.0	50	0	97.2	75 - 128				
n-Propylbenzene	50.94	1.0	50	0	102	76 - 126				
o-Xylene	50.11	1.0	50	0	100	78 - 122				
sec-Butylbenzene	46.24	1.0	50	0	92.5	77 - 126				
Styrene	51.56	1.0	50	0	103	78 - 128				
tert-Butylbenzene	51.18	1.0	50	0	102	78 - 124				
Tetrachloroethene	51.92	1.0	50	0	104	74 - 129				
Toluene	49.26	1.0	50	0	98.5	80 - 121				
trans-1,2-Dichloroethene	51.13	1.0	50	0	102	75 - 124				
trans-1,3-Dichloropropene	49.61	1.0	50	0	99.2	73 - 127				
Trichloroethene	51.76	1.0	50	0	104	79 - 123				
Trichlorofluoromethane	46.35	1.0	50	0	92.7	65 - 141				
Vinyl chloride	45.61	1.0	50	0	91.2	58 - 137				
Surr: 1,2-Dichloroethane-d4	*44.39*	*1.0*	*50*	*0*	*88.8*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.19*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*48.23*	*1.0*	*50*	*0*	*96.5*	*80 - 119*				
Surr: Toluene-d8	*52.28*	*1.0*	*50*	*0*	*105*	*89 - 112*				

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

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365

QC BATCH REPORT

Batch ID: R307031 **Instrument: VOA6** **Method: SW8260**

MS Sample ID: **HS17120435-01MS** Units: **ug/L** Analysis Date: **11-Dec-2017 16:25**
Client ID: Run ID: **VOA6_307031** SeqNo: **4346940** 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	25.49	1.0	50	0	51.0	78 - 124				S
1,1,1-Trichloroethane	27.26	1.0	50	0	54.5	74 - 131				S
1,1,2,2-Tetrachloroethane	34.14	1.0	50	0	68.3	71 - 121				S
1,1,2-Trichloroethane	27.67	1.0	50	0	55.3	80 - 119				S
1,1-Dichloroethane	24.8	1.0	50	0	49.6	77 - 125				S
1,1-Dichloroethene	26.68	1.0	50	0	53.4	71 - 131				S
1,1-Dichloropropene	28.84	1.0	50	0	57.7	79 - 125				S
1,2,3-Trichlorobenzene	21.13	1.0	50	0	42.3	69 - 129				S
1,2,3-Trichloropropane	31.56	1.0	50	0	63.1	73 - 122				S
1,2,4-Trichlorobenzene	22.31	1.0	50	0	44.6	69 - 130				S
1,2,4-Trimethylbenzene	27.31	1.0	50	0	54.6	76 - 124				S
1,2-Dibromo-3-chloropropane	31.3	1.0	50	0	62.6	62 - 128				
1,2-Dibromoethane	29.47	1.0	50	0	58.9	77 - 121				S
1,2-Dichlorobenzene	24.9	1.0	50	0	49.8	80 - 119				S
1,2-Dichloroethane	24.67	1.0	50	0	49.3	73 - 128				S
1,2-Dichloropropane	25.16	1.0	50	0	50.3	78 - 122				S
1,3,5-Trimethylbenzene	27.13	1.0	50	0	54.3	75 - 124				S
1,3-Dichlorobenzene	24.2	1.0	50	0	48.4	80 - 119				S
1,3-Dichloropropane	26.31	1.0	50	0	52.6	80 - 119				S
1,4-Dichlorobenzene	27.13	1.0	50	0	54.3	79 - 118				S
2,2-Dichloropropane	25.35	1.0	50	0	50.7	60 - 139				S
2-Butanone	68.12	2.0	100	0	68.1	56 - 143				
2-Chlorotoluene	28.27	1.0	50	0	56.5	79 - 122				S
2-Hexanone	68.27	2.0	100	0	68.3	57 - 139				
4-Chlorotoluene	27.61	1.0	50	0	55.2	78 - 122				S
4-Isopropyltoluene	23.24	1.0	50	0	46.5	77 - 127				S
4-Methyl-2-pentanone	62.43	2.0	100	0	62.4	67 - 130				S
Acetone	64.35	2.0	100	0	64.3	39 - 160				
Benzene	26.73	1.0	50	0	53.5	79 - 120				S
Bromobenzene	27.47	1.0	50	0	54.9	80 - 120				S
Bromochloromethane	29.03	1.0	50	0	58.1	78 - 123				S
Bromodichloromethane	25.7	1.0	50	0	51.4	79 - 125				S
Bromoform	29.58	1.0	50	0	59.2	66 - 130				S
Bromomethane	15.56	1.0	50	0	31.1	53 - 141				S

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

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365

QC BATCH REPORT

Batch ID: R307031 **Instrument: VOA6** **Method: SW8260**

MS Sample ID: **HS17120435-01MS** Units: **ug/L** Analysis Date: **11-Dec-2017 16:25**
Client ID: Run ID: **VOA6_307031** SeqNo: **4346940** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	54.79	2.0	100	0	54.8	64 - 133				S
Carbon tetrachloride	28.38	1.0	50	0	56.8	72 - 136				S
Chlorobenzene	25.5	1.0	50	0	51.0	80 - 120				S
Chloroethane	42.28	1.0	50	0	84.6	82 - 118				
Chloroform	24.83	1.0	50	0	49.7	79 - 124				S
Chloromethane	22.88	1.0	50	0	45.8	50 - 139				S
cis-1,2-Dichloroethene	25.59	1.0	50	0	51.2	78 - 123				S
cis-1,3-Dichloropropene	25.43	1.0	50	0	50.9	75 - 124				S
Dibromochloromethane	26.16	1.0	50	0	52.3	74 - 126				S
Dibromomethane	26.71	1.0	50	0	53.4	79 - 123				S
Dichlorodifluoromethane	25.38	1.0	50	0	50.8	32 - 152				
Ethylbenzene	25.23	1.0	50	0	50.5	79 - 121				S
Hexachlorobutadiene	23.24	1.0	50	0	46.5	66 - 134				S
Isopropylbenzene	24.48	1.0	50	0	49.0	72 - 131				S
m,p-Xylene	50.36	2.0	100	0	50.4	80 - 121				S
Methylene chloride	25.74	2.0	50	0	51.5	74 - 124				S
Naphthalene	22.94	1.0	50	0	45.9	61 - 128				S
n-Butylbenzene	22.7	1.0	50	0	45.4	75 - 128				S
n-Propylbenzene	27.38	1.0	50	0	54.8	76 - 126				S
o-Xylene	25.71	1.0	50	0	51.4	78 - 122				S
sec-Butylbenzene	23.11	1.0	50	0	46.2	77 - 126				S
Styrene	25.52	1.0	50	0	51.0	78 - 128				S
tert-Butylbenzene	26.69	1.0	50	0	53.4	78 - 124				S
Tetrachloroethene	28.54	1.0	50	0	57.1	74 - 129				S
Toluene	26.64	1.0	50	0	53.3	80 - 121				S
trans-1,2-Dichloroethene	26.73	1.0	50	0	53.5	75 - 124				S
trans-1,3-Dichloropropene	25.12	1.0	50	0	50.2	73 - 127				S
Trichloroethene	27.63	1.0	50	0	55.3	79 - 123				S
Trichlorofluoromethane	29.38	1.0	50	0	58.8	65 - 141				S
Vinyl chloride	24.67	1.0	50	0	49.3	58 - 137				S
Surr: 1,2-Dichloroethane-d4	*43.84*	*1.0*	*50*	*0*	*87.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.84*	*1.0*	*50*	*0*	*104*	*85 - 114*				
Surr: Dibromofluoromethane	*46.53*	*1.0*	*50*	*0*	*93.1*	*80 - 119*				
Surr: Toluene-d8	*52.67*	*1.0*	*50*	*0*	*105*	*89 - 112*				

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

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365

QC BATCH REPORT

Batch ID: R307031 **Instrument: VOA6** **Method: SW8260**

MSD Sample ID: **HS17120435-01MSD** Units: **ug/L** Analysis Date: **11-Dec-2017 16:49**
Client ID: Run ID: **VOA6_307031** SeqNo: **4346941** 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	31.81	1.0	50	0	63.6	78 - 124	25.49	22	20	SR
1,1,1-Trichloroethane	33.28	1.0	50	0	66.6	74 - 131	27.26	19.9	20	S
1,1,2,2-Tetrachloroethane	42.81	1.0	50	0	85.6	71 - 121	34.14	22.5	20	R
1,1,2-Trichloroethane	35.36	1.0	50	0	70.7	80 - 119	27.67	24.4	20	SR
1,1-Dichloroethane	31.32	1.0	50	0	62.6	77 - 125	24.8	23.3	20	SR
1,1-Dichloroethene	31.9	1.0	50	0	63.8	71 - 131	26.68	17.8	20	S
1,1-Dichloropropene	34.66	1.0	50	0	69.3	79 - 125	28.84	18.3	20	S
1,2,3-Trichlorobenzene	31.43	1.0	50	0	62.9	69 - 129	21.13	39.2	20	SR
1,2,3-Trichloropropane	38.74	1.0	50	0	77.5	73 - 122	31.56	20.4	20	R
1,2,4-Trichlorobenzene	32.67	1.0	50	0	65.3	69 - 130	22.31	37.7	20	SR
1,2,4-Trimethylbenzene	32.98	1.0	50	0	66.0	76 - 124	27.31	18.8	20	S
1,2-Dibromo-3-chloropropane	42.1	1.0	50	0	84.2	62 - 128	31.3	29.4	20	R
1,2-Dibromoethane	38.43	1.0	50	0	76.9	77 - 121	29.47	26.4	20	SR
1,2-Dichlorobenzene	32.43	1.0	50	0	64.9	80 - 119	24.9	26.3	20	SR
1,2-Dichloroethane	32.93	1.0	50	0	65.9	73 - 128	24.67	28.7	20	SR
1,2-Dichloropropane	33.33	1.0	50	0	66.7	78 - 122	25.16	27.9	20	SR
1,3,5-Trimethylbenzene	32.74	1.0	50	0	65.5	75 - 124	27.13	18.8	20	S
1,3-Dichlorobenzene	30.63	1.0	50	0	61.3	80 - 119	24.2	23.4	20	SR
1,3-Dichloropropane	34.78	1.0	50	0	69.6	80 - 119	26.31	27.7	20	SR
1,4-Dichlorobenzene	33.77	1.0	50	0	67.5	79 - 118	27.13	21.8	20	SR
2,2-Dichloropropane	31.46	1.0	50	0	62.9	60 - 139	25.35	21.5	20	R
2-Butanone	92.27	2.0	100	0	92.3	56 - 143	68.12	30.1	20	R
2-Chlorotoluene	33.5	1.0	50	0	67.0	79 - 122	28.27	16.9	20	S
2-Hexanone	87.76	2.0	100	0	87.8	57 - 139	68.27	25	20	R
4-Chlorotoluene	33.95	1.0	50	0	67.9	78 - 122	27.61	20.6	20	SR
4-Isopropyltoluene	28.46	1.0	50	0	56.9	77 - 127	23.24	20.2	20	SR
4-Methyl-2-pentanone	81.79	2.0	100	0	81.8	67 - 130	62.43	26.8	20	R
Acetone	86.15	2.0	100	0	86.1	39 - 160	64.35	29	20	R
Benzene	33.67	1.0	50	0	67.3	79 - 120	26.73	23	20	SR
Bromobenzene	32.96	1.0	50	0	65.9	80 - 120	27.47	18.2	20	S
Bromochloromethane	40.07	1.0	50	0	80.1	78 - 123	29.03	31.9	20	R
Bromodichloromethane	34.48	1.0	50	0	69.0	79 - 125	25.7	29.1	20	SR
Bromoform	38.61	1.0	50	0	77.2	66 - 130	29.58	26.5	20	R
Bromomethane	22.46	1.0	50	0	44.9	53 - 141	15.56	36.3	20	SR

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

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365

QC BATCH REPORT

Batch ID: R307031 **Instrument: VOA6** **Method: SW8260**

MSD Sample ID: **HS17120435-01MSD** Units: **ug/L** Analysis Date: **11-Dec-2017 16:49**
Client ID: Run ID: **VOA6_307031** SeqNo: **4346941** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	67.39	2.0	100	0	67.4	64 - 133	54.79	20.6	20	R
Carbon tetrachloride	34.25	1.0	50	0	68.5	72 - 136	28.38	18.7	20	S
Chlorobenzene	31.74	1.0	50	0	63.5	80 - 120	25.5	21.8	20	SR
Chloroethane	33.29	1.0	50	0	66.6	82 - 118	42.28	23.8	20	SR
Chloroform	31.65	1.0	50	0	63.3	79 - 124	24.83	24.2	20	SR
Chloromethane	27.83	1.0	50	0	55.7	50 - 139	22.88	19.5	20	
cis-1,2-Dichloroethene	32.03	1.0	50	0	64.1	78 - 123	25.59	22.3	20	SR
cis-1,3-Dichloropropene	34.15	1.0	50	0	68.3	75 - 124	25.43	29.3	20	SR
Dibromochloromethane	33.94	1.0	50	0	67.9	74 - 126	26.16	25.9	20	SR
Dibromomethane	36.22	1.0	50	0	72.4	79 - 123	26.71	30.2	20	SR
Dichlorodifluoromethane	29.59	1.0	50	0	59.2	32 - 152	25.38	15.3	20	
Ethylbenzene	31.85	1.0	50	0	63.7	79 - 121	25.23	23.2	20	SR
Hexachlorobutadiene	31.27	1.0	50	0	62.5	66 - 134	23.24	29.5	20	SR
Isopropylbenzene	30.96	1.0	50	0	61.9	72 - 131	24.48	23.4	20	SR
m,p-Xylene	62.33	2.0	100	0	62.3	80 - 121	50.36	21.2	20	SR
Methylene chloride	33.77	2.0	50	0	67.5	74 - 124	25.74	27	20	SR
Naphthalene	35.42	1.0	50	0	70.8	61 - 128	22.94	42.8	20	R
n-Butylbenzene	28.29	1.0	50	0	56.6	75 - 128	22.7	21.9	20	SR
n-Propylbenzene	32.68	1.0	50	0	65.4	76 - 126	27.38	17.6	20	S
o-Xylene	31.67	1.0	50	0	63.3	78 - 122	25.71	20.8	20	SR
sec-Butylbenzene	28.56	1.0	50	0	57.1	77 - 126	23.11	21.1	20	SR
Styrene	32.83	1.0	50	0	65.7	78 - 128	25.52	25.1	20	SR
tert-Butylbenzene	32.56	1.0	50	0	65.1	78 - 124	26.69	19.8	20	S
Tetrachloroethene	34.57	1.0	50	0	69.1	74 - 129	28.54	19.1	20	S
Toluene	31.71	1.0	50	0	63.4	80 - 121	26.64	17.4	20	S
trans-1,2-Dichloroethene	33.09	1.0	50	0	66.2	75 - 124	26.73	21.3	20	SR
trans-1,3-Dichloropropene	34.6	1.0	50	0	69.2	73 - 127	25.12	31.7	20	SR
Trichloroethene	35.28	1.0	50	0	70.6	79 - 123	27.63	24.3	20	SR
Trichlorofluoromethane	34.94	1.0	50	0	69.9	65 - 141	29.38	17.3	20	
Vinyl chloride	29.85	1.0	50	0	59.7	58 - 137	24.67	19	20	
Surr: 1,2-Dichloroethane-d4	*48.06*	*1.0*	*50*	*0*	*96.1*	*81 - 118*	*43.84*	*9.19*	*20*	
Surr: 4-Bromofluorobenzene	*54.24*	*1.0*	*50*	*0*	*108*	*85 - 114*	*51.84*	*4.52*	*20*	
Surr: Dibromofluoromethane	*49.39*	*1.0*	*50*	*0*	*98.8*	*80 - 119*	*46.53*	*5.95*	*20*	
Surr: Toluene-d8	*52.85*	*1.0*	*50*	*0*	*106*	*89 - 112*	*52.67*	*0.338*	*20*	

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

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

Client:	Bhate Environmental Associates, Inc.
Project:	Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder:	HS17120365

QC BATCH REPORT

Batch ID:	**R307031**	**Instrument:**	**VOA6**	**Method:**	**SW8260**

The following samples were analyzed in this batch:	HS17120365-01	HS17120365-02

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

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365

QC BATCH REPORT

Batch ID: R306743 **Instrument: UV-2450** **Method: SW7196**

MBLK Sample ID: **MBLK-306743** Units: **mg/L** Analysis Date: **07-Dec-2017 13:26**
Client ID: Run ID: **UV-2450_306743** SeqNo: **4340766** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.00500	0.0100								U

LCS Sample ID: **LCS-306743** Units: **mg/L** Analysis Date: **07-Dec-2017 13:26**
Client ID: Run ID: **UV-2450_306743** SeqNo: **4340767** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.246	0.0100	0.25	0	98.4	80 - 120				

LCSD Sample ID: **LCSD-306743** Units: **mg/L** Analysis Date: **07-Dec-2017 13:26**
Client ID: Run ID: **UV-2450_306743** SeqNo: **4340768** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.244	0.0100	0.25	0	97.6	80 - 120	0.246	0.816	20	

MS Sample ID: **HS17120366-01MS** Units: **mg/L** Analysis Date: **07-Dec-2017 13:26**
Client ID: Run ID: **UV-2450_306743** SeqNo: **4340770** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.219	0.0100	0.25	0.002	86.8	75 - 125				

MSD Sample ID: **HS17120366-01MSD** Units: **mg/L** Analysis Date: **07-Dec-2017 13:26**
Client ID: Run ID: **UV-2450_306743** SeqNo: **4340771** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.235	0.0100	0.25	0.002	93.2	75 - 125	0.219	7.05	20	

The following samples were analyzed in this batch: HS17120365-01

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

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: **HS17120365**

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 Carolina	624-2017	31-Dec-2017
North Dakota	R193 2017-2017	30-Apr-2018
Oklahoma	2017-088	31-Aug-2018
Texas	T104704231-17-19	30-Apr-2018

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

Sample Receipt Checklist

Client Name: Bhate Environmental
Work Order: HS17120365
Date/Time Received: **07-Dec-2017 08:50**
Received by: **JRM**

Checklist completed by: *Cesar A. Lira* eSignature 7-Dec-2017 Date
Reviewed by: *Sonia West* eSignature 8-Dec-2017 Date

Matrices: **WATER**
Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	0.8C/0.5C UC/C	IR30	
Cooler(s)/Kit(s):	43448		
Date/Time sample(s) sent to storage:	12/7/2017 1200		
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 MONTHLY EFFLUENT SAMPLES

Prepared By: Scott Beesinger

P.O. Number

HS17120365

Bhate Environmental Associates, Inc.

Groundwater Treatment Plant Monthly Effluent Samples

Analyses

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	VOLATILES	SILVER, SELENIUM, LEAD, BARIUM	HEXAVALENT CHROMIUM	1, 4 - DIOXANE	PERCHLORATE					Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_120617	Water	12/06/17 / 14:00		3	X									HCL	
LH18/24-SP650_120617	Water	12/06/17 / 14:00		4			X	X	X					NONE	
LH18/24-SP650_120617	Water	12/06/17 / 14:00		1		X								HNO3	
Trip Blank	Water	12/06/17		2	X									HCL	

Additional Remarks: **STANDARD TURN AROUND TIME**

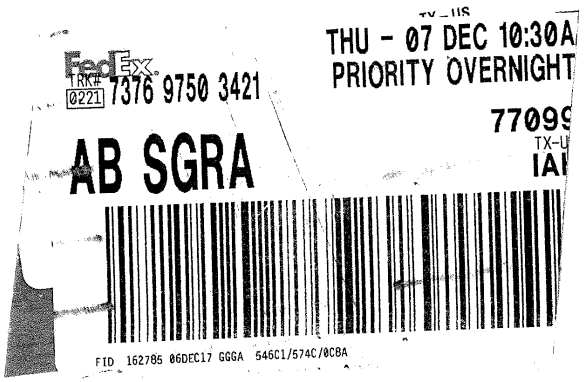
Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
	12/06/17	14:30									

For Lab Use Only

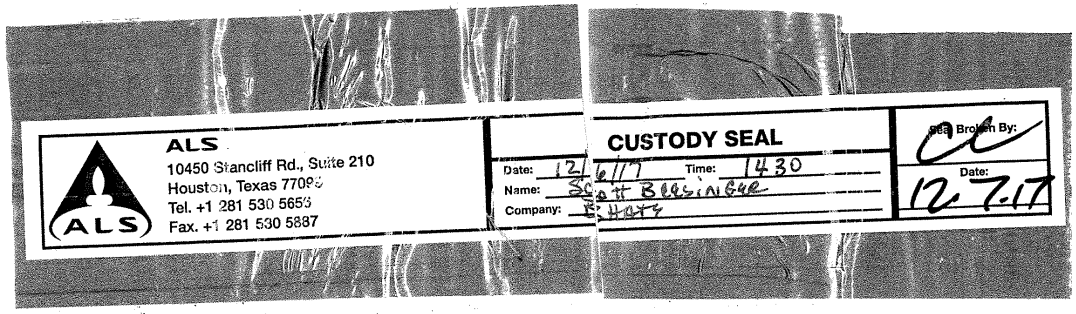
Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
JM	12.7.17	0850		CL			0.8c		

Remarks:
w=30
acc-0.3c

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


FedEx
TRK# 0221 7376 9750 3421
AB SGRA
THU - 07 DEC 10:30A
PRIORITY OVERNIGHT
77099
TX-U
IAI
FID 162785 06DEC17 GGGA 546C1/574C/0C8A

43448


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
CUSTODY SEAL
Date: 12/6/17
Time: 1430
Name: Scott Bolsinger
Company: ALS Hou
Seal Broken By:
Date: 12.7.17

Volatile Organics Raw Data

Bhate Environmental Associates, Inc.
Project: GROUNDWATER TREATMENT PLANT
MONTHLY EFFLUENT SAMPLES
ALS WO# HS17120365

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120365

	CLIENT SAMPLE NO.	SMC1 (DCE) #	SMC2 #	SMC3 (TOL) #	OTHER #	TOT OUT
01	VLCSW-171211	89	96	104	102	0
02	VBLKW-0171211	89	95	104	101	0
03	HS17120365-02	88	96	105	104	0
04	HS17120365-01	91	98	104	102	0
05	HS17120435-01	88	93	105	104	0
06	HS17120435-01	96	99	106	108	0
07						
08						
09						
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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.: HS17120365

Matrix Spike - Sample No.: VSTD-ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT (ug/l)	% REC #	QC. LIMITS REC.
1,1,1-Trichloroethane	50.00	47.11	94	80-120
1,1,1,2-Tetrachloroetha	50.00	45.18	90	80-120
tert-Butylbenzene	50.00	45.59	91	80-120
Naphthalene	50.00	45.17	90	80-120
sec-Butylbenzene	50.00	42.21	84	80-120
1,1,2,2-Tetrachloroetha	50.00	47.49	95	80-120
1,1,2-Trichloroethane	50.00	43.24	86	80-120
1,1-Dichloropropene	50.00	47.86	96	80-120
1,1-Dichloroethane	50.00	45.86	92	80-120
1,1-Dichloroethene	50.00	48.21	96	80-120
1,2,4-Trichlorobenzene	50.00	43.79	88	80-120
1,2-Dibromo-3-Chloropro	50.00	42.38	85	80-120
1,2-Dibromoethane	50.00	44.45	89	80-120
1,2-Dichlorobenzene	50.00	42.31	85	80-120
1,2-Dichloroethane	50.00	44.55	89	80-120
1,2-Dichloropropane	50.00	45.43	91	80-120
1,3-Dichlorobenzene	50.00	41.26	82	80-120
1,4-Dichlorobenzene	50.00	46.67	93	80-120
2-Butanone	100.00	94.22	94	80-120
2-Hexanone	100.00	90.37	90	80-120
4-Methyl-2-Pentanone	100.00	81.65	82	80-120
Acetone	100.00	93.55	94	80-120
Benzene	50.00	45.97	92	80-120
Bromodichloromethane	50.00	46.08	92	80-120
Bromoform	50.00	43.36	87	80-120
Bromomethane	50.00	51.19	102	80-120
Carbon Disulfide	100.00	94.09	94	80-120
Carbon Tetrachloride	50.00	48.57	97	80-120

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

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120365

Matrix Spike - Sample No.: VSTD-ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT (ug/l)	% REC #	QC. LIMITS REC.
Chlorobenzene	50.00	45.40	91	80-120
Chloroethane	50.00	48.63	97	80-120
Chloroform	50.00	45.56	91	80-120
Chloromethane	50.00	47.84	96	80-120
cis-1,2-Dichloroethene	50.00	46.51	93	80-120
cis-1,3-Dichloropropene	50.00	45.33	91	80-120
Dibromochloromethane	50.00	43.12	86	80-120
Dichlorodifluoromethane	50.00	53.36	107	80-120
Ethylbenzene	50.00	45.53	91	80-120
Isopropylbenzene	50.00	41.42	83	80-120
Methylene Chloride	50.00	48.37	97	80-120
Tetrachloroethene	50.00	46.39	93	80-120
Toluene	50.00	43.08	86	80-120
trans-1,2-Dichloroethen	50.00	48.12	96	80-120
trans-1,3-Dichloroprope	50.00	44.84	90	80-120
Trichloroethene	50.00	46.61	93	80-120
Trichlorofluoromethane	50.00	52.34	105	80-120
Vinyl Chloride	50.00	48.72	97	80-120
m,p-Xylenes	100.00	89.02	89	80-120
o-Xylene	50.00	42.08	84	80-120
Xylenes (total)	150.00	131.10	87	80-120
1,2,3-Trichloropropane	50.00	44.45	89	80-120
1,2,3-Trichlorobenzene	50.00	42.55	85	80-120
1,2,4-Trimethylbenzene	50.00	45.96	92	80-120
1,3,5-Trimethylbenzene	50.00	45.71	91	80-120
2,2-Dichloropropane	50.00	46.16	92	80-120
1,3-Dichloropropane	50.00	43.71	87	80-120
2-Chlorotoluene	50.00	47.46	95	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.: HS17120365

Matrix Spike - Sample No.: VSTD-ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT (ug/l)	% REC #	QC. LIMITS REC.
4-Chlorotoluene	50.00	46.42	93	80-120
p-Isopropyltoluene	50.00	42.07	84	80-120
Bromochloromethane	50.00	50.11	100	80-120
Bromobenzene	50.00	43.16	86	80-120
Dibromomethane	50.00	45.52	91	80-120
Hexachlorobutadiene	50.00	52.84	106	80-120
n-Propylbenzene	50.00	46.32	93	80-120
n-Butylbenzene	50.00	46.59	93	80-120
Styrene	50.00	44.14	88	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.: HS17120365

Lab File ID: X120401 BFB Injection Date: 12/04/17

Instrument ID: VOA6 BFB Injection Time: 1034

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.5
75	30.0 - 60.0% of mass 95	47.8
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.6 (0.8)1
174	Greater than 50.0% of mass 95	75.9
175	5.0 - 9.0% of mass 174	5.4 (7.1)1
176	95.0 - 101.0% of mass 174	74.8 (98.6)1
177	5.0 - 9.0% of mass 176	4.8 (6.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD000.5	VSTD000.5	X120403	12/04/17	1134
02	VSTD001	VSTD001	X120404	12/04/17	1224
03	VSTD002	VSTD002	X120405	12/04/17	1249
04	VSTD005	VSTD005	X120406	12/04/17	1313
05	VSTD020	VSTD020	X120407	12/04/17	1338
06	VSTD050	VSTD050	X120408	12/04/17	1403
07	VSTD100	VSTD100	X120409	12/04/17	1428
08	VSTD150	VSTD150	X120410	12/04/17	1452
09	VSTD200	VSTD200	X120411	12/04/17	1517
10	VSTD-ICV	VSTD-ICV	X120414	12/04/17	1632
11					
12					
13					
14					
15					
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17					
18					
19					
20					
21					
22					

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120365

Instrument ID: VOA6 Calibration Date(s): 12/04/17 12/04/17

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1044 1517

LAB FILE ID: RF0.5: X120403 RF1: X120404 RF2: X120405
RF5: X120406 RF20: X120407 RF50: X120408

COMPOUND	RF0.5	RF1	RF2	RF5	RF20	RF50
1,1,1-Trichloroethane	0.903	0.877	0.897	0.818	0.684	0.759
1,1,1,2-Tetrachloroethane	0.422	0.413	0.374	0.361	0.326	0.328
tert-Butylbenzene	3538	7255	12489	31609	111001	264880
Naphthalene	1819	4149	6458	16391	84834	235418
sec-Butylbenzene	2.486	2.426	2.130	2.015	1.755	1.775
1,1,2,2-Tetrachloroethane	2797	4996	9539	24724	81404	193227
1,1,2-Trichloroethane	0.372	0.335	0.366	0.338	0.299	0.316
1,1-Dichloropropene	0.500	0.519	0.503	0.440	0.367	0.416
1,1-Dichloroethane	1.290	1.326	1.163	1.094	0.981	1.033
1,1-Dichloroethene	0.599	0.560	0.586	0.518	0.435	0.486
1,2,4-Trichlorobenzene	345	1060	2320	8175	33731	87045
1,2-Dibromo-3-Chloropropane	0.158	0.144	0.141	0.138	0.121	0.128
1,2-Dibromoethane	0.428	0.418	0.404	0.388	0.358	0.350
1,2-Dichlorobenzene	1.434	1.704	1.378	1.364	1.156	1.201
1,2-Dichloroethane	0.679	0.612	0.541	0.529	0.466	0.488
1,2-Dichloropropane	0.501	0.438	0.431	0.394	0.366	0.366
1,3-Dichlorobenzene	1.595	1.725	1.463	1.367	1.229	1.212
1,4-Dichlorobenzene	3391	6725	11635	29989	97637	253361
2-Butanone	0.217	0.270	0.235	0.247	0.244	0.253
2-Hexanone	0.415	0.396	0.384	0.382	0.366	0.367
4-Methyl-2-Pentanone	0.506	0.430	0.480	0.424	0.403	0.376
Acetone	3611	4847	7138	13572	39992	90875
Benzene	1.690	1.644	1.474	1.441	1.254	1.327
Bromodichloromethane	0.606	0.559	0.546	0.520	0.454	0.480
Bromoform	0.312	0.292	0.288	0.280	0.255	0.256
Bromomethane	0.521	0.480	0.513	0.457	0.384	0.421
Carbon Disulfide	1.872	1.786	1.749	1.582	1.299	1.459
Carbon Tetrachloride	0.443	0.420	0.429	0.390	0.324	0.359
Chlorobenzene	1.160	1.120	1.052	0.985	0.893	0.908
Chloroethane	0.494	0.459	0.453	0.396	0.362	0.414
Chloroform	1.277	1.222	1.175	1.099	0.967	1.010
Chloromethane	0.899	0.958	0.874	0.772	0.679	0.735
cis-1,2-Dichloroethene	0.726	0.782	0.710	0.648	0.590	0.623
cis-1,3-Dichloropropene	0.714	0.707	0.651	0.642	0.562	0.580
Dibromochloromethane	0.520	0.536	0.459	0.458	0.409	0.393
Dichlorodifluoromethane	0.526	0.439	0.552	0.497	0.378	0.497
Ethylbenzene	0.577	0.570	0.518	0.488	0.423	0.440
Isopropylbenzene	1.229	1.370	1.247	1.139	0.985	1.032
Methylene Chloride	3056	6341	10133	22892	71507	180238
Tetrachloroethene	0.286	0.239	0.285	0.242	0.202	0.227
Toluene	1.872	1.777	1.845	1.566	1.396	1.448
trans-1,2-Dichloroethene	0.643	0.594	0.623	0.582	0.494	0.543
trans-1,3-Dichloropropene	0.641	0.594	0.617	0.540	0.494	0.532
Trichloroethene	0.390	0.356	0.372	0.338	0.294	0.316

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712036

Instrument ID: VOA6 Calibration Date(s): 12/04/17 12/04/17

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1044 1517

LAB FILE ID: RF0.5: X120403 RF1: X120404 RF2: X120405
RF5: X120406 RF20: X120407 RF50: X120408

COMPOUND	RF0.5	RF1	RF2	RF5	RF20	RF50
Trichlorofluoromethane	0.770	0.653	0.774	0.672	0.556	0.681
Vinyl Chloride	0.832	0.823	0.771	0.737	0.610	0.689
m,p-Xylenes	0.693	0.671	0.636	0.586	0.512	0.528
o-Xylene	0.681	0.670	0.623	0.580	0.526	0.537
Xylenes (total)	0.647	0.604	0.561	0.523	0.460	0.480
1,2,3-Trichloropropane	1.595	1.434	1.349	1.378	1.168	1.182
1,2,3-Trichlorobenzene	411	1132	1695	6192	25883	66722
1,2,4-Trimethylbenzene	5307	10904	18804	46656	171210	403355
1,3,5-Trimethylbenzene	5073	10498	17497	46063	144848	373055
2,2-Dichloropropane	1.023	1.042	0.962	0.850	0.724	0.805
1,3-Dichloropropane	0.792	0.795	0.779	0.708	0.630	0.669
2-Chlorotoluene	4501	11293	18394	45763	149733	380992
4-Chlorotoluene	5835	12435	21715	56039	172685	450798
p-Isopropyltoluene	2.126	2.162	1.889	1.705	1.530	1.584
Bromochloromethane	1301	2153	4229	9806	33389	80360
Bromobenzene	1.098	1.077	0.933	0.916	0.778	0.820
Dibromomethane	0.307	0.273	0.252	0.257	0.230	0.234
Hexachlorobutadiene	307	674	1825	4245	11677	31516
n-Propylbenzene	7180	14911	26888	66662	210434	543610
n-Butylbenzene	1.435	1.714	1.457	1.382	1.240	1.388
Styrene	1.182	1.153	1.078	1.059	0.973	1.000
1,2-Dichloroethane-d4	4185	5683	10983	26603	100528	237722
Dibromofluoromethane	2995	3914	8330	21067	78949	185772
Toluene-d8	11184	14151	31479	72459	272481	652586
4-Bromofluorobenzene	4203	5522	10824	26717	97863	233818

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712036

Instrument ID: VOA6 Calibration Date(s): 12/04/17 12/04/17

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1044 1517

LAB FILE ID: RF100: X120409 RF150: X120410 RF200: X120411

COMPOUND	RF100	RF150	RF200
1,1,1-Trichloroethane	0.785	0.780	0.774
1,1,1,2-Tetrachloroethane	0.338	0.320	0.338
tert-Butylbenzene	549903	808476	1072881
Naphthalene	565219	850255	1215604
sec-Butylbenzene	1.868	1.811	1.887
1,1,2,2-Tetrachloroethane	399608	575153	787284
1,1,2-Trichloroethane	0.308	0.263	0.314
1,1-Dichloropropene	0.430	0.416	0.420
1,1-Dichloroethane	1.058	1.030	1.024
1,1-Dichloroethene	0.480	0.480	0.465
1,2,4-Trichlorobenzene	188818	277618	393710
1,2-Dibromo-3-Chloropropane	0.127	0.125	0.134
1,2-Dibromoethane	0.367	0.316	0.352
1,2-Dichlorobenzene	1.220	1.162	1.262
1,2-Dichloroethane	0.496	0.468	0.493
1,2-Dichloropropane	0.371	0.352	0.369
1,3-Dichlorobenzene	1.220	1.155	1.254
1,4-Dichlorobenzene	509536	726487	1008432
2-Butanone	0.262	0.258	0.270
2-Hexanone	0.388	0.358	0.413
4-Methyl-2-Pentanone	0.410	0.388	0.435
Acetone	182637	267969	361044
Benzene	1.343	1.278	1.326
Bromodichloromethane	0.488	0.453	0.476
Bromoform	0.267	0.239	0.285
Bromomethane	0.430	0.432	0.440
Carbon Disulfide	1.497	1.486	1.447
Carbon Tetrachloride	0.371	0.355	0.354
Chlorobenzene	0.958	0.882	0.929
Chloroethane	0.420	0.411	0.405
Chloroform	1.030	0.997	1.020
Chloromethane	0.771	0.761	0.789
cis-1,2-Dichloroethene	0.634	0.612	0.613
cis-1,3-Dichloropropene	0.585	0.583	0.607
Dibromochloromethane	0.411	0.358	0.441
Dichlorodifluoromethane	0.508	0.531	0.503
Ethylbenzene	0.467	0.436	0.456
Isopropylbenzene	1.109	1.002	1.161
Methylene Chloride	359875	506476	694800
Tetrachloroethene	0.230	0.211	0.227
Toluene	1.512	1.300	1.538
trans-1,2-Dichloroethene	0.561	0.548	0.551
trans-1,3-Dichloropropene	0.515	0.462	0.518
Trichloroethene	0.321	0.307	0.313

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712036

Instrument ID: VOA6 Calibration Date(s): 12/04/17 12/04/17

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1044 1517

LAB FILE ID: RF100: X120409 RF150: X120410 RF200: X120411

COMPOUND	RF100	RF150	RF200
Trichlorofluoromethane	0.680	0.695	0.657
Vinyl Chloride	0.718	0.730	0.712
m,p-Xylenes	0.563	0.520	0.542
o-Xylene	0.571	0.509	0.562
Xylenes (total)	0.508	0.491	0.478
1,2,3-Trichloropropane	1.248	1.198	1.279
1,2,3-Trichlorobenzene	152500	227515	320961
1,2,4-Trimethylbenzene	829267	1192916	1638094
1,3,5-Trimethylbenzene	778968	1118942	1525239
2,2-Dichloropropane	0.824	0.819	0.816
1,3-Dichloropropane	0.644	0.556	0.683
2-Chlorotoluene	788760	1114234	1527940
4-Chlorotoluene	937994	1335693	1835422
p-Isopropyltoluene	1.629	1.568	1.646
Bromochloromethane	152708	212980	292625
Bromobenzene	0.832	0.782	0.859
Dibromomethane	0.239	0.221	0.229
Hexachlorobutadiene	58518	89042	123984
n-Propylbenzene	1159416	1664464	2219188
n-Butylbenzene	1.422	1.374	1.426
Styrene	1.060	0.942	1.010
1,2-Dichloroethane-d4	487421	686425	945480
Dibromofluoromethane	379572	535487	707188
Toluene-d8	1363184		
4-Bromofluorobenzene	479001		

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712036

Instrument ID: VOA6 Calibration Date(s): 12/04/17 12/04/17

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1044 1517

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MAX %RSD OR R^2
1,1,1-Trichloroethane	AVRG		0.80867113		8.969	15.000
1,1,1,2-Tetrachloroethane	AVRG		0.35798498		10.654	15.000
tert-Butylbenzene	LINR	6.39e-003	0.72066260		0.9993746	0.9900000
Naphthalene	2ORDR	2.813e-002	0.80598534	-2.85e-002	0.9988618	0.9900000
sec-Butylbenzene	AVRG		2.01712245		13.678	15.000
1,1,2,2-Tetrachloroethane	LINR	7.116e-003	0.99148021		0.9983112	0.9900000
1,1,2-Trichloroethane	AVRG		0.32348280		10.473	15.000
1,1-Dichloropropene	AVRG		0.44582181		11.339	15.000
1,1-Dichloroethane	AVRG		1.11123467		11.086	15.000
1,1-Dichloroethene	AVRG		0.51194074		11.204	15.000
1,2,4-Trichlorobenzene	LINR	5.474e-002	1.98938576		0.9959177	0.9900000
1,2-Dibromo-3-Chloropropane	AVRG		0.13513307		8.381	15.000
1,2-Dibromoethane	AVRG		0.37583337		9.666	15.000
1,2-Dichlorobenzene	AVRG		1.32039414		13.255	15.000
1,2-Dichloroethane	AVRG		0.53026532		13.562	15.000
1,2-Dichloropropane	AVRG		0.39874575		12.267	15.000
1,3-Dichlorobenzene	AVRG		1.35785719		14.530	15.000
1,4-Dichlorobenzene	LINR	1.072e-002	0.77602682		0.9977073	0.9900000
2-Butanone	AVRG		0.25076355		6.927	15.000
2-Hexanone	AVRG		0.38536176		5.202	15.000
4-Methyl-2-Pentanone	AVRG		0.42791508		9.767	15.000
Acetone	LINR	-3.68e-002	6.18995628		0.9994341	0.9900000
Benzene	AVRG		1.41975781		11.073	15.000
Bromodichloromethane	AVRG		0.50920970		10.290	15.000
Bromoform	AVRG		0.27489566		8.216	15.000
Bromomethane	AVRG		0.45298672		9.810	15.000
Carbon Disulfide	AVRG		1.57518724		11.942	15.000
Carbon Tetrachloride	AVRG		0.38278820		10.546	15.000
Chlorobenzene	AVRG		0.98741528		10.268	15.000
Chloroethane	AVRG		0.42379603		9.248	15.000
Chloroform	AVRG		1.08866124		10.164	15.000
Chloromethane	AVRG		0.80424255		10.962	15.000
cis-1,2-Dichloroethene	AVRG		0.65980875		9.802	15.000
cis-1,3-Dichloropropene	AVRG		0.62567698		9.000	15.000
Dibromochloromethane	AVRG		0.44275505		13.119	15.000
Dichlorodifluoromethane	AVRG		0.49227696		10.751	15.000
Ethylbenzene	AVRG		0.48611172		11.762	15.000
Isopropylbenzene	AVRG		1.14144458		11.088	15.000
Methylene Chloride	LINR	-6.17e-003	1.60383629		0.9992143	0.9900000
Tetrachloroethene	AVRG		0.23885614		12.287	15.000
Toluene	AVRG		1.58371512		12.825	15.000
trans-1,2-Dichloroethene	AVRG		0.57110424		7.881	15.000
trans-1,3-Dichloropropene	AVRG		0.54598559		10.862	15.000
Trichloroethene	AVRG		0.33409996		9.654	15.000

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712036

Instrument ID: VOA6 Calibration Date(s): 12/04/17 12/04/17

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1044 1517

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	COEFFICENTS A2	%RSD OR R^2	MAX %RSD OR R^2
Trichlorofluoromethane	AVRG		0.68226608		9.532	15.000
Vinyl Chloride	AVRG		0.73583971		9.231	15.000
m,p-Xylenes	AVRG		0.58351137		11.637	15.000
o-Xylene	AVRG		0.58430138		10.520	15.000
Xylenes (total)	AVRG		0.52810074		12.051	15.000
1,2,3-Trichloropropane	AVRG		1.31459908		10.637	15.000
1,2,3-Trichlorobenzene	LINR	6.62e-002	2.43381219		0.9954426	0.9900000
1,2,4-Trimethylbenzene	LINR	8.838e-003	0.47674138		0.9982157	0.9900000
1,3,5-Trimethylbenzene	LINR	1.302e-002	0.50999412		0.9984176	0.9900000
2,2-Dichloropropane	AVRG		0.87382794		12.458	15.000
1,3-Dichloropropane	AVRG		0.69533606		11.759	15.000
2-Chlorotoluene	LINR	7.454e-003	0.50976189		0.9981772	0.9900000
4-Chlorotoluene	LINR	1.293e-002	0.42463012		0.9980663	0.9900000
p-Isopropyltoluene	AVRG		1.76006192		13.702	15.000
Bromochloromethane	LINR	-2.01e-002	3.81445346		0.9990174	0.9900000
Bromobenzene	AVRG		0.89949808		13.240	15.000
Dibromomethane	AVRG		0.24903857		10.820	15.000
Hexachlorobutadiene	LINR	1.578e-002	6.35628609		0.9967279	0.9900000
n-Propylbenzene	LINR	1.001e-002	0.34770480		0.9990166	0.9900000
n-Butylbenzene	AVRG		1.42651618		8.751	15.000
Styrene	AVRG		1.05080343		7.586	15.000
1,2-Dichloroethane-d4	LINR	3.623e-003	1.17768091		0.9990874	0.9900000
Dibromofluoromethane	LINR	-9.8e-003	1.55201840		0.9996990	0.9900000
Toluene-d8	2ORDR	-9.88e-003	0.69906232	-2.01e-002	0.9998391	0.9900000
4-Bromofluorobenzene	2ORDR	-9.96e-003	1.92592378	-0.1055573	0.9998690	0.9900000

FORM VI VOA

MSVOA06 -Logbook

Batch: 30159
Date: 12-04-2017
Method: 8260
Comments:

Analyst: Presenta Cabascango
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	12-04-2017 10:34 am	1.00	50 mL	50 mL	X120401.D	Liquid	Y	NA
2	*Auto find/ purged* VSTD000.25	ICAL1	12-04-2017 10:44 am	1.00	50 mL	50 mL	X120402.D	Liquid	Y	NA
3	*0.1 uL cal std/100 mL DI* VSTD000.5	ICAL2	12-04-2017 11:34 am	1.00	50 mL	50 mL	X120403.D	Liquid	Y	NA
4	*0.10 uL cal std/50 mL DI* VSTD001	ICAL3	12-04-2017 12:24 pm	1.00	50 mL	50 mL	X120404.D	Liquid	Y	NA
5	*0.20 uL cal std/50 mL DI* VSTD002	ICAL4	12-04-2017 12:49 pm	1.00	50 mL	50 mL	X120405.D	Liquid	Y	NA
6	*0.40 uL cal std/50 mL DI* VSTD005	ICAL5	12-04-2017 01:13 pm	1.00	50 mL	50 mL	X120406.D	Liquid	Y	NA
7	*1.0 uL cal std/50 mL DI* VSTD020	ICAL6	12-04-2017 01:38 pm	1.00	50 mL	50 mL	X120407.D	Liquid	Y	NA
8	*4.0 uL cal std/50 mL DI* VSTD050	ICAL7	12-04-2017 02:03 pm	1.00	50 mL	50 mL	X120408.D	Liquid	Y	NA
9	*10 uL cal std/50 mL DI* VSTD100	ICAL8	12-04-2017 02:28 pm	1.00	50 mL	50 mL	X120409.D	Liquid	Y	NA
10	*20 uL cal std/50 mL DI* VSTD150	ICAL9	12-04-2017 02:52 pm	1.00	50 mL	50 mL	X120410.D	Liquid	Y	NA
11	*30 uL cal std/50 mL DI* VSTD200	ICAL	12-04-2017 03:17 pm	1.00	50 mL	50 mL	X120411.D	Liquid	Y	NA
12	*40 uL cal std/50 mL DI* BLK	SAMP	12-04-2017 03:42 pm	1.00	50 mL	50 mL	X120412.D	Liquid	Y	NA
13	*clean up blank* BLK	SAMP	12-04-2017 04:07 pm	1.00	50 mL	50 mL	X120413.D	Liquid	Y	NA
14	*clean up blank* VSTD-ICV	ICV	12-04-2017 04:32 pm	1.00	50 mL	50 mL	X120414.D	Liquid	Y	NA
15	*10 uL icv std/50 mL DI* VLCSW-120417	CCV	12-04-2017 04:57 pm	1.00	50 mL	50 mL	X120415.D	Liquid	Y	NA
16	*10 uL cal std/50 mL DI* VLCSDW-120417	CCV	12-04-2017 05:22 pm	1.00	50 mL	50 mL	X120416.D	Liquid	Y	NA
17	*10 uL cal std/50 mL DI* BLK	SAMP	12-04-2017 05:47 pm	1.00	50 mL	50 mL	X120417.D	Liquid	Y	NA
18	BLK	SAMP	12-04-2017 06:12 pm	1.00	50 mL	50 mL	X120418.D	Liquid	Y	NA
19	BLK	SAMP	12-04-2017 06:36 pm	1.00	50 mL	50 mL	X120419.D	Liquid	Y	NA
20	VBLKW-171204	MBLK	12-04-2017 07:01 pm	1.00	50 mL	50 mL	X120420.D	Liquid	Y	NA
21	HS17110622-12	SAMP	12-04-2017 07:26 pm	1.00	50 mL	50 mL	X120421.D	Liquid	Y	NA
22	HS17110622-12	SAMP	12-04-2017 07:51 pm	1.00	50 mL	50 mL	X120422.D	Liquid	Y	NA
23	HS17110622-10	SAMP	12-04-2017 08:16 pm	1.00	50 mL	50 mL	X120423.D	Liquid	Y	NA
24	HS17110622-11	SAMP	12-04-2017 08:41 pm	1.00	50 mL	50 mL	X120424.D	Liquid	Y	NA
25	HS17110627-08	SAMP	12-04-2017 09:06 pm	1.00	50 mL	50 mL	X120425.D	Liquid	Y	NA

MSVOA06 -Logbook

Chemical	Value
SURR SPK ID	30502-03-03
IS ID	30502-03-04
ICV STD ID	29814-95-01
LCS/MS ID	30502-05-01/02
CAL STD ID	30502-05-01/02
BFB ID	30502-03-03
pH Paper	634-37-03

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120401.D Page 3

Date : 04-DEC-2017 10:34

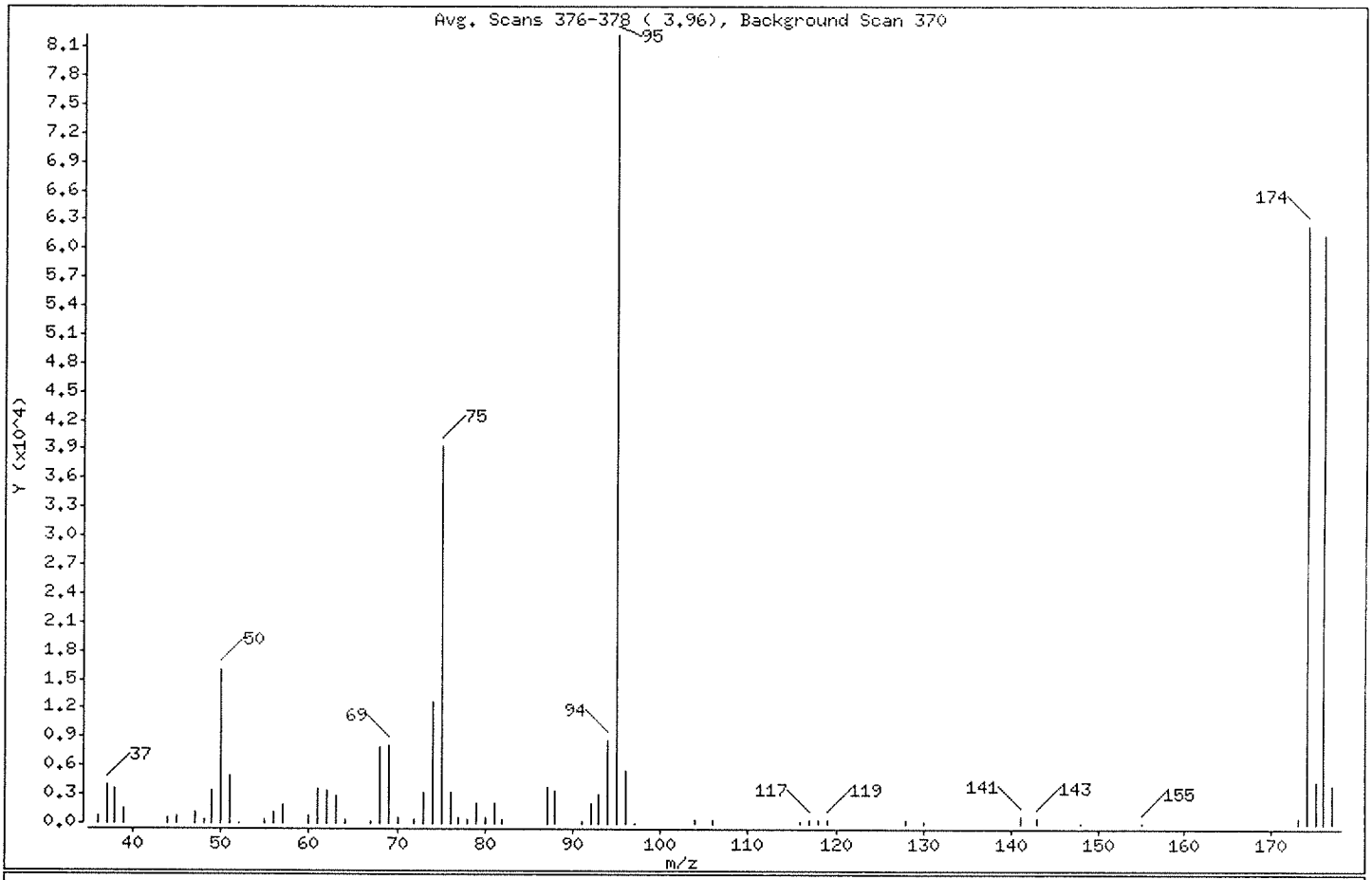
Client ID: BFB Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.48
75	30.00 - 60.00% of mass 95	47.83
96	5.00 - 9.00% of mass 95	6.72
173	Less than 2.00% of mass 174	0.60 (0.79)
174	Greater than 50.00% of mass 95	75.91
175	5.00 - 9.00% of mass 174	5.38 (7.09)
176	95.00 - 101.00% of mass 174	74.82 (98.56)
177	5.00 - 9.00% of mass 176	4.80 (6.41)

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120401.D

Date : 04-DEC-2017 10:34

Client ID: BFB Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25

Data File: X120401.D
Spectrum: Avg. Scans 376-378 (3.96), Background Scan 370
Location of Maximum: 95.00
Number of points: 61

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	720	61.00	3588	80.00	575	118.00	295
37.00	3988	62.00	3449	81.00	2054	119.00	387
38.00	3546	63.00	2792	82.00	423	128.00	320
39.00	1503	64.00	310	87.00	3871	130.00	229
44.00	642	67.00	178	88.00	3428	141.00	692
45.00	730	68.00	8011	91.00	237	143.00	657
47.00	1114	69.00	8179	92.00	2158	148.00	68
48.00	451	70.00	528	93.00	3095	155.00	75
49.00	3404	72.00	418	94.00	8688	173.00	491
50.00	16003	73.00	3156	95.00	82152	174.00	62360
51.00	4954	74.00	12721	96.00	5522	175.00	4420
52.00	91	75.00	39296	97.00	70	176.00	61464
55.00	302	76.00	3252	104.00	362	177.00	3941
56.00	1114	77.00	650	106.00	303		
57.00	1947	78.00	411	116.00	281		
60.00	680	79.00	2132	117.00	452		

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120401.D

Date : 04-DEC-2017 10:34

Client ID: BFB

Instrument: voa6.i

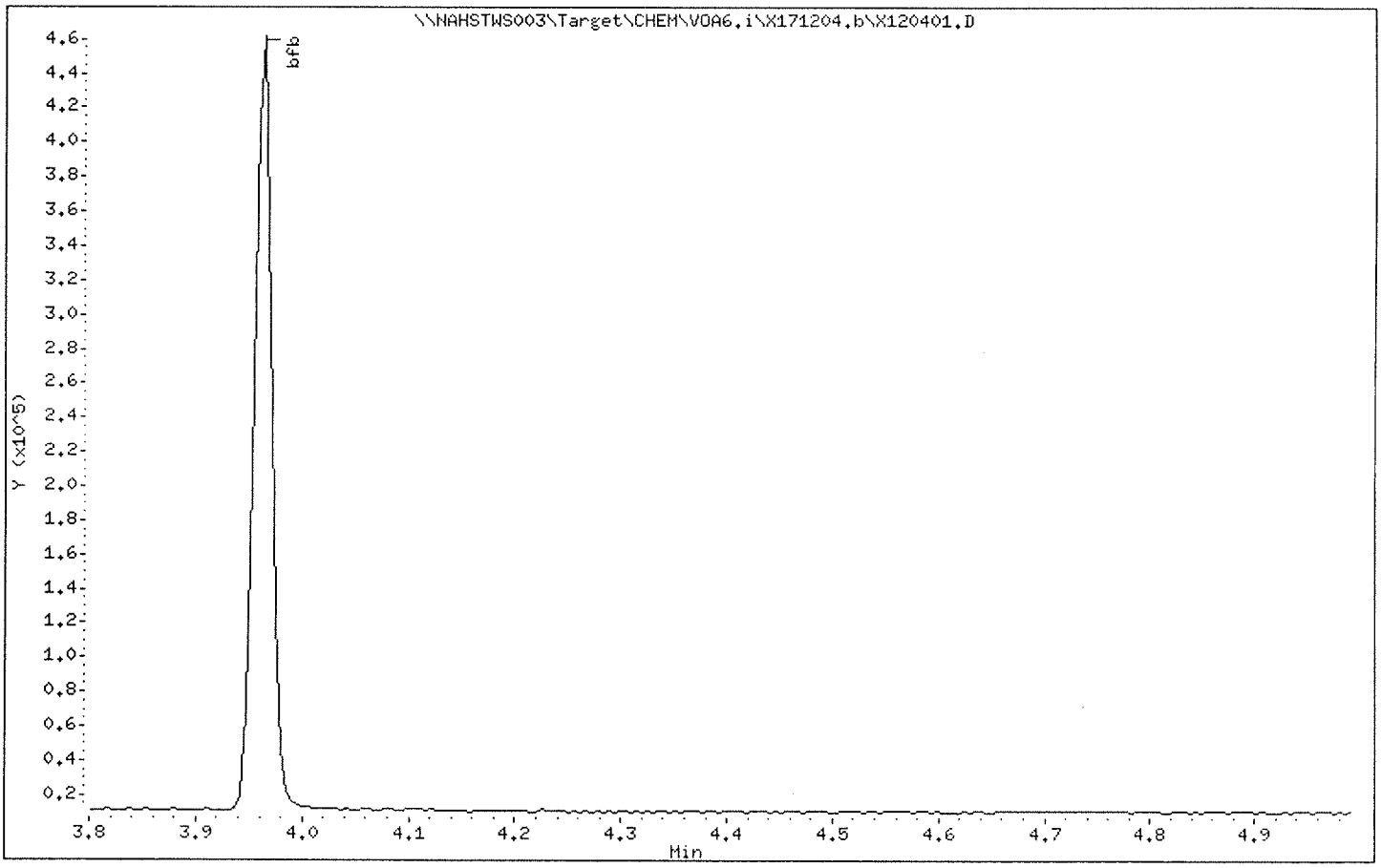
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120403.D
Report Date: 07-Feb-2018 20:07

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120403.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 04-DEC-2017 11:34
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.5;VSTD000.5;1;2;
Misc Info : HS16030331;WATER;0;1;
Comment :
Method : \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\8260W.m
Meth Date : 07-Feb-2018 20:07 diana.nguy Quant Type: ISTD
Cal Date : 04-DEC-2017 11:34 Cal File: X120403.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
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	4.232	4.232	(0.978)	2689	0.50000	0.55(a)
*	1 Pentafluorobenzene	168	4.325	4.325	(1.000)	297725	50.0000	
$	30 Dibromofluoromethane	113	4.254	4.254	(0.983)	2995	0.50000	0.29(a)
*	36 1,4-Difluorobenzene	114	5.085	5.085	(1.000)	504872	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.612	4.612	(1.066)	4185	0.50000	1.00(aM)
*	47 Chlorobenzene-d5	117	7.742	7.742	(1.000)	474370	50.0000	
$	48 Toluene-d8	98	6.474	6.474	(0.836)	11184	0.50000	0.32(a)
$	69 4-Bromofluorobenzene	95	8.759	8.759	(1.131)	4203	0.50000	0.35(a)
*	70 1,4-Dichlorobenzene-d4	152	9.726	9.726	(1.000)	187629	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	8.903	8.903	(0.915)	2797	0.50000	1.09(aM)
	53 1,1,2-Trichloroethane	83	6.926	6.926	(0.895)	1767	0.50000	0.57(a)
	32 1,1-Dichloropropene	75	4.426	4.426	(0.870)	2522	0.50000	0.56(a)
	22 1,1-Dichloroethane	63	3.079	3.079	(0.712)	3842	0.50000	0.58(aM)
	11 1,1-Dichloroethene	96	2.048	2.048	(0.473)	1784	0.50000	0.58(aM)
	90 1,2,4-Trichlorobenzene	180	11.402	11.402	(1.172)	345	0.50000	2.91(aM)
	89 1,2-Dibromo-3-Chloropropane	155	10.715	10.715	(1.102)	296	0.50000	0.58(aM)
	57 1,2-Dibromoethane	107	7.341	7.341	(0.948)	2028	0.50000	0.56(a)
	88 1,2-Dichlorobenzene	146	10.056	10.056	(1.034)	2691	0.50000	0.54(a)
	33 1,2-Dichloroethane	62	4.691	4.691	(0.923)	3429	0.50000	0.64(a)
	42 1,2-Dichloropropane	63	5.543	5.543	(1.090)	2531	0.50000	0.62(aM)
	83 1,3-Dichlorobenzene	146	9.669	9.669	(0.994)	2993	0.50000	0.58(a)
	84 1,4-Dichlorobenzene	146	9.748	9.748	(1.002)	3391	0.50000	1.23(a)

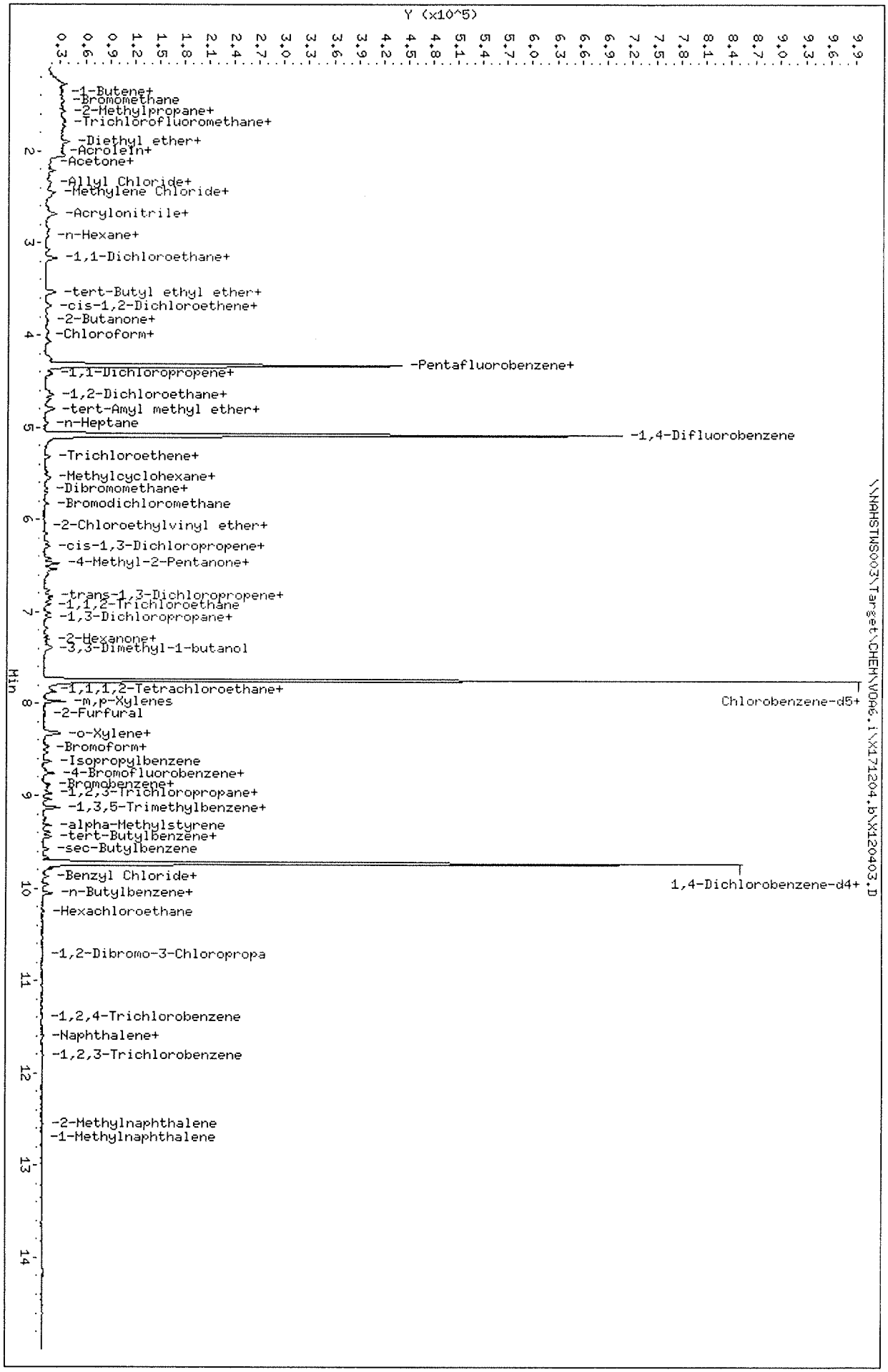
Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120403.D
Report Date: 07-Feb-2018 20:07

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
24	2-Butanone	43	3.767	3.767	(0.871)	1291	1.00000	0.86(a)
52	2-Hexanone	43	7.298	7.298	(0.943)	3940	1.00000	1.07(a)
45	4-Methyl-2-Pentanone	43	6.424	6.424	(0.830)	4797	1.00000	1.18(a)
10	Acetone	43	2.119	2.119	(0.490)	3611	1.00000	1.91(a)
37	Benzene	78	4.648	4.648	(0.914)	8533	0.50000	0.59(a)
39	Bromodichloromethane	83	5.830	5.830	(1.146)	3060	0.50000	0.59(aM)
66	Bromoform	173	8.480	8.480	(1.095)	1480	0.50000	0.56(aM)
6	Bromomethane	94	1.460	1.460	(0.338)	1550	0.50000	0.57(aM)
19	Carbon Disulfide	76	2.212	2.212	(0.512)	11144	1.00000	1.18(a)
34	Carbon Tetrachloride	117	4.411	4.411	(0.868)	2239	0.50000	0.57(aM)
59	Chlorobenzene	112	7.771	7.771	(1.004)	5504	0.50000	0.58(a)
7	Chloroethane	64	1.525	1.525	(0.353)	1472	0.50000	0.58(aM)
28	Chloroform	83	4.067	4.067	(0.940)	3801	0.50000	0.58(a)
3	Chloromethane	50	1.188	1.188	(0.275)	2676	0.50000	0.55(aM)
27	cis-1,2-Dichloroethene	96	3.688	3.688	(0.853)	2163	0.50000	0.55(a)
46	cis-1,3-Dichloropropene	75	6.252	6.252	(1.230)	3606	0.50000	0.57(a)
55	Dibromochloromethane	129	7.255	7.255	(0.937)	2465	0.50000	0.58(aM)
2	Dichlorodifluoromethane	85	1.080	1.080	(0.250)	1566	0.50000	0.53(aM)
61	Ethylbenzene	106	7.871	7.871	(1.017)	2736	0.50000	0.59(a)
67	Isopropylbenzene	105	8.623	8.623	(1.114)	5830	0.50000	0.53(a)
17	Methylene Chloride	84	2.449	2.449	(0.566)	3056	0.50000	0.51(aM)
56	Tetrachloroethene	164	7.011	7.011	(0.906)	1359	0.50000	0.59(a)
50	Toluene	91	6.532	6.532	(0.844)	8879	0.50000	0.59(aM)
20	trans-1,2-Dichloroethene	96	2.678	2.678	(0.619)	1914	0.50000	0.56(a)
51	trans-1,3-Dichloropropene	75	6.768	6.768	(1.331)	3236	0.50000	0.58(a)
38	Trichloroethene	130	5.321	5.321	(1.046)	1968	0.50000	0.58(a)
8	Trichlorofluoromethane	101	1.689	1.689	(0.391)	2293	0.50000	0.56(a)
5	Vinyl Chloride	62	1.260	1.260	(0.291)	2477	0.50000	0.56(aM)
62	m,p-Xylenes	106	7.978	7.978	(1.031)	6576	1.00000	1.18(a)
63	o-Xylene	106	8.308	8.308	(1.073)	3231	0.50000	0.58(a)
M 95	Xylenes (total)	106				9807	1.50000	1.77(a)
71	1,2,3-Trichloropropane	75	8.931	8.931	(0.918)	2993	0.50000	0.60(a)
93	1,2,3-Trichlorobenzene	180	11.804	11.804	(1.214)	411	0.50000	3.57(aM)
79	1,2,4-Trimethylbenzene	105	9.440	9.440	(0.971)	5307	0.50000	1.11(a)
75	1,3,5-Trimethylbenzene	105	9.132	9.132	(0.939)	5073	0.50000	1.14(a)
26	2,2-Dichloropropane	77	3.674	3.674	(0.849)	3045	0.50000	0.58(aM)
54	1,3-Dichloropropane	76	7.062	7.062	(0.912)	3758	0.50000	0.56(a)
76	2-Chlorotoluene	91	9.039	9.039	(0.929)	4501	0.50000	0.99(aM)
77	4-Chlorotoluene	91	9.139	9.139	(0.940)	5835	0.50000	1.30(aM)
82	p-Isopropyltoluene	119	9.712	9.712	(0.999)	3989	0.50000	0.60(a)
29	Bromochloromethane	128	3.967	3.967	(0.917)	1301	0.50000	(aM)
74	Bromobenzene	156	8.874	8.874	(0.912)	2061	0.50000	0.61(a)
44	Dibromomethane	93	5.665	5.665	(1.114)	1548	0.50000	0.61(a)
91	Hexachlorobutadiene	225	11.546	11.546	(1.187)	307	0.50000	1.30(aM)
73	n-Propylbenzene	91	8.974	8.974	(0.923)	7180	0.50000	1.16(aM)
87	n-Butylbenzene	91	10.056	10.056	(1.034)	2692	0.50000	0.50(a)
81	sec-Butylbenzene	105	9.583	9.583	(0.985)	4665	0.50000	0.61(a)
92	Naphthalene	128	11.603	11.603	(1.193)	1819	0.50000	1.79(a)
78	tert-Butylbenzene	119	9.397	9.397	(0.966)	3538	0.50000	0.99(a)
60	1,1,1,2-Tetrachloroethane	131	7.850	7.850	(1.014)	2004	0.50000	0.59(a)
64	Styrene	104	8.329	8.329	(1.076)	5609	0.50000	0.56(a)

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120403.D
Report Date: 07-Feb-2018 20:07

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\VOA6.i\X171204.b\X120403.D
Date : 04-DEC-2017 11:34
Client ID: VSTD000.5
Sample Info: VSTD000.5;VSTD000.5;1;2;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120404.D
Report Date: 07-Feb-2018 20:07

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120404.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 04-DEC-2017 12:24
Operator : PC Inst ID: voa6.i
Smp Info : VSTD001;VSTD001;1;3;
Misc Info : HS16030331;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa6.i\X171204.b\8260W.m
Meth Date : 07-Feb-2018 20:07 diana.nguy Quant Type: ISTD
Cal Date : 04-DEC-2017 12:24 Cal File: X120404.D
Als bottle: 6 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
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	4.239	4.239	(0.980)	5169	1.00000	1.08(a)
*	1 Pentafluorobenzene	168	4.325	4.325	(1.000)	294569	50.0000	
$	30 Dibromofluoromethane	113	4.254	4.254	(0.983)	3914	1.00000	0.54(a)
*	36 1,4-Difluorobenzene	114	5.085	5.085	(1.000)	498632	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.612	4.612	(1.066)	5683	1.00000	1.31(a)
*	47 Chlorobenzene-d5	117	7.742	7.742	(1.000)	448997	50.0000	
$	48 Toluene-d8	98	6.474	6.474	(0.836)	14151	1.00000	0.60(a)
$	69 4-Bromofluorobenzene	95	8.752	8.752	(1.130)	5522	1.00000	0.68(a)
*	70 1,4-Dichlorobenzene-d4	152	9.726	9.726	(1.000)	186015	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	8.903	8.903	(0.915)	4996	1.00000	1.68(aM)
	53 1,1,2-Trichloroethane	83	6.926	6.926	(0.895)	3005	1.00000	1.03(a)
	32 1,1-Dichloropropene	75	4.426	4.426	(0.870)	5178	1.00000	1.16(a)
	22 1,1-Dichloroethane	63	3.079	3.079	(0.712)	7815	1.00000	1.19(a)
	11 1,1-Dichloroethene	96	2.055	2.055	(0.475)	3298	1.00000	1.09(a)
	90 1,2,4-Trichlorobenzene	180	11.395	11.395	(1.172)	1060	1.00000	3.30(aM)
	89 1,2-Dibromo-3-Chloropropane	155	10.715	10.715	(1.102)	536	1.00000	1.06(aM)
	57 1,2-Dibromoethane	107	7.341	7.341	(0.948)	3754	1.00000	1.11(a)
	88 1,2-Dichlorobenzene	146	10.056	10.056	(1.034)	6341	1.00000	1.29(a)
	33 1,2-Dichloroethane	62	4.698	4.698	(0.924)	6107	1.00000	1.15(a)
	42 1,2-Dichloropropane	63	5.543	5.543	(1.090)	4373	1.00000	1.09(aM)
	83 1,3-Dichlorobenzene	146	9.669	9.669	(0.994)	6419	1.00000	1.27(a)
	84 1,4-Dichlorobenzene	146	9.748	9.748	(1.002)	6725	1.00000	1.93(a)

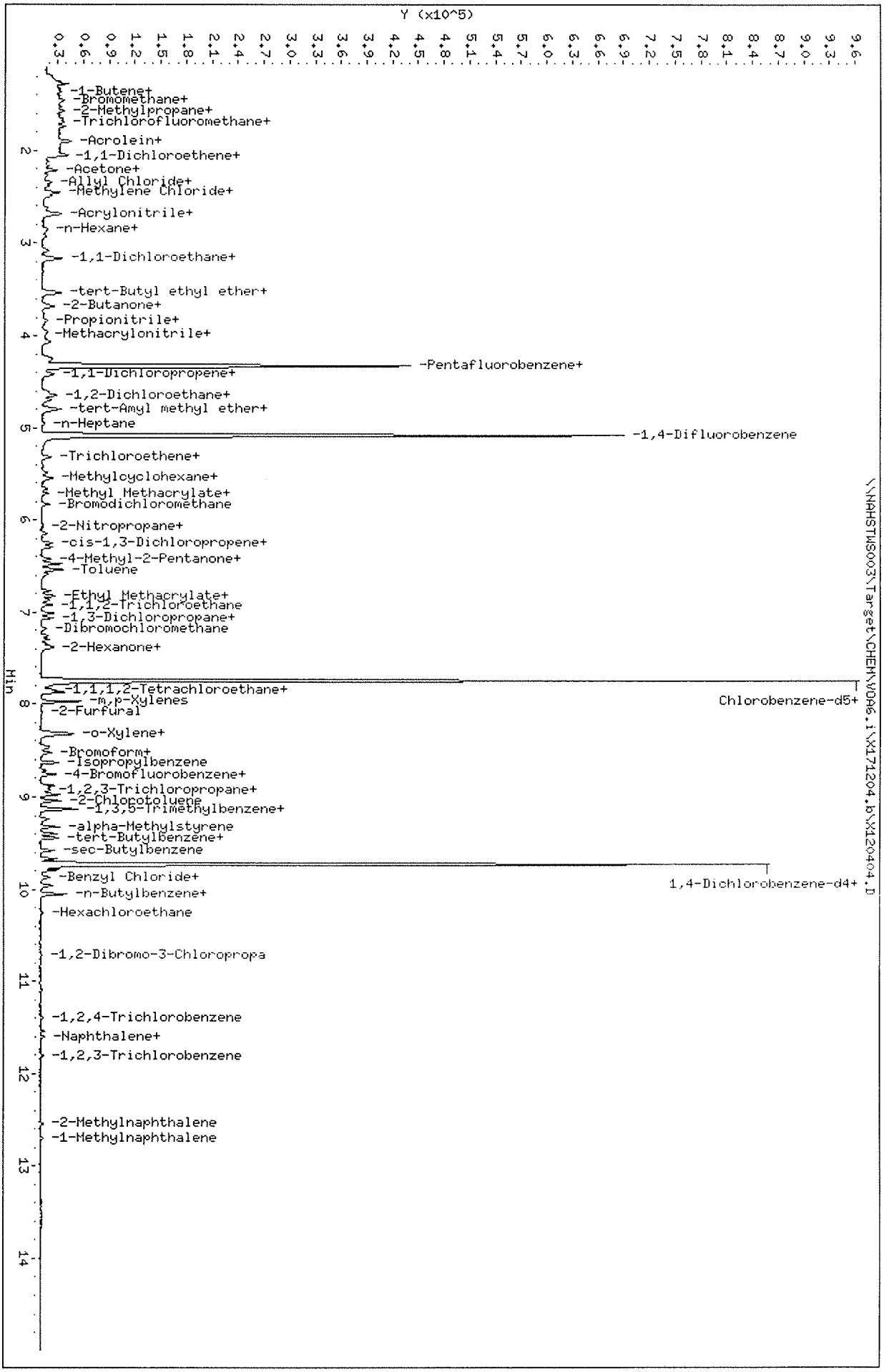
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Report Date: 07-Feb-2018 20:07

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
24	2-Butanone	43	3.759	3.759	(0.869)	3179	2.00000	2.15(a)
52	2-Hexanone	43	7.298	7.298	(0.943)	7110	2.00000	2.05(a)
45	4-Methyl-2-Pentanone	43	6.424	6.424	(0.830)	7723	2.00000	2.00(a)
10	Acetone	43	2.119	2.119	(0.490)	4847	2.00000	3.25(a)
37	Benzene	78	4.648	4.648	(0.914)	16396	1.00000	1.15(a)
39	Bromodichloromethane	83	5.830	5.830	(1.146)	5576	1.00000	1.09(aM)
66	Bromoform	173	8.480	8.480	(1.095)	2620	1.00000	1.06(aM)
6	Bromomethane	94	1.460	1.460	(0.338)	2828	1.00000	1.05(a)
19	Carbon Disulfide	76	2.212	2.212	(0.512)	21048	2.00000	2.26(a)
34	Carbon Tetrachloride	117	4.411	4.411	(0.868)	4187	1.00000	1.09(a)
59	Chlorobenzene	112	7.764	7.764	(1.003)	10054	1.00000	1.13(a)
7	Chloroethane	64	1.525	1.525	(0.353)	2702	1.00000	1.08(a)
28	Chloroform	83	4.067	4.067	(0.940)	7198	1.00000	1.12(a)
3	Chloromethane	50	1.195	1.195	(0.276)	5646	1.00000	1.19(aM)
27	cis-1,2-Dichloroethene	96	3.688	3.688	(0.853)	4608	1.00000	1.18(a)
46	cis-1,3-Dichloropropene	75	6.252	6.252	(1.230)	7055	1.00000	1.13(a)
55	Dibromochloromethane	129	7.255	7.255	(0.937)	4818	1.00000	1.21(a)
2	Dichlorodifluoromethane	85	1.080	1.080	(0.250)	2584	1.00000	0.89(a)
61	Ethylbenzene	106	7.871	7.871	(1.017)	5115	1.00000	1.17(a)
67	Isopropylbenzene	105	8.630	8.630	(1.115)	12299	1.00000	1.19(a)
17	Methylene Chloride	84	2.449	2.449	(0.566)	6341	1.00000	1.41(aM)
56	Tetrachloroethene	164	7.011	7.011	(0.906)	2146	1.00000	1.08(a)
50	Toluene	91	6.532	6.532	(0.844)	15954	1.00000	1.12(a)
20	trans-1,2-Dichloroethene	96	2.678	2.678	(0.619)	3501	1.00000	1.04(a)
51	trans-1,3-Dichloropropene	75	6.768	6.768	(1.331)	5927	1.00000	1.08(a)
38	Trichloroethene	130	5.321	5.321	(1.046)	3552	1.00000	1.06(a)
8	Trichlorofluoromethane	101	1.689	1.689	(0.391)	3850	1.00000	0.95(a)
5	Vinyl Chloride	62	1.260	1.260	(0.291)	4847	1.00000	1.11(a)
62	m,p-Xylenes	106	7.971	7.971	(1.030)	12059	2.00000	2.30(a)
63	o-Xylene	106	8.308	8.308	(1.073)	6017	1.00000	1.14(a)
M 95	Xylenes (total)	106				18076	3.00000	3.44(a)
71	1,2,3-Trichloropropane	75	8.931	8.931	(0.918)	5334	1.00000	1.09(a)
93	1,2,3-Trichlorobenzene	180	11.804	11.804	(1.214)	1132	1.00000	4.05(aM)
79	1,2,4-Trimethylbenzene	105	9.440	9.440	(0.971)	10904	1.00000	1.83(a)
75	1,3,5-Trimethylbenzene	105	9.132	9.132	(0.939)	10498	1.00000	2.09(a)
26	2,2-Dichloropropane	77	3.666	3.666	(0.848)	6139	1.00000	1.19(a)
54	1,3-Dichloropropane	76	7.062	7.062	(0.912)	7136	1.00000	1.14(a)
76	2-Chlorotoluene	91	9.039	9.039	(0.929)	11293	1.00000	1.92(a)
77	4-Chlorotoluene	91	9.132	9.132	(0.939)	12435	1.00000	2.06(a)
82	p-Isopropyltoluene	119	9.712	9.712	(0.999)	8042	1.00000	1.22(a)
29	Bromochloromethane	128	3.960	3.960	(0.916)	2153	1.00000	0.39(a)
74	Bromobenzene	156	8.874	8.874	(0.912)	4006	1.00000	1.19(a)
44	Dibromomethane	93	5.658	5.658	(1.113)	2719	1.00000	1.09(a)
91	Hexachlorobutadiene	225	11.539	11.539	(1.186)	674	1.00000	1.94(aM)
73	n-Propylbenzene	91	8.974	8.974	(0.923)	14911	1.00000	1.89(a)
87	n-Butylbenzene	91	10.056	10.056	(1.034)	6377	1.00000	1.20(a)
81	sec-Butylbenzene	105	9.583	9.583	(0.985)	9027	1.00000	1.20(a)
92	Naphthalene	128	11.603	11.603	(1.193)	4149	1.00000	2.30(a)
78	tert-Butylbenzene	119	9.397	9.397	(0.966)	7255	1.00000	1.72(a)
60	1,1,1,2-Tetrachloroethane	131	7.850	7.850	(1.014)	3711	1.00000	1.15(a)
64	Styrene	104	8.329	8.329	(1.076)	10353	1.00000	1.09(a)

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120404.D
Report Date: 07-Feb-2018 20:07

QC Flag Legend

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


Y (x10^5)
Min
-1-Butene+
-Bromomethane+
-2-Methylpropane+
-Trichlorofluoromethane+
-Acrolein+
-1,1-Dichloroethene+
-Acetone+
-Allyl Chloride+
-Methylene Chloride+
-Acrylonitrile+
-n-Hexane+
-1,1-Dichloroethane+
-tert-Butyl ethyl ether+
-2-Butanone+
-Propionitrile+
-Methacrylonitrile+
-Pentafluorobenzene+
-1,1-Dichloropropene+
-1,2-Dichloroethane+
-tert-Amyl methyl ether+
-n-Heptane
-1,4-Difluorobenzene
-Trichloroethene+
-Methylcyclohexane+
-Methyl Methacrylate+
-Bromodichloromethane
-2-Nitropropane+
-cis-1,3-Dichloropropene+
-4-Methyl-2-Pentanone+
-Toluene
-Ethyl Methacrylate+
-1,1,2-Trichloroethane
-1,3-Dichloropropane+
-Dibromochloromethane
-2-Hexanone+
-1,1,1,2-Tetrachloroethane+
-m,p-Xylenes
Chlorobenzene-d5+
-2-Furfural
-o-Xylene+
-Bromoform+
-Isopropylbenzene
-4-Bromofluorobenzene+
-1,2,3-Trichloropropane+
-2-Chlorotoluene
-1,3,5-Trimethylbenzene+
-alpha-Methylstyrene
-tert-Butylbenzene+
-sec-Butylbenzene
-Benzyl Chloride+
1,4-Dichlorobenzene-d4+
-n-Butylbenzene+
-Hexachloroethane
-1,2-Dibromo-3-Chloropropa
-1,2,4-Trichlorobenzene
-Naphthalene+
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene
\\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120404.D
Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120404.D
Date : 04-DEC-2017 12:24
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;
Purge Volume: 5.0
Column phase: DB624
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120405.D
Report Date: 07-Feb-2018 20:07

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120405.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 04-DEC-2017 12:49
Operator : PC Inst ID: voa6.i
Smp Info : VSTD002;VSTD002;1;4;
Misc Info : HS16030331;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa6.i\X171204.b\8260W.m
Meth Date : 07-Feb-2018 20:07 diana.nguy Quant Type: ISTD
Cal Date : 04-DEC-2017 12:49 Cal File: X120405.D
Als bottle: 7 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
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	4.240	4.240	(0.980)	10419	2.00000	2.21(a)
*	1 Pentafluorobenzene	168	4.325	4.325	(1.000)	290312	50.0000	
$	30 Dibromofluoromethane	113	4.254	4.254	(0.983)	8330	2.00000	1.73(a)
*	36 1,4-Difluorobenzene	114	5.085	5.085	(1.000)	494270	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.612	4.612	(1.066)	10983	2.00000	2.40(a)
*	47 Chlorobenzene-d5	117	7.742	7.742	(1.000)	438932	50.0000	
$	48 Toluene-d8	98	6.474	6.474	(0.836)	31479	2.00000	2.00(a)
$	69 4-Bromofluorobenzene	95	8.752	8.752	(1.130)	10824	2.00000	1.87(a)
*	70 1,4-Dichlorobenzene-d4	152	9.726	9.726	(1.000)	198705	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	8.903	8.903	(0.915)	9539	2.00000	2.73(a)
	53 1,1,2-Trichloroethane	83	6.919	6.919	(0.894)	6423	2.00000	2.26(a)
	32 1,1-Dichloropropene	75	4.426	4.426	(0.670)	9953	2.00000	2.25(a)
	22 1,1-Dichloroethane	63	3.079	3.079	(0.712)	13509	2.00000	2.09(a)
	11 1,1-Dichloroethene	96	2.055	2.055	(0.475)	6801	2.00000	2.28(aM)
	90 1,2,4-Trichlorobenzene	180	11.403	11.403	(1.172)	2320	2.00000	3.89(a)
	89 1,2-Dibromo-3-Chloropropane	155	10.715	10.715	(1.102)	1120	2.00000	2.08(a)
	57 1,2-Dibromoethane	107	7.341	7.341	(0.948)	7097	2.00000	2.15(a)
	88 1,2-Dichlorobenzene	146	10.056	10.056	(1.034)	10957	2.00000	2.08(a)
	33 1,2-Dichloroethane	62	4.691	4.691	(0.923)	10691	2.00000	2.03(a)
	42 1,2-Dichloropropane	63	5.543	5.543	(1.090)	8515	2.00000	2.16(aM)
	83 1,3-Dichlorobenzene	146	9.669	9.669	(0.994)	11628	2.00000	2.15(a)
	84 1,4-Dichlorobenzene	146	9.741	9.741	(1.001)	11635	2.00000	2.80(a)

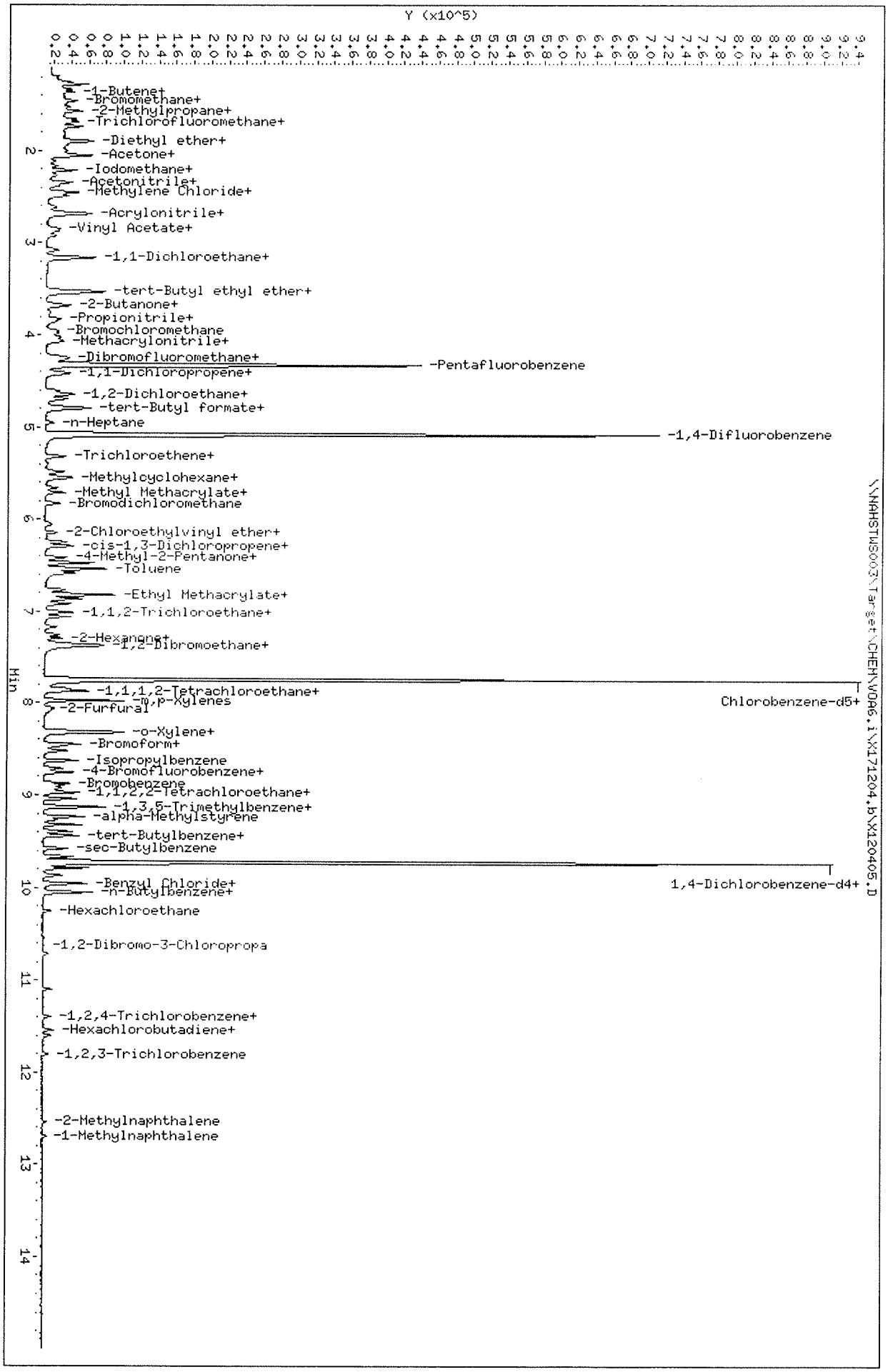
Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120405.D
Report Date: 07-Feb-2018 20:07

		QUANT SIG					AMOUNTS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)
	==========	====	====	========	========	========	=======	=======
	24 2-Butanone	43	3.752	3.752	(0.868)	5450	4.00000	3.74(a)
	52 2-Hexanone	43	7.291	7.291	(0.942)	13473	4.00000	3.58(a)
	45 4-Methyl-2-Pentanone	43	6.417	6.417	(0.829)	16839	4.00000	4.48(a)
	10 Acetone	43	2.126	2.126	(0.492)	7138	4.00000	5.37
	37 Benzene	78	4.648	4.648	(0.914)	29149	2.00000	2.07(a)
	39 Bromodichloromethane	83	5.823	5.823	(1.145)	19796	2.00000	2.14(a)
	66 Bromoform	173	8.480	8.480	(1.095)	5067	2.00000	2.09(aM)
	6 Bromomethane	94	1.460	1.460	(0.338)	5954	2.00000	2.26(a)
	19 Carbon Disulfide	76	2.212	2.212	(0.512)	40632	4.00000	4.44(a)
	34 Carbon Tetrachloride	117	4.411	4.411	(0.868)	8487	2.00000	2.24(a)
	59 Chlorobenzene	112	7.764	7.764	(1.003)	18475	2.00000	2.13(a)
	7 Chloroethane	64	1.525	1.525	(0.353)	5261	2.00000	2.13(a)
	28 Chloroform	83	4.068	4.068	(0.940)	13646	2.00000	2.15(a)
	3 Chloromethane	50	1.195	1.195	(0.276)	10148	2.00000	2.17(a)
	27 cis-1,2-Dichloroethene	96	3.688	3.688	(0.853)	8241	2.00000	2.15(a)
	46 cis-1,3-Dichloropropene	75	6.245	6.245	(1.228)	12866	2.00000	2.08(a)
	55 Dibromochloromethane	129	7.255	7.255	(0.937)	8067	2.00000	2.07(a)
	2 Dichlorodifluoromethane	85	1.081	1.081	(0.250)	6407	2.00000	2.24(a)
	61 Ethylbenzene	106	7.871	7.871	(1.017)	9105	2.00000	2.13(a)
	67 Isopropylbenzene	105	8.623	8.623	(1.114)	21888	2.00000	2.18(a)
	17 Methylene Chloride	84	2.449	2.449	(0.566)	10133	2.00000	2.49(aM)
	56 Tetrachloroethene	164	7.012	7.012	(0.906)	5001	2.00000	2.38(a)
	50 Toluene	91	6.532	6.532	(0.844)	32387	2.00000	2.32(a)
	20 trans-1,2-Dichloroethene	96	2.678	2.678	(0.619)	7233	2.00000	2.18(a)
	51 trans-1,3-Dichloropropene	75	6.768	6.768	(1.331)	12206	2.00000	2.26(a)
	38 Trichloroethene	130	5.321	5.321	(1.046)	7353	2.00000	2.22(a)
	8 Trichlorofluoromethane	101	1.689	1.689	(0.391)	8994	2.00000	2.27(a)
	5 Vinyl Chloride	62	1.260	1.260	(0.291)	8954	2.00000	2.09(a)
	62 m,p-Xylenes	106	7.971	7.971	(1.030)	22335	4.00000	4.36(a)
	63 o-Xylene	106	8.308	8.308	(1.073)	10938	2.00000	2.13(a)
M	95 Xylenes (total)	106				33273	6.00000	6.49
	71 1,2,3-Trichloropropane	75	8.931	8.931	(0.918)	10719	2.00000	2.05(a)
	93 1,2,3-Trichlorobenzene	180	11.804	11.804	(1.214)	1695	2.00000	4.34(a)
	79 1,2,4-Trimethylbenzene	105	9.440	9.440	(0.971)	18804	2.00000	2.69(a)
	75 1,3,5-Trimethylbenzene	105	9.125	9.125	(0.938)	17497	2.00000	2.89(a)
	26 2,2-Dichloropropane	77	3.674	3.674	(0.849)	11168	2.00000	2.20(a)
	54 1,3-Dichloropropane	76	7.062	7.062	(0.912)	13685	2.00000	2.24(a)
	76 2-Chlorotoluene	91	9.039	9.039	(0.929)	18394	2.00000	2.73(a)
	77 4-Chlorotoluene	91	9.132	9.132	(0.939)	21715	2.00000	2.96(a)
	82 p-Isopropyltoluene	119	9.712	9.712	(0.999)	15013	2.00000	2.14(a)
	29 Bromochloromethane	128	3.960	3.960	(0.916)	4229	2.00000	1.77(a)
	74 Bromobenzene	156	8.874	8.874	(0.912)	7416	2.00000	2.07(a)
	44 Dibromomethane	93	5.665	5.665	(1.114)	4980	2.00000	2.02(a)
	91 Hexachlorobutadiene	225	11.539	11.539	(1.186)	1825	2.00000	3.70(a)
	73 n-Propylbenzene	91	8.974	8.974	(0.923)	26888	2.00000	2.85(a)
	87 n-Butylbenzene	91	10.056	10.056	(1.034)	11582	2.00000	2.04(a)
	81 sec-Butylbenzene	105	9.583	9.583	(0.985)	16927	2.00000	2.11(a)
	92 Naphthalene	128	11.603	11.603	(1.193)	6458	2.00000	2.71(a)
	78 tert-Butylbenzene	119	9.397	9.397	(0.966)	12489	2.00000	2.58(a)
	60 1,1,1,2-Tetrachloroethane	131	7.850	7.850	(1.014)	6574	2.00000	2.09(a)
	64 Styrene	104	8.330	8.330	(1.076)	18929	2.00000	2.05(a)

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120405.D
Report Date: 07-Feb-2018 20:07

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\VOA6.i\X171204.b\X120405.D
Date : 04-DEC-2017 12:49
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120406.D
Report Date: 07-Feb-2018 20:07

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120406.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 04-DEC-2017 13:13
Operator : PC Inst ID: voa6.i
Smp Info : VSTD005;VSTD005;1;5;
Misc Info : HS16030331;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa6.i\X171204.b\8260W.m
Meth Date : 07-Feb-2018 20:07 diana.nguy Quant Type: ISTD
Cal Date : 04-DEC-2017 13:13 Cal File: X120406.D
Als bottle: 8 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
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	4.239	4.239	(0.980)	24422	5.00000	5.05
*	1 Pentafluorobenzene	168	4.325	4.325	(1.000)	298636	50.0000	
$	30 Dibromofluoromethane	113	4.254	4.254	(0.983)	21067	5.00000	4.98(a)
*	36 1,4-Difluorobenzene	114	5.085	5.085	(1.000)	499228	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.612	4.612	(1.066)	26603	5.00000	5.42
*	47 Chlorobenzene-d5	117	7.742	7.742	(1.000)	447222	50.0000	
$	48 Toluene-d8	98	6.474	6.474	(0.836)	72459	5.00000	5.14
$	69 4-Bromofluorobenzene	95	8.752	8.752	(1.130)	26717	5.00000	5.23
*	70 1,4-Dichlorobenzene-d4	152	9.726	9.726	(1.000)	207628	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	8.903	8.903	(0.915)	24724	5.00000	6.25
	53 1,1,2-Trichloroethane	83	6.918	6.918	(0.894)	15107	5.00000	5.22
	32 1,1-Dichloropropene	75	4.426	4.426	(0.870)	21982	5.00000	4.93(a)
	22 1,1-Dichloroethane	63	3.079	3.079	(0.712)	32666	5.00000	4.92(a)
	11 1,1-Dichloroethene	96	2.055	2.055	(0.475)	15470	5.00000	5.05
	90 1,2,4-Trichlorobenzene	180	11.395	11.395	(1.172)	8175	5.00000	6.65
	89 1,2-Dibromo-3-Chloropropane	155	10.715	10.715	(1.102)	2855	5.00000	5.08
	57 1,2-Dibromoethane	107	7.341	7.341	(0.948)	17372	5.00000	5.16
	88 1,2-Dichlorobenzene	146	10.056	10.056	(1.034)	28311	5.00000	5.16
	33 1,2-Dichloroethane	62	4.691	4.691	(0.923)	26394	5.00000	4.98(a)
	42 1,2-Dichloropropane	63	5.543	5.543	(1.090)	19678	5.00000	4.94(aM)
	83 1,3-Dichlorobenzene	146	9.669	9.669	(0.994)	28384	5.00000	5.03
	84 1,4-Dichlorobenzene	146	9.748	9.748	(1.002)	29989	5.00000	6.14

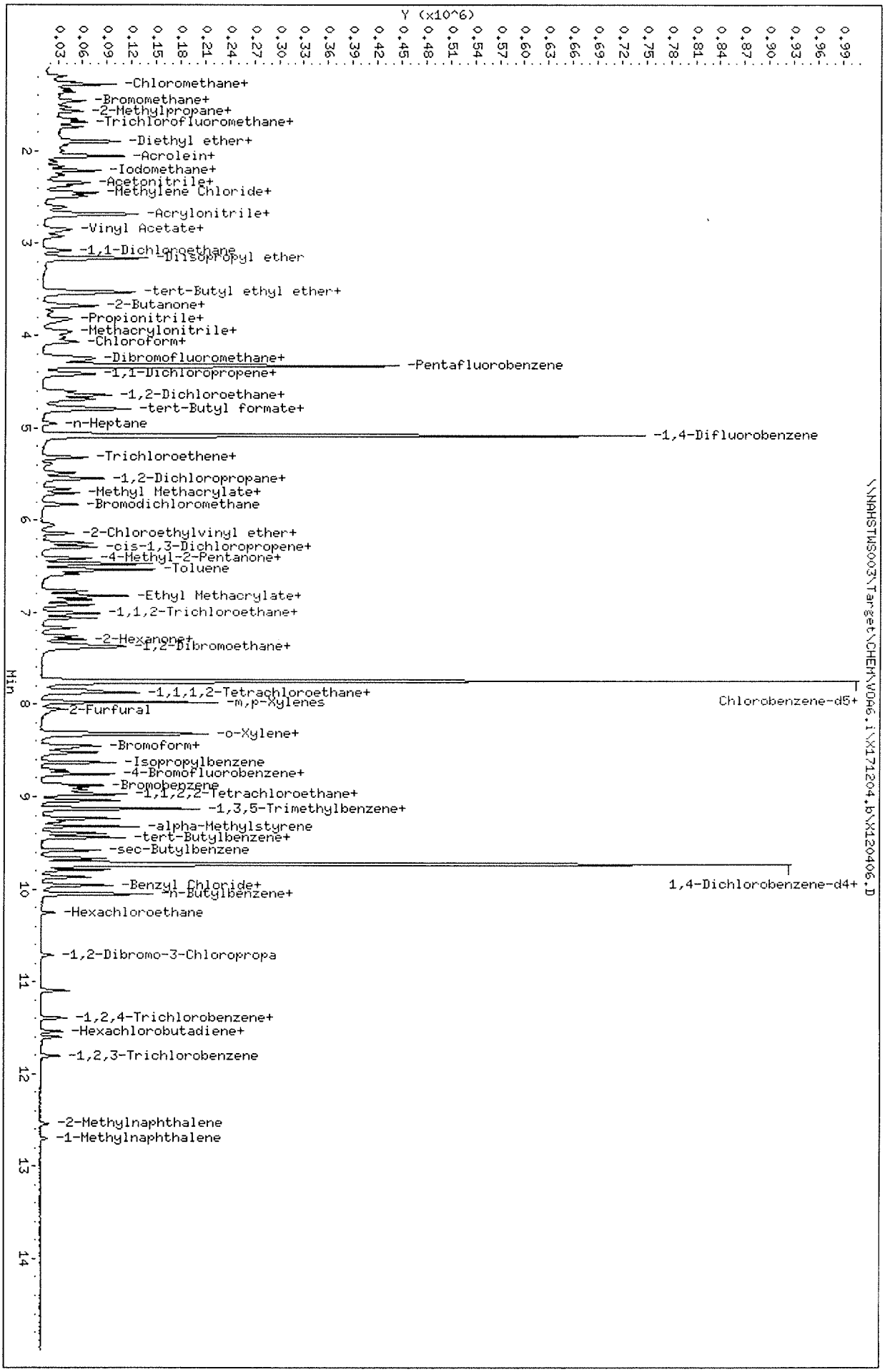
Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120406.D
Report Date: 07-Feb-2018 20:07

		QUANT SIG					AMOUNTS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)
	24 2-Butanone	43	3.745	3.745	(0.866)	14757	10.0000	9.85
	52 2-Hexanone	43	7.291	7.291	(0.942)	34127	10.0000	9.90
	45 4-Methyl-2-Pentanone	43	6.417	6.417	(0.829)	37892	10.0000	9.90
	10 Acetone	43	2.119	2.119	(0.490)	13572	10.0000	12.22
	37 Benzene	78	4.648	4.648	(0.914)	71940	5.00000	5.07
	39 Bromodichloromethane	83	5.830	5.830	(1.146)	25972	5.00000	5.10
	66 Bromoform	173	8.480	8.480	(1.095)	12540	5.00000	5.10
	6 Bromomethane	94	1.460	1.460	(0.338)	13638	5.00000	5.04
	19 Carbon Disulfide	76	2.212	2.212	(0.512)	94468	10.0000	10.04
	34 Carbon Tetrachloride	117	4.411	4.411	(0.868)	19453	5.00000	5.08
	59 Chlorobenzene	112	7.764	7.764	(1.003)	44047	5.00000	4.98(a)
	7 Chloroethane	64	1.525	1.525	(0.353)	11822	5.00000	4.67(a)
	28 Chloroform	83	4.067	4.067	(0.940)	32820	5.00000	5.04
	3 Chloromethane	50	1.195	1.195	(0.276)	23051	5.00000	4.79(a)
	27 cis-1,2-Dichloroethene	96	3.681	3.681	(0.851)	19366	5.00000	4.91(a)
	46 cis-1,3-Dichloropropene	75	6.245	6.245	(1.228)	32028	5.00000	5.12
	55 Dibromochloromethane	129	7.255	7.255	(0.937)	20461	5.00000	5.16
	2 Dichlorodifluoromethane	85	1.081	1.081	(0.250)	14845	5.00000	5.04
	61 Ethylbenzene	106	7.871	7.871	(1.017)	21835	5.00000	5.02
	67 Isopropylbenzene	105	8.623	8.623	(1.114)	50927	5.00000	4.98(a)
	17 Methylene Chloride	84	2.449	2.449	(0.566)	22892	5.00000	5.83
	56 Tetrachloroethene	164	7.012	7.012	(0.906)	10843	5.00000	5.07
	50 Toluene	91	6.532	6.532	(0.844)	70045	5.00000	4.94(a)
	20 trans-1,2-Dichloroethene	96	2.678	2.678	(0.619)	17393	5.00000	5.09
	51 trans-1,3-Dichloropropene	75	6.768	6.768	(1.331)	26963	5.00000	4.94(a)
	38 Trichloroethene	130	5.321	5.321	(1.046)	16893	5.00000	5.06
	8 Trichlorofluoromethane	101	1.689	1.689	(0.391)	20066	5.00000	4.92(a)
	5 Vinyl Chloride	62	1.260	1.260	(0.291)	22011	5.00000	5.00
	62 m,p-Xylenes	106	7.971	7.971	(1.030)	52388	10.0000	10.03
	63 o-Xylene	106	8.308	8.308	(1.073)	25940	5.00000	4.96(a)
M	95 Xylenes (total)	106				78328	15.0000	15.00
	71 1,2,3-Trichloropropane	75	8.931	8.931	(0.918)	28621	5.00000	5.24
	93 1,2,3-Trichlorobenzene	180	11.804	11.804	(1.214)	6192	5.00000	6.93
	79 1,2,4-Trimethylbenzene	105	9.440	9.440	(0.971)	46656	5.00000	5.75
	75 1,3,5-Trimethylbenzene	105	9.132	9.132	(0.939)	46063	5.00000	5.30
	26 2,2-Dichloropropane	77	3.666	3.666	(0.848)	25374	5.00000	4.86(a)
	54 1,3-Dichloropropane	76	7.062	7.062	(0.912)	31679	5.00000	5.09
	76 2-Chlorotoluene	91	9.039	9.039	(0.929)	45763	5.00000	5.99
	77 4-Chlorotoluene	91	9.132	9.132	(0.939)	56039	5.00000	6.37
	82 p-Isopropyltoluene	119	9.712	9.712	(0.999)	35410	5.00000	4.84(a)
	29 Bromochloromethane	128	3.953	3.953	(0.914)	9806	5.00000	5.25
	74 Bromobenzene	156	8.874	8.874	(0.912)	19025	5.00000	5.09
	44 Dibromomethane	93	5.658	5.658	(1.113)	12835	5.00000	5.16
	91 Hexachlorobutadiene	225	11.539	11.539	(1.186)	4245	5.00000	7.28
	73 n-Propylbenzene	91	8.974	8.974	(0.923)	66662	5.00000	6.08
	87 n-Butylbenzene	91	10.056	10.056	(1.034)	28704	5.00000	4.84(a)
	81 sec-Butylbenzene	105	9.583	9.583	(0.985)	41833	5.00000	4.99(a)
	92 Naphthalene	128	11.603	11.603	(1.193)	16391	5.00000	4.57(a)
	78 tert-Butylbenzene	119	9.397	9.397	(0.966)	31609	5.00000	5.80
	60 1,1,1,2-Tetrachloroethane	131	7.842	7.842	(1.013)	16162	5.00000	5.04
	64 Styrene	104	8.330	8.330	(1.076)	47379	5.00000	5.04

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120406.D
Report Date: 07-Feb-2018 20:07

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\VOA6.i\X171204.b\X120406.D
Date : 04-DEC-2017 13:13
Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;5;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120407.D
Report Date: 07-Feb-2018 20:07

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120407.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 04-DEC-2017 13:38
Operator : PC Inst ID: voa6.i
Smp Info : VSTD020;VSTD020;1;6;
Misc Info : HS16030331;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa6.i\X171204.b\8260W.m
Meth Date : 07-Feb-2018 20:07 diana.nguy Quant Type: ISTD
Cal Date : 04-DEC-2017 13:38 Cal File: X120407.D
Als bottle: 9 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
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	4.240	4.240	(0.980)	79831	20.0000	16.92
*	1 Pentafluorobenzene	168	4.325	4.325	(1.000)	291636	50.0000	
$	30 Dibromofluoromethane	113	4.254	4.254	(0.983)	78949	20.0000	20.51
*	36 1,4-Difluorobenzene	114	5.085	5.085	(1.000)	490981	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.612	4.612	(1.066)	100528	20.0000	20.47
*	47 Chlorobenzene-d5	117	7.742	7.742	(1.000)	437288	50.0000	
$	48 Toluene-d8	98	6.474	6.474	(0.836)	272481	20.0000	20.89
$	69 4-Bromofluorobenzene	95	8.752	8.752	(1.130)	97863	20.0000	20.78
*	70 1,4-Dichlorobenzene-d4	152	9.726	9.726	(1.000)	205376	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	8.903	8.903	(0.915)	81404	20.0000	20.00
	53 1,1,2-Trichloroethane	83	6.918	6.918	(0.894)	52357	20.0000	18.50
	32 1,1-Dichloropropene	75	4.426	4.426	(0.870)	72153	20.0000	16.48
	22 1,1-Dichloroethane	63	3.079	3.079	(0.712)	114488	20.0000	17.66
	11 1,1-Dichloroethene	96	2.055	2.055	(0.475)	50714	20.0000	16.98
	90 1,2,4-Trichlorobenzene	180	11.395	11.395	(1.172)	33731	20.0000	19.07
	89 1,2-Dibromo-3-Chloropropane	155	10.715	10.715	(1.102)	9974	20.0000	17.96
	57 1,2-Dibromoethane	107	7.341	7.341	(0.948)	62674	20.0000	19.06
	88 1,2-Dichlorobenzene	146	10.056	10.056	(1.034)	95014	20.0000	17.51
	33 1,2-Dichloroethane	62	4.691	4.691	(0.923)	91444	20.0000	17.56
	42 1,2-Dichloropropane	63	5.543	5.543	(1.090)	71886	20.0000	18.35
	83 1,3-Dichlorobenzene	146	9.669	9.669	(0.994)	100959	20.0000	18.10
	84 1,4-Dichlorobenzene	146	9.741	9.741	(1.001)	97637	20.0000	18.98

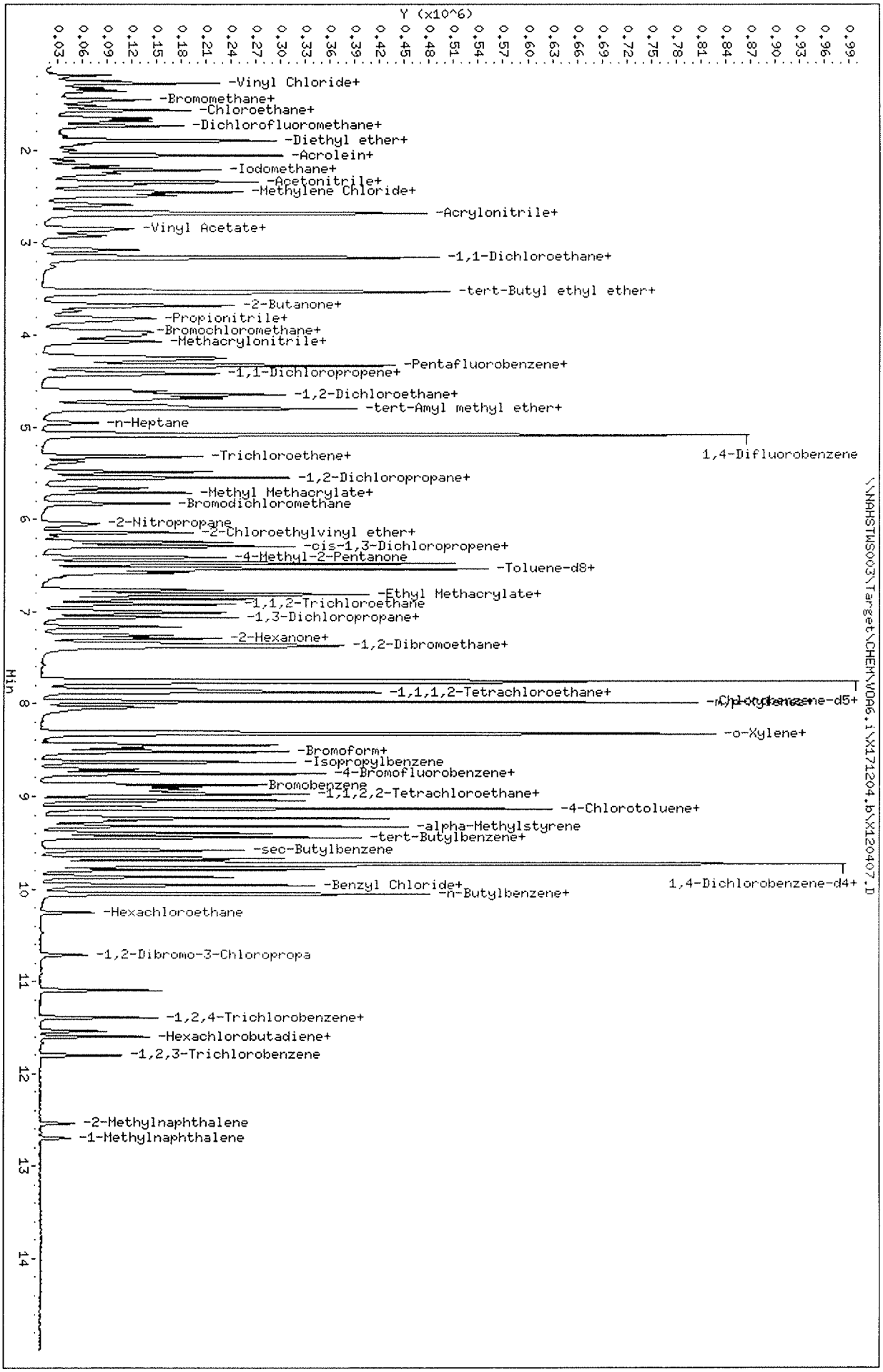
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Report Date: 07-Feb-2018 20:07

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	24 2-Butanone	43	3.738	3.738	(0.864)	57012	40.0000	38.97
	52 2-Hexanone	43	7.284	7.284	(0.941)	128040	40.0000	37.99
	45 4-Methyl-2-Pentanone	43	6.410	6.410	(0.828)	141028	40.0000	37.68
	10 Acetone	43	2.119	2.119	(0.490)	39992	40.0000	40.60
	37 Benzene	78	4.648	4.648	(0.914)	246239	20.0000	17.66
	39 Bromodichloromethane	83	5.823	5.823	(1.145)	89133	20.0000	17.82
	66 Bromoform	173	8.480	8.480	(1.095)	44581	20.0000	18.54
	6 Bromomethane	94	1.460	1.460	(0.338)	44827	20.0000	16.96
	19 Carbon Disulfide	76	2.212	2.212	(0.512)	303111	40.0000	32.99
	34 Carbon Tetrachloride	117	4.411	4.411	(0.868)	63632	20.0000	16.92
	59 Chlorobenzene	112	7.764	7.764	(1.003)	156273	20.0000	18.09
	7 Chloroethane	64	1.525	1.525	(0.353)	42224	20.0000	17.08
	28 Chloroform	83	4.068	4.068	(0.940)	112854	20.0000	17.77
	3 Chloromethane	50	1.188	1.188	(0.275)	79237	20.0000	16.89
	27 cis-1,2-Dichloroethene	96	3.688	3.688	(0.853)	68768	20.0000	17.86
	46 cis-1,3-Dichloropropene	75	6.245	6.245	(1.228)	110424	20.0000	17.97
	55 Dibromochloromethane	129	7.255	7.255	(0.937)	71471	20.0000	18.45
	2 Dichlorodifluoromethane	85	1.081	1.081	(0.250)	44146	20.0000	15.37
	61 Ethylbenzene	106	7.871	7.871	(1.017)	73999	20.0000	17.40
	67 Isopropylbenzene	105	8.623	8.623	(1.114)	122243	20.0000	17.25
	17 Methylene Chloride	84	2.449	2.449	(0.566)	71507	20.0000	19.35
	56 Tetrachloroethene	164	7.012	7.012	(0.906)	35310	20.0000	16.90
	50 Toluene	91	6.532	6.532	(0.844)	244163	20.0000	17.62
	20 trans-1,2-Dichloroethene	96	2.678	2.678	(0.619)	57677	20.0000	17.31
	51 trans-1,3-Dichloropropene	75	6.761	6.761	(1.330)	96961	20.0000	18.08
	38 Trichloroethene	130	5.321	5.321	(1.046)	57836	20.0000	17.62
	8 Trichlorofluoromethane	101	1.689	1.689	(0.391)	64896	20.0000	16.30(M)
	5 Vinyl Chloride	62	1.260	1.260	(0.291)	71192	20.0000	16.58
	62 m,p-Xylenes	106	7.971	7.971	(1.030)	179006	40.0000	35.07
	63 o-Xylene	106	8.308	8.308	(1.073)	92097	20.0000	18.02
M	95 Xylenes (total)	106				271103	60.0000	53.09
	71 1,2,3-Trichloropropane	75	8.924	8.924	(0.918)	95930	20.0000	17.76
	93 1,2,3-Trichlorobenzene	180	11.804	11.804	(1.214)	25883	20.0000	18.64
	79 1,2,4-Trimethylbenzene	105	9.440	9.440	(0.971)	171210	20.0000	20.31
	75 1,3,5-Trimethylbenzene	105	9.125	9.125	(0.938)	144848	20.0000	18.63(M)
	26 2,2-Dichloropropane	77	3.666	3.666	(0.848)	84436	20.0000	16.56
	54 1,3-Dichloropropane	76	7.062	7.062	(0.912)	110251	20.0000	18.12
	76 2-Chlorotoluene	91	9.039	9.039	(0.929)	149733	20.0000	18.95
	77 4-Chlorotoluene	91	9.132	9.132	(0.939)	172685	20.0000	18.49
	82 p-Isopropyltoluene	119	9.712	9.712	(0.999)	125701	20.0000	17.38
	29 Bromochloromethane	128	3.960	3.960	(0.916)	33389	20.0000	20.83
	74 Bromobenzene	156	8.874	8.874	(0.912)	63926	20.0000	17.30
	44 Dibromomethane	93	5.658	5.658	(1.113)	45232	20.0000	18.49
	91 Hexachlorobutadiene	225	11.539	11.539	(1.186)	11677	20.0000	18.85
	73 n-Propylbenzene	91	8.974	8.974	(0.923)	210434	20.0000	18.31
	87 n-Butylbenzene	91	10.049	10.049	(1.033)	101872	20.0000	17.38
	81 sec-Butylbenzene	105	9.583	9.583	(0.985)	144203	20.0000	17.40
	92 Naphthalene	128	11.603	11.603	(1.193)	84834	20.0000	17.80
	78 tert-Butylbenzene	119	9.397	9.397	(0.966)	111001	20.0000	19.79
	60 1,1,1,2-Tetrachloroethane	131	7.843	7.843	(1.013)	57081	20.0000	18.23
	64 Styrene	104	8.322	8.322	(1.075)	170141	20.0000	18.51

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Report Date: 07-Feb-2018 20:07

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120407.D
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Client ID: VSTD020
Sample Info: VSTD020;VSTD020;1;6;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120408.D
Report Date: 07-Feb-2018 20:07

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120408.D
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Inj Date : 04-DEC-2017 14:03
Operator : PC Inst ID: voa6.i
Smp Info : VSTD050;VSTD050;1;7;
Misc Info : HS16030331;WATER;0;1;
Comment :
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Meth Date : 07-Feb-2018 20:07 diana.nguy Quant Type: ISTD
Cal Date : 04-DEC-2017 14:03 Cal File: X120408.D
Als bottle: 10 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

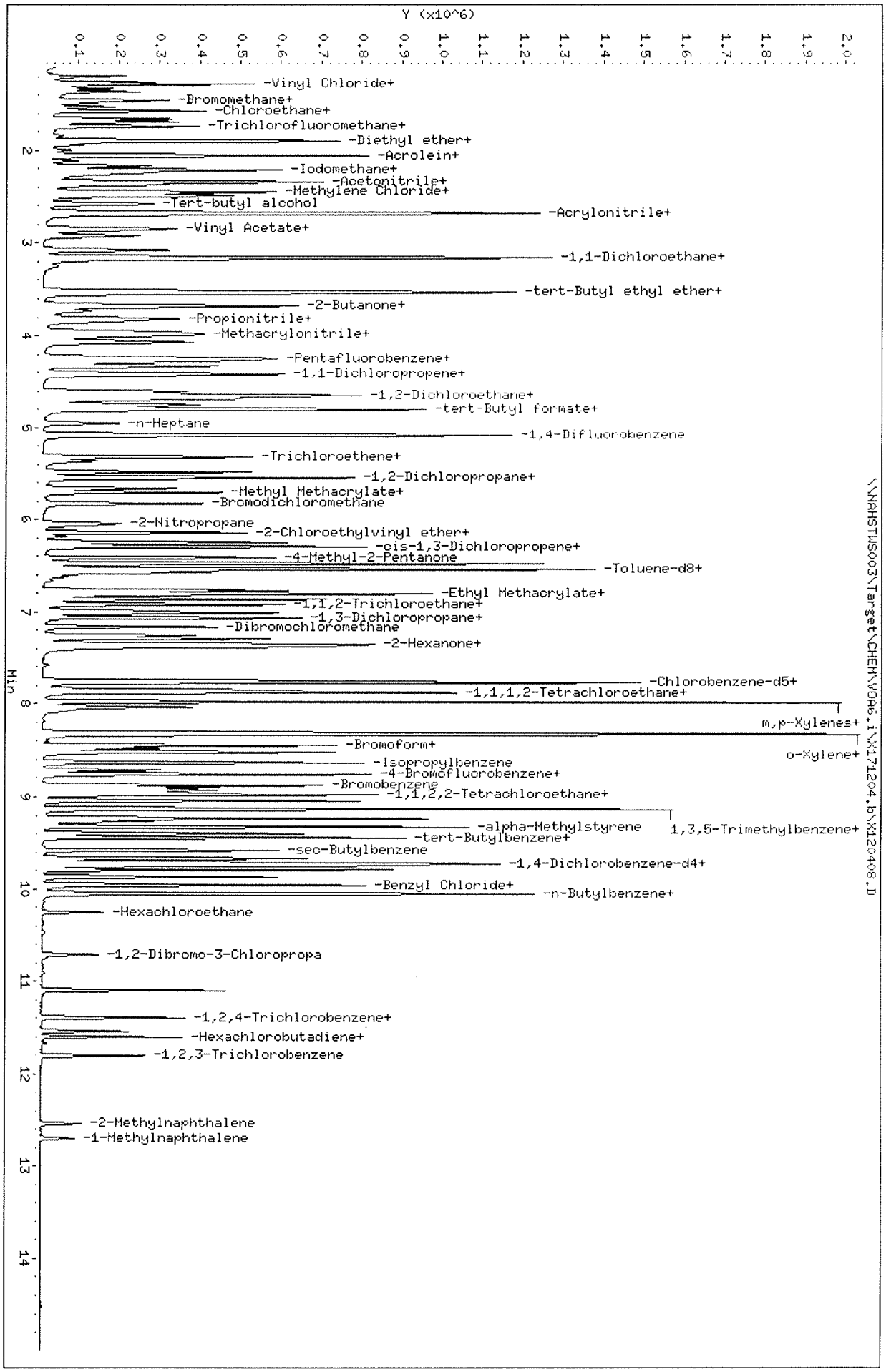
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
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	4.240	4.240	(0.980)	220226	50.0000	46.93
*	1 Pentafluorobenzene	168	4.326	4.326	(1.000)	290122	50.0000	
$	30 Dibromofluoromethane	113	4.254	4.254	(0.983)	185772	50.0000	49.19
*	36 1,4-Difluorobenzene	114	5.085	5.085	(1.000)	484063	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.612	4.612	(1.066)	237722	50.0000	48.42
*	47 Chlorobenzene-d5	117	7.742	7.742	(1.000)	437364	50.0000	
$	48 Toluene-d8	98	6.474	6.474	(0.836)	652586	50.0000	49.42
$	69 4-Bromofluorobenzene	95	8.752	8.752	(1.130)	233818	50.0000	49.47
*	70 1,4-Dichlorobenzene-d4	152	9.727	9.727	(1.000)	200566	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	8.903	8.903	(0.915)	193227	50.0000	48.11
	53 1,1,2-Trichloroethane	83	6.919	6.919	(0.894)	138400	50.0000	48.91
	32 1,1-Dichloropropene	75	4.426	4.426	(0.870)	201511	50.0000	46.68
	22 1,1-Dichloroethane	63	3.079	3.079	(0.722)	299749	50.0000	46.48
	11 1,1-Dichloroethene	96	2.055	2.055	(0.475)	140942	50.0000	47.44
	90 1,2,4-Trichlorobenzene	180	11.396	11.396	(1.172)	67045	50.0000	46.96
	89 1,2-Dibromo-3-Chloropropane	155	10.715	10.715	(1.102)	25693	50.0000	47.39
	57 1,2-Dibromoethane	107	7.341	7.341	(0.948)	153192	50.0000	46.59
	88 1,2-Dichlorobenzene	146	10.056	10.056	(1.034)	240973	50.0000	45.49
	33 1,2-Dichloroethane	62	4.691	4.691	(0.923)	236367	50.0000	46.04
	42 1,2-Dichloropropane	63	5.543	5.543	(1.090)	176942	50.0000	45.83
	83 1,3-Dichlorobenzene	146	9.669	9.669	(0.994)	243015	50.0000	44.61
	84 1,4-Dichlorobenzene	146	9.741	9.741	(1.001)	253361	50.0000	49.55

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120408.D
Report Date: 07-Feb-2018 20:07

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	24 2-Butanone	43	3.731	3.731	(0.863)	146772	100.000	100.87
	52 2-Hexanone	43	7.284	7.284	(0.941)	321152	100.000	95.57
	45 4-Methyl-2-Pentanone	43	6.410	6.410	(0.828)	329194	100.000	87.96
	10 Acetone	43	2.119	2.119	(0.490)	90875	100.000	95.10
	37 Benzene	78	4.648	4.648	(0.914)	642349	50.0000	46.73
	39 Bromodichloromethane	83	5.823	5.823	(1.145)	232553	50.0000	47.17
	66 Bromoform	173	8.480	8.480	(1.095)	111956	50.0000	46.55
	6 Bromomethane	94	1.460	1.460	(0.338)	122115	50.0000	46.45
	19 Carbon Disulfide	76	2.212	2.212	(0.512)	846808	100.000	92.64
	34 Carbon Tetrachloride	117	4.412	4.412	(0.868)	173700	50.0000	46.87
	59 Chlorobenzene	112	7.764	7.764	(1.003)	396931	50.0000	45.95
	7 Chloroethane	64	1.525	1.525	(0.353)	119990	50.0000	48.79
	28 Chloroform	83	4.068	4.068	(0.940)	293164	50.0000	46.40
	3 Chloromethane	50	1.195	1.195	(0.276)	213320	50.0000	45.71
	27 cis-1,2-Dichloroethene	96	3.688	3.688	(0.853)	180699	50.0000	47.19
	46 cis-1,3-Dichloropropene	75	6.245	6.245	(1.228)	280565	50.0000	46.31
	55 Dibromochloromethane	129	7.255	7.255	(0.937)	171913	50.0000	44.38
	2 Dichlorodifluoromethane	85	1.081	1.081	(0.250)	144156	50.0000	50.46
	61 Ethylbenzene	106	7.871	7.871	(1.017)	192225	50.0000	45.20
	67 Isopropylbenzene	105	8.623	8.623	(1.114)	451344	50.0000	45.20
	17 Methylene Chloride	84	2.449	2.449	(0.566)	180238	50.0000	49.51
	56 Tetrachloroethene	164	7.012	7.012	(0.906)	99140	50.0000	47.45
	50 Toluene	91	6.532	6.532	(0.844)	633536	50.0000	45.73
	20 trans-1,2-Dichloroethene	96	2.678	2.678	(0.619)	157492	50.0000	47.52
	51 trans-1,3-Dichloropropene	75	6.761	6.761	(1.330)	257647	50.0000	48.74
	38 Trichloroethene	130	5.321	5.321	(1.046)	153072	50.0000	47.32
	8 Trichlorofluoromethane	101	1.690	1.690	(0.391)	197662	50.0000	49.92
	5 Vinyl Chloride	62	1.260	1.260	(0.291)	199885	50.0000	46.81
	62 m,p-Xylenes	106	7.972	7.972	(1.030)	461708	100.000	90.45
	63 o-Xylene	106	8.308	8.308	(1.073)	234842	50.0000	45.94
M	95 Xylenes (total)	106				696550	150.000	136.40
	71 1,2,3-Trichloropropane	75	8.931	8.931	(0.918)	237138	50.0000	44.96
	93 1,2,3-Trichlorobenzene	180	11.804	11.804	(1.214)	66722	50.0000	43.79
	79 1,2,4-Trimethylbenzene	105	9.440	9.440	(0.971)	403355	50.0000	48.38
	75 1,3,5-Trimethylbenzene	105	9.125	9.125	(0.938)	373055	50.0000	48.08
	26 2,2-Dichloropropane	77	3.667	3.667	(0.848)	233527	50.0000	46.05
	54 1,3-Dichloropropane	76	7.062	7.062	(0.912)	292695	50.0000	48.12
	76 2-Chlorotoluene	91	9.039	9.039	(0.929)	380992	50.0000	48.78
	77 4-Chlorotoluene	91	9.132	9.132	(0.939)	450798	50.0000	48.36
	82 p-Isopropyltoluene	119	9.712	9.712	(0.999)	317793	50.0000	45.01
	29 Bromochloromethane	128	3.960	3.960	(0.916)	80360	50.0000	51.82
	74 Bromobenzene	156	8.867	8.867	(0.912)	164471	50.0000	45.58
	44 Dibromomethane	93	5.658	5.658	(1.113)	113180	50.0000	46.94
	91 Hexachlorobutadiene	225	11.539	11.539	(1.186)	31516	50.0000	50.72
	73 n-Propylbenzene	91	8.974	8.974	(0.923)	543610	50.0000	47.62
	87 n-Butylbenzene	91	10.049	10.049	(1.033)	278309	50.0000	48.63
	81 sec-Butylbenzene	105	9.583	9.583	(0.985)	355949	50.0000	43.99
	92 Naphthalene	128	11.603	11.603	(1.193)	235418	50.0000	46.74
	78 tert-Butylbenzene	119	9.397	9.397	(0.966)	264880	50.0000	47.99
	60 1,1,1,2-Tetrachloroethane	131	7.843	7.843	(1.013)	143288	50.0000	45.75
	64 Styrene	104	8.323	8.323	(1.075)	437247	50.0000	47.56



Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120408.D
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Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120409.D
Report Date: 07-Feb-2018 20:07

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120409.D
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Inj Date : 04-DEC-2017 14:28
Operator : PC Inst ID: voa6.i
Smp Info : VSTD100;VSTD100;1;8;
Misc Info : HS16030331;WATER;0;1;
Comment :
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Meth Date : 07-Feb-2018 20:07 diana.nguy Quant Type: ISTD
Cal Date : 04-DEC-2017 14:28 Cal File: X120409.D
Als bottle: 11 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
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	4.239	4.239	(0.980)	446686	100.000	97.11
*	1 Pentafluorobenzene	168	4.325	4.325	(1.000)	284383	50.0000	
$	30 Dibromofluoromethane	113	4.254	4.254	(0.983)	379572	100.000	103.08
*	36 1,4-Difluorobenzene	114	5.085	5.085	(1.000)	479198	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.612	4.612	(1.066)	487421	100.000	101.10
*	47 Chlorobenzene-d5	117	7.742	7.742	(1.000)	430609	50.0000	
$	48 Toluene-d8	98	6.474	6.474	(0.836)	1363184	100.000	100.09
$	69 4-Bromofluorobenzene	95	8.752	8.752	(1.130)	479001	100.000	100.08
*	70 1,4-Dichlorobenzene-d4	152	9.726	9.726	(1.000)	197922	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	8.902	8.902	(0.915)	399608	100.000	100.44
	53 1,1,2-Trichloroethane	83	6.918	6.918	(0.894)	265070	100.000	95.14
	32 1,1-Dichloropropene	75	4.426	4.426	(0.870)	412449	100.000	96.53
	22 1,1-Dichloroethane	63	3.079	3.079	(0.712)	601918	100.000	95.23
	11 1,1-Dichloroethene	96	2.055	2.055	(0.475)	272870	100.000	93.71(M)
	90 1,2,4-Trichlorobenzene	180	11.395	11.395	(1.172)	188818	100.000	97.63
	89 1,2-Dibromo-3-Chloropropane	155	10.715	10.715	(1.102)	50447	100.000	94.30
	57 1,2-Dibromoethane	107	7.341	7.341	(0.948)	316040	100.000	97.64
	88 1,2-Dichlorobenzene	146	10.056	10.056	(1.034)	482818	100.000	92.37
	33 1,2-Dichloroethane	62	4.691	4.691	(0.923)	475315	100.000	93.52
	42 1,2-Dichloropropane	63	5.543	5.543	(1.090)	356044	100.000	93.16
	83 1,3-Dichlorobenzene	146	9.669	9.669	(0.994)	483143	100.000	89.88
	84 1,4-Dichlorobenzene	146	9.741	9.741	(1.001)	509536	100.000	100.42

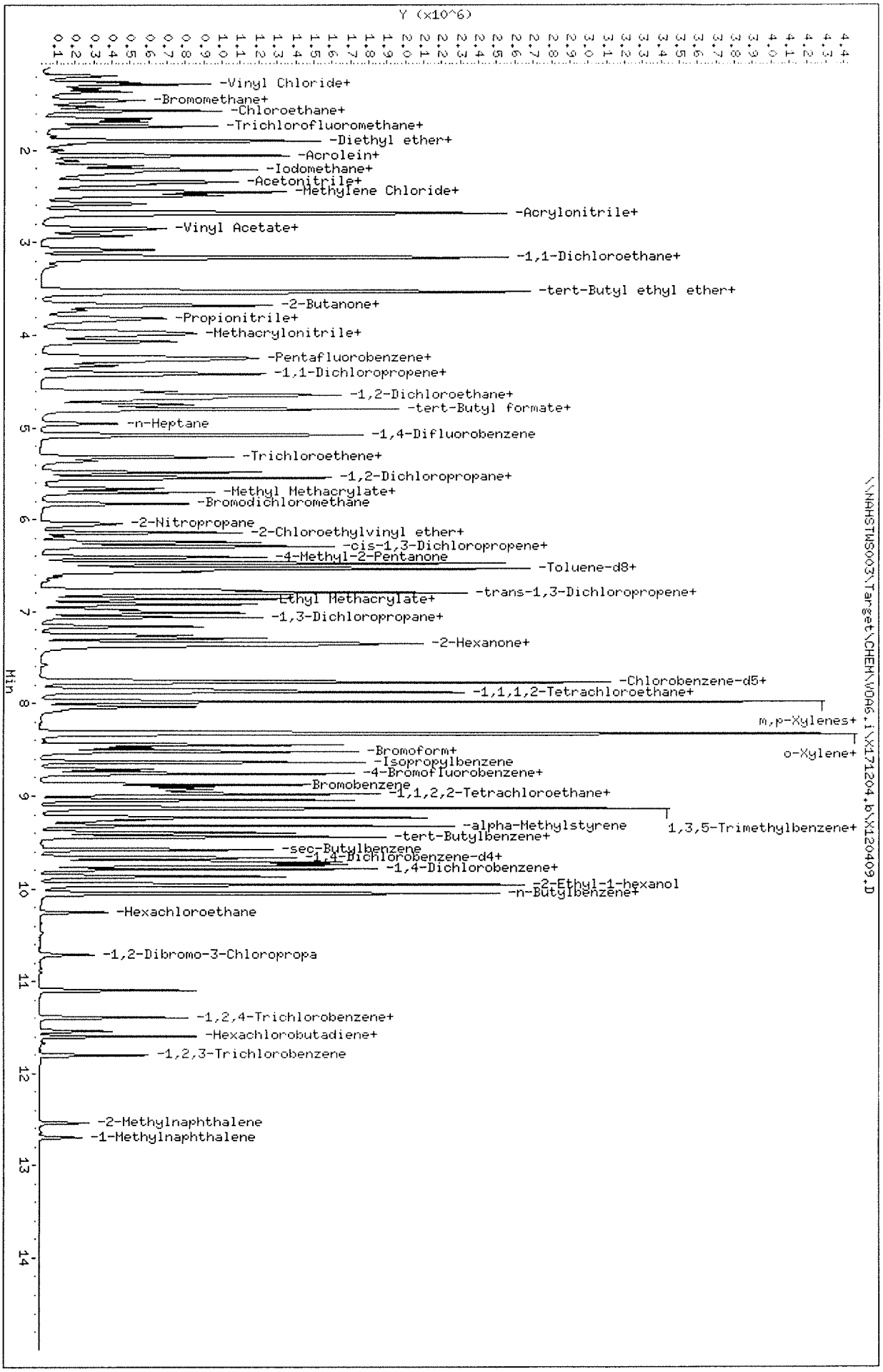
Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120409.D
Report Date: 07-Feb-2018 20:07

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
24	2-Butanone	43	3.731	3.731	(0.863)	298604	200.000	209.36(A)
52	2-Hexanone	43	7.284	7.284	(0.941)	667828	200.000	201.22(A)
45	4-Methyl-2-Pentanone	43	6.410	6.410	(0.828)	705625	200.000	191.47
10	Acetone	43	2.119	2.119	(0.490)	182637	200.000	196.92
37	Benzene	78	4.648	4.648	(0.914)	1287233	100.000	94.60
39	Bromodichloromethane	83	5.830	5.830	(1.147)	468072	100.000	95.91
66	Bromoform	173	8.480	8.480	(1.095)	229728	100.000	97.03
6	Bromomethane	94	1.460	1.460	(0.338)	244338	100.000	94.83
19	Carbon Disulfide	76	2.212	2.212	(0.512)	1702663	200.000	190.04
34	Carbon Tetrachloride	117	4.411	4.411	(0.868)	355644	100.000	96.94
59	Chlorobenzene	112	7.764	7.764	(1.003)	824999	100.000	97.01
7	Chloroethane	64	1.525	1.525	(0.353)	239107	100.000	99.19
28	Chloroform	83	4.067	4.067	(0.940)	586107	100.000	94.65
3	Chloromethane	50	1.188	1.188	(0.275)	438547	100.000	95.87
27	cis-1,2-Dichloroethene	96	3.688	3.688	(0.853)	360485	100.000	96.05
46	cis-1,3-Dichloropropene	75	6.245	6.245	(1.228)	561011	100.000	93.55
55	Dibromochloromethane	129	7.255	7.255	(0.937)	353827	100.000	92.79
2	Dichlorodifluoromethane	85	1.080	1.080	(0.250)	288724	100.000	103.11
61	Ethylbenzene	106	7.871	7.871	(1.017)	401858	100.000	95.98
67	Isopropylbenzene	105	8.623	8.623	(1.114)	955028	100.000	97.15
17	Methylene Chloride	84	2.449	2.449	(0.566)	359875	100.000	101.17
56	Tetrachloroethene	164	7.011	7.011	(0.906)	198061	100.000	96.28
50	Toluene	91	6.532	6.532	(0.844)	1302065	100.000	95.46
20	trans-1,2-Dichloroethene	96	2.678	2.678	(0.619)	319232	100.000	98.27
51	trans-1,3-Dichloropropene	75	6.761	6.761	(1.330)	493392	100.000	94.29
38	Trichloroethene	130	5.321	5.321	(1.046)	307298	100.000	95.97
8	Trichlorofluoromethane	101	1.689	1.689	(0.391)	386875	100.000	99.69
5	Vinyl Chloride	62	1.260	1.260	(0.291)	408606	100.000	97.63
62	m,p-Xylenes	106	7.971	7.971	(1.030)	970546	200.000	193.13
63	o-Xylene	106	8.308	8.308	(1.073)	491467	100.000	97.66
M 95	Xylenes (total)	106				1462013	300.000	290.79
71	1,2,3-Trichloropropane	75	8.924	8.924	(0.918)	494005	100.000	94.93
93	1,2,3-Trichlorobenzene	180	11.804	11.804	(1.214)	152500	100.000	97.07
79	1,2,4-Trimethylbenzene	105	9.440	9.440	(0.971)	829267	100.000	100.31
75	1,3,5-Trimethylbenzene	105	9.132	9.132	(0.939)	778968	100.000	101.01
26	2,2-Dichloropropane	77	3.666	3.666	(0.848)	468940	100.000	94.35
54	1,3-Dichloropropane	76	7.062	7.062	(0.912)	554543	100.000	92.60
76	2-Chlorotoluene	91	9.039	9.039	(0.929)	788760	100.000	101.94
77	4-Chlorotoluene	91	9.132	9.132	(0.939)	937994	100.000	101.26
82	p-Isopropyltoluene	119	9.712	9.712	(0.999)	644950	100.000	92.57
29	Bromochloromethane	128	3.960	3.960	(0.916)	152708	100.000	101.41
74	Bromobenzene	156	8.874	8.874	(0.912)	329300	100.000	92.48
44	Dibromomethane	93	5.658	5.658	(1.113)	228704	100.000	95.82
91	Hexachlorobutadiene	225	11.538	11.538	(1.186)	58518	100.000	94.75
73	n-Propylbenzene	91	8.974	8.974	(0.923)	1159416	100.000	102.34
87	n-Butylbenzene	91	10.049	10.049	(1.033)	562736	100.000	99.65
81	sec-Butylbenzene	105	9.583	9.583	(0.985)	739488	100.000	92.61
92	Naphthalene	128	11.603	11.603	(1.193)	565219	100.000	104.88
78	tert-Butylbenzene	119	9.397	9.397	(0.966)	549903	100.000	100.43
60	1,1,1,2-Tetrachloroethane	131	7.850	7.850	(1.014)	291261	100.000	94.47
64	Styrene	104	8.322	8.322	(1.075)	912641	100.000	100.84

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120409.D
Report Date: 07-Feb-2018 20:07

QC Flag Legend

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



Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120409.D
Date : 04-DEC-2017 14:28
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120410.D
Report Date: 07-Feb-2018 20:07

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120410.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 04-DEC-2017 14:52
Operator : PC Inst ID: voa6.i
Smp Info : VSTD150;VSTD150;1;9;
Misc Info : HS16030331;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa6.i\X171204.b\8260W.m
Meth Date : 07-Feb-2018 20:07 diana.nguy Quant Type: ISTD
Cal Date : 04-DEC-2017 14:52 Cal File: X120410.D
Als bottle: 12 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
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	4.239	4.239	(0.980)	652799	150.000	144.62
*	1 Pentafluorobenzene	168	4.325	4.325	(1.000)	279085	50.0000	
$	30 Dibromofluoromethane	113	4.254	4.254	(0.983)	535487	150.000	148.40
*	36 1,4-Difluorobenzene	114	5.085	5.085	(1.000)	482753	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.612	4.612	(1.066)	686425	150.000	145.00
*	47 Chlorobenzene-d5	117	7.742	7.742	(1.000)	459233	50.0000	
$	48 Toluene-d8	98	6.474	6.474	(0.836)	1853128	150.000	124.19
$	69 4-Bromofluorobenzene	95	8.752	8.752	(1.130)	681648	150.000	130.80
*	70 1,4-Dichlorobenzene-d4	152	9.726	9.726	(1.000)	199455	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	8.903	8.903	(0.915)	575153	150.000	143.30
	53 1,1,2-Trichloroethane	83	6.918	6.918	(0.894)	361930	150.000	121.81
	32 1,1-Dichloropropene	75	4.426	4.426	(0.870)	602849	150.000	140.05
	22 1,1-Dichloroethane	63	3.079	3.079	(0.712)	862211	150.000	139.00
	11 1,1-Dichloroethene	96	2.055	2.055	(0.475)	401532	150.000	140.51(M)
	90 1,2,4-Trichlorobenzene	180	11.395	11.395	(1.172)	277618	150.000	141.18
	89 1,2-Dibromo-3-Chloropropane	155	10.715	10.715	(1.102)	74988	150.000	139.10
	57 1,2-Dibromoethane	107	7.341	7.341	(0.948)	435573	150.000	126.18
	88 1,2-Dichlorobenzene	146	10.056	10.056	(1.034)	595649	150.000	132.07
	33 1,2-Dichloroethane	62	4.691	4.691	(0.923)	677865	150.000	132.40
	42 1,2-Dichloropropane	63	5.543	5.543	(1.090)	509300	150.000	132.28
	83 1,3-Dichlorobenzene	146	9.669	9.669	(0.994)	693908	150.000	137.55
	84 1,4-Dichlorobenzene	146	9.748	9.748	(1.002)	726487	150.000	141.86

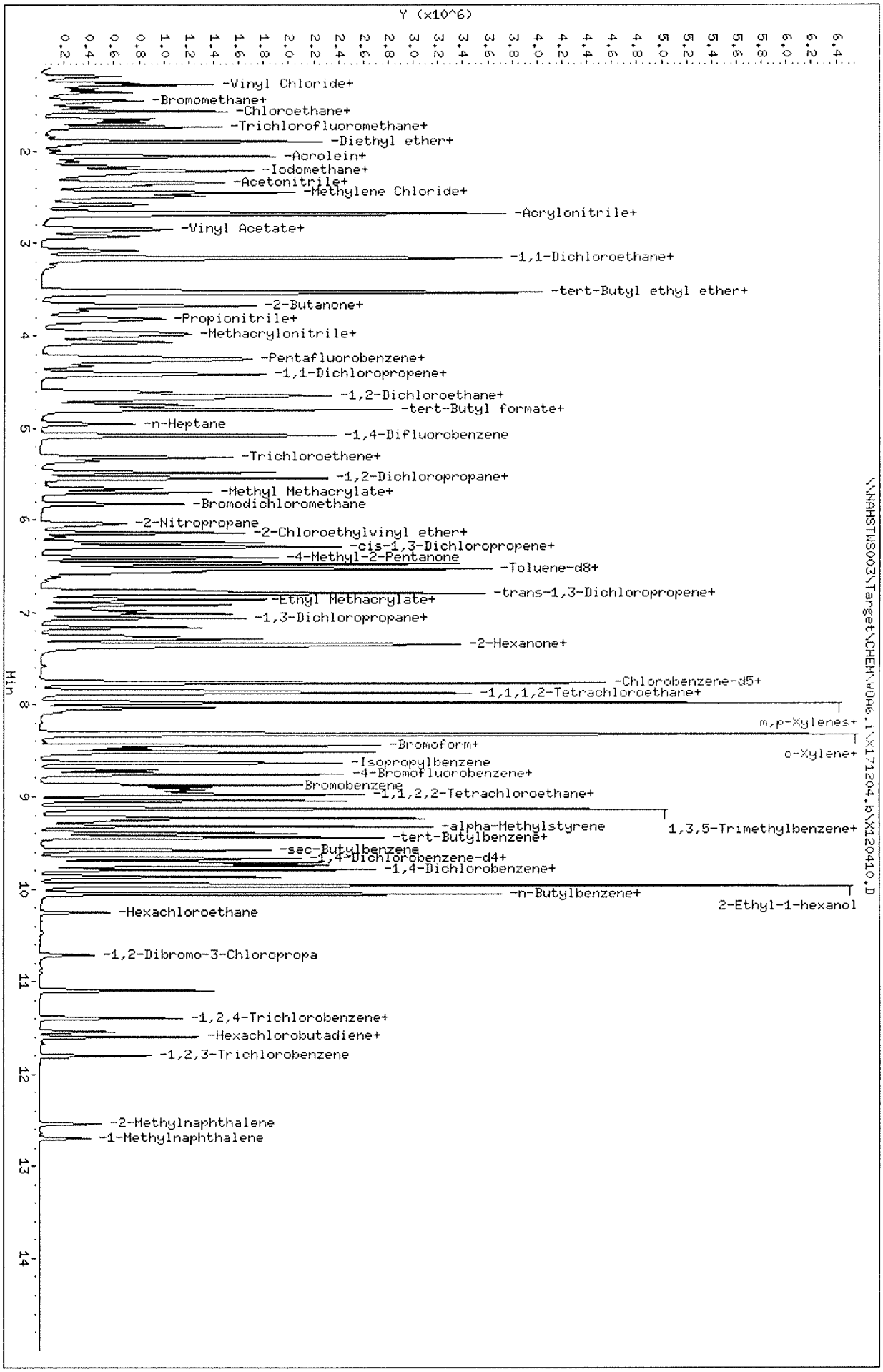
Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120410.D
Report Date: 07-Feb-2018 20:07

		QUANT SIG					AMOUNTS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)
	24 2-Butanone	43	3.731	3.731	(0.863)	432561	300.000	309.04(A)
	52 2-Hexanone	43	7.284	7.284	(0.941)	987249	300.000	278.92(A)
	45 4-Methyl-2-Pentanone	43	6.410	6.410	(0.828)	1069282	300.000	272.06(A)
	10 Acetone	43	2.119	2.119	(0.490)	267969	300.000	295.33(A)
	37 Benzene	78	4.648	4.648	(0.914)	1850707	150.000	135.01
	39 Bromodichloromethane	83	5.830	5.830	(1.146)	656182	150.000	133.46
	66 Bromoform	173	8.480	8.480	(1.095)	329396	150.000	130.46
	6 Bromomethane	94	1.460	1.460	(0.338)	361327	150.000	142.90
	19 Carbon Disulfide	76	2.212	2.212	(0.512)	2487608	300.000	282.93(A)
	34 Carbon Tetrachloride	117	4.411	4.411	(0.868)	514063	150.000	139.09
	59 Chlorobenzene	112	7.764	7.764	(1.003)	1214595	150.000	138.92
	7 Chloroethane	64	1.525	1.525	(0.353)	344390	150.000	146.58
	28 Chloroform	83	4.068	4.068	(0.940)	834892	150.000	137.39
	3 Chloromethane	50	1.188	1.188	(0.275)	637166	150.000	141.93
	27 cis-1,2-Dichloroethene	96	3.688	3.688	(0.853)	512701	150.000	139.21
	46 cis-1,3-Dichloropropene	75	6.245	6.245	(1.228)	843848	150.000	139.68
	55 Dibromochloromethane	129	7.255	7.255	(0.937)	493631	150.000	121.38
	2 Dichlorodifluoromethane	85	1.081	1.081	(0.250)	444560	150.000	161.79
	61 Ethylbenzene	106	7.871	7.871	(1.017)	600798	150.000	134.56
	67 Isopropylbenzene	105	8.630	8.630	(1.115)	1380850	150.000	131.71
	17 Methylene Chloride	84	2.449	2.449	(0.566)	506476	150.000	145.22
	56 Tetrachloroethene	164	7.012	7.012	(0.906)	291009	150.000	132.64
	50 Toluene	91	6.532	6.532	(0.844)	1790531	150.000	123.09
	20 trans-1,2-Dichloroethene	96	2.678	2.678	(0.619)	458968	150.000	143.97
	51 trans-1,3-Dichloropropene	75	6.761	6.761	(1.330)	669852	150.000	127.06
	38 Trichloroethene	130	5.321	5.321	(1.046)	444111	150.000	137.67
	8 Trichlorofluoromethane	101	1.689	1.689	(0.391)	582039	150.000	152.83
	5 Vinyl Chloride	62	1.260	1.260	(0.291)	611559	150.000	148.89
	62 m,p-Xylenes	106	7.971	7.971	(1.030)	1434086	300.000	267.58(A)
	63 o-Xylene	106	8.308	8.308	(1.073)	700876	150.000	130.59
M	95 Xylenes (total)	106				2134962	450.000	398.18
	71 1,2,3-Trichloropropane	75	8.931	8.931	(0.918)	717115	150.000	136.74
	93 1,2,3-Trichlorobenzene	180	11.796	11.796	(1.213)	227515	150.000	142.12
	79 1,2,4-Trimethylbenzene	105	9.440	9.440	(0.971)	1192916	150.000	143.00
	75 1,3,5-Trimethylbenzene	105	9.132	9.132	(0.939)	1118942	150.000	143.70
	26 2,2-Dichloropropane	77	3.666	3.666	(0.848)	685800	150.000	140.60
	54 1,3-Dichloropropane	76	7.062	7.062	(0.912)	766580	150.000	120.03
	76 2-Chlorotoluene	91	9.039	9.039	(0.929)	1114234	150.000	142.75
	77 4-Chlorotoluene	91	9.132	9.132	(0.939)	1335693	150.000	142.82
	82 p-Isopropyltoluene	119	9.712	9.712	(0.999)	938376	150.000	133.65
	29 Bromochloromethane	128	3.960	3.960	(0.916)	212980	150.000	144.54
	74 Bromobenzene	156	8.874	8.874	(0.912)	468007	150.000	130.42
	44 Dibromomethane	93	5.658	5.658	(1.113)	320157	150.000	133.15
	91 Hexachlorobutadiene	225	11.539	11.539	(1.186)	89042	150.000	142.66
	73 n-Propylbenzene	91	8.974	8.974	(0.923)	1664464	150.000	145.58
	87 n-Butylbenzene	91	10.049	10.049	(1.033)	822380	150.000	144.51
	81 sec-Butylbenzene	105	9.583	9.583	(0.985)	1083909	150.000	134.70
	92 Naphthalene	128	11.603	11.603	(1.193)	850255	150.000	147.33
	78 tert-Butylbenzene	119	9.397	9.397	(0.966)	808476	150.000	146.37
	60 1,1,1,2-Tetrachloroethane	131	7.850	7.850	(1.014)	441087	150.000	134.15
	64 Styrene	104	8.322	8.322	(1.075)	1297748	150.000	134.46

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120410.D
Report Date: 07-Feb-2018 20:07

QC Flag Legend

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



Data File: \\NAHSTWS003\Target\CHEM\WOA6.i\X171204.b\X120410.D
Date : 04-DEC-2017 14:52
Client ID: WSTD150
Sample Info: WSTD150;WSTD150;1;9;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120411.D
Report Date: 07-Feb-2018 20:07

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120411.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 04-DEC-2017 15:17
Operator : PC Inst ID: voa6.i
Smp Info : VSTD200;VSTD200;1;10;
Misc Info : HS16030331;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa6.i\X171204.b\8260W.m
Meth Date : 07-Feb-2018 20:07 diana.nguy Quant Type: ISTD
Cal Date : 04-DEC-2017 15:17 Cal File: X120411.D
Als bottle: 13 Calibration Sample, Level: 10
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	4.239	4.239	(0.980)	848533	200.000	191.42
*	1 Pentafluorobenzene	168	4.325	4.325	(1.000)	274075	50.0000	
$	30 Dibromofluoromethane	113	4.254	4.254	(0.983)	707168	200.000	199.74
*	36 1,4-Difluorobenzene	114	5.085	5.085	(1.000)	470818	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.612	4.612	(1.066)	945480	200.000	203.31(A)
*	47 Chlorobenzene-d5	117	7.742	7.742	(1.000)	410001	50.0000	
$	48 Toluene-d8	98	6.474	6.474	(0.836)	2633300	200.000	182.57
$	69 4-Bromofluorobenzene	95	8.752	8.752	(1.130)	979292	200.000	199.39
*	70 1,4-Dichlorobenzene-d4	152	9.726	9.726	(1.000)	190858	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	8.903	8.903	(0.915)	787284	200.000	204.84(A)
	53 1,1,2-Trichloroethane	83	6.918	6.918	(0.894)	515500	200.000	194.34
	32 1,1-Dichloropropene	75	4.426	4.426	(0.870)	790240	200.000	188.24
	22 1,1-Dichloroethane	63	3.079	3.079	(0.712)	1122920	200.000	184.35
	11 1,1-Dichloroethene	96	2.055	2.055	(0.475)	509660	200.000	181.61(M)
	90 1,2,4-Trichlorobenzene	180	11.395	11.395	(1.172)	393710	200.000	207.92(A)
	89 1,2-Dibromo-3-Chloropropane	155	10.715	10.715	(1.102)	102048	200.000	197.83
	57 1,2-Dibromoethane	107	7.341	7.341	(0.948)	578232	200.000	187.62
	88 1,2-Dichlorobenzene	146	10.056	10.056	(1.034)	963798	200.000	191.22
	33 1,2-Dichloroethane	62	4.691	4.691	(0.923)	929332	200.000	186.12
	42 1,2-Dichloropropane	63	5.543	5.543	(1.090)	695514	200.000	185.23
	83 1,3-Dichlorobenzene	146	9.669	9.669	(0.994)	957585	200.000	184.74
	84 1,4-Dichlorobenzene	146	9.741	9.741	(1.001)	1008432	200.000	205.54(A)

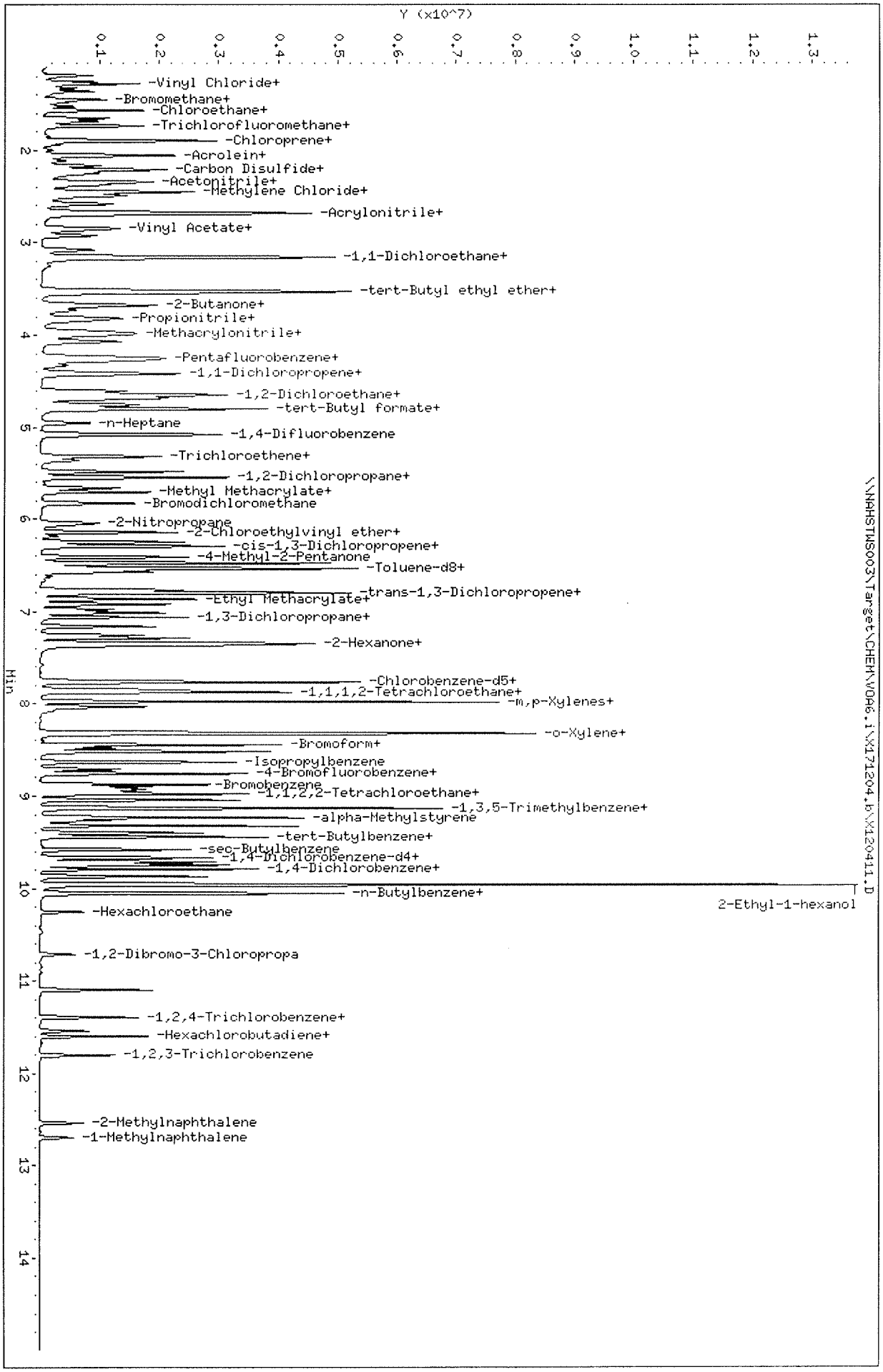
Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120411.D
Report Date: 07-Feb-2018 20:07

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
24	2-Butanone	43	3.731	3.731	(0.863)	592860	400.000	431.30(A)
52	2-Hexanone	43	7.284	7.284	(0.941)	1353608	400.000	428.36(A)
45	4-Methyl-2-Pentanone	43	6.410	6.410	(0.828)	1427510	400.000	406.82(A)
10	Acetone	43	2.119	2.119	(0.490)	361044	400.000	405.86(A)
37	Benzene	78	4.648	4.648	(0.914)	2498006	200.000	186.85
39	Bromodichloromethane	83	5.830	5.830	(1.146)	895717	200.000	186.80
66	Bromoform	173	8.480	8.480	(1.095)	466779	200.000	207.07(A)
6	Bromomethane	94	1.453	1.453	(0.336)	482927	200.000	194.48
19	Carbon Disulfide	76	2.212	2.212	(0.512)	3172043	400.000	367.37(A)
34	Carbon Tetrachloride	117	4.411	4.411	(0.868)	666600	200.000	184.93
59	Chlorobenzene	112	7.764	7.764	(1.003)	1523814	200.000	188.19
7	Chloroethane	64	1.525	1.525	(0.353)	443922	200.000	191.09
28	Chloroform	83	4.068	4.068	(0.940)	1118006	200.000	187.34
3	Chloromethane	50	1.188	1.188	(0.275)	864612	200.000	196.12
27	cis-1,2-Dichloroethene	96	3.688	3.688	(0.853)	671987	200.000	185.79(M)
46	cis-1,3-Dichloropropene	75	6.245	6.245	(1.228)	1143549	200.000	194.09
55	Dibromochloromethane	129	7.255	7.255	(0.937)	722968	200.000	199.13
2	Dichlorodifluoromethane	85	1.081	1.081	(0.250)	551612	200.000	204.42(A)
61	Ethylbenzene	106	7.871	7.871	(1.017)	748735	200.000	187.83
67	Isopropylbenzene	105	8.630	8.630	(1.115)	1904192	200.000	203.44(A)
17	Methylene Chloride	84	2.449	2.449	(0.566)	694800	200.000	202.98(A)
56	Tetrachloroethene	164	7.012	7.012	(0.906)	372609	200.000	190.24
50	Toluene	91	6.532	6.532	(0.844)	2522694	200.000	194.25
20	trans-1,2-Dichloroethene	96	2.678	2.678	(0.619)	603841	200.000	192.88
51	trans-1,3-Dichloropropene	75	6.761	6.761	(1.330)	975193	200.000	189.68
38	Trichloroethene	130	5.321	5.321	(1.046)	588756	200.000	187.14
8	Trichlorofluoromethane	101	1.689	1.689	(0.391)	720596	200.000	192.68
5	Vinyl Chloride	62	1.260	1.260	(0.291)	780176	200.000	193.42
62	m,p-Xylenes	106	7.971	7.971	(1.030)	1777124	400.000	371.40(A)
63	o-Xylene	106	8.308	8.308	(1.073)	921138	200.000	192.25
M 95	Xylenes (total)	106				2698262	600.000	563.66
71	1,2,3-Trichloropropane	75	8.931	8.931	(0.918)	976329	200.000	194.56
93	1,2,3-Trichlorobenzene	180	11.796	11.796	(1.213)	320961	200.000	207.95(A)
79	1,2,4-Trimethylbenzene	105	9.440	9.440	(0.971)	1638094	200.000	205.03(A)
75	1,3,5-Trimethylbenzene	105	9.132	9.132	(0.939)	1525239	200.000	204.43(A)
26	2,2-Dichloropropane	77	3.666	3.666	(0.848)	894521	200.000	186.75
54	1,3-Dichloropropane	76	7.062	7.062	(0.912)	1120933	200.000	196.59
76	2-Chlorotoluene	91	9.039	9.039	(0.929)	1527940	200.000	204.42(A)
77	4-Chlorotoluene	91	9.132	9.132	(0.939)	1835422	200.000	204.82(A)
82	p-Isopropyltoluene	119	9.712	9.712	(0.999)	1256945	200.000	187.08
29	Bromochloromethane	128	3.960	3.960	(0.916)	292625	200.000	202.62(A)
74	Bromobenzene	156	8.874	8.874	(0.912)	666537	200.000	190.32
44	Dibromomethane	93	5.658	5.658	(1.113)	431802	200.000	184.13
91	Hexachlorobutadiene	225	11.539	11.539	(1.186)	103984	200.000	207.24(A)
73	n-Propylbenzene	91	8.974	8.974	(0.923)	2219188	200.000	202.64(A)
87	n-Butylbenzene	91	10.056	10.056	(1.034)	1089004	200.000	199.99
81	sec-Butylbenzene	105	9.583	9.583	(0.985)	1440801	200.000	187.12
92	Naphthalene	128	11.603	11.603	(1.193)	1215604	200.000	200.33(A)
78	tert-Butylbenzene	119	9.397	9.397	(0.966)	1072881	200.000	202.87(A)
60	1,1,1,2-Tetrachloroethane	131	7.850	7.850	(1.014)	554364	200.000	188.84
64	Styrene	104	8.322	8.322	(1.075)	1656842	200.000	192.28

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120411.D
Report Date: 07-Feb-2018 20:07

QC Flag Legend

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



Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120411.D
Date : 04-DEC-2017 15:17
Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;10;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120414.D
Report Date: 07-Feb-2018 20:07

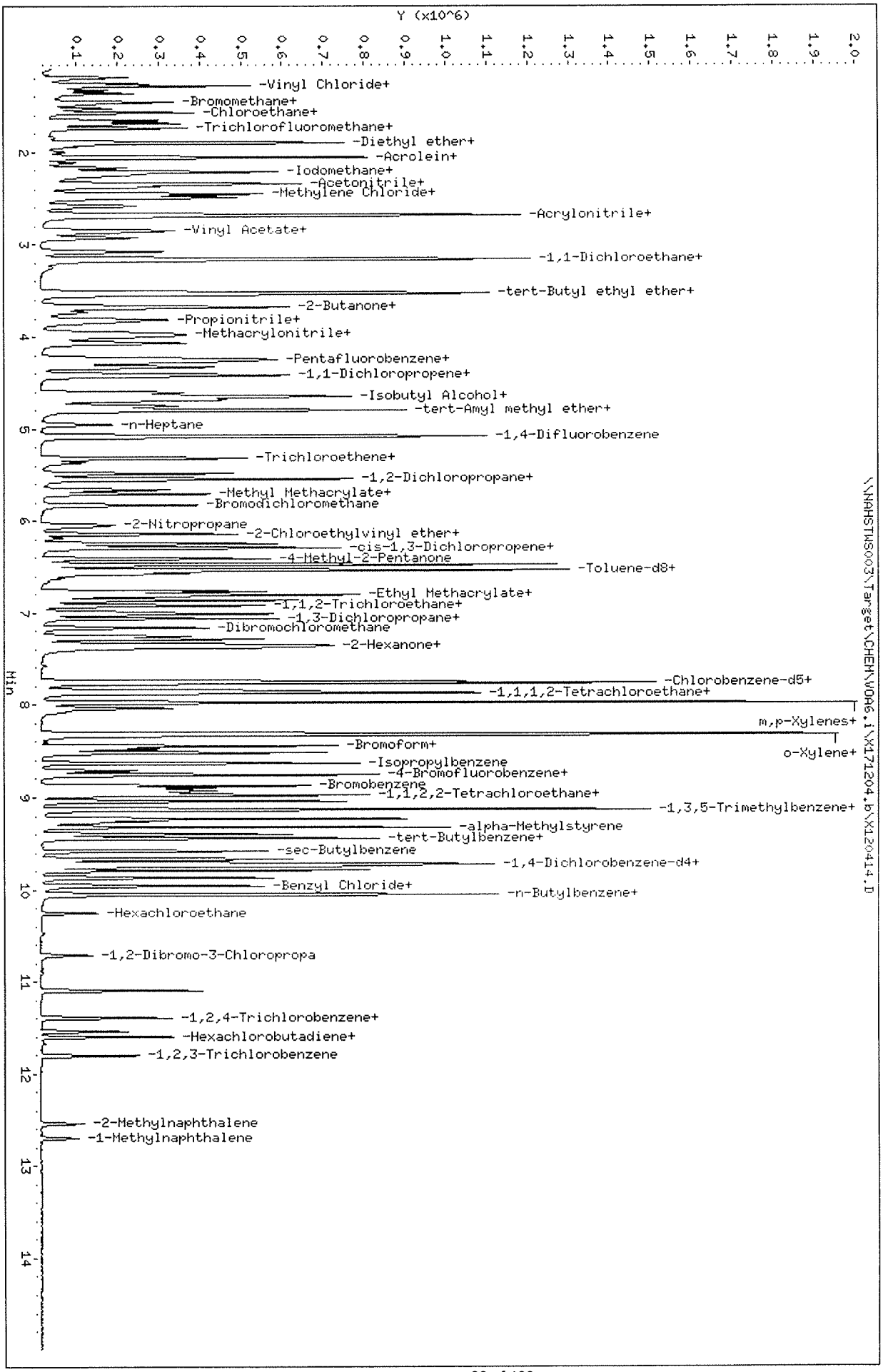
ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA6.i\X171204.b\X120414.D
Lab Smp Id: VSTD-ICV Client Smp ID: VSTD-ICV
Inj Date : 04-DEC-2017 16:32
Operator : PC Inst ID: voa6.i
Smp Info : VSTD-ICV;VSTD-ICV;2;;ICV
Misc Info : HS16030331;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa6.i\X171204.b\8260W.m
Meth Date : 07-Feb-2018 20:07 diana.nguy Quant Type: ISTD
Cal Date : 04-DEC-2017 15:17 Cal File: X120411.D
Als bottle: 16 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
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	4.232	4.239	(0.978)	216265	47.1167	47.11
* 1 Pentafluorobenzene	168	4.325	4.325	(1.000)	283798	50.0000	
$ 30 Dibromofluoromethane	113	4.254	4.254	(0.983)	186505	50.5072	50.50
* 36 1,4-Difluorobenzene	114	5.085	5.085	(1.000)	475885	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.612	4.612	(1.066)	233266	48.5805	48.58
* 47 Chlorobenzene-d5	117	7.742	7.742	(1.000)	447334	50.0000	
$ 48 Toluene-d8	98	6.474	6.474	(0.836)	687609	50.8607	50.86
$ 69 4-Bromofluorobenzene	95	8.752	8.752	(1.130)	233893	48.4083	48.40
* 70 1,4-Dichlorobenzene-d4	152	9.726	9.726	(1.000)	192678	50.0000	
68 1,1,2,2-Tetrachloroethane	83	8.903	8.903	(0.915)	183232	47.4994	47.49
53 1,1,2-Trichloroethane	83	6.918	6.918	(0.894)	125161	43.2470	43.24
32 1,1-Dichloropropene	75	4.426	4.426	(0.870)	203105	47.8660	47.86
22 1,1-Dichloroethane	63	3.072	3.079	(0.710)	289305	45.8681	45.86
11 1,1-Dichloroethene	96	2.055	2.055	(0.475)	140109	48.2178	48.21
90 1,2,4-Trichlorobenzene	180	11.395	11.395	(1.172)	79526	43.7920	43.79
89 1,2-Dibromo-3-Chloropropane	155	10.715	10.715	(1.102)	22072	42.3856	42.38
57 1,2-Dibromoethane	107	7.341	7.341	(0.948)	149469	44.4523	44.45
88 1,2-Dichlorobenzene	146	10.056	10.056	(1.034)	215313	42.3160	42.31
33 1,2-Dichloroethane	62	4.691	4.691	(0.923)	224879	44.5578	44.55
42 1,2-Dichloropropane	63	5.543	5.543	(1.090)	172442	45.4376	45.43
83 1,3-Dichlorobenzene	146	9.669	9.669	(0.994)	215932	41.2668	41.26
84 1,4-Dichlorobenzene	146	9.741	9.741	(1.001)	229124	46.6769	46.67



Data File: \\NAHSTW5003\Target\CHEM\VOA6.i\X171204.b\X120414.D
Date : 04-DEC-2017 16:32
Client ID: VSTD-ICV
Sample Info: VSTD-ICV;VSTD-ICV;2;;ICV
Purge Volume: 5.0
Column phase: DB624

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

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120365

Lab File ID: X121101 BFB Injection Date: 12/11/17

Instrument ID: VOA6 BFB Injection Time: 1126

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.0
75	30.0 - 60.0% of mass 95	51.1
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.2
173	Less than 2.0% of mass 174	0.6 (0.9)1
174	Greater than 50.0% of mass 95	63.9
175	5.0 - 9.0% of mass 174	4.7 (7.4)1
176	95.0 - 101.0% of mass 174	62.3 (97.6)1
177	5.0 - 9.0% of mass 176	4.0 (6.5)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	VSTD050	VSTD050	X121102	12/11/17	1151
02	VLCSW-171211	VLCSW-171211	X121104	12/11/17	1241
03	VBLKW-017121	VBLKW-171211	X121107	12/11/17	1356
04	HS17120365-0	HS17120365-02	X121108	12/11/17	1421
05	HS17120365-0	HS17120365-01	X121109	12/11/17	1446
06	HS17120435-0	HS17120435-01M	X121113	12/11/17	1625
07	HS17120435-0	HS17120435-01M	X121114	12/11/17	1649
08	VSTD050-END	VSTD050-END	X121129	12/11/17	2302
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120365

Instrument ID: VOA6 Calibration Date: 12/11/17 Time: 1151

Lab File ID: X121102 Init. Calib. Date(s): 12/04/17 12/04/17

Init. Calib. Times: 1044 1517

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	0.8080000	0.7940591	0.7940591	0.1	1.72	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3580000	0.3475114	0.3475114	0.1	2.93	20.00	AVRG
tert-Butylbenzene	52.732535	50.000000	1.4545787	0.1	-5.46	20.00	LINR
Naphthalene	44.488624	50.000000	1.1127943	0.2	11.02	20.00	2RDR
sec-Butylbenzene	2.0170000	1.9630104	1.9630104	0.1	2.68	20.00	AVRG
1,1,2,2-Tetrachloroethane	48.544189	50.000000	0.9720497	0.3	2.91	20.00	LINR
1,1,2-Trichloroethane	0.3230000	0.3044799	0.3044799	0.1	5.73	20.00	AVRG
1,1-Dichloropropene	0.4460000	0.4435945	0.4435945	0.1	0.54	20.00	AVRG
1,1-Dichloroethane	1.1110000	1.0537017	1.0537017	0.2	5.16	20.00	AVRG
1,1-Dichloroethene	0.5120000	0.4792234	0.4792234	0.1	6.40	20.00	AVRG
1,2,4-Trichlorobenzene	48.335057	50.000000	0.4584131	0.2	3.33	20.00	LINR
1,2-Dibromo-3-Chloropropane	0.1350000	0.1175609	0.1175609	0.05	12.92	20.00	AVRG
1,2-Dibromoethane	0.3760000	0.3743285	0.3743285	0.1	0.44	20.00	AVRG
1,2-Dichlorobenzene	1.3200000	1.2398773	1.2398773	0.4	6.07	20.00	AVRG
1,2-Dichloroethane	0.5300000	0.4840923	0.4840923	0.1	8.66	20.00	AVRG
1,2-Dichloropropane	0.3990000	0.3916902	0.3916902	0.1	1.83	20.00	AVRG
1,3-Dichlorobenzene	1.3580000	1.2737816	1.2737816	0.6	6.20	20.00	AVRG
1,4-Dichlorobenzene	52.005516	50.000000	1.3264859	0.4	-4.01	20.00	LINR
2-Butanone	0.2510000	0.2396436	0.2396436	0.1	4.52	20.00	AVRG
2-Hexanone	0.3850000	0.3622024	0.3622024	0.1	5.92	20.00	AVRG
4-Methyl-2-Pentanone	0.4280000	0.3743487	0.3743487	0.1	12.54	20.00	AVRG
Acetone	90.089592	100.00000	0.1485125	0.1	9.91	20.00	LINR
Benzene	1.4200000	1.4490034	1.4490034	0.5	-2.04	20.00	AVRG
Bromodichloromethane	0.5090000	0.5138984	0.5138984	0.2	-0.96	20.00	AVRG
Bromoform	0.2750000	0.2680018	0.2680018	0.1	2.54	20.00	AVRG
Bromomethane	0.4530000	0.4242851	0.4242851	0.1	6.34	20.00	AVRG
Carbon Disulfide	1.5750000	1.5283048	1.5283048	0.1	2.96	20.00	AVRG
Carbon Tetrachloride	0.3830000	0.3883374	0.3883374	0.1	-1.39	20.00	AVRG
Chlorobenzene	0.9870000	0.9543860	0.9543860	0.5	3.30	20.00	AVRG
Chloroethane	0.4240000	0.3848641	0.3848641	0.1	9.23	20.00	AVRG
Chloroform	1.0880000	1.0408787	1.0408787	0.2	4.33	20.00	AVRG
Chloromethane	0.8040000	0.7751993	0.7751993	0.1	3.58	20.00	AVRG
cis-1,2-Dichloroethene	0.6600000	0.6520349	0.6520349	0.1	1.21	20.00	AVRG
cis-1,3-Dichloropropene	0.6260000	0.6357048	0.6357048	0.2	-1.55	20.00	AVRG
Dibromochloromethane	0.4430000	0.4212300	0.4212300	0.1	4.91	20.00	AVRG
Dichlorodifluoromethane	0.4920000	0.4944560	0.4944560	0.1	-0.50	20.00	AVRG
Ethylbenzene	0.4860000	0.4624414	0.4624414	0.1	4.85	20.00	AVRG
Isopropylbenzene	1.1420000	1.0917607	1.0917607	0.1	4.40	20.00	AVRG
Methylene Chloride	50.589040	50.000000	0.6347002	0.1	-1.18	20.00	LINR
Tetrachloroethene	0.2390000	0.2372238	0.2372238	0.2	0.74	20.00	AVRG
Toluene	1.5840000	1.5287483	1.5287483	0.4	3.49	20.00	AVRG
trans-1,2-Dichloroethene	0.5710000	0.5699216	0.5699216	0.1	0.19	20.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712036

Instrument ID: VOA6 Calibration Date: 12/11/17 Time: 1151

Lab File ID: X121102 Init. Calib. Date(s): 12/04/17 12/04/17

Init. Calib. Times: 1044 1517

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	0.5460000	0.5352886	0.5352886	0.1	1.96	20.00	AVRG	
Trichloroethene	0.3340000	0.3429751	0.3429751	0.2	-2.69	20.00	AVRG	
Trichlorofluoromethane	0.6820000	0.6416214	0.6416214	0.1	5.92	20.00	AVRG	
Vinyl Chloride	0.7360000	0.6655850	0.6655850	0.1	9.57	20.00	AVRG	
m,p-Xylenes	0.5830000	0.5510656	0.5510656	0.1	5.48	20.00	AVRG	
o-Xylene	0.5840000	0.5670541	0.5670541	0.3	2.90	20.00	AVRG	
Xylenes (total)	0.5280000	0.5149630	0.5149630	0.1	2.47	20.00	AVRG	
1,2,3-Trichloropropane	1.3140000	1.1760972	1.1760972	0.1	10.49	20.00	AVRG	
1,2,3-Trichlorobenzene	45.729715	50.000000	0.3485875	0.1	8.54	20.00	LINR	
1,2,4-Trimethylbenzene	51.670570	50.000000	2.1491180	0.1	-3.34	20.00	LINR	
1,3,5-Trimethylbenzene	51.602221	50.000000	1.9981022	0.1	-3.20	20.00	LINR	
2,2-Dichloropropane	0.8740000	0.8291595	0.8291595	0.1	5.13	20.00	AVRG	
1,3-Dichloropropane	0.6950000	0.6404016	0.6404016	0.1	7.86	20.00	AVRG	
2-Chlorotoluene	51.483683	50.000000	2.0052882	0.1	-2.97	20.00	LINR	
4-Chlorotoluene	51.413600	50.000000	2.3911205	0.1	-2.83	20.00	LINR	
p-Isopropyltoluene	1.7600000	1.7494631	1.7494631	0.1	0.60	20.00	AVRG	
Bromochloromethane	55.442298	50.000000	0.2959534	0.1	-10.88	20.00	LINR	
Bromobenzene	0.8990000	0.8798588	0.8798588	0.1	2.13	20.00	AVRG	
Dibromomethane	0.2490000	0.2380660	0.2380660	0.1	4.39	20.00	AVRG	
Hexachlorobutadiene	68.597213	50.000000	0.2133586	0.1	-37.19	20.00	LINR	<-
n-Propylbenzene	51.034457	50.000000	2.9067159	0.1	-2.07	20.00	LINR	
n-Butylbenzene	1.4260000	1.5432793	1.5432793	0.5	-8.22	20.00	AVRG	
Styrene	1.0510000	1.0477825	1.0477825	0.3	0.31	20.00	AVRG	
1,2-Dichloroethane-d4	43.409877	50.000000	0.7341332	0.1	13.18	20.00	LINR	
Dibromofluoromethane	47.353111	50.000000	0.6165298	0.1	5.29	20.00	LINR	
Toluene-d8	51.765765	50.000000	1.5655546	0.1	-3.53	20.00	2RDR	
4-Bromofluorobenzene	50.796106	50.000000	0.5492038	0.1	-1.59	20.00	2RDR	

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120365

Instrument ID: VOA6 Calibration Date: 12/11/17 Time: 2302

Lab File ID: X121129 Init. Calib. Date(s): 12/04/17 12/04/17

Init. Calib. Times: 1044 1517

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	0.8080000	0.6960773	0.6960773	0.1	13.85	50.00	AVRG
1,1,1,2-Tetrachloroethane	0.3580000	0.3228317	0.3228317	0.1	9.82	50.00	AVRG
tert-Butylbenzene	44.861731	50.000000	1.2361463	0.1	10.28	50.00	LINR
Naphthalene	38.190086	50.000000	0.9442540	0.2	23.62	50.00	2RDR
sec-Butylbenzene	2.0170000	1.5741443	1.5741443	0.1	21.96	50.00	AVRG
1,1,2,2-Tetrachloroethane	45.756651	50.000000	0.9158199	0.3	8.49	50.00	LINR
1,1,2-Trichloroethane	0.3230000	0.2918184	0.2918184	0.1	9.65	50.00	AVRG
1,1-Dichloropropene	0.4460000	0.3871378	0.3871378	0.1	13.20	50.00	AVRG
1,1-Dichloroethane	1.1110000	0.9560415	0.9560415	0.2	13.95	50.00	AVRG
1,1-Dichloroethene	0.5120000	0.4142380	0.4142380	0.1	19.09	50.00	AVRG
1,2,4-Trichlorobenzene	41.880272	50.000000	0.3935209	0.2	16.24	50.00	LINR
1,2-Dibromo-3-Chloropropane	0.1350000	0.1079428	0.1079428	0.05	20.04	50.00	AVRG
1,2-Dibromoethane	0.3760000	0.3498237	0.3498237	0.1	6.96	50.00	AVRG
1,2-Dichlorobenzene	1.3200000	1.1636955	1.1636955	0.4	11.84	50.00	AVRG
1,2-Dichloroethane	0.5300000	0.4616659	0.4616659	0.1	12.89	50.00	AVRG
1,2-Dichloropropane	0.3990000	0.3651602	0.3651602	0.1	8.48	50.00	AVRG
1,3-Dichlorobenzene	1.3580000	1.1662982	1.1662982	0.6	14.12	50.00	AVRG
1,4-Dichlorobenzene	47.411628	50.000000	1.2080908	0.4	5.18	50.00	LINR
2-Butanone	0.2510000	0.2225728	0.2225728	0.1	11.32	50.00	AVRG
2-Hexanone	0.3850000	0.3446860	0.3446860	0.1	10.47	50.00	AVRG
4-Methyl-2-Pentanone	0.4280000	0.3605114	0.3605114	0.1	15.77	50.00	AVRG
Acetone	90.954876	100.00000	0.1499104	0.1	9.04	50.00	LINR
Benzene	1.4200000	1.3218166	1.3218166	0.5	6.91	50.00	AVRG
Bromodichloromethane	0.5090000	0.4730507	0.4730507	0.2	7.06	50.00	AVRG
Bromoform	0.2750000	0.2598790	0.2598790	0.1	5.50	50.00	AVRG
Bromomethane	0.4530000	0.3881268	0.3881268	0.1	14.32	50.00	AVRG
Carbon Disulfide	1.5750000	1.3456636	1.3456636	0.1	14.56	50.00	AVRG
Carbon Tetrachloride	0.3830000	0.3323890	0.3323890	0.1	13.21	50.00	AVRG
Chlorobenzene	0.9870000	0.8955936	0.8955936	0.5	9.26	50.00	AVRG
Chloroethane	0.4240000	0.3342238	0.3342238	0.1	21.17	50.00	AVRG
Chloroform	1.0880000	0.9452220	0.9452220	0.2	13.12	50.00	AVRG
Chloromethane	0.8040000	0.6949940	0.6949940	0.1	13.56	50.00	AVRG
cis-1,2-Dichloroethene	0.6600000	0.5925259	0.5925259	0.1	10.22	50.00	AVRG
cis-1,3-Dichloropropene	0.6260000	0.5748615	0.5748615	0.2	8.17	50.00	AVRG
Dibromochloromethane	0.4430000	0.3965482	0.3965482	0.1	10.48	50.00	AVRG
Dichlorodifluoromethane	0.4920000	0.3930852	0.3930852	0.1	20.10	50.00	AVRG
Ethylbenzene	0.4860000	0.4210284	0.4210284	0.1	13.37	50.00	AVRG
Isopropylbenzene	1.1420000	0.9937808	0.9937808	0.1	12.98	50.00	AVRG
Methylene Chloride	47.188443	50.000000	0.5922944	0.1	5.62	50.00	LINR
Tetrachloroethene	0.2390000	0.2128119	0.2128119	0.2	10.96	50.00	AVRG
Toluene	1.5840000	1.3937796	1.3937796	0.4	12.01	50.00	AVRG
trans-1,2-Dichloroethene	0.5710000	0.5137107	0.5137107	0.1	10.03	50.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712036

Instrument ID: VOA6 Calibration Date: 12/11/17 Time: 2302

Lab File ID: X121129 Init. Calib. Date(s): 12/04/17 12/04/17

Init. Calib. Times: 1044 1517

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	0.5460000	0.4869541	0.4869541	0.1	10.81	50.00	AVRG
Trichloroethene	0.3340000	0.3145140	0.3145140	0.2	5.83	50.00	AVRG
Trichlorofluoromethane	0.6820000	0.5420442	0.5420442	0.1	20.52	50.00	AVRG
Vinyl Chloride	0.7360000	0.5723175	0.5723175	0.1	22.24	50.00	AVRG
m,p-Xylenes	0.5830000	0.5041435	0.5041435	0.1	13.52	50.00	AVRG
o-Xylene	0.5840000	0.5265321	0.5265321	0.3	9.84	50.00	AVRG
Xylenes (total)	0.5280000	0.4697100	0.4697100	0.1	11.04	50.00	AVRG
1,2,3-Trichloropropane	1.3140000	1.0804078	1.0804078	0.1	17.78	50.00	AVRG
1,2,3-Trichlorobenzene	39.076420	50.000000	0.2939136	0.1	21.85	50.00	LINR
1,2,4-Trimethylbenzene	45.529943	50.000000	1.8915097	0.1	8.94	50.00	LINR
1,3,5-Trimethylbenzene	45.317792	50.000000	1.7516512	0.1	9.36	50.00	LINR
2,2-Dichloropropane	0.8740000	0.6470123	0.6470123	0.1	25.97	50.00	AVRG
1,3-Dichloropropane	0.6950000	0.6148340	0.6148340	0.1	11.53	50.00	AVRG
2-Chlorotoluene	46.783574	50.000000	1.8208841	0.1	6.43	50.00	LINR
4-Chlorotoluene	46.524310	50.000000	2.1608359	0.1	6.95	50.00	LINR
p-Isopropyltoluene	1.7600000	1.4105232	1.4105232	0.1	19.86	50.00	AVRG
Bromochloromethane	55.488541	50.000000	0.2961958	0.1	-10.98	50.00	LINR
Bromobenzene	0.8990000	0.8046660	0.8046660	0.1	10.49	50.00	AVRG
Dibromomethane	0.2490000	0.2282430	0.2282430	0.1	8.34	50.00	AVRG
Hexachlorobutadiene	42.244882	50.000000	0.1304412	0.1	15.51	50.00	LINR
n-Propylbenzene	44.205774	50.000000	2.5139297	0.1	11.59	50.00	LINR
n-Butylbenzene	1.4260000	1.1361740	1.1361740	0.5	20.32	50.00	AVRG
Styrene	1.0510000	0.9831344	0.9831344	0.3	6.46	50.00	AVRG
1,2-Dichloroethane-d4	45.220284	50.000000	0.7648785	0.1	9.56	50.00	LINR
Dibromofluoromethane	47.799022	50.000000	0.6222760	0.1	4.40	50.00	LINR
Toluene-d8	52.889163	50.000000	1.6009115	0.1	-5.78	50.00	2RDR
4-Bromofluorobenzene	52.962085	50.000000	0.5731710	0.1	-5.92	50.00	2RDR

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120365

Lab File ID (Standard): X121102 Date Analyzed: 12/11/17

Instrument ID: VOA6 Time Analyzed: 1151

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	266863	4.33	427999	5.09	396128	7.74
	UPPER LIMIT	533726	4.83	855998	5.59	792256	8.24
	LOWER LIMIT	133432	3.83	214000	4.59	198064	7.24
	CLIENT SAMPLE NO.						
01	VLCSW-171211	260771	4.33	421932	5.09	388007	7.74
02	VBLKW-0171211	270643	4.33	432291	5.09	396594	7.74
03	HS17120365-02	270985	4.33	431652	5.09	396572	7.74
04	HS17120365-01	270249	4.33	431810	5.09	400467	7.74
05	HS17120435-01	262329	4.33	416820	5.09	370786	7.74
06	HS17120435-01	204836	4.33	325645	5.09	303312	7.74
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

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

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

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

FORM VIII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120365

Lab File ID (Standard): X121102 Date Analyzed: 12/11/17

Instrument ID: VOA6 Time Analyzed: 1151

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

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	180213	9.73				
	UPPER LIMIT	360426	10.23				
	LOWER LIMIT	90107	9.23				
	CLIENT SAMPLE NO.						
01	VLCSW-171211	179724	9.73				
02	VBLKW-0171211	170211	9.73				
03	HS17120365-02	172823	9.73				
04	HS17120365-01	174038	9.73				
05	HS17120435-01	154688	9.73				
06	HS17120435-01	135373	9.73				
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS4 (DCB) = 1,4-Dichlorobenzene-d4

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

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

FORM VIII VOA

MSVOA06 -Logbook

Batch: 30289
Date: 12-11-2017
Method: 8260
Comments:

Analyst: Presenta Cabascango
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	12-11-2017 11:26 am	1.00	50 mL	50 mL	X121101.D	Liquid	Y	na
	auto find/ purged									
2	VSTD050	CCV	12-11-2017 11:51 am	1.00	50 mL	50 mL	X121102.D	Liquid	Y	na
	10 uL cal std/50 mL DI									
3	CCB	SAMP	12-11-2017 12:16 pm	1.00	50 mL	50 mL	X121103.D	Liquid	Y	na
4	VLCSW-171211	LCS	12-11-2017 12:41 pm	1.00	50 mL	50 mL	X121104.D	Liquid	Y	na
	10 uL cal std/50 mL DI									
5	BLK	SAMP	12-11-2017 01:06 pm	1.00	50 mL	50 mL	X121105.D	Liquid	Y	na
	clean up blank									
6	BLK	SAMP	12-11-2017 01:31 pm	1.00	50 mL	50 mL	X121106.D	Liquid	Y	na
	clean up blank									
7	VBLKW-171211	MBLK	12-11-2017 01:56 pm	1.00	50 mL	50 mL	X121107.D	Liquid	Y	na
8	HS17120365-02	SAMP	12-11-2017 02:21 pm	1.00	50 mL	50 mL	X121108.D	Liquid	Y	<2
9	HS17120365-01	SAMP	12-11-2017 02:46 pm	1.00	50 mL	50 mL	X121109.D	Liquid	Y	<2
10	HS17120435-01	SAMP	12-11-2017 03:11 pm	1.00	50 mL	50 mL	X121110.D	Liquid	Y	<2
11	HS17120435-04	SAMP	12-11-2017 03:35 pm	1.00	50 mL	50 mL	X121111.D	Liquid	Y	<2
12	HS17120179-01	SAMP	12-11-2017 04:00 pm	50.00	1 mL	50 mL	X121112.D	Liquid	Y	<2
13	HS17120435-01MS	MS	12-11-2017 04:25 pm	1.00	50 mL	50 mL	X121113.D	Liquid	Y	<2
	5 uL cal std/25 mL sample									
14	HS17120435-01MSD	MSD	12-11-2017 04:49 pm	1.00	50 mL	50 mL	X121114.D	Liquid	Y	<2
	5 uL cal std/25 mL sample									
15	HS17120194-02	SAMP	12-11-2017 05:14 pm	25.00	2 mL	50 mL	X121115.D	Liquid	Y	<2
16	HS17120194-04	SAMP	12-11-2017 05:39 pm	25.00	2 mL	50 mL	X121116.D	Liquid	Y	<2
17	HS17120179-01	SAMP	12-11-2017 06:04 pm	200.0(	250 µL	50 mL	X121117.D	Liquid	Y	<2
18	HS17120435-13	SAMP	12-11-2017 06:29 pm	1.00	50 mL	50 mL	X121118.D	Liquid	Y	<2
19	HS17120435-02	SAMP	12-11-2017 06:54 pm	1.00	50 mL	50 mL	X121119.D	Liquid	Y	<2
20	HS17120435-03	SAMP	12-11-2017 07:19 pm	1.00	50 mL	50 mL	X121120.D	Liquid	Y	<2
21	HS17120435-05	SAMP	12-11-2017 07:43 pm	1.00	50 mL	50 mL	X121121.D	Liquid	Y	<2
22	HS17120435-06	SAMP	12-11-2017 08:08 pm	1.00	50 mL	50 mL	X121122.D	Liquid	Y	<2
23	HS17120435-07	SAMP	12-11-2017 08:33 pm	1.00	50 mL	50 mL	X121123.D	Liquid	Y	<2
24	HS17120435-08	SAMP	12-11-2017 08:58 pm	1.00	50 mL	50 mL	X121124.D	Liquid	Y	<2
25	HS17120435-09	SAMP	12-11-2017 09:23 pm	1.00	50 mL	50 mL	X121125.D	Liquid	Y	<2
26	HS17120435-10	SAMP	12-11-2017 09:47 pm	1.00	50 mL	50 mL	X121126.D	Liquid	Y	<2
27	HS17120435-11	SAMP	12-11-2017 10:12 pm	1.00	50 mL	50 mL	X121127.D	Liquid	Y	<2
28	HS17120435-12	SAMP	12-11-2017 10:37 pm	1.00	50 mL	50 mL	X121128.D	Liquid	Y	<2
29	VSTD050-END	CCV	12-11-2017 11:02 pm	1.00	50 mL	50 mL	X121129.D	Liquid	Y	<2

Chemical	Value
SURR SPK ID	30502-03-03
IS ID	30502-03-04
LCS/MS ID	30502--03-01/02
BFB ID	30502-03-03
pH Paper	634-37-03

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171211.b\X121101.D

Date : 11-DEC-2017 11:26

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

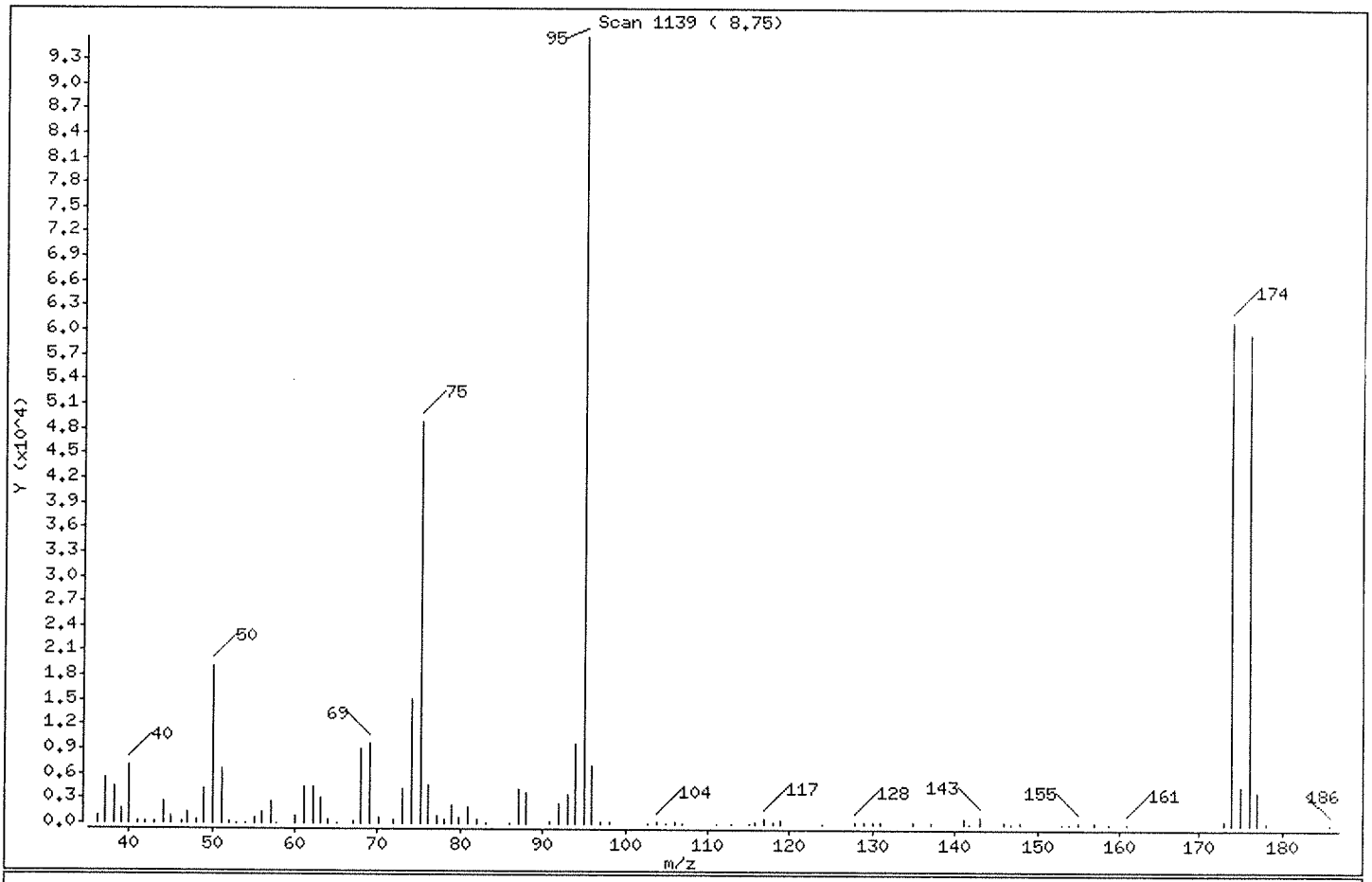
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.03
75	30.00 - 60.00% of mass 95	51.13
96	5.00 - 9.00% of mass 95	7.24
173	Less than 2.00% of mass 174	0.55 (0.86)
174	Greater than 50.00% of mass 95	63.88
175	5.00 - 9.00% of mass 174	4.72 (7.39)
176	95.00 - 101.00% of mass 174	62.34 (97.59)
177	5.00 - 9.00% of mass 176	4.03 (6.47)

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171211.b\X121101.D

Date : 11-DEC-2017 11:26

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

Data File: X121101.D
Spectrum: Scan 1139 (8.75)
Location of Maximum: 95.10
Number of points: 94

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	894	61.00	4323	90.90	306	130.90	167
37.10	5461	62.10	4391	92.00	2373	134.90	159
38.10	4305	63.10	3096	93.00	3545	137.00	115
39.10	1853	64.00	360	94.00	9673	141.00	727
40.00	7010	65.10	92	95.10	95624	141.80	91
41.10	159	67.00	201	96.00	6927	143.00	885
42.00	302	68.00	9051	97.00	213	145.90	121
43.00	209	69.10	9762	98.10	155	146.80	52
44.10	2720	70.10	735	102.80	64	147.90	215
45.00	921	72.00	398	103.90	327	152.90	83
46.30	120	73.00	4269	104.90	102	153.90	80
47.10	1380	74.10	15263	106.00	317	154.90	175
48.00	498	75.10	48896	107.00	76	157.00	143
49.00	4089	76.00	4539	111.10	60	158.80	79
50.10	19152	77.10	772	112.90	50	160.90	71
51.10	6562	78.00	352	115.10	77	173.10	528
52.10	294	79.00	2264	115.80	303	174.00	61080
53.00	60	79.90	710	116.90	623	175.00	4512
54.00	82	80.90	2084	117.90	236	176.00	59608
55.10	582	82.00	486	118.90	360	177.00	3858
56.10	1338	83.10	79	123.90	53	178.00	133
57.10	2666	86.10	67	127.90	317	185.90	77
57.90	85	87.00	4280	128.90	180		
60.00	825	88.00	3843	130.00	271		

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171211.b\X121101.D

Date : 11-DEC-2017 11:26

Client ID: BFB

Instrument: voa6.i

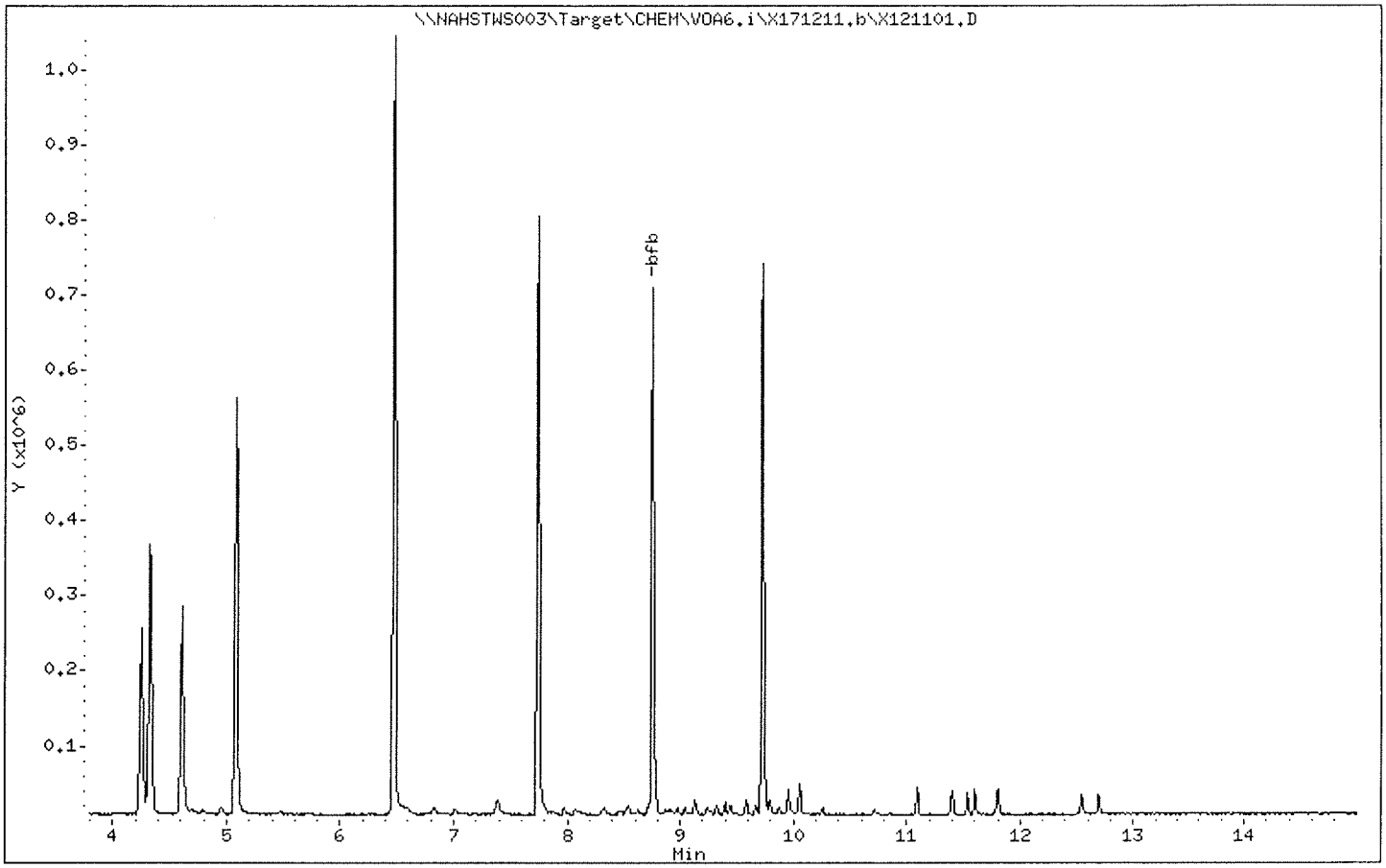
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA6.i\X171211.b\X121102.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 11-DEC-2017 11:51
Operator : PC Inst ID: voa6.i
Smp Info : VSTD050;VSTD050;2;;
Misc Info : HS16030331;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa6.i\X171211.b\8260W.m
Meth Date : 07-Feb-2018 20:00 voa6.i Quant Type: ISTD
Cal Date : 04-DEC-2017 14:03 Cal File: X120408.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
Cpnd Variable		Local Compound Variable

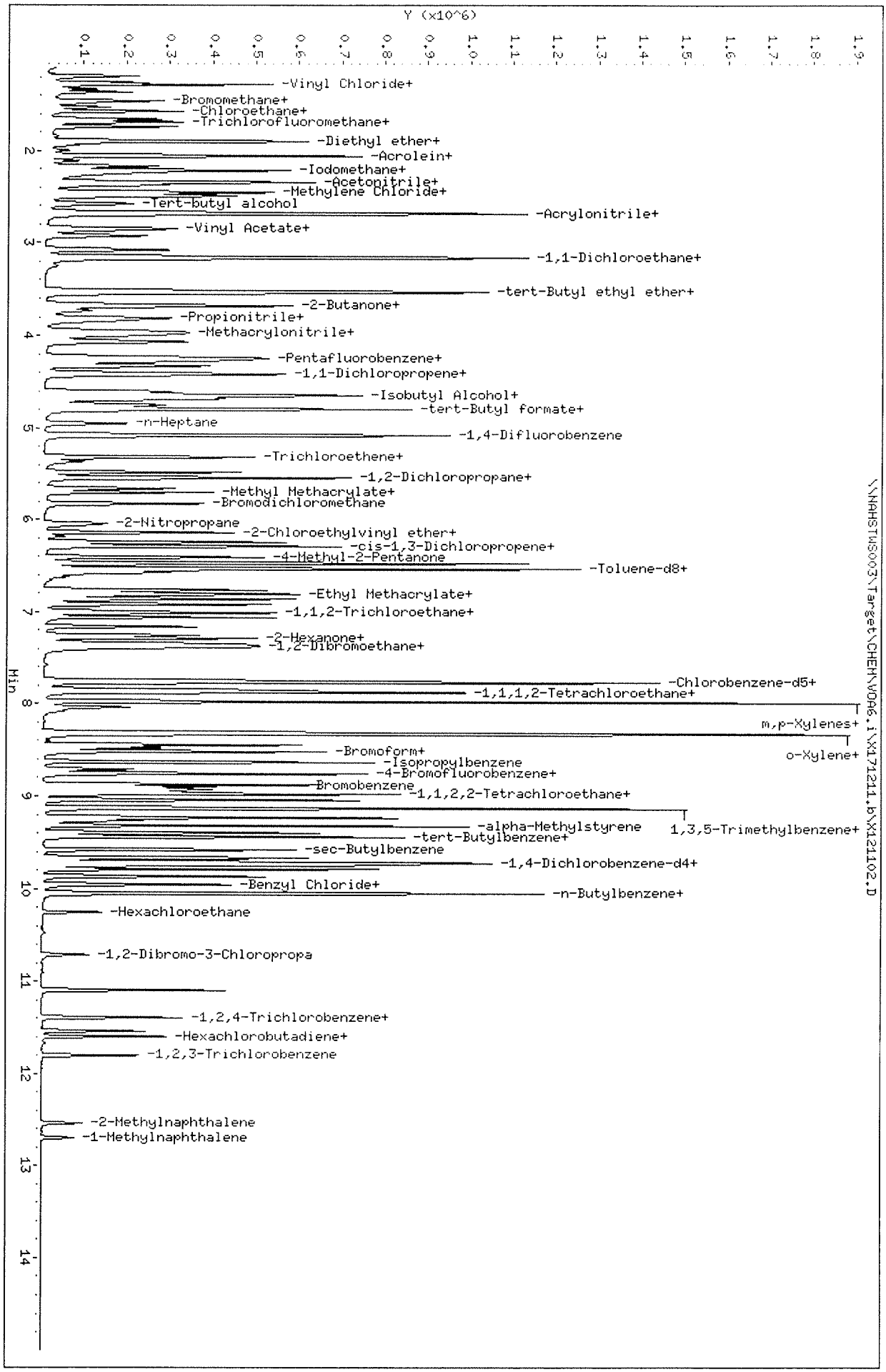
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	31 1,1,1-Trichloroethane	97	4.239	4.239	(0.980)	211905	50.0000	49.09
*	1 Pentafluorobenzene	168	4.325	4.325	(1.000)	266863	50.0000	
$	30 Dibromofluoromethane	113	4.254	4.254	(0.983)	164529	50.0000	47.35
*	36 1,4-Difluorobenzene	114	5.085	5.085	(1.000)	427999	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.612	4.612	(1.066)	195913	50.0000	43.40
*	47 Chlorobenzene-d5	117	7.742	7.742	(1.000)	396128	50.0000	
$	48 Toluene-d8	98	6.474	6.474	(0.836)	620160	50.0000	51.76
$	69 4-Bromofluorobenzene	95	8.752	8.752	(1.130)	217555	50.0000	50.79
*	70 1,4-Dichlorobenzene-d4	152	9.726	9.726	(1.000)	180213	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	8.903	8.903	(0.915)	175176	50.0000	48.54
	53 1,1,2-Trichloroethane	83	6.918	6.918	(0.894)	120613	50.0000	47.04
	32 1,1-Dichloropropene	75	4.426	4.426	(0.870)	189858	50.0000	49.75
	22 1,1-Dichloroethane	63	3.079	3.079	(0.712)	281194	50.0000	47.41
	11 1,1-Dichloroethene	96	2.055	2.055	(0.475)	127887	50.0000	46.80
	90 1,2,4-Trichlorobenzene	180	11.395	11.395	(1.172)	82612	50.0000	48.33
	89 1,2-Dibromo-3-Chloropropane	155	10.715	10.715	(1.102)	21186	50.0000	43.49
	57 1,2-Dibromoethane	107	7.341	7.341	(0.948)	148282	50.0000	49.79
	88 1,2-Dichlorobenzene	146	10.056	10.056	(1.034)	223442	50.0000	46.95
	33 1,2-Dichloroethane	62	4.691	4.691	(0.923)	207191	50.0000	45.64
	42 1,2-Dichloropropane	63	5.543	5.543	(1.090)	167643	50.0000	49.11
	83 1,3-Dichlorobenzene	146	9.669	9.669	(0.994)	229552	50.0000	46.90
	84 1,4-Dichlorobenzene	146	9.741	9.741	(1.001)	239050	50.0000	52.00

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171211.b\X121102.D Page 2
Report Date: 07-Feb-2018 20:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	
24	2-Butanone	43	3.731	3.731	(0.863)	127904	100.000	95.56	
52	2-Hexanone	43	7.284	7.284	(0.941)	286957	100.000	93.99	
45	4-Methyl-2-Pentanone	43	6.410	6.410	(0.828)	296580	100.000	87.48	
10	Acetone	43	2.112	2.112	(0.488)	79265	100.000	90.08	
37	Benzene	78	4.648	4.648	(0.914)	620172	50.0000	51.02	
39	Bromodichloromethane	83	5.822	5.822	(1.145)	219948	50.0000	50.46	
66	Bromoform	173	8.480	8.480	(1.095)	106163	50.0000	48.74	
6	Bromomethane	94	1.460	1.460	(0.338)	113226	50.0000	46.83	
19	Carbon Disulfide	76	2.212	2.212	(0.512)	815696	100.000	97.02	
34	Carbon Tetrachloride	117	4.411	4.411	(0.868)	166208	50.0000	50.72	
59	Chlorobenzene	112	7.764	7.764	(1.003)	378059	50.0000	48.32	
7	Chloroethane	64	1.525	1.525	(0.353)	102706	50.0000	45.40	
28	Chloroform	83	4.067	4.067	(0.940)	277772	50.0000	47.80	
3	Chloromethane	50	1.195	1.195	(0.276)	206872	50.0000	48.19	
27	cis-1,2-Dichloroethene	96	3.688	3.688	(0.853)	174004	50.0000	49.41	
46	cis-1,3-Dichloropropene	75	6.245	6.245	(1.228)	272081	50.0000	50.80	
55	Dibromochloromethane	129	7.255	7.255	(0.937)	166861	50.0000	47.56	
2	Dichlorodifluoromethane	85	1.080	1.080	(0.250)	131952	50.0000	50.22	
61	Ethylbenzene	106	7.871	7.871	(1.017)	183186	50.0000	47.56	
67	Isopropylbenzene	105	8.623	8.623	(1.114)	432477	50.0000	47.82	
17	Methylene Chloride	84	2.449	2.449	(0.566)	169378	50.0000	50.58	
56	Tetrachloroethene	164	7.011	7.011	(0.906)	93971	50.0000	49.65	
50	Toluene	91	6.532	6.532	(0.844)	605580	50.0000	48.26	
20	trans-1,2-Dichloroethene	96	2.678	2.678	(0.619)	152091	50.0000	49.89	
51	trans-1,3-Dichloropropene	75	6.761	6.761	(1.330)	229103	50.0000	49.02	
38	Trichloroethene	130	5.321	5.321	(1.046)	146793	50.0000	51.32	
8	Trichlorofluoromethane	101	1.689	1.689	(0.391)	171225	50.0000	47.02	
5	Vinyl Chloride	62	1.260	1.260	(0.291)	177620	50.0000	45.22	
62	m,p-Xylenes	106	7.971	7.971	(1.030)	436585	100.000	94.43	
63	o-Xylene	106	8.308	8.308	(1.073)	224626	50.0000	48.52	
M 95	Xylenes (total)	106				661211	150.000		(a)
71	1,2,3-Trichloropropane	75	8.924	8.924	(0.918)	211948	50.0000	44.73	
93	1,2,3-Trichlorobenzene	180	11.804	11.804	(1.214)	62820	50.0000	45.72	
79	1,2,4-Trimethylbenzene	105	9.440	9.440	(0.971)	387299	50.0000	51.67	
75	1,3,5-Trimethylbenzene	105	9.125	9.125	(0.938)	360084	50.0000	51.60	
26	2,2-Dichloropropane	77	3.666	3.666	(0.848)	221272	50.0000	47.44	
54	1,3-Dichloropropane	76	7.062	7.062	(0.912)	253681	50.0000	46.04	
76	2-Chlorotoluene	91	9.039	9.039	(0.929)	361379	50.0000	51.48	
77	4-Chlorotoluene	91	9.132	9.132	(0.939)	430911	50.0000	51.41	
82	p-Isopropyltoluene	119	9.712	9.712	(0.999)	315276	50.0000	49.69	
29	Bromochloromethane	128	3.953	3.953	(0.914)	78979	50.0000	55.44	
74	Bromobenzene	156	8.874	8.874	(0.912)	158562	50.0000	48.90	
44	Dibromomethane	93	5.658	5.658	(1.113)	101892	50.0000	47.79	
91	Hexachlorobutadiene	225	11.539	11.539	(1.186)	38450	50.0000	68.59	
73	n-Propylbenzene	91	8.974	8.974	(0.923)	523828	50.0000	51.03	
87	n-Butylbenzene	91	10.049	10.049	(1.033)	278119	50.0000	54.09	
81	sec-Butylbenzene	105	9.583	9.583	(0.985)	353760	50.0000	48.65	
92	Naphthalene	128	11.603	11.603	(1.193)	200540	50.0000	44.48	
78	tert-Butylbenzene	119	9.397	9.397	(0.966)	262134	50.0000	52.73	
60	1,1,1,2-Tetrachloroethane	131	7.842	7.842	(1.013)	137659	50.0000	48.53	
64	Styrene	104	8.322	8.322	(1.075)	415056	50.0000	49.85	

QC Flag Legend

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



Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171211.b\X121102.D
Date : 11-DEC-2017 11:51
Client ID: VSTD050
Sample Info: VSTD050;VSTD050;2;;
Purge Volume: 5.0
Column phase: DB624

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

ALS Laboratory Group

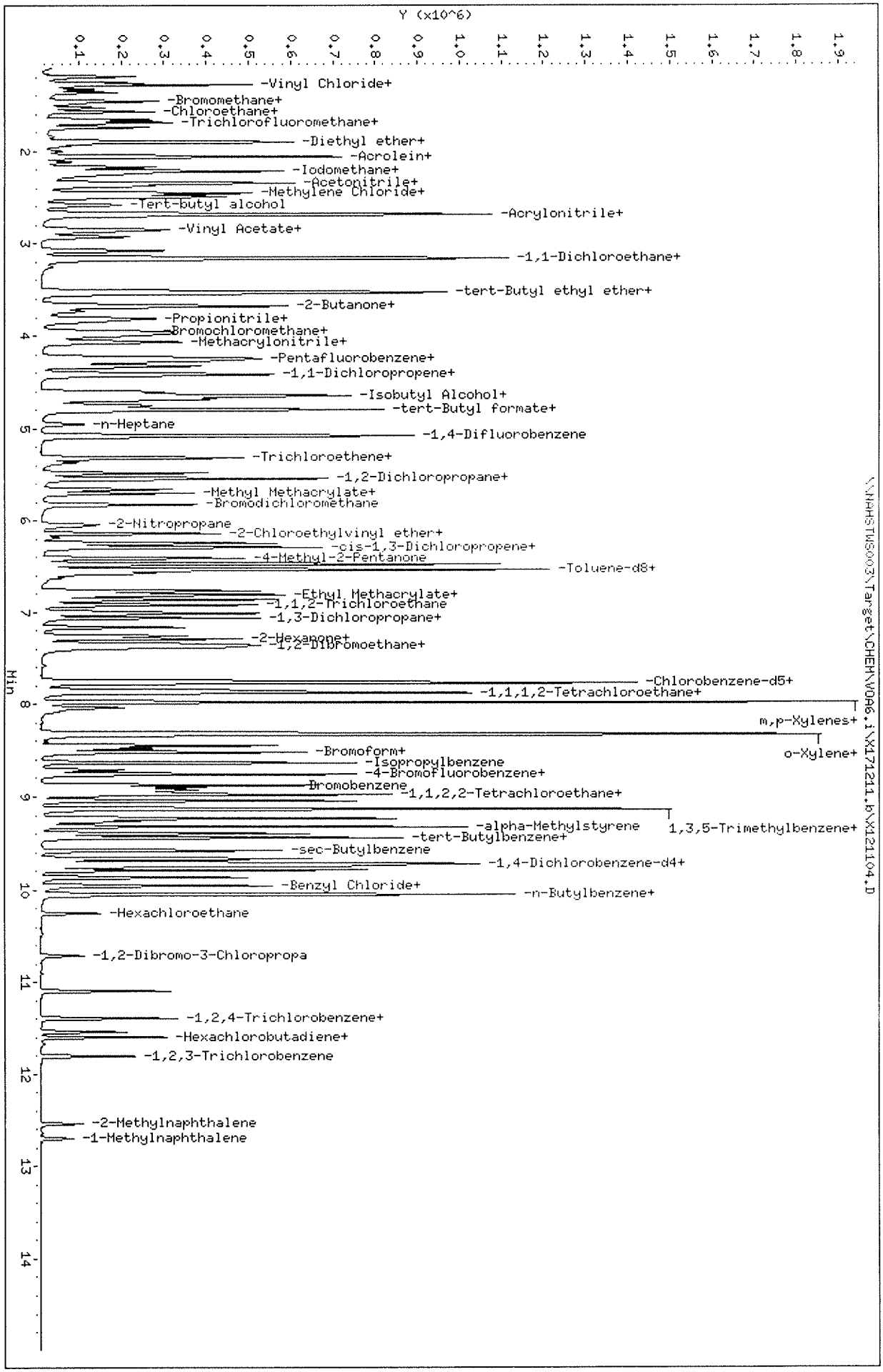
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Inj Date : 11-DEC-2017 12:41
Operator : PC Inst ID: voa6.i
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Meth Date : 07-Feb-2018 20:00 voa6.i Quant Type: ISTD
Cal Date : 04-DEC-2017 14:03 Cal File: X120408.D
Als bottle: 4 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
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	4.239	4.239	(0.980)	210148	49.8269	49.82
* 1 Pentafluorobenzene	168	4.325	4.325	(1.000)	260771	50.0000	
$ 30 Dibromofluoromethane	113	4.254	4.254	(0.983)	163712	48.2277	48.22
* 36 1,4-Difluorobenzene	114	5.085	5.085	(1.000)	421932	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.612	4.612	(1.066)	195773	44.3882	44.38
* 47 Chlorobenzene-d5	117	7.742	7.742	(1.000)	388007	50.0000	
$ 48 Toluene-d8	98	6.474	6.474	(0.836)	613779	52.2847	52.28
$ 69 4-Bromofluorobenzene	95	8.752	8.752	(1.130)	214766	51.1858	51.18
* 70 1,4-Dichlorobenzene-d4	152	9.726	9.726	(1.000)	179724	50.0000	
68 1,1,2,2-Tetrachloroethane	83	8.903	8.903	(0.915)	168724	46.8956	46.89
53 1,1,2-Trichloroethane	83	6.918	6.918	(0.894)	119807	47.7267	47.72
32 1,1-Dichloropropene	75	4.426	4.426	(0.870)	189899	50.4765	50.47
22 1,1-Dichloroethane	63	3.072	3.079	(0.710)	281715	48.6088	48.60
11 1,1-Dichloroethene	96	2.055	2.055	(0.475)	126881	47.5212	47.52
90 1,2,4-Trichlorobenzene	180	11.395	11.395	(1.172)	80865	47.4922	47.49
89 1,2-Dibromo-3-Chloropropane	155	10.715	10.715	(1.102)	19824	40.8125	40.81
57 1,2-Dibromoethane	107	7.334	7.341	(0.947)	143861	49.5225	49.52
88 1,2-Dichlorobenzene	146	10.056	10.056	(1.034)	228532	48.1512	48.15
33 1,2-Dichloroethane	62	4.691	4.691	(0.923)	208511	46.5976	46.59
42 1,2-Dichloropropane	63	5.543	5.543	(1.090)	166287	49.4185	49.41
83 1,3-Dichlorobenzene	146	9.669	9.669	(0.994)	231612	47.4538	47.45
84 1,4-Dichlorobenzene	146	9.741	9.741	(1.001)	243371	53.0784	53.07

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
24	2-Butanone	43	3.731	3.731	(0.863)	119943	91.7110	91.71
52	2-Hexanone	43	7.284	7.284	(0.941)	269986	90.2824	90.28
45	4-Methyl-2-Pentanone	43	6.410	6.410	(0.828)	277033	83.4266	83.42
10	Acetone	43	2.112	2.112	(0.488)	76039	88.4084	88.40
37	Benzene	78	4.648	4.648	(0.914)	617833	51.5685	51.56
39	Bromodichloromethane	83	5.822	5.822	(1.145)	220659	51.3514	51.35
66	Bromoform	173	8.480	8.480	(1.095)	103587	48.5588	48.55
6	Bromomethane	94	1.460	1.460	(0.338)	112467	47.6048	47.60
19	Carbon Disulfide	76	2.212	2.212	(0.512)	813503	48.9234	48.91
34	Carbon Tetrachloride	117	4.411	4.411	(0.868)	163879	50.7532	50.73
59	Chlorobenzene	112	7.764	7.764	(1.003)	379182	49.4790	49.47
7	Chloroethane	64	1.525	1.525	(0.353)	100267	45.3641	45.36
28	Chloroform	83	4.067	4.067	(0.940)	276563	48.7093	48.70
3	Chloromethane	50	1.195	1.195	(0.276)	207227	49.4049	49.40
27	cis-1,2-Dichloroethene	96	3.681	3.688	(0.851)	173422	50.3961	50.39
46	cis-1,3-Dichloropropene	75	6.245	6.245	(1.228)	269304	51.0059	51.00
55	Dibromochloromethane	129	7.255	7.255	(0.937)	162976	47.4341	47.43
2	Dichlorodifluoromethane	85	1.081	1.080	(0.250)	129765	50.5427	50.54
61	Ethylbenzene	106	7.871	7.871	(1.017)	185941	49.2912	49.29
67	Isopropylbenzene	105	8.623	8.623	(1.114)	437623	49.4056	49.40
17	Methylene Chloride	84	2.449	2.449	(0.566)	170730	52.1939	52.19
56	Tetrachloroethene	164	7.011	7.011	(0.906)	96238	51.9207	51.92
50	Toluene	91	6.532	6.532	(0.844)	605362	49.2571	49.25
20	trans-1,2-Dichloroethene	96	2.678	2.678	(0.619)	152291	51.1293	51.12
51	trans-1,3-Dichloropropene	75	6.761	6.761	(1.330)	228572	49.6100	49.61
38	Trichloroethene	130	5.321	5.321	(1.046)	145933	51.7612	51.76
8	Trichlorofluoromethane	101	1.689	1.689	(0.391)	164933	46.3516	46.35
5	Vinyl Chloride	62	1.260	1.260	(0.291)	175022	45.6058	45.60
62	m,p-Xylenes	106	7.971	7.971	(1.030)	441990	97.6098	97.60
63	o-Xylene	106	8.308	8.308	(1.073)	227219	50.1116	50.11
M 95	Xylenes (total)	106				669209	147.721	147.72
71	1,2,3-Trichloropropane	75	8.931	8.924	(0.918)	202113	42.7725	42.77
93	1,2,3-Trichlorobenzene	180	11.804	11.804	(1.214)	62360	45.5337	45.53
79	1,2,4-Trimethylbenzene	105	9.440	9.440	(0.971)	392050	52.4401	52.44
75	1,3,5-Trimethylbenzene	105	9.125	9.125	(0.938)	360866	51.8518	51.85
26	2,2-Dichloropropane	77	3.666	3.666	(0.848)	215225	47.2256	47.22
54	1,3-Dichloropropane	76	7.062	7.062	(0.912)	249453	46.2301	46.23
76	2-Chlorotoluene	91	9.039	9.039	(0.929)	368344	52.6105	52.61
77	4-Chlorotoluene	91	9.132	9.132	(0.939)	438944	52.5007	52.50
82	p-Isopropyltoluene	119	9.712	9.712	(0.999)	300636	47.5201	47.52
29	Bromochloromethane	128	3.953	3.953	(0.914)	76759	55.1373	55.13
74	Bromobenzene	156	8.874	8.874	(0.912)	160752	49.7187	49.71
44	Dibromomethane	93	5.658	5.658	(1.113)	101666	48.3767	48.37
91	Hexachlorobutadiene	225	11.539	11.539	(1.186)	32317	57.9364	57.93
73	n-Propylbenzene	91	8.974	8.974	(0.923)	521457	50.9426	50.94
87	n-Butylbenzene	91	10.056	10.049	(1.034)	249302	48.6198	48.61
81	sec-Butylbenzene	105	9.583	9.583	(0.985)	335231	46.2355	46.23
92	Naphthalene	128	11.603	11.603	(1.193)	201908	44.8835	44.88
78	tert-Butylbenzene	119	9.397	9.397	(0.966)	253687	51.1816	51.18
60	1,1,1,2-Tetrachloroethane	131	7.842	7.842	(1.013)	138093	49.7093	49.70
64	Styrene	104	8.322	8.322	(1.075)	420403	51.5555	51.55



Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171211.b\X121104.D
Date : 11-DEC-2017 12:41
Client ID: VLCSW-171211
Sample Info: VLCSW-171211;VLCSW-171211;3;;LCS
Purge Volume: 5.0
Column phase: DB624

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

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA6.i\X171211.b\X121107.D
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Inj Date : 11-DEC-2017 13:56
Operator : PC Inst ID: voa6.i
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Meth Date : 07-Feb-2018 20:00 voa6.i Quant Type: ISTD
Cal Date : 04-DEC-2017 14:03 Cal File: X120408.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.326	4.325	(1.000)	270643	50.0000	
$ 30 Dibromofluoromethane	113	4.254	4.254	(0.983)	167920	47.6572	47.65
* 36 1,4-Difluorobenzene	114	5.085	5.085	(1.000)	432291	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.612	4.612	(1.066)	204053	44.5771	44.57
* 47 Chlorobenzene-d5	117	7.742	7.742	(1.000)	396594	50.0000	
$ 48 Toluene-d8	98	6.474	6.474	(0.836)	625399	52.1273	52.12
$ 69 4-Bromofluorobenzene	95	8.752	8.752	(1.130)	217176	50.6512	50.65
* 70 1,4-Dichlorobenzene-d4	152	9.726	9.726	(1.000)	170211	50.0000	

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171211.b\X121107.D

Date : 11-DEC-2017 13:56

Client ID: VBLKW-0171211

Instrument: voa6.i

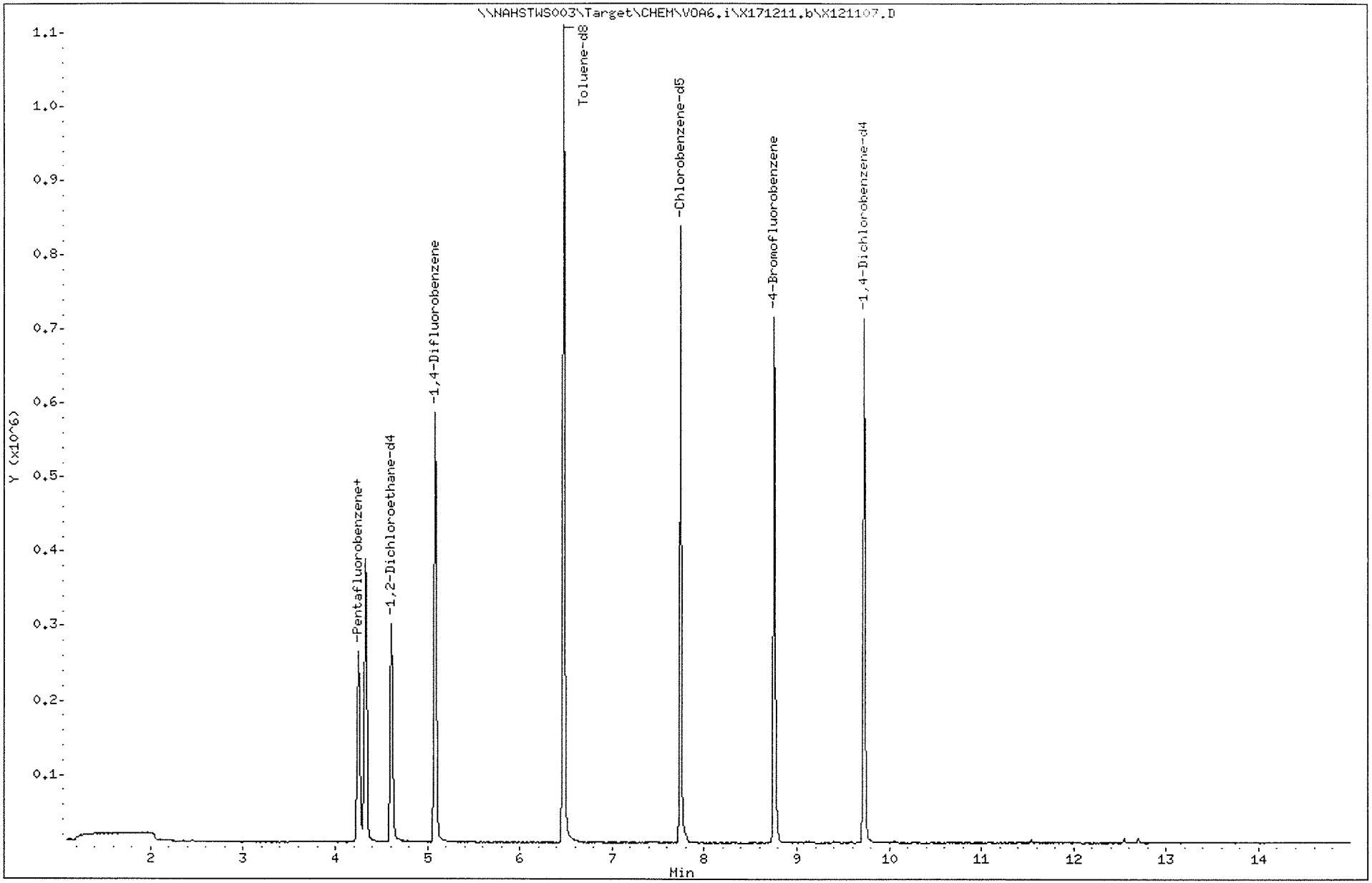
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Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA6.i\X171211.b\X121108.D
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Inj Date : 11-DEC-2017 14:21
Operator : PC Inst ID: voa6.i
Smp Info : HS17120365-02;HS17120365-02;;;
Misc Info : HS16030331;WATER;0;1;
Comment :
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Meth Date : 07-Feb-2018 20:00 voa6.i Quant Type: ISTD
Cal Date : 04-DEC-2017 14:03 Cal File: X120408.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
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.325	4.325	(1.000)	270985	50.0000	
$ 30 Dibromofluoromethane	113	4.254	4.254	(0.983)	170138	48.2316	48.23
* 36 1,4-Difluorobenzene	114	5.085	5.085	(1.000)	431652	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.612	4.612	(1.066)	201215	43.9044	43.90
* 47 Chlorobenzene-d5	117	7.742	7.742	(1.000)	396572	50.0000	
$ 48 Toluene-d8	98	6.474	6.474	(0.836)	631023	52.5807	52.58
$ 69 4-Bromofluorobenzene	95	8.752	8.752	(1.130)	222014	51.7574	51.75
* 70 1,4-Dichlorobenzene-d4	152	9.726	9.726	(1.000)	172823	50.0000	

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171211.b\X121108.D

Date : 11-DEC-2017 14:21

Client ID: HS17120365-02

Instrument: voa6.i

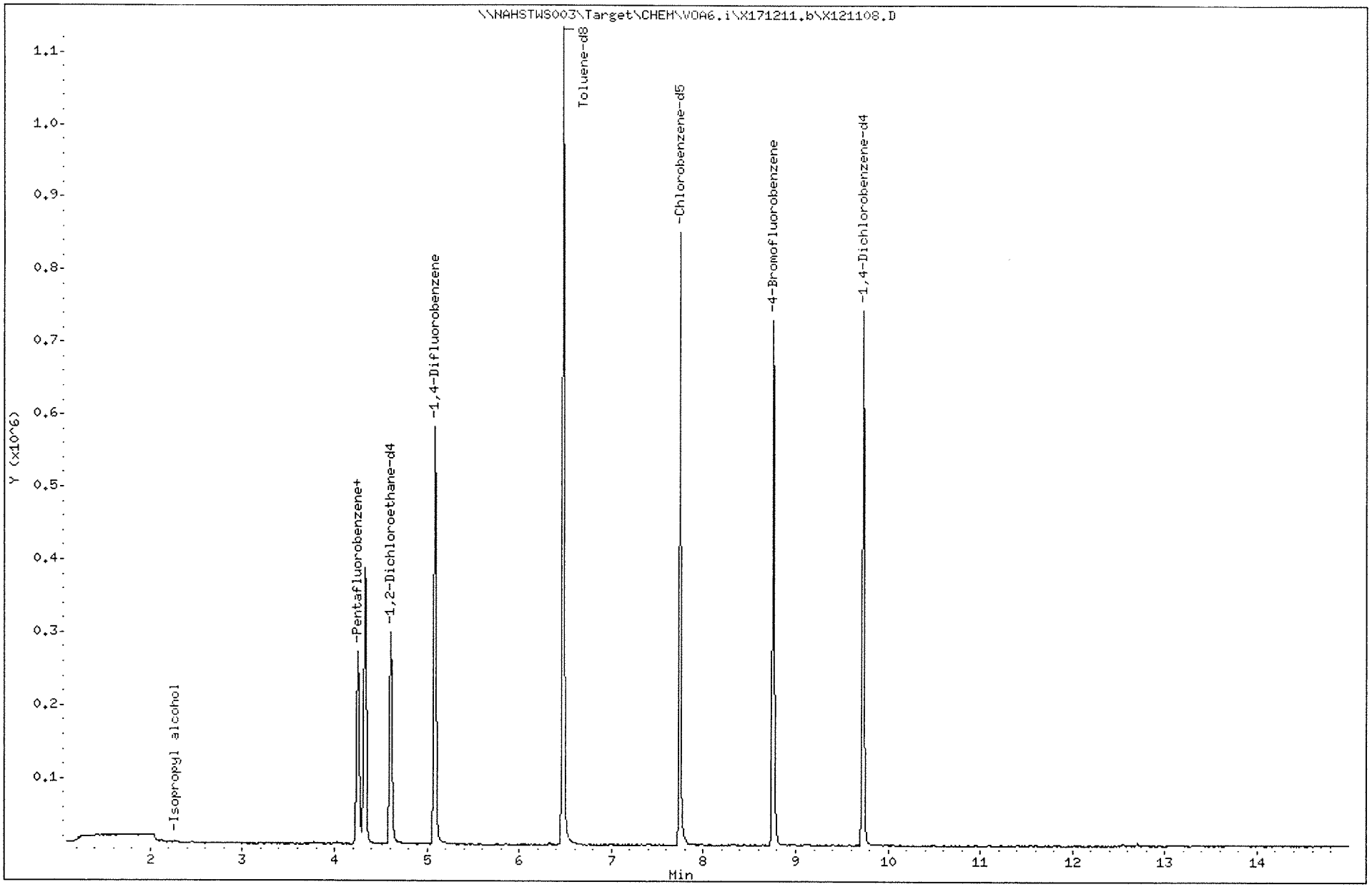
Sample Info: HS17120365-02;HS17120365-02;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA6.i\X171211.b\X121109.D
Lab Smp Id: HS17120365-01 Client Smp ID: HS17120365-01
Inj Date : 11-DEC-2017 14:46
Operator : PC Inst ID: voa6.i
Smp Info : HS17120365-01;HS17120365-01;;;
Misc Info : HS16030331;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa6.i\X171211.b\8260W.m
Meth Date : 07-Feb-2018 20:00 voa6.i Quant Type: ISTD
Cal Date : 04-DEC-2017 14:03 Cal File: X120408.D
Als bottle: 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
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.325	4.325	(1.000)	270249	50.0000	
$ 30 Dibromofluoromethane	113	4.254	4.254	(0.983)	171773	48.8338	48.83
* 36 1,4-Difluorobenzene	114	5.085	5.085	(1.000)	431810	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.612	4.612	(1.066)	207239	45.3361	45.33
* 47 Chlorobenzene-d5	117	7.742	7.742	(1.000)	400467	50.0000	
$ 48 Toluene-d8	98	6.474	6.474	(0.836)	628783	51.9111	51.91
$ 69 4-Bromofluorobenzene	95	8.752	8.752	(1.130)	221211	51.0837	51.08
* 70 1,4-Dichlorobenzene-d4	152	9.726	9.726	(1.000)	174038	50.0000	
27 cis-1,2-Dichloroethene	96	3.688	3.688	(0.853)	12869	3.60855	3.60(a)
5 Vinyl Chloride	62	1.260	1.260	(0.291)	2907	0.73092	0.73(a)

QC Flag Legend

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

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171211.b\X121109.D

Date : 11-DEC-2017 14:46

Client ID: HS17120365-01

Instrument: voa6.i

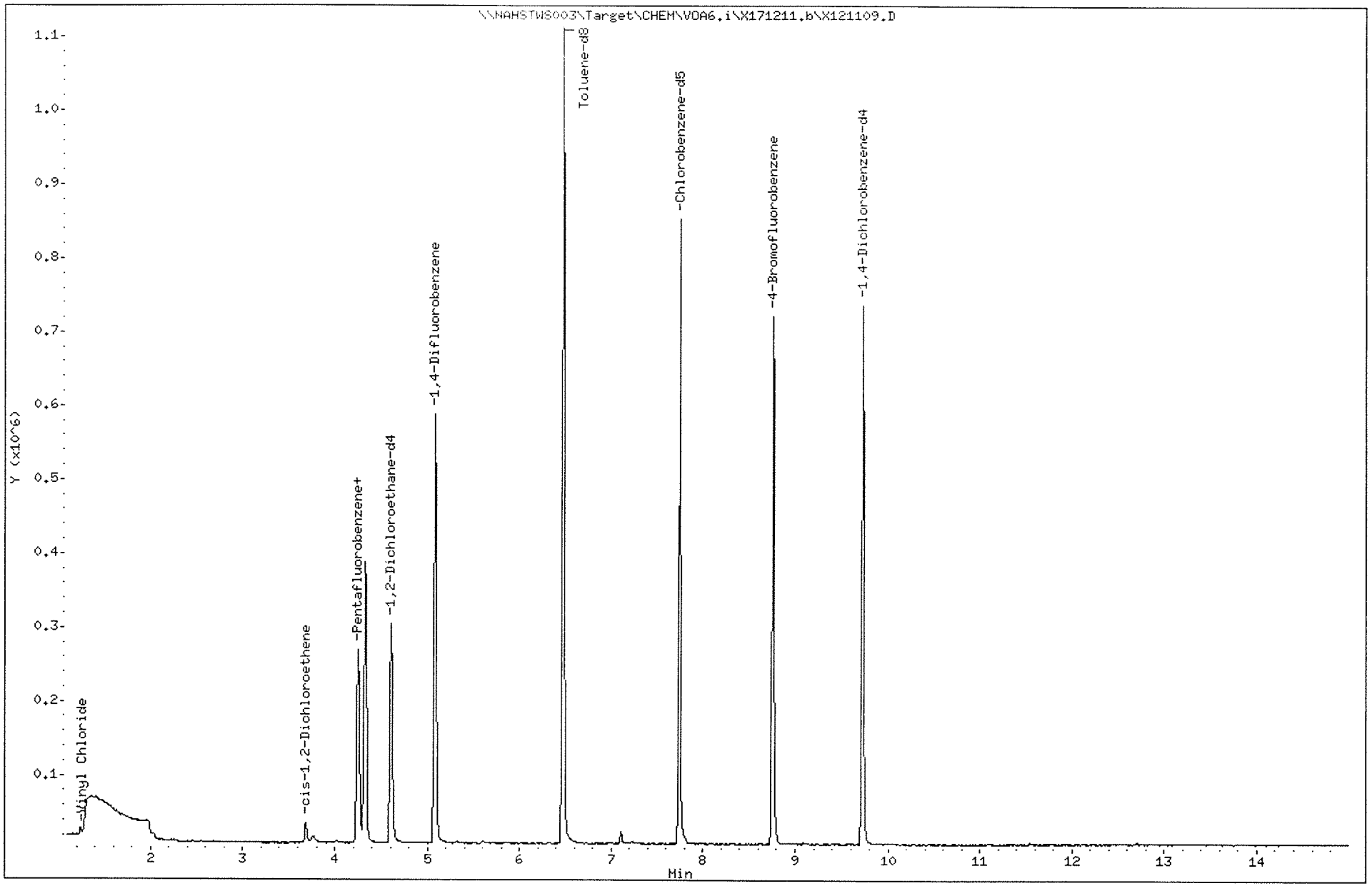
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Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171211.b\X121109.D

Date : 11-DEC-2017 14:46

Client ID: HS17120365-01

Instrument: voa6.i

Sample Info: HS17120365-01;HS17120365-01;;;

Purge Volume: 5.0

Operator: PC

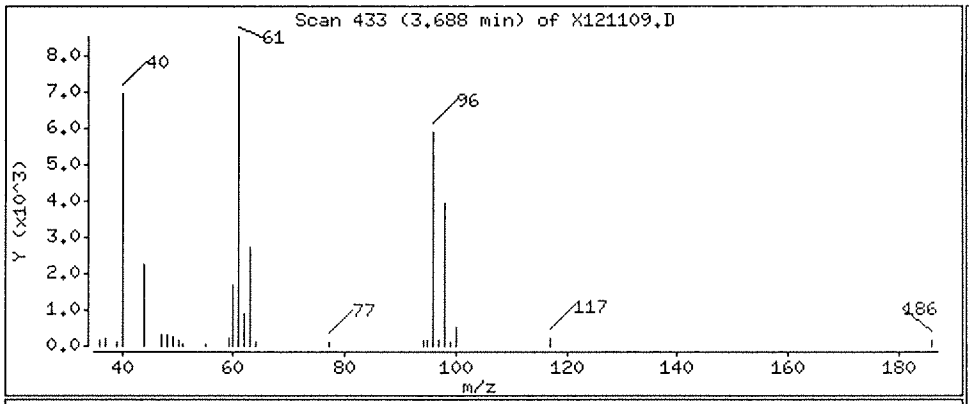
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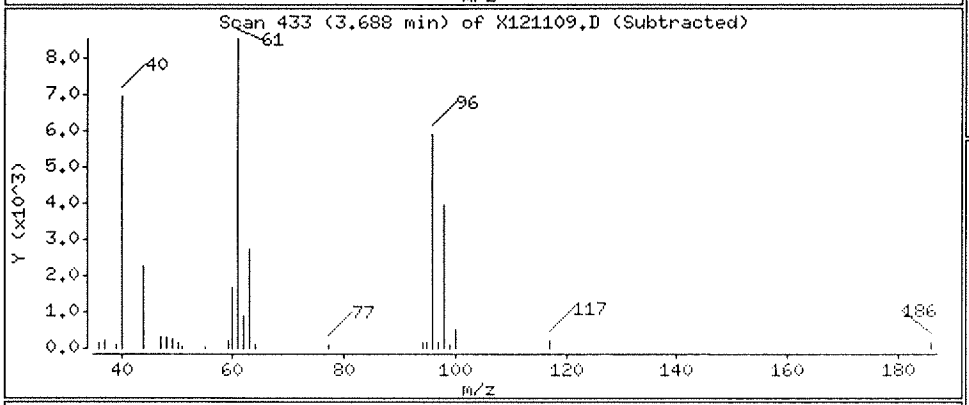
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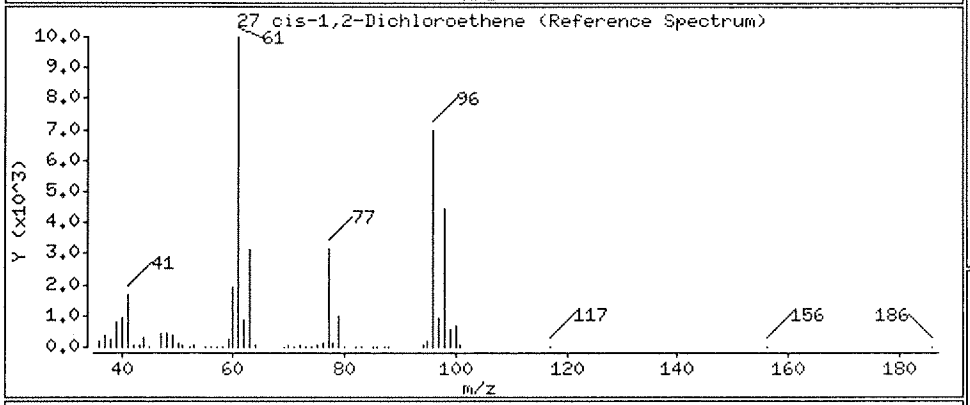
27 cis-1,2-Dichloroethene

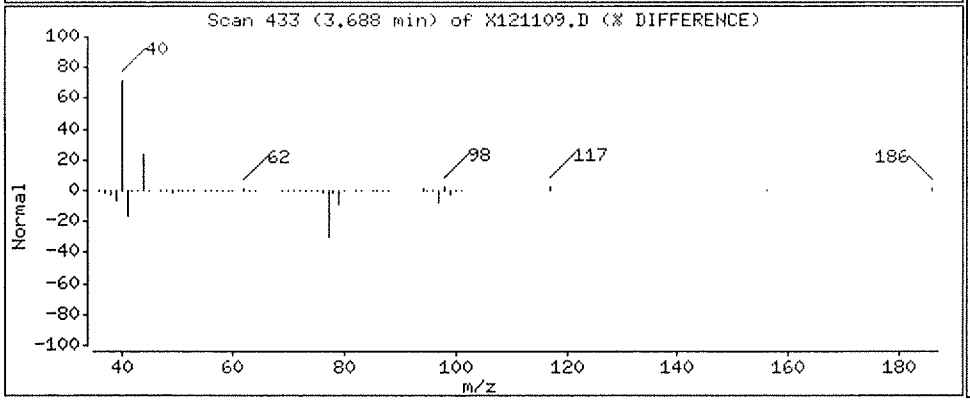
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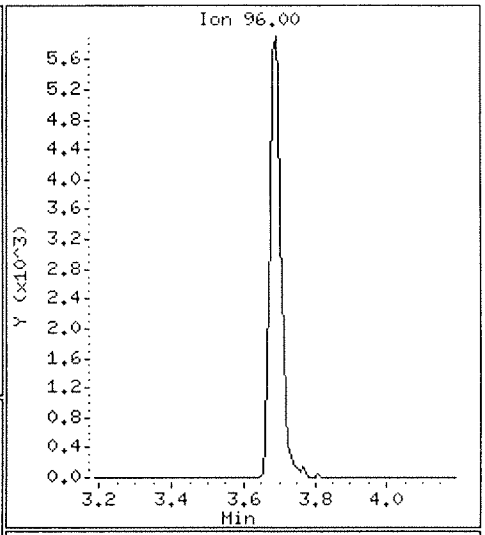
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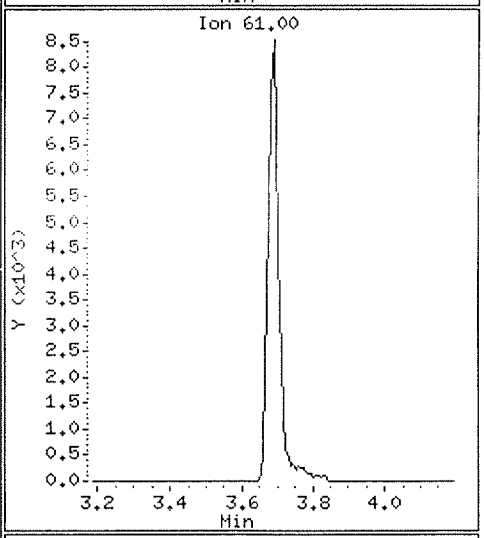


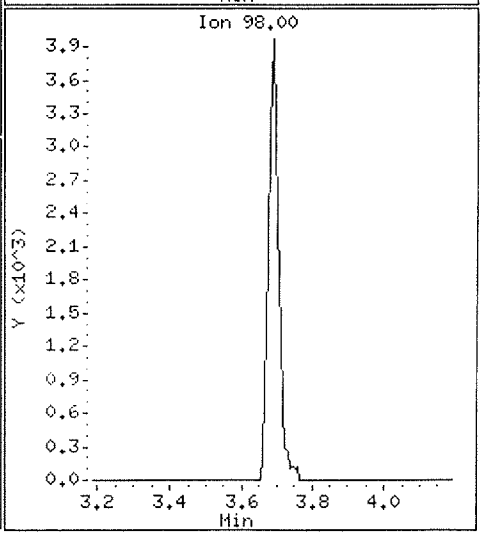












Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171211.b\X121109.D

Date : 11-DEC-2017 14:46

Client ID: HS17120365-01

Instrument: voa6.i

Sample Info: HS17120365-01;HS17120365-01;;;

Purge Volume: 5.0

Operator: PC

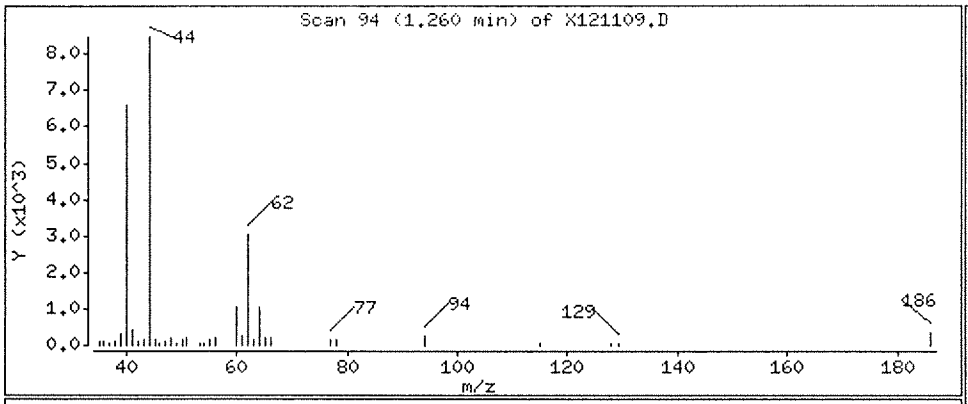
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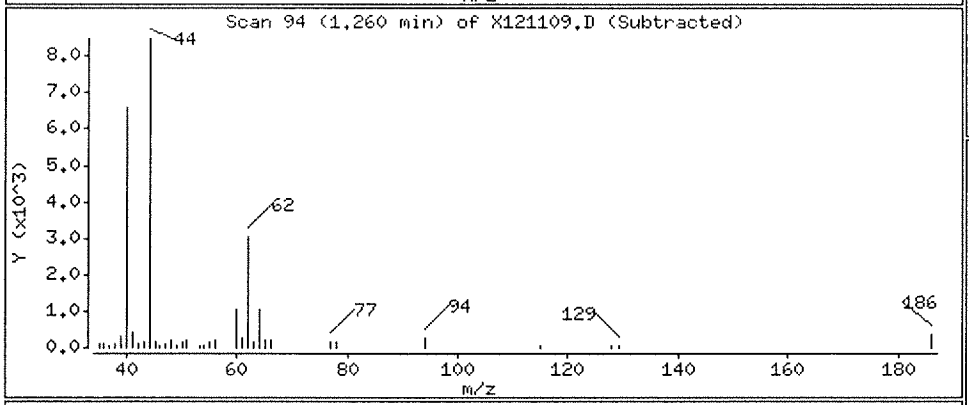
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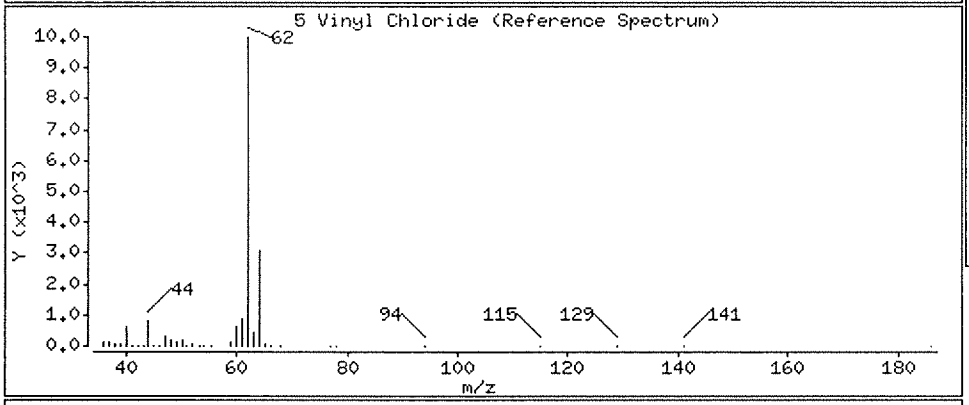
5 Vinyl Chloride

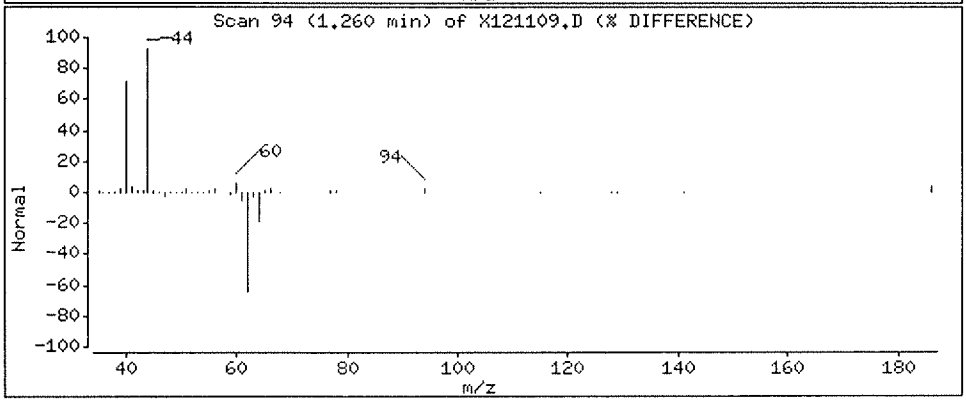
Concentration: 0.73 ug/l

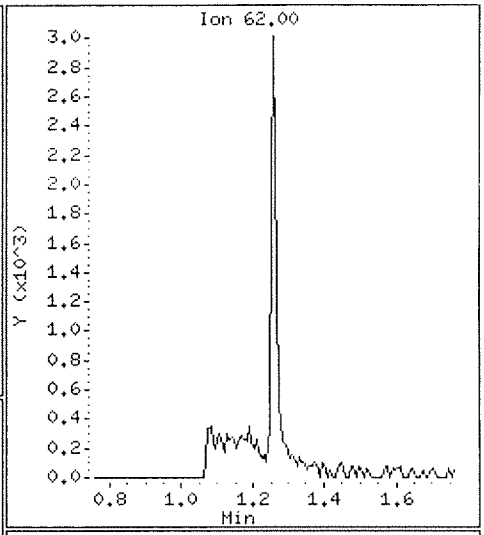
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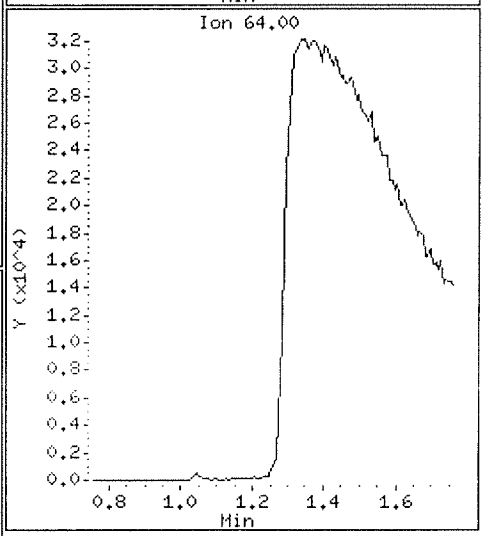












ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA6.i\X171211.b\X121113.D
Lab Smp Id: HS17120435-01MS Client Smp ID: HS17120435-01MS
Inj Date : 11-DEC-2017 16:25
Operator : PC Inst ID: voa6.i
Smp Info : HS17120435-01MS;HS17120435-01MS;3;;MS
Misc Info : HS16030331;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa6.i\X171211.b\8260W.m
Meth Date : 07-Feb-2018 20:00 voa6.i Quant Type: ISTD
Cal Date : 04-DEC-2017 14:03 Cal File: X120408.D
Als bottle: 13 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

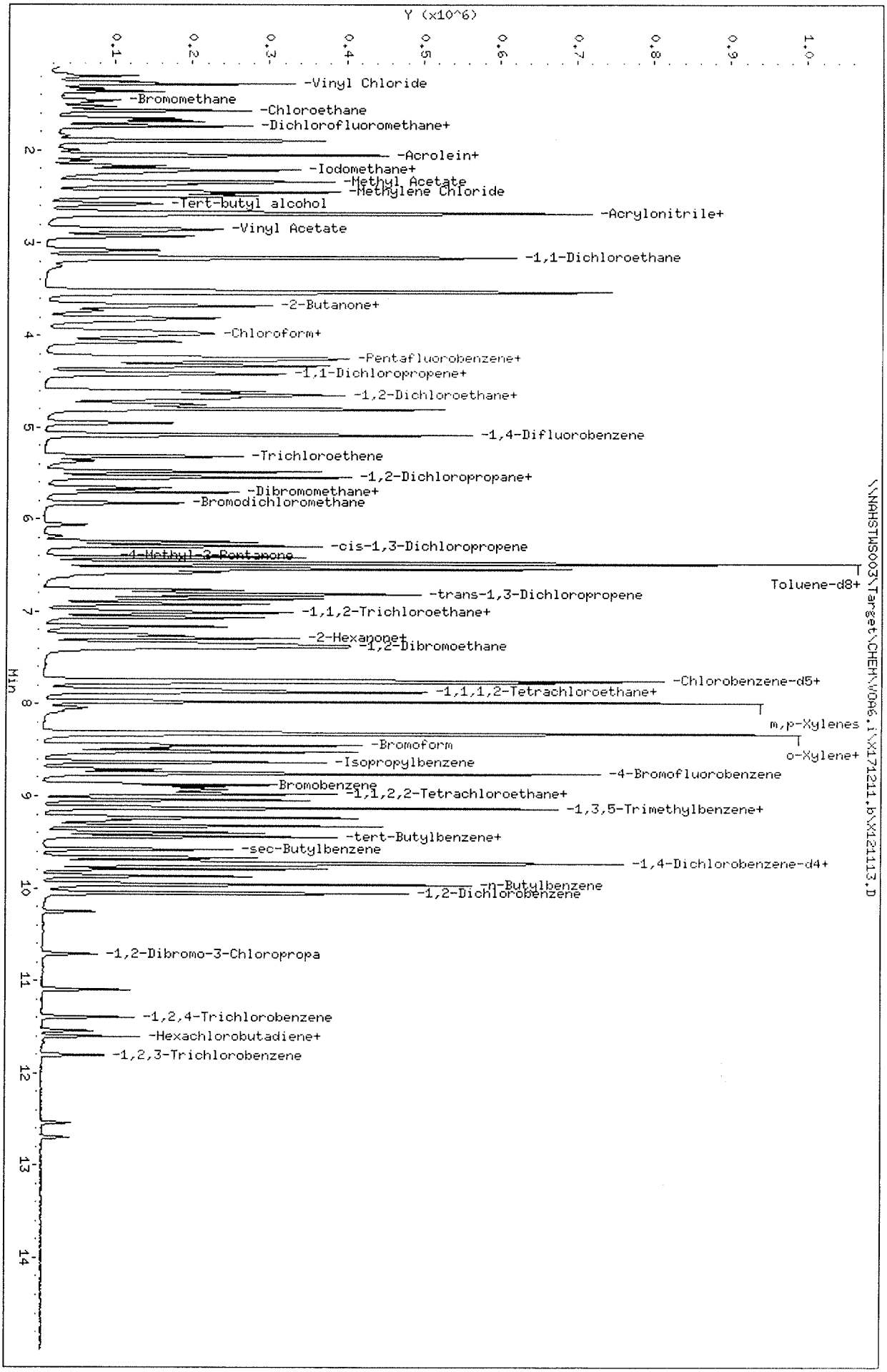
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
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	4.232	4.239	(0.978)	115645	27.2570	27.25
*	1 Pentafluorobenzene	168	4.326	4.325	(1.000)	262329	50.0000	
$	30 Dibromofluoromethane	113	4.254	4.254	(0.983)	158955	46.5311	46.53
*	36 1,4-Difluorobenzene	114	5.085	5.085	(1.000)	416820	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.605	4.612	(1.065)	194485	43.8365	43.83
*	47 Chlorobenzene-d5	117	7.742	7.742	(1.000)	370786	50.0000	
$	48 Toluene-d8	98	6.474	6.474	(0.836)	591023	52.6689	52.66
$	69 4-Bromofluorobenzene	95	8.752	8.752	(1.130)	207919	51.8405	51.84
*	70 1,4-Dichlorobenzene-d4	152	9.727	9.726	(1.000)	154686	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	8.903	8.903	(0.915)	165413	36.1383	36.13
	53 1,1,2-Trichloroethane	83	6.919	6.918	(0.894)	66381	27.6719	27.67
	32 1,1-Dichloropropene	75	4.426	4.426	(0.870)	107201	28.8442	28.84
	22 1,1-Dichloroethane	63	3.079	3.079	(0.712)	144575	24.7977	24.79
	11 1,1-Dichloroethene	96	2.055	2.055	(0.475)	71650	26.6760	26.67
	90 1,2,4-Trichlorobenzene	180	11.395	11.395	(1.172)	30438	22.3096	22.30
	89 1,2-Dibromo-3-Chloropropane	155	10.715	10.715	(1.102)	13084	31.2962	31.29
	57 1,2-Dibromoethane	107	7.334	7.341	(0.947)	82132	29.4689	29.46
	88 1,2-Dichlorobenzene	146	10.056	10.056	(1.034)	101706	24.8975	24.89
	33 1,2-Dichloroethane	62	4.691	4.691	(0.923)	109032	24.6651	24.66
	42 1,2-Dichloropropane	63	5.543	5.543	(1.090)	83644	25.1629	25.16
	83 1,3-Dichlorobenzene	146	9.669	9.669	(0.994)	101675	24.2032	24.20
	84 1,4-Dichlorobenzene	146	9.741	9.741	(1.001)	106039	27.1345	27.13

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171211.b\X121113.D Page 2
Report Date: 07-Feb-2018 20:00

		QUANT SIG					CONCENTRATIONS ON-COLUMN	FINAL
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(ug/l)
	24 2-Butanone	43	3.731	3.731	(0.863)	89622	68.1199	68.11
	52 2-Hexanone	43	7.284	7.284	(0.941)	195098	68.2667	68.26
	45 4-Methyl-2-Pentanone	43	6.410	6.410	(0.828)	198097	62.4262	62.42
	10 Acetone	43	2.112	2.112	(0.488)	56098	64.3458	64.34
	37 Benzene	78	4.648	4.648	(0.914)	316367	26.7300	26.72
	39 Bromodichloromethane	83	5.823	5.822	(1.145)	109117	25.7050	25.70
	66 Bromoform	173	8.480	8.480	(1.095)	60300	29.5799	29.57
	6 Bromomethane	94	1.460	1.460	(0.338)	36971	15.5561	15.55
	19 Carbon Disulfide	76	2.212	2.212	(0.512)	452842	54.7947	54.79
	34 Carbon Tetrachloride	117	4.412	4.411	(0.868)	90553	28.3770	28.37
	59 Chlorobenzene	112	7.764	7.764	(1.003)	186711	25.4986	25.49
	7 Chloroethane	64	1.525	1.525	(0.353)	93998	42.2752	42.27
	28 Chloroform	83	4.068	4.067	(0.940)	141812	24.8281	24.82
	3 Chloromethane	50	1.195	1.195	(0.276)	96559	22.8839	22.88
	27 cis-1,2-Dichloroethene	96	3.688	3.688	(0.853)	88593	25.5920	25.59
	46 cis-1,3-Dichloropropene	75	6.245	6.245	(1.228)	132650	25.4319	25.43
	55 Dibromochloromethane	129	7.255	7.255	(0.937)	85908	26.1648	26.16
	2 Dichlorodifluoromethane	85	1.081	1.080	(0.250)	65542	25.3766	25.37
	61 Ethylbenzene	106	7.871	7.871	(1.017)	90935	25.2256	25.22
	67 Isopropylbenzene	105	8.623	8.623	(1.114)	207229	24.4817	24.48
	17 Methylene Chloride	84	2.449	2.449	(0.566)	85226	25.7442	25.74
	56 Tetrachloroethene	164	7.005	7.011	(0.905)	50555	28.5413	28.54
	50 Toluene	91	6.532	6.532	(0.844)	312882	26.6410	26.64
	20 trans-1,2-Dichloroethene	96	2.678	2.678	(0.619)	80107	26.7349	26.73
	51 trans-1,3-Dichloropropene	75	6.761	6.761	(1.330)	114348	25.1228	25.12
	38 Trichloroethene	130	5.321	5.321	(1.046)	76948	27.6275	27.62
	8 Trichlorofluoromethane	101	1.690	1.689	(0.391)	105185	29.3849	29.38
	5 Vinyl Chloride	62	1.260	1.260	(0.291)	95233	24.6677	24.66
	62 m,p-Xylenes	106	7.972	7.971	(1.030)	217934	50.3642	50.36
	63 o-Xylene	106	8.308	8.308	(1.073)	111410	25.7119	25.71
M	95 Xylenes (total)	106				329344	76.0761	76.07
	71 1,2,3-Trichloropropane	75	8.931	8.924	(0.918)	128372	31.5639	31.56
	93 1,2,3-Trichlorobenzene	180	11.804	11.804	(1.214)	22646	21.1251	21.12
	79 1,2,4-Trimethylbenzene	105	9.440	9.440	(0.971)	174355	27.3096	27.30
	75 1,3,5-Trimethylbenzene	105	9.125	9.125	(0.938)	160622	27.1291	27.12
	26 2,2-Dichloropropane	77	3.667	3.666	(0.848)	116213	25.3485	25.34
	54 1,3-Dichloropropane	76	7.062	7.062	(0.912)	135660	26.3090	26.30
	76 2-Chlorotoluene	91	9.039	9.039	(0.929)	169325	28.2726	28.27
	77 4-Chlorotoluene	91	9.132	9.132	(0.939)	196471	27.6129	27.61
	82 p-Isopropyltoluene	119	9.712	9.712	(0.999)	126556	23.2417	23.24
	29 Bromochloromethane	128	3.953	3.953	(0.914)	41311	29.0319	29.03
	74 Bromobenzene	156	8.874	8.874	(0.912)	76444	27.4699	27.46
	44 Dibromomethane	93	5.658	5.658	(1.113)	55447	26.7075	26.70
	91 Hexachlorobutadiene	225	11.539	11.539	(1.186)	10927	23.2389	23.23
	73 n-Propylbenzene	91	8.974	8.974	(0.923)	239196	27.3835	27.38
	87 n-Butylbenzene	91	10.049	10.049	(1.033)	100190	22.7018	22.70
	81 sec-Butylbenzene	105	9.583	9.583	(0.985)	144197	23.1067	23.10
	92 Naphthalene	128	11.603	11.603	(1.193)	84276	22.9396	22.93
	78 tert-Butylbenzene	119	9.397	9.397	(0.966)	113[illegible]	26.[illegible]	26.[illegible]
	60 1,1,1,2-Tetrachloroethane	131	7.843	7.842	(1.013)	67681	25.4946	25.49
	64 Styrene	104	8.323	8.322	(1.075)	198846	25.5177	25.51



Data File: \\NAHSTWS003\Target\CHEM\VOA6.I\X171211.b\X121113.D
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Client ID: HS17120435-01MS
Sample Info: HS17120435-01MS;HS17120435-01MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

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

ALS Laboratory Group

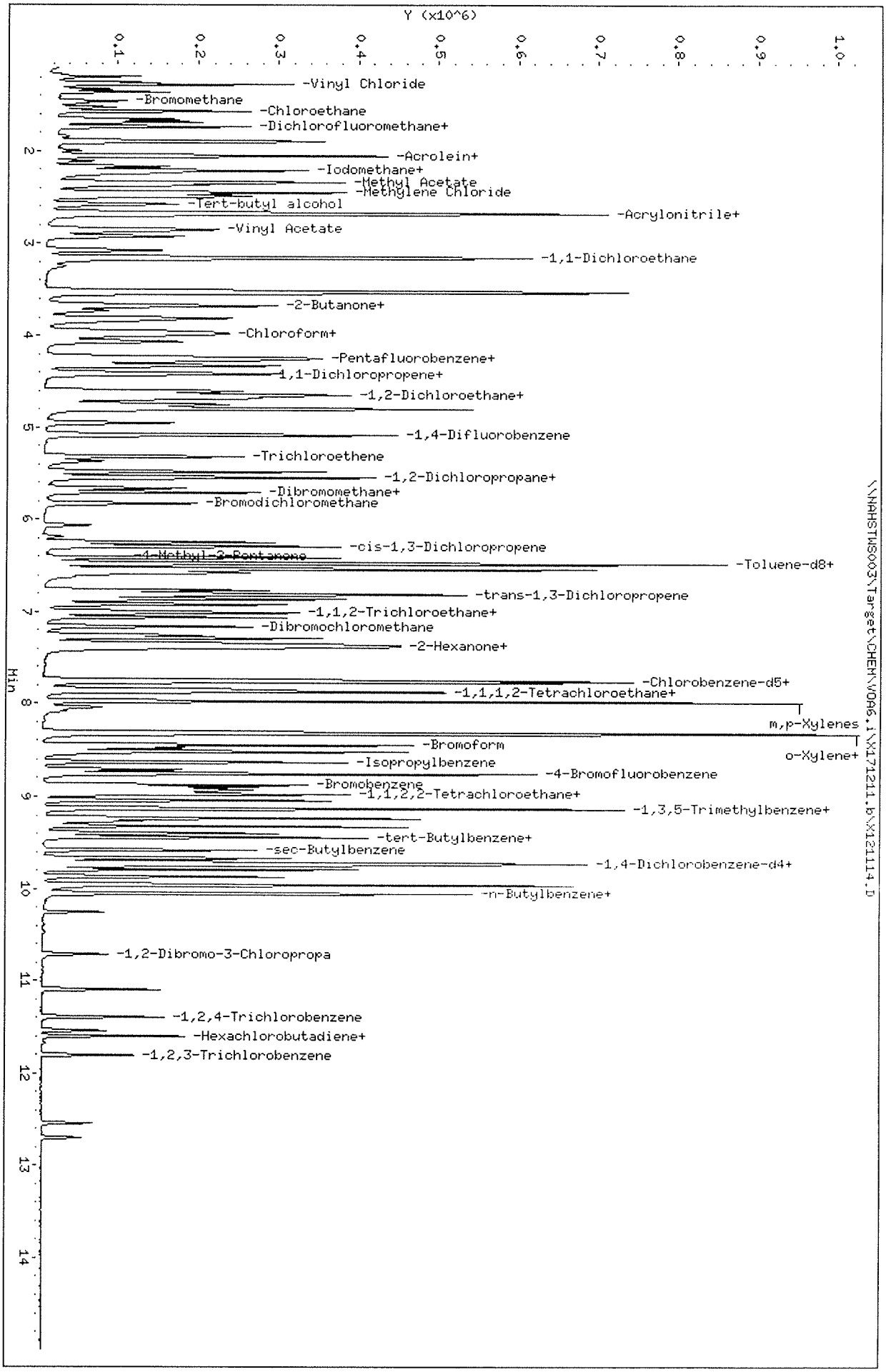
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Operator : PC Inst ID: voa6.i
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Misc Info : HS16030331;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa6.i\X171211.b\8260W.m
Meth Date : 07-Feb-2018 20:00 voa6.i Quant Type: ISTD
Cal Date : 04-DEC-2017 14:03 Cal File: X120408.D
Als bottle: 14 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
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	4.240	4.239	(0.980)	110266	33.2838	33.28
* 1 Pentafluorobenzene	168	4.325	4.325	(1.000)	204836	50.0000	
$ 30 Dibromofluoromethane	113	4.254	4.254	(0.983)	131651	49.3850	49.38
* 36 1,4-Difluorobenzene	114	5.085	5.085	(1.000)	325645	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.605	4.612	(1.065)	166550	48.0591	48.05
* 47 Chlorobenzene-d5	117	7.742	7.742	(1.000)	303312	50.0000	
$ 48 Toluene-d8	98	6.474	6.474	(0.836)	485176	52.8473	52.84
$ 69 4-Bromofluorobenzene	95	8.752	8.752	(1.130)	178137	54.2367	54.23
* 70 1,4-Dichlorobenzene-d4	152	9.726	9.726	(1.000)	135373	50.0000	
68 1,1,2,2-Tetrachloroethane	83	8.903	8.903	(0.915)	115940	42.8134	42.81
53 1,1,2-Trichloroethane	83	6.919	6.918	(0.894)	69380	35.3560	35.35
32 1,1-Dichloropropene	75	4.426	4.426	(0.870)	100644	34.6619	34.66
22 1,1-Dichloroethane	63	3.079	3.079	(0.712)	142598	31.3236	31.32
11 1,1-Dichloroethene	96	2.055	2.055	(0.475)	66896	31.8966	31.89
90 1,2,4-Trichlorobenzene	180	11.395	11.395	(1.172)	40738	32.6705	32.67
89 1,2-Dibromo-3-Chloropropane	155	10.715	10.715	(1.102)	15404	42.1027	42.10
57 1,2-Dibromoethane	107	7.341	7.341	(0.948)	87615	38.4294	38.42
88 1,2-Dichlorobenzene	146	10.056	10.056	(1.034)	115944	32.4327	32.43
33 1,2-Dichloroethane	62	4.691	4.691	(0.923)	113737	32.9332	32.93
42 1,2-Dichloropropane	63	5.543	5.543	(1.090)	86554	33.3286	33.32
83 1,3-Dichlorobenzene	146	9.669	9.669	(0.994)	112607	30.6302	30.63
84 1,4-Dichlorobenzene	146	9.741	9.741	(1.001)	115945	33.7689	33.76

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
24	2-Butanone	43	3.731	3.731	(0.863)	94793	92.2732	92.27
52	2-Hexanone	43	7.284	7.284	(0.941)	205162	87.7624	87.76
45	4-Methyl-2-Pentanone	43	6.410	6.410	(0.828)	212302	81.7856	81.78
10	Acetone	43	2.112	2.112	(0.488)	58232	86.1469	86.14
37	Benzene	78	4.648	4.648	(0.914)	311369	33.6734	33.67
39	Bromodichloromethane	83	5.823	5.822	(1.145)	114335	34.4753	34.47
66	Bromoform	173	8.480	8.480	(1.095)	64389	38.6122	38.61
6	Bromomethane	94	1.460	1.460	(0.338)	41689	22.4647	22.46
19	Carbon Disulfide	76	2.212	2.212	(0.512)	434860	67.3878	67.38
34	Carbon Tetrachloride	117	4.411	4.411	(0.868)	85376	34.2454	34.24
59	Chlorobenzene	112	7.764	7.764	(1.003)	190116	31.7394	31.73
7	Chloroethane	64	1.525	1.525	(0.353)	57797	33.2899	33.28
28	Chloroform	83	4.068	4.067	(0.940)	141154	31.6493	31.64
3	Chloromethane	50	1.195	1.195	(0.276)	91702	27.8327	27.83
27	cis-1,2-Dichloroethene	96	3.681	3.688	(0.851)	86576	32.0290	32.02
46	cis-1,3-Dichloropropene	75	6.245	6.245	(1.228)	139141	34.1453	34.14
55	Dibromochloromethane	129	7.255	7.255	(0.937)	91160	33.9407	33.94
2	Dichlorodifluoromethane	85	1.081	1.080	(0.250)	59670	29.5876	29.58
61	Ethylbenzene	106	7.871	7.871	(1.017)	93912	31.8468	31.84
67	Isopropylbenzene	105	8.623	8.623	(1.114)	214399	30.9634	30.96
17	Methylene Chloride	84	2.449	2.449	(0.566)	87038	33.7660	33.76
56	Tetrachloroethene	164	7.012	7.011	(0.906)	50095	34.5731	34.57
50	Toluene	91	6.532	6.532	(0.844)	304684	31.7141	31.71
20	trans-1,2-Dichloroethene	96	2.678	2.678	(0.619)	77430	33.0946	33.09
51	trans-1,3-Dichloropropene	75	6.761	6.761	(1.330)	123036	34.0366	34.03
38	Trichloroethene	130	5.321	5.321	(1.046)	76765	35.2787	35.27
8	Trichlorofluoromethane	101	1.689	1.689	(0.391)	97669	34.9435	34.94
5	Vinyl Chloride	62	1.260	1.260	(0.291)	89978	29.8481	29.84
62	m,p-Xylenes	106	7.971	7.971	(1.030)	220648	62.3349	62.33
63	o-Xylene	106	8.308	8.308	(1.073)	112239	31.6656	31.66
M 95	Xylenes (total)	106				332887	94.0004	94.00
71	1,2,3-Trichloropropane	75	8.924	8.924	(0.918)	137871	38.7362	38.73
93	1,2,3-Trichlorobenzene	180	11.804	11.804	(1.214)	31287	31.4347	31.43
79	1,2,4-Trimethylbenzene	105	9.440	9.440	(0.971)	184781	32.9789	32.97
75	1,3,5-Trimethylbenzene	105	9.125	9.125	(0.938)	170378	32.7447	32.74
26	2,2-Dichloropropane	77	3.666	3.666	(0.848)	112630	31.4624	31.46
54	1,3-Dichloropropane	76	7.062	7.062	(0.912)	146689	34.7763	34.77
76	2-Chlorotoluene	91	9.039	9.039	(0.929)	175951	33.5008	33.50
77	4-Chlorotoluene	91	9.132	9.132	(0.939)	212363	33.9529	33.95
82	p-Isopropyltoluene	119	9.712	9.712	(0.999)	135620	28.4599	28.45
29	Bromochloromethane	128	3.953	3.953	(0.914)	44112	40.0699	40.06
74	Bromobenzene	156	8.867	8.874	(0.912)	80277	32.9632	32.96
44	Dibromomethane	93	5.658	5.658	(1.113)	58742	36.2166	36.21
91	Hexachlorobutadiene	225	11.539	11.539	(1.186)	12985	31.2736	31.27
73	n-Propylbenzene	91	8.974	8.974	(0.923)	250561	32.6787	32.67
87	n-Butylbenzene	91	10.056	10.049	(1.034)	109251	28.2870	28.28
81	sec-Butylbenzene	105	9.583	9.583	(0.985)	155990	28.5629	28.56
92	Naphthalene	128	11.603	11.603	(1.193)	117887	35.4209	35.42
78	tert-Butylbenzene	119	9.397	9.397	(0.966)	121127	32.5607	32.56
60	1,1,1,2-Tetrachloroethane	131	7.843	7.842	(1.013)	69071	31.8062	31.80
64	Styrene	104	8.322	8.322	(1.075)	209292	32.8331	32.83



Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171211.b\X121114.D
Date : 11-DEC-2017 16:49
Client ID: HS17120435-01MSD
Sample Info: HS17120435-01MSD;HS17120435-01MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624

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

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA6.i\X171211.b\X121129.D
Lab Smp Id: VSTD050-END Client Smp ID: VSTD050-END
Inj Date : 11-DEC-2017 23:02
Operator : PC Inst ID: voa6.i
Smp Info : VSTD050-END;VSTD050-END;2;;
Misc Info : HS16030331;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa6.i\X171211.b\8260W.m
Meth Date : 07-Feb-2018 20:00 voa6.i Quant Type: ISTD
Cal Date : 04-DEC-2017 14:03 Cal File: X120408.D
Als bottle: 29 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

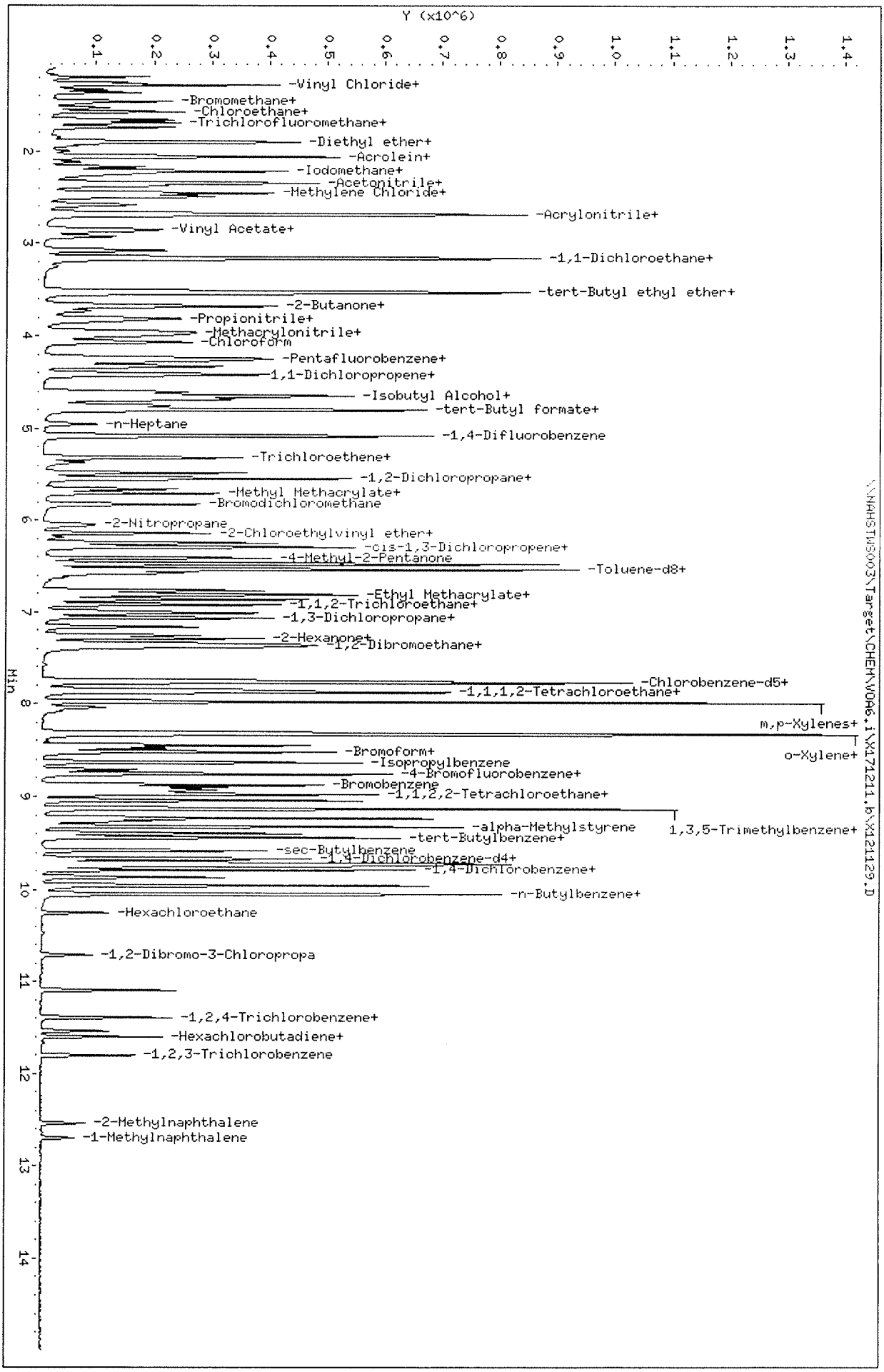
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	31 1,1,1-Trichloroethane	97	4.240	4.240	(0.980)	150352	50.0000	43.03
*	1 Pentafluorobenzene	168	4.326	4.326	(1.000)	215999	50.0000	
$	30 Dibromofluoromethane	113	4.254	4.254	(0.983)	134411	50.0000	47.79
*	36 1,4-Difluorobenzene	114	5.085	5.085	(1.000)	343441	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.612	4.612	(1.066)	165213	50.0000	45.22
*	47 Chlorobenzene-d5	117	7.742	7.742	(1.000)	315316	50.0000	
$	48 Toluene-d8	98	6.474	6.474	(0.836)	504793	50.0000	52.88
$	69 4-Bromofluorobenzene	95	8.752	8.752	(1.130)	180730	50.0000	52.96
*	70 1,4-Dichlorobenzene-d4	152	9.727	9.727	(1.000)	147921	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	8.903	8.903	(0.915)	135469	50.0000	45.75
	53 1,1,2-Trichloroethane	83	6.919	6.919	(0.894)	92015	50.0000	45.10
	32 1,1-Dichloropropene	75	4.426	4.426	(0.870)	132959	50.0000	43.41
	22 1,1-Dichloroethane	63	3.079	3.079	(0.712)	206504	50.0000	43.01
	11 1,1-Dichloroethene	96	2.055	2.055	(0.475)	89475	50.0000	40.45
	90 1,2,4-Trichlorobenzene	180	11.395	11.395	(1.172)	58210	50.0000	41.88
	89 1,2-Dibromo-3-Chloropropane	155	10.715	10.715	(1.102)	15967	50.0000	39.93
	57 1,2-Dibromoethane	107	7.334	7.334	(0.947)	110305	50.0000	46.53
	88 1,2-Dichlorobenzene	146	10.056	10.056	(1.034)	172135	50.0000	44.06
	33 1,2-Dichloroethane	62	4.691	4.691	(0.923)	158555	50.0000	43.53
	42 1,2-Dichloropropane	63	5.543	5.543	(1.090)	125411	50.0000	45.78
	83 1,3-Dichlorobenzene	146	9.669	9.669	(0.994)	172520	50.0000	42.94
	84 1,4-Dichlorobenzene	146	9.741	9.741	(1.001)	178702	50.0000	47.41

Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171211.b\X121129.D Page 2
Report Date: 07-Feb-2018 20:00

		QUANT SIG					AMOUNTS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)
24	2-Butanone	43	3.731	3.731	(0.863)	96151	100.000	88.75
52	2-Hexanone	43	7.284	7.284	(1.685)	177870	100.000	84.84
45	4-Methyl-2-Pentanone	43	6.410	6.410	(0.828)	227350	100.000	84.24
10	Acetone	43	2.119	2.119	(0.490)	64761	100.000	90.95
37	Benzene	78	4.648	4.648	(0.914)	453966	50.0000	46.55
39	Bromodichloromethane	83	5.823	5.823	(1.145)	162465	50.0000	46.44
66	Bromoform	173	8.480	8.480	(1.095)	81944	50.0000	47.26
6	Bromomethane	94	1.460	1.460	(0.338)	83835	50.0000	42.84
19	Carbon Disulfide	76	2.212	2.212	(0.512)	581324	100.000	85.42
34	Carbon Tetrachloride	117	4.412	4.412	(0.868)	114156	50.0000	43.41
59	Chlorobenzene	112	7.764	7.764	(1.003)	282395	50.0000	45.35
7	Chloroethane	64	1.525	1.525	(0.353)	72192	50.0000	39.43
28	Chloroform	83	4.068	4.068	(0.940)	204167	50.0000	43.41
3	Chloromethane	50	1.195	1.195	(0.276)	150118	50.0000	43.20
27	cis-1,2-Dichloroethene	96	3.688	3.688	(0.853)	127985	50.0000	44.90
46	cis-1,3-Dichloropropene	75	6.245	6.245	(1.228)	197431	50.0000	45.93
55	Dibromochloromethane	129	7.255	7.255	(0.937)	125038	50.0000	44.78
2	Dichlorodifluoromethane	85	1.081	1.081	(0.250)	84906	50.0000	39.92
61	Ethylbenzene	106	7.871	7.871	(1.017)	132757	50.0000	43.30
67	Isopropylbenzene	105	8.623	8.623	(1.114)	313355	50.0000	43.53
17	Methylene Chloride	84	2.449	2.449	(0.566)	127935	50.0000	47.18
56	Tetrachloroethene	164	7.012	7.012	(0.906)	67103	50.0000	44.54
50	Toluene	91	6.532	6.532	(0.844)	439481	50.0000	44.00
20	trans-1,2-Dichloroethene	96	2.678	2.678	(0.619)	110961	50.0000	44.97
51	trans-1,3-Dichloropropene	75	6.761	6.761	(1.330)	167240	50.0000	44.59
38	Trichloroethene	130	5.321	5.321	(1.046)	108017	50.0000	47.06
8	Trichlorofluoromethane	101	1.690	1.690	(0.391)	117081	50.0000	39.72
5	Vinyl Chloride	62	1.260	1.260	(0.291)	123620	50.0000	38.88
62	m,p-Xylenes	106	7.972	7.972	(1.030)	317929	100.000	86.39
63	o-Xylene	106	8.308	8.308	(1.073)	166024	50.0000	45.05
M 95	Xylenes (total)	106				483953	150.000	(a)
71	1,2,3-Trichloropropane	75	8.924	8.924	(0.918)	159815	50.0000	41.09
93	1,2,3-Trichlorobenzene	180	11.804	11.804	(1.214)	43476	50.0000	39.07
79	1,2,4-Trimethylbenzene	105	9.440	9.440	(0.971)	279794	50.0000	45.52
75	1,3,5-Trimethylbenzene	105	9.125	9.125	(0.938)	259106	50.0000	45.31
26	2,2-Dichloropropane	77	3.667	3.667	(0.848)	139754	50.0000	37.02
54	1,3-Dichloropropane	76	7.062	7.062	(0.912)	193867	50.0000	44.21
76	2-Chlorotoluene	91	9.039	9.039	(0.929)	269347	50.0000	46.78
77	4-Chlorotoluene	91	9.132	9.132	(0.939)	319633	50.0000	46.52
82	p-Isopropyltoluene	119	9.712	9.712	(0.999)	208646	50.0000	40.07
29	Bromochloromethane	128	3.953	3.953	(0.914)	63978	50.0000	55.48
74	Bromobenzene	156	8.867	8.867	(0.912)	119027	50.0000	44.72
44	Dibromomethane	93	5.658	5.658	(1.113)	78388	50.0000	45.82
91	Hexachlorobutadiene	225	11.539	11.539	(1.186)	19295	50.0000	42.24
73	n-Propylbenzene	91	8.974	8.974	(0.923)	371863	50.0000	44.20
87	n-Butylbenzene	91	10.049	10.049	(1.033)	168064	50.0000	39.82
81	sec-Butylbenzene	105	9.583	9.583	(0.985)	232849	50.0000	39.01
92	Naphthalene	128	11.603	11.603	(1.193)	139675	50.0000	38.19
78	tert-Butylbenzene	119	9.397	9.397	(0.966)	182852	50.0000	41.85
60	1,1,1,2-Tetrachloroethane	131	7.843	7.843	(1.013)	101794	50.0000	46.09
64	Styrene	104	8.323	8.323	(1.075)	307996	50.0000	44.76

QC Flag Legend

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



Data File: \\NAHSTWS003\Target\CHEM\VOA6.i\X171211.b\X121129.D
Date : 11-DEC-2017 23:02
Client ID: VSTD050-END
Sample Info: VSTD050-END;VSTD050-END;2;;
Purge Volume: 5.0
Column phase: DB624

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

Semivolatile Organics Raw Data

Bhate Environmental Associates, Inc.
Project: GROUNDWATER TREATMENT PLANT
MONTHLY EFFLUENT SAMPLES
ALS WO# HS17120365

FORM 2
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120365

	CLIENT SAMPLE NO.	S1 (NBZ)#	S2 #	S3 (FBP)#	S4 #	S5 #	S6 #	S7 #	S8 #	TOT OUT
01	HS17120365-01	75	54	133						0
02										
03										
04										
05										
06										
07										
08										
09										
10										
11										
12										
13										
14										
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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 V 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: RF0.01: 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

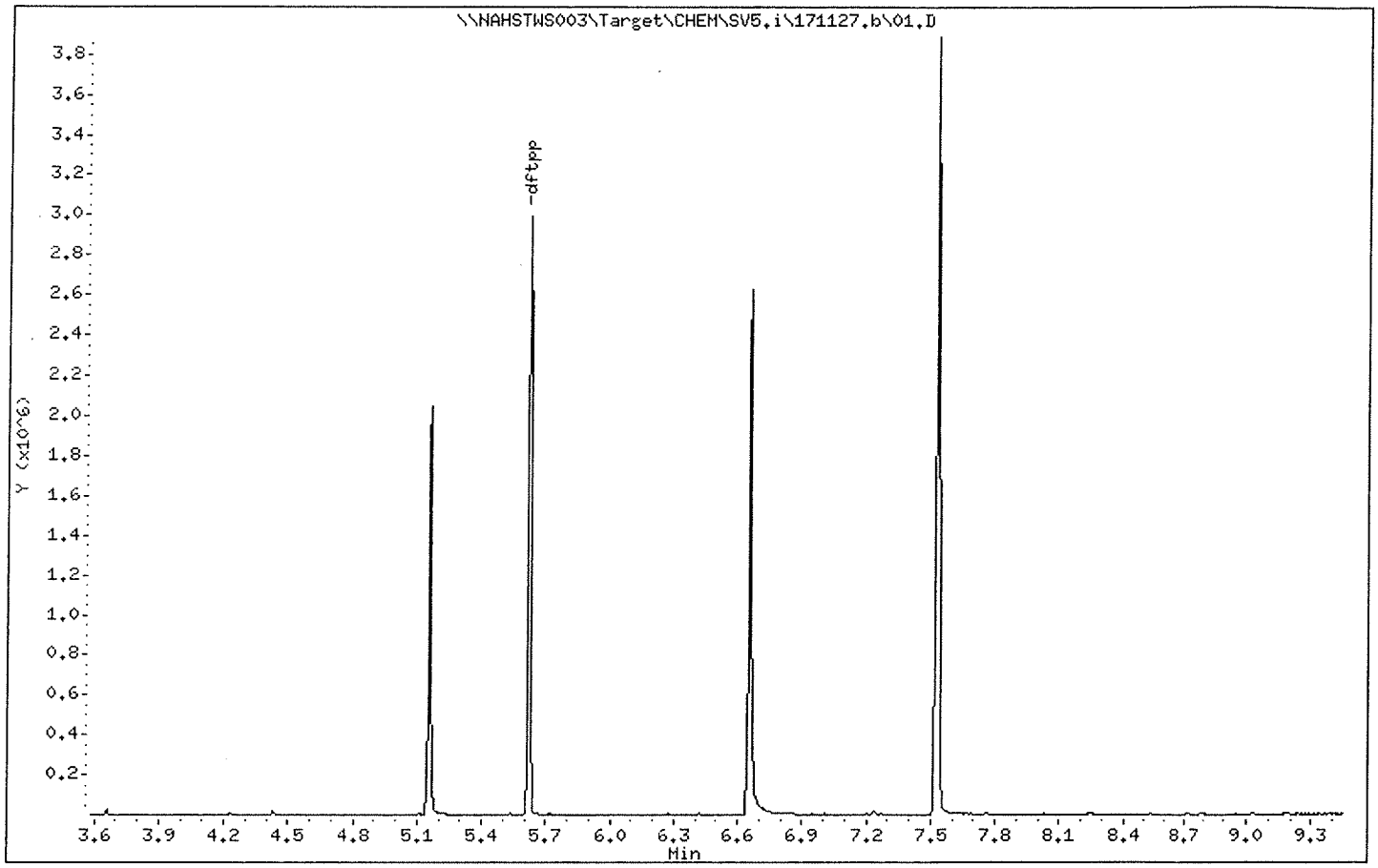
Instrument: SV5.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: CY

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

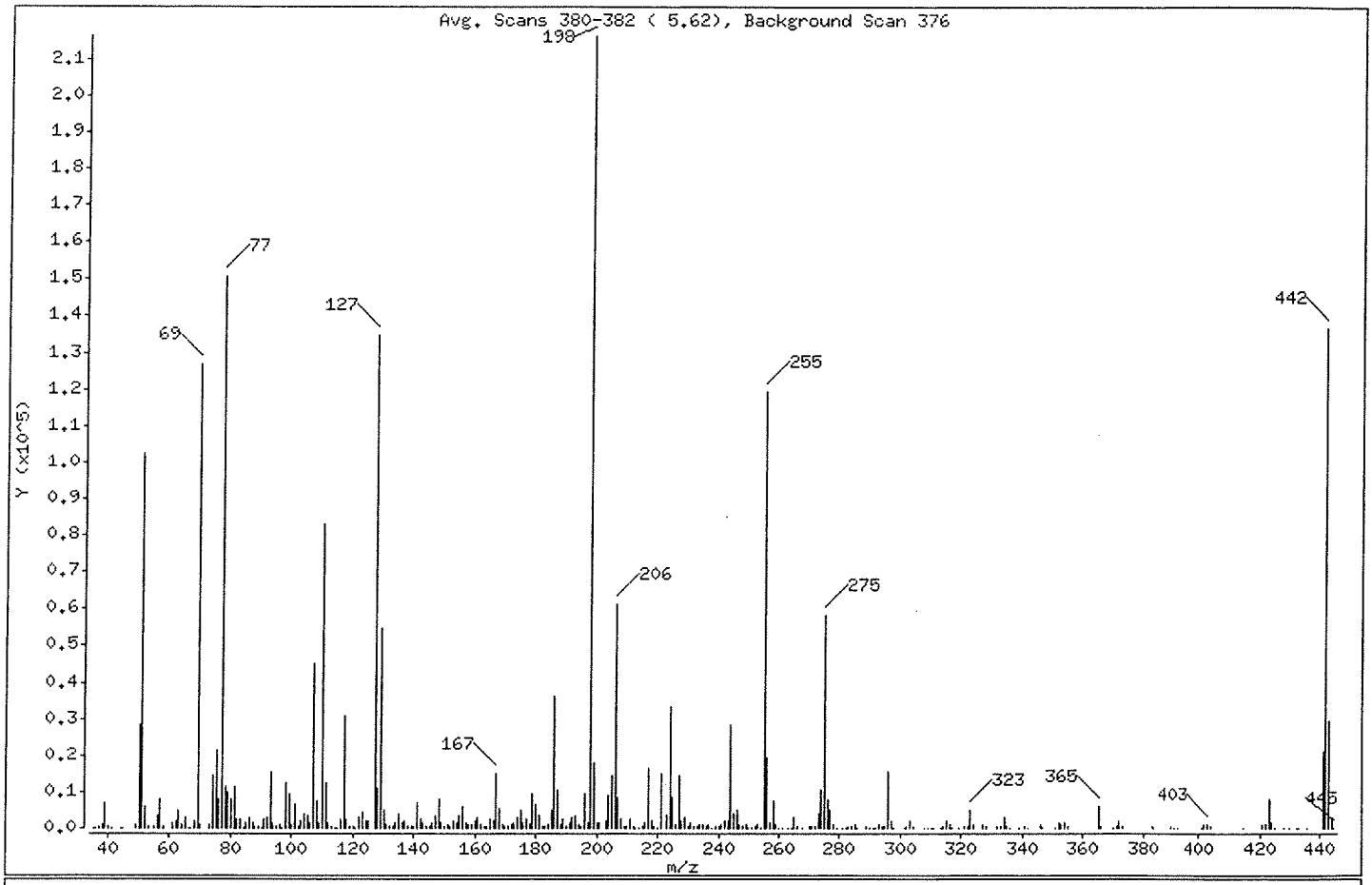
Sample Info: DFTPP;DFTPP;3;;DFTPP

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: CY

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: CY

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: 11-Jan-2018 13:57

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 : 10-Jan-2018 14:09 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)

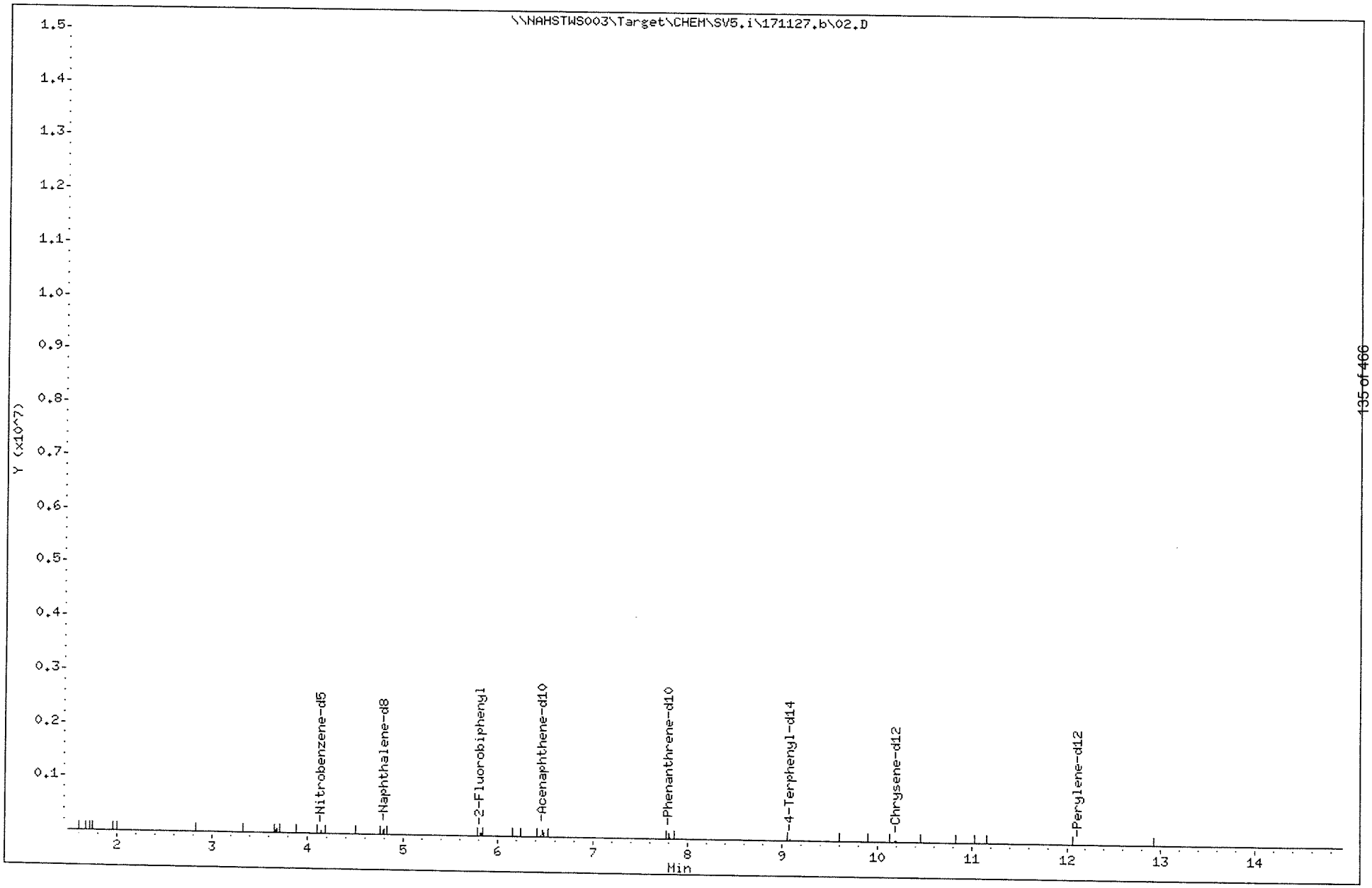
QC Flag Legend

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: 11-Jan-2018 13:57

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 : 10-Jan-2018 14:09 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)	AMOUNTS ON-COL (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

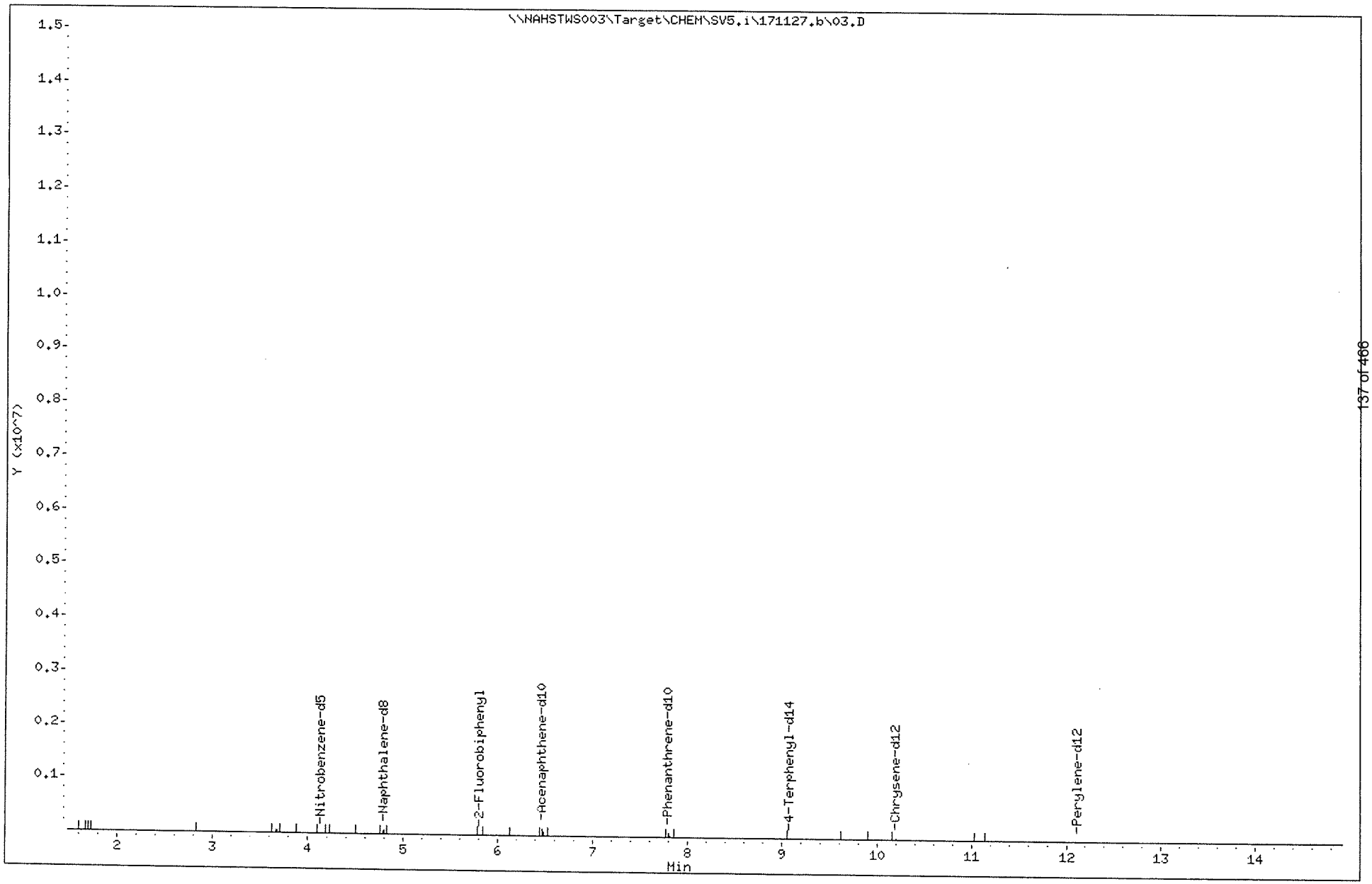
M - Compound response manually integrated.

00878286

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



Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\04.D Page 1
Report Date: 11-Jan-2018 13:57

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 : 10-Jan-2018 14:09 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	

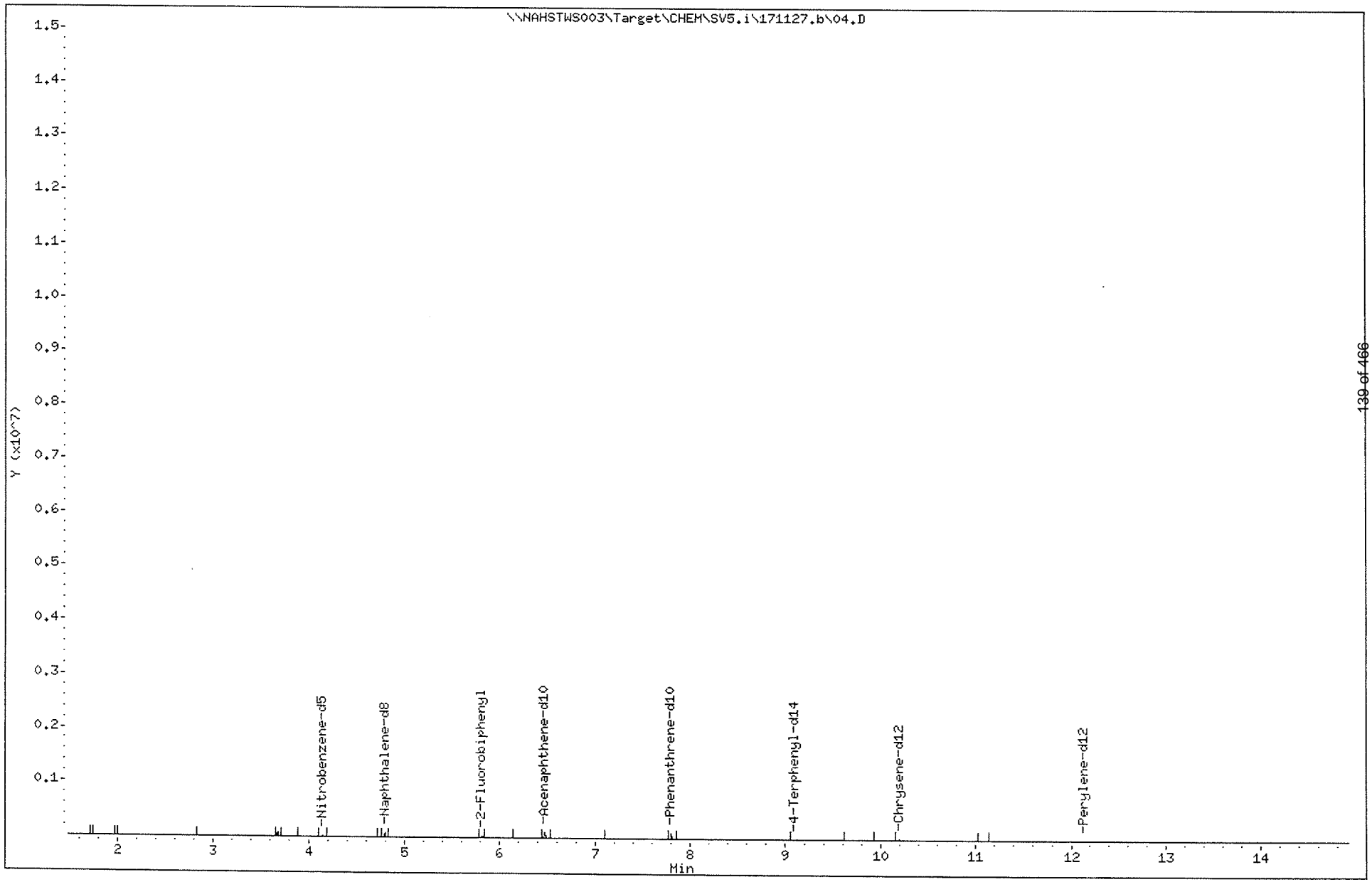
QC Flag Legend

M - Compound response manually integrated.

00878288

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: 11-Jan-2018 13:57

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 : 10-Jan-2018 14:09 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	

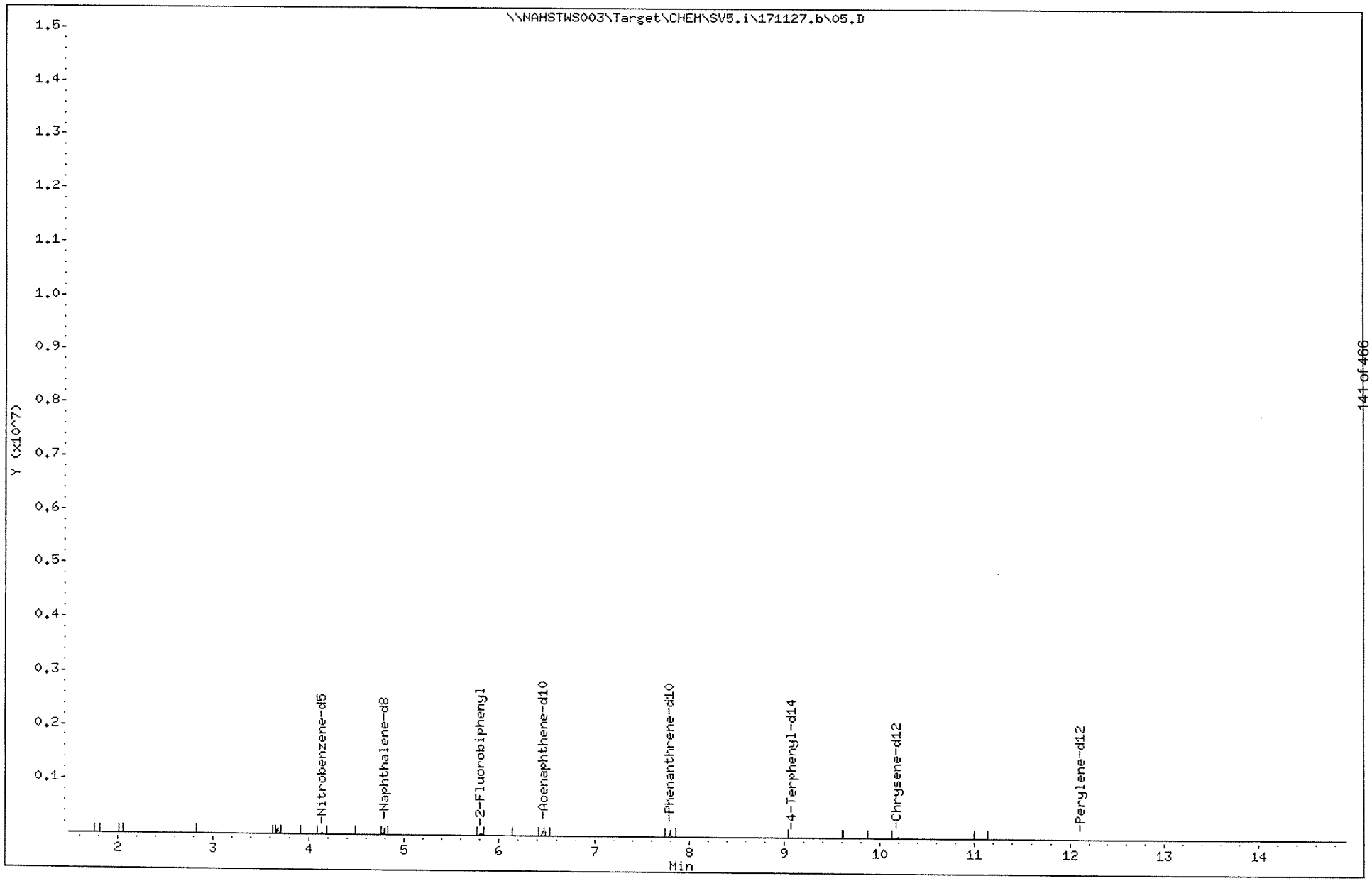
QC Flag Legend

M - Compound response manually integrated.

00878290

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: 11-Jan-2018 13:57

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 : 10-Jan-2018 14:09 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	0.1005(M)
* 86 Acenaphthene-d10	164	6.474	6.479	(1.000)	84497	0.10000	
$ 69 2-Fluorobiphenyl	172	5.821	5.825	(0.899)	73571	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)

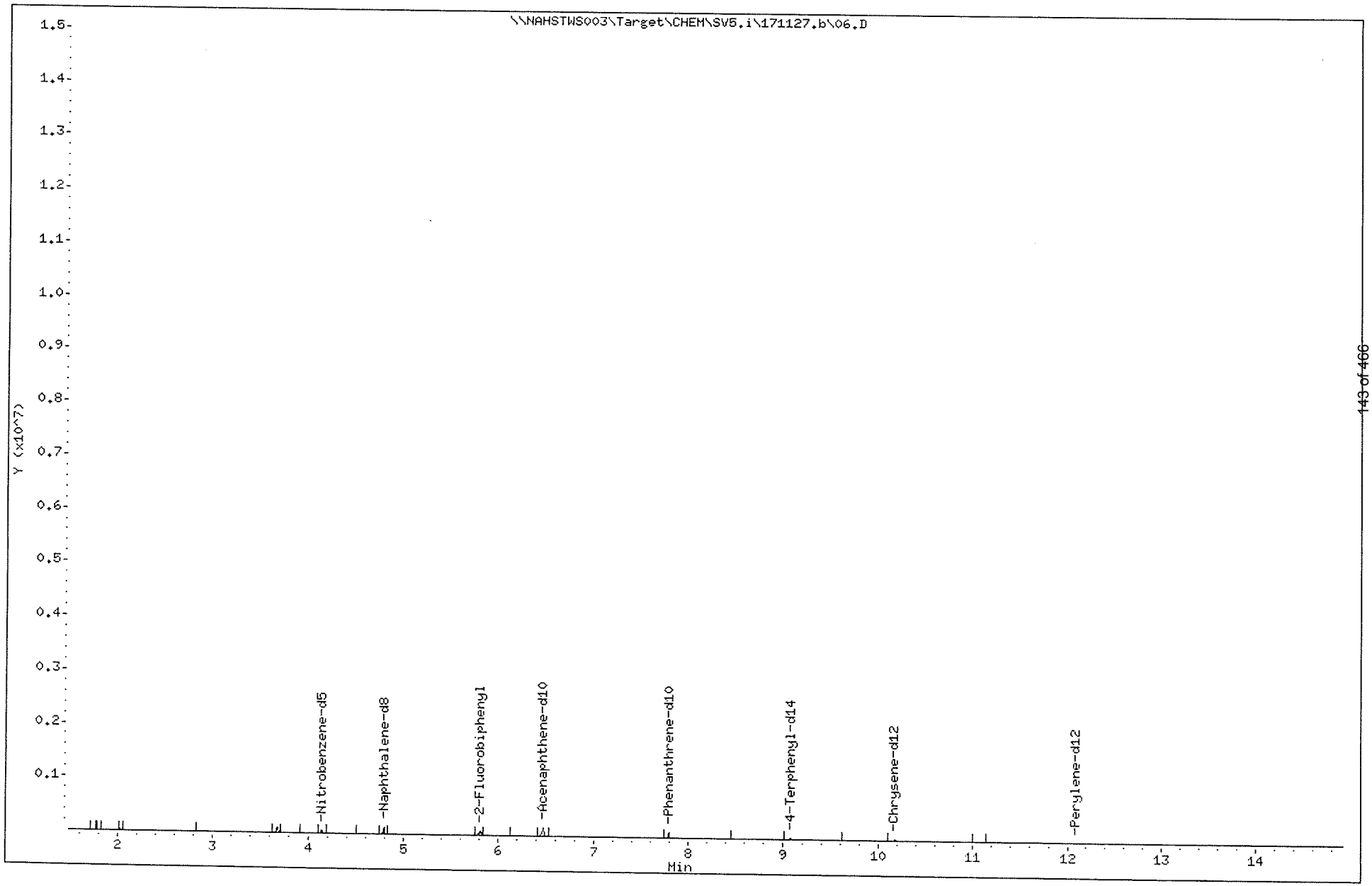
QC Flag Legend

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: 11-Jan-2018 13:57

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 : 10-Jan-2018 14:09 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)	35221	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)

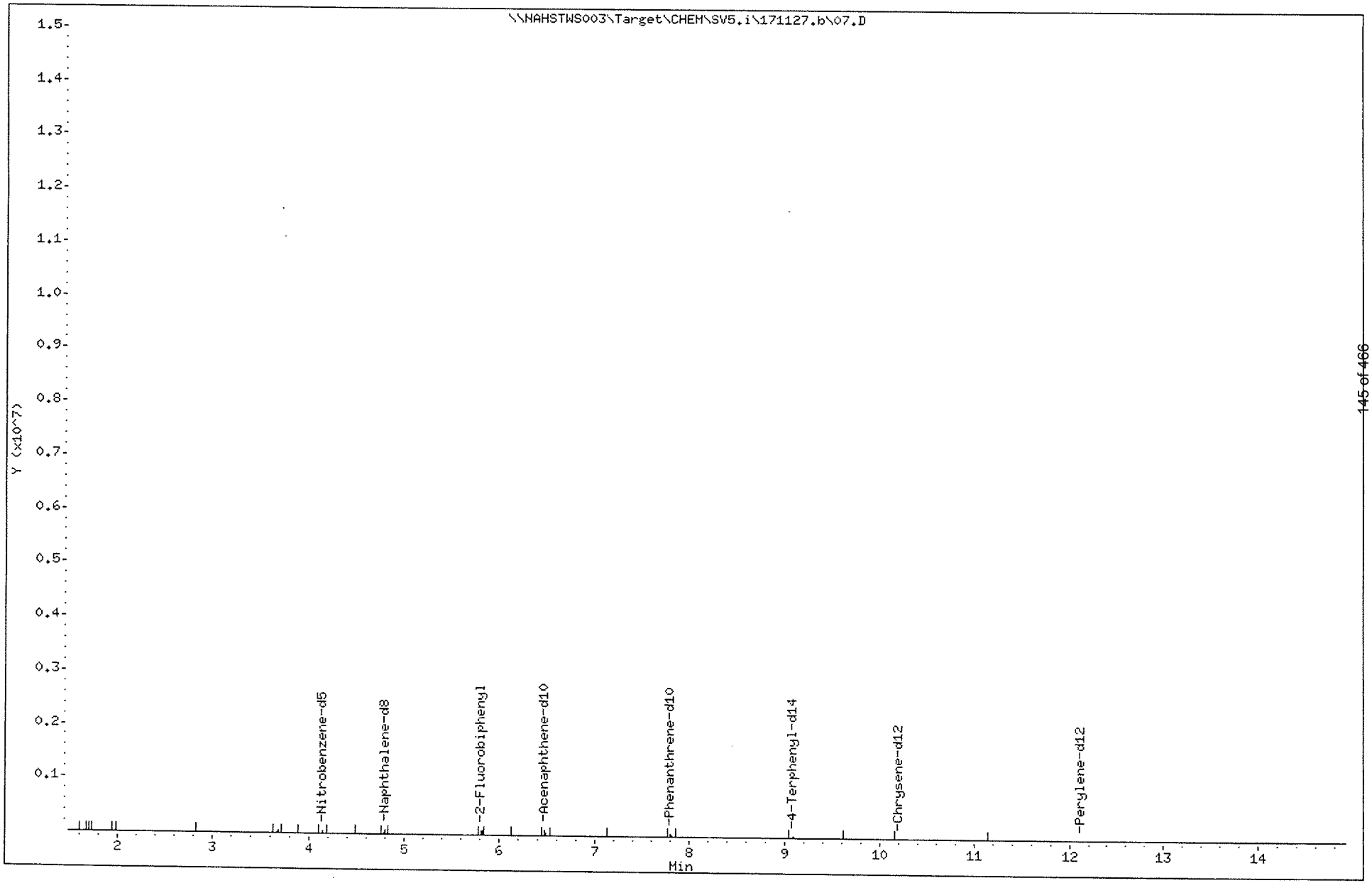
QC Flag Legend

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: 11-Jan-2018 13:57

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 : 10-Jan-2018 14:09 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)

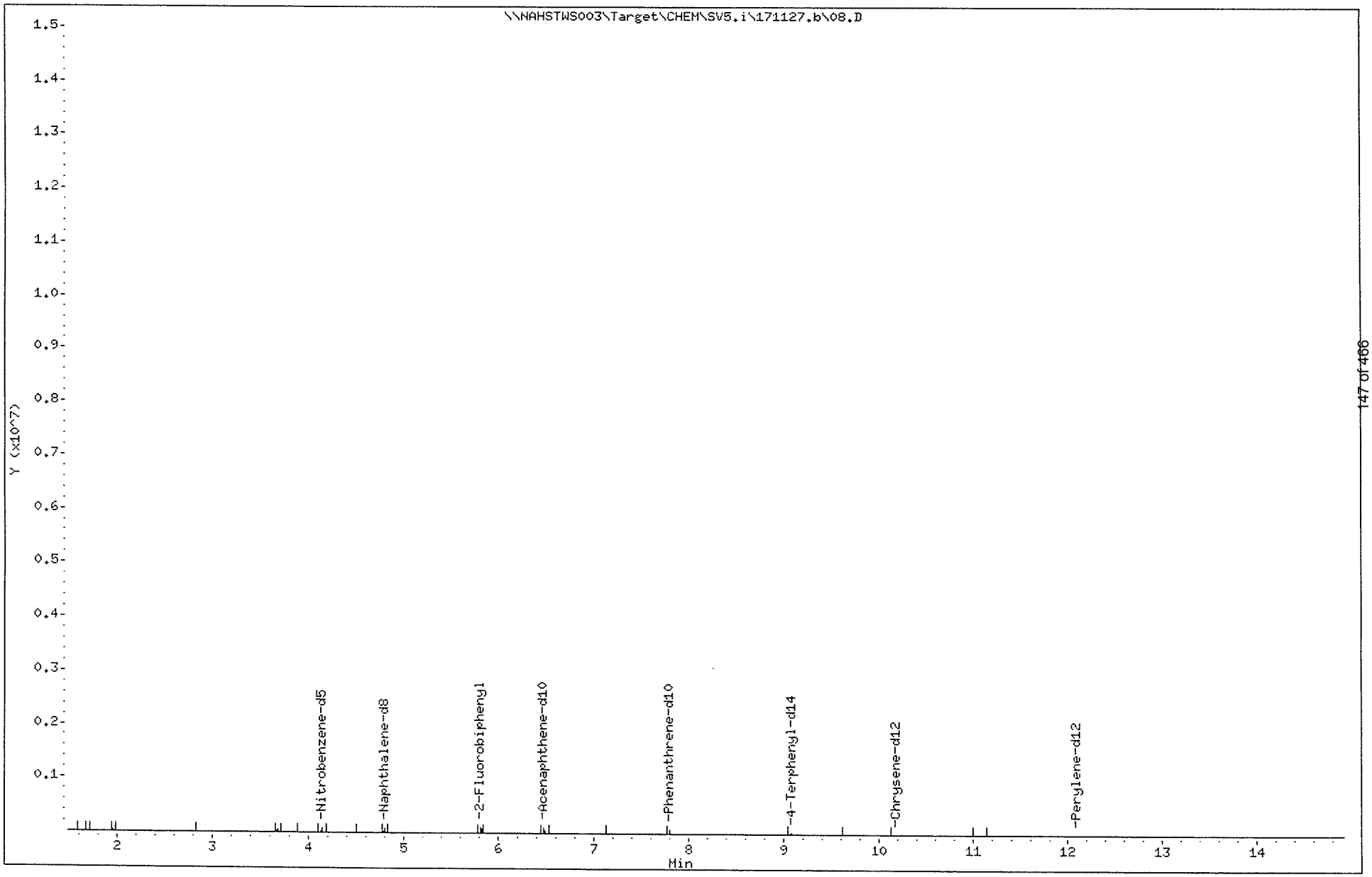
QC Flag Legend

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

00878296

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: GY
Column diameter: 0.28



Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171127.b\09.D Page 1
Report Date: 11-Jan-2018 13:57

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 : 10-Jan-2018 14:09 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-COL (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)

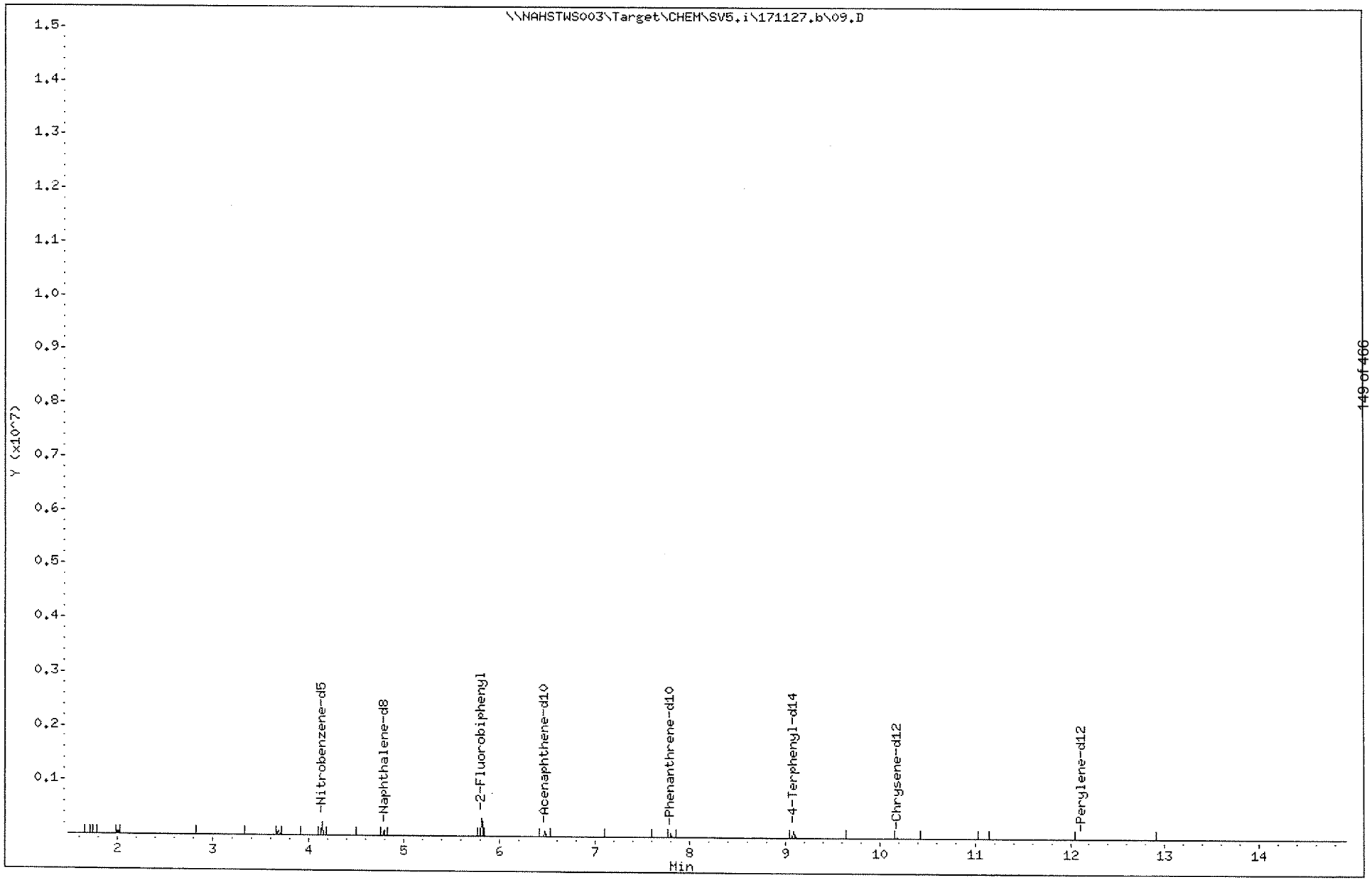
QC Flag Legend

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

00878298

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: 11-Jan-2018 13:57

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 : 10-Jan-2018 14:09 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	0.1213 (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

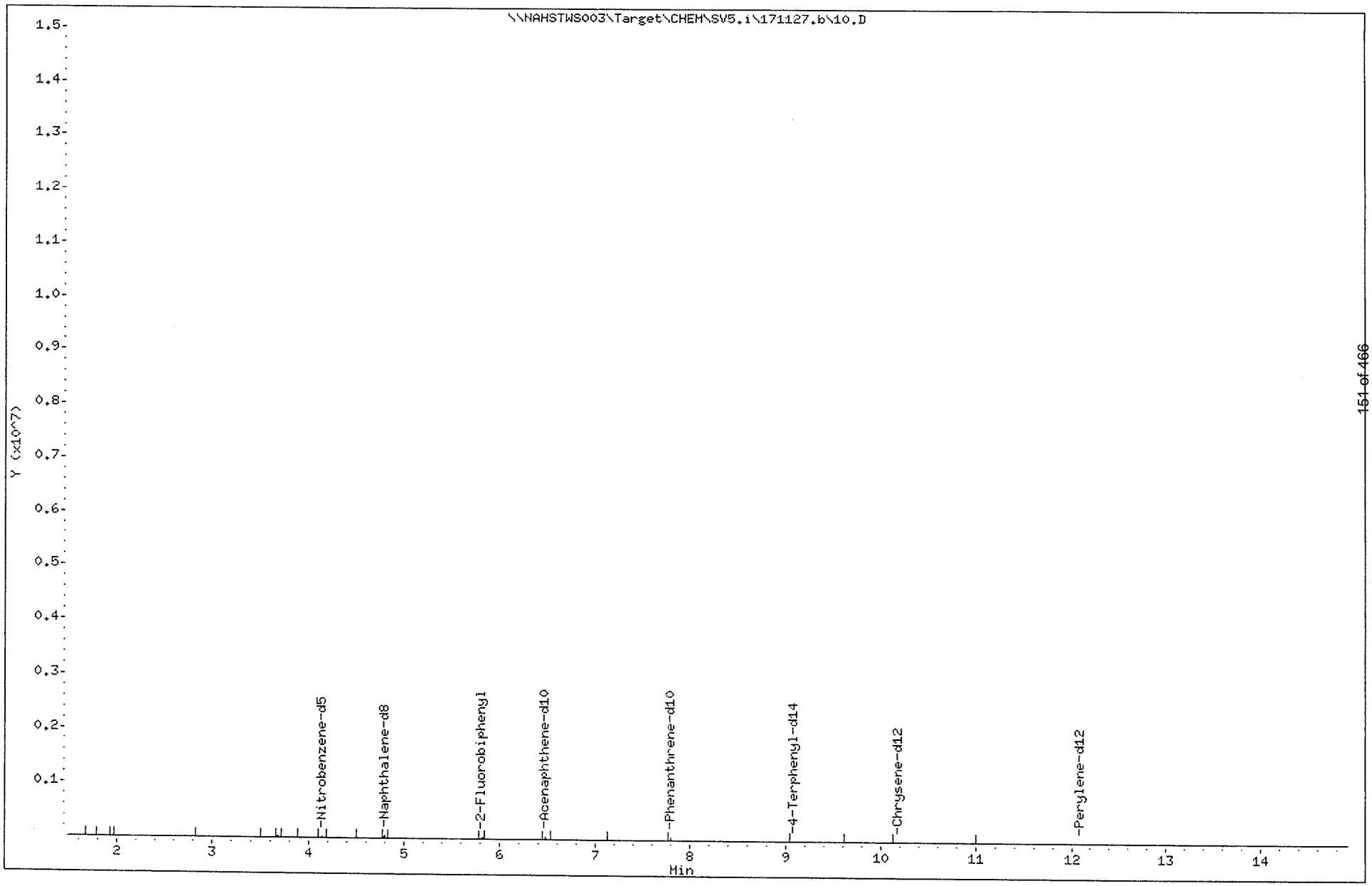
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

00878300

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: 30265
Date: 12-13-2017
Method: 8270(SIM)
Comments: MSSV-003SIM

Analyst: Andrew Neir
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	DFTPP	TUNE	12-13-2017 10:06 am	1.00			01.D		Y	NA
2	DX-0.08	SAMP	12-13-2017 10:24 am	1.00			02.D		Y	NA
3	DX-0.08	CCV	12-13-2017 11:03 am	1.00			03.D		Y	NA
4	CCB	SAMP	12-13-2017 11:24 am	1.00			04.D		Y	NA
5	MBLK-123073	MBLK	12-13-2017 11:45 am	1.00	1000.00 mL	1000.00 mL	05.D	Liquid	Y	NA
6	LCS-123073	LCS	12-13-2017 12:05 pm	1.00	1000.00 mL	1000.00 mL	06.D	Liquid	Y	NA
7	HS17120283-01	SAMP	12-13-2017 12:26 pm	1.00	1000.00 mL	1000.00 mL	07.D	Liquid	Y	NA
8	HS17120283-01	SAMP	12-13-2017 12:50 pm	10.00	1000.00 mL	1000.00 mL	08.D	Liquid	Y	NA
9	HS17120283-02	SAMP	12-13-2017 01:11 pm	10.00	1000.00 mL	1000.00 mL	09.D	Liquid	Y	NA
10	HS17120283-03	SAMP	12-13-2017 01:32 pm	10.00	1000.00 mL	1000.00 mL	10.D	Liquid	Y	NA
11	HS17120283-03MS	MS	12-13-2017 01:53 pm	10.00	1000.00 mL	1000.00 mL	11.D	Liquid	Y	NA
12	HS17120283-03MSD	MSD	12-13-2017 02:13 pm	10.00	1000.00 mL	1000.00 mL	12.D	Liquid	Y	NA
13	HS17120283-04	SAMP	12-13-2017 02:34 pm	10.00	1000.00 mL	1000.00 mL	13.D	Liquid	Y	NA
14	HS17120365-01	SAMP	12-13-2017 02:55 pm	10.00	1000.00 mL	1000.00 mL	14.D	Liquid	Y	NA
15	HS17120365-01	SAMP	12-13-2017 03:17 pm	20.00	1000.00 mL	1000.00 mL	15.D	Liquid	Y	NA
16	CCV	SAMP	12-13-2017 03:42 pm	1.00	1000.00 mL	1000.00 mL	16.D	Liquid	Y	NA

Chemical	Value
IS ID	30411-18-01
CAL STD ID	30411-17-04
DFTPP ID	30411-19-07
PCP Tailing	1.01
Benz. Tailing	0.92

FORM 3
WATER SEMIVOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

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

Matrix Spike - Sample No.: CCV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	% REC #	QC. LIMITS REC.
1,4-Dioxane	0.08000	0.08381	105	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.: HS17120365

Lab File ID: 01 DFTPP Injection Date: 12/13/17

Instrument ID: SV5 DFTPP Injection Time: 1006

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	52.4
68	Less than 2.0% of mass 69	1.0 (1.8)1
69	Mass 69 relative abundance	55.1
70	Less than 2.0% of mass 69	0.3 (0.6)1
127	10.0 - 80.0% of mass 198	60.8
197	Less than 2.0% of mass 198	1.4
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	8.7
275	10.0 - 60.0% of mass 198	28.3
365	1.0 - 100.0% of mass 198	3.9
441	Present, but less than mass 443	15.4
442	50.0 - 150.0% of mass 198	86.2
443	15.0 - 24.0% of mass 442	20.1 (23.3)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	03	12/13/17	1103
02	MBLK-123703	MBLK-123073	05	12/13/17	1145
03	LCS-123703	LCS-123073	06	12/13/17	1205
04	HS17120365-0	HS17120365-01	15	12/13/17	1517
05	CCV	CCV	16	12/13/17	1542
06					
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.: BHATE

Instrument ID: SV5 Calibration Date: 12/13/17 Time: 1103

Lab File ID: 03 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	9.21e-002	0.01	10.96	20.00	AVRG
Nitrobenzene-d5	0.4770000	0.5024282	0.01	5.33	20.00	AVRG
4-Terphenyl-d14	0.8680000	0.9546948	0.01	9.99	20.00	AVRG
2-Fluorobiphenyl	0.8860000	1.0261980	0.01	15.82	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.: HS17120365

Lab File ID (Standard): 03 Date Analyzed: 12/13/17

Instrument ID: SV5 Time Analyzed: 1103

		IS1 (NPT)		IS2 (ANT)		IS3 (PHN)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	88336	4.76	42990	6.44	59284	7.77
	UPPER LIMIT	176672	5.26	85980	6.94	118568	8.27
	LOWER LIMIT	44168	4.26	21495	5.94	29642	7.27
	CLIENT SAMPLE NO.						
01	HS17120365-01	44972	4.76	18583*	6.44	26564*	7.77
02							
03							
04							
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.: HS17120365

Lab File ID (Standard): 03 Date Analyzed: 12/13/17

Instrument ID: SV5 Time Analyzed: 1103

		IS4 (CRY) AREA	#	RT	#	IS5 (PRY) AREA	#	RT	#	AREA	#	RT	#
	12 HOUR STD	21918		10.14		13773		12.05					
	UPPER LIMIT	43836		10.64		27546		12.55					
	LOWER LIMIT	10959		9.64		6887		11.55					
	CLIENT SAMPLE NO.												
01	HS17120365-01	14580		10.14		9204		12.05					
02													
03													
04													
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\171213.b\01.D

Date : 13-DEC-2017 10:06

Client ID: DFTPP

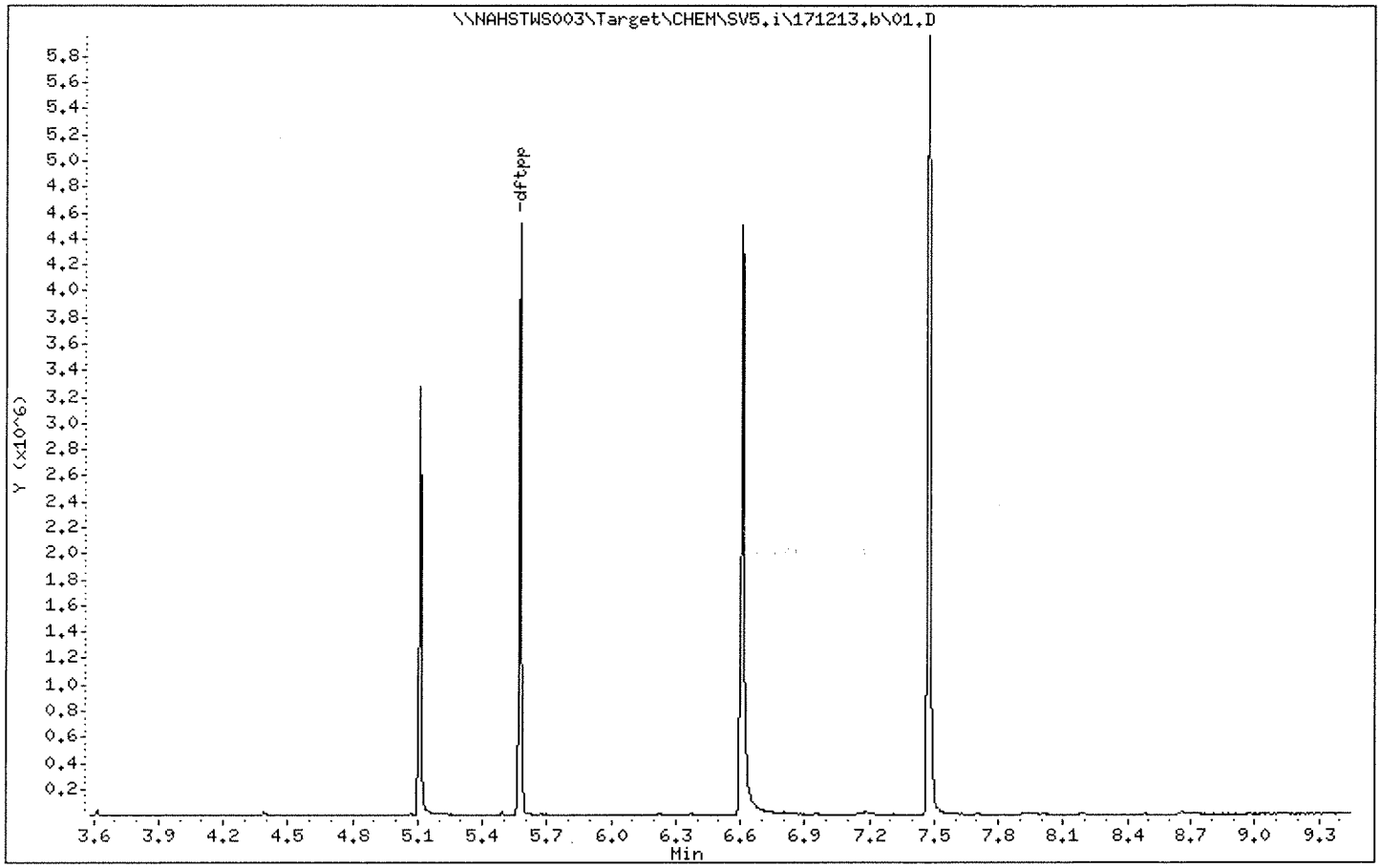
Instrument: SV5.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: CY

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171213.b\01.D

Date : 13-DEC-2017 10:06

Client ID: DFTPP

Instrument: SV5.i

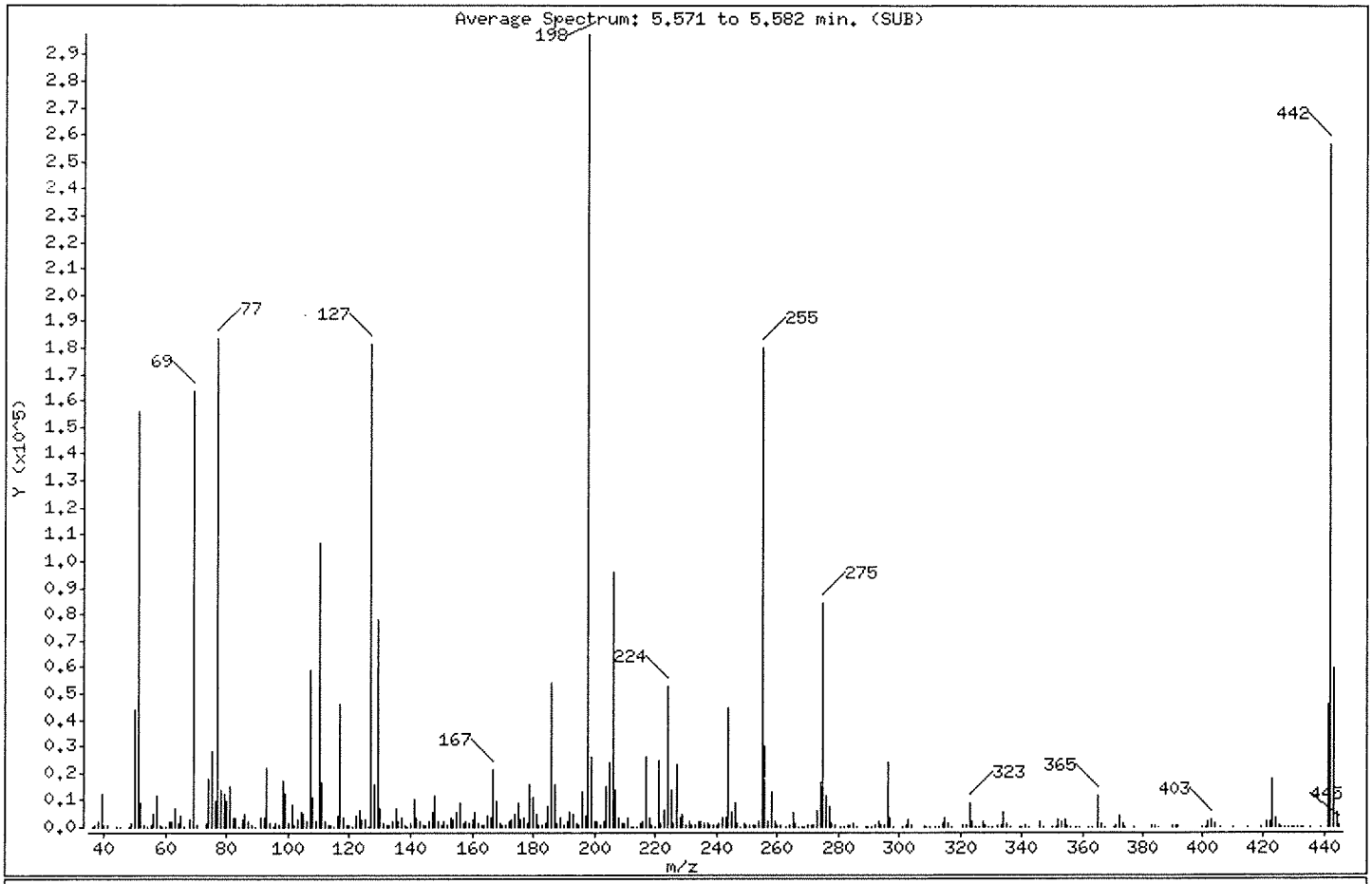
Sample Info: DFTPP;DFTPP;3;;DFTPP

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	52.38
68	Less than 2.00% of mass 69	0.98 (1.77)
69	Mass 69 relative abundance	55.05
70	Less than 2.00% of mass 69	0.31 (0.56)
127	10.00 - 80.00% of mass 198	60.82
197	Less than 2.00% of mass 198	1.38
199	5.00 - 9.00% of mass 198	8.66
275	10.00 - 60.00% of mass 198	28.25
365	1.00 - 100.00% of mass 198	3.87
441	Present, but less than mass 443	15.36
442	50.00 - 150.00% of mass 198	86.24
443	15.00 - 24.00% of mass 442	20.08 (23.29)

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171213.b\01.D

Date : 13-DEC-2017 10:06

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: 5.571 to 5.582 min. (SUB)
Location of Maximum: 198.00
Number of points: 340

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	97	130.00	6886	216.00	2072	312.00	109
37.00	859	131.00	1028	217.00	25840	313.00	295
38.00	1769	132.00	858	218.00	3102	314.00	1296
39.00	12478	133.00	515	219.00	349	315.00	3120
40.00	644	134.00	2316	220.00	64	316.00	1606
41.00	429	135.00	6653	221.00	24312	317.00	328
44.00	326	136.00	2367	222.00	1378	321.00	947
45.00	230	137.00	3381	223.00	6145	322.00	357
48.00	66	138.00	674	224.00	52408	323.00	8863
49.00	1375	139.00	322	225.00	13539	324.00	1947
50.00	43792	140.00	1067	226.00	1451	325.00	182
51.00	155904	141.00	10033	227.00	23344	326.00	210
52.00	8702	142.00	3745	228.00	3583	327.00	1728
53.00	480	143.00	2164	229.00	4795	328.00	774
54.00	58	144.00	587	230.00	625	329.00	199
55.00	665	145.00	624	231.00	2117	330.00	55
56.00	5086	146.00	1823	232.00	483	332.00	506
57.00	11473	147.00	5544	233.00	347	333.00	840
58.00	517	148.00	11364	234.00	1810	334.00	5325
59.00	292	149.00	2298	235.00	1999	335.00	1280
60.00	117	150.00	670	236.00	1302	336.00	213
61.00	1947	151.00	1909	237.00	1692	339.00	70
62.00	2341	152.00	773	238.00	390	340.00	63
63.00	7144	153.00	3346	239.00	894	341.00	938
64.00	1238	154.00	2539	240.00	872	342.00	261
65.00	3949	155.00	5611	241.00	1297	346.00	1863
66.00	226	156.00	8732	242.00	3157	347.00	289
68.00	2907	157.00	1493	243.00	3383	350.00	137
69.00	163840	158.00	2097	244.00	44232	351.00	180
70.00	921	159.00	1471	245.00	5644	352.00	2576
73.00	1484	160.00	2982	246.00	8691	353.00	1840
74.00	17872	161.00	5169	247.00	1677	354.00	2830
75.00	28096	162.00	1573	248.00	342	355.00	483
76.00	9829	163.00	364	249.00	1459	356.00	73
77.00	183232	164.00	618	250.00	361	358.00	71

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171213.b\01.D

Date : 13-DEC-2017 10:06

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: 5.571 to 5.582 min. (SUB)
Location of Maximum: 198.00
Number of points: 340

m/z	Y	m/z	Y	m/z	Y	m/z	Y
78.00	13519	165.00	4004	251.00	718	359.00	135
79.00	12436	166.00	3206	252.00	498	362.00	55
80.00	9632	167.00	21448	253.00	1019	363.00	67
81.00	14994	168.00	9462	254.00	1774	365.00	11528
82.00	3649	169.00	1691	255.00	180160	366.00	1543
83.00	3490	170.00	711	256.00	29816	367.00	64
84.00	225	171.00	930	257.00	2336	370.00	311
85.00	2677	172.00	2065	258.00	12663	371.00	686
86.00	4488	173.00	2611	259.00	1785	372.00	4387
87.00	2056	174.00	4834	260.00	476	373.00	1272
88.00	732	175.00	8587	261.00	461	374.00	57
89.00	304	176.00	2880	263.00	156	377.00	95
91.00	3209	177.00	3762	264.00	597	383.00	975
92.00	3606	178.00	1188	265.00	5138	384.00	414
93.00	22192	179.00	15852	266.00	1045	385.00	69
94.00	1597	180.00	10873	267.00	206	390.00	549
95.00	315	181.00	4866	268.00	69	391.00	431
96.00	1416	182.00	698	269.00	119	392.00	460
97.00	591	183.00	479	270.00	412	400.00	76
98.00	17264	184.00	1197	271.00	347	401.00	274
99.00	12409	185.00	7466	272.00	814	402.00	2036
100.00	1318	186.00	54216	273.00	6130	403.00	2540
101.00	8058	187.00	15681	274.00	16127	404.00	1149
102.00	486	188.00	1463	275.00	84112	406.00	55
103.00	2787	189.00	3432	276.00	11597	410.00	148
104.00	5330	190.00	541	277.00	7451	415.00	96
105.00	4870	191.00	1862	278.00	1211	419.00	57
106.00	1818	192.00	5230	279.00	370	421.00	2375
107.00	58544	193.00	5115	281.00	138	422.00	1979
108.00	10752	194.00	1251	282.00	309	423.00	17816
109.00	1772	195.00	1023	283.00	874	424.00	3637
110.00	106736	196.00	12747	284.00	548	425.00	420
111.00	16712	197.00	4117	285.00	1315	426.00	237
112.00	2048	198.00	297728	286.00	221	427.00	147
113.00	637	199.00	25776	289.00	248	428.00	149

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171213.b\01.D

Date : 13-DEC-2017 10:06

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: 5.571 to 5.582 min. (SUB)
Location of Maximum: 198.00
Number of points: 340

m/z	Y	m/z	Y	m/z	Y	m/z	Y
114.00	356	200.00	2149	290.00	185	429.00	200
115.00	114	201.00	2166	291.00	164	430.00	165
116.00	3788	202.00	611	292.00	412	431.00	121
117.00	45848	203.00	2192	293.00	1790	432.00	57
118.00	3680	204.00	14922	294.00	442	433.00	127
119.00	361	205.00	23944	295.00	497	435.00	57
120.00	771	206.00	96008	296.00	23928	439.00	57
121.00	254	207.00	13539	297.00	3479	441.00	45728
122.00	3925	208.00	3710	298.00	169	442.00	256704
123.00	6175	209.00	1133	301.00	320	443.00	59792
124.00	2705	210.00	1475	302.00	484	444.00	5647
125.00	2765	211.00	3741	303.00	2754	445.00	387
126.00	331	212.00	171	304.00	779		
127.00	181056	213.00	235	308.00	386		
128.00	15464	214.00	106	309.00	107		
129.00	77768	215.00	1320	310.00	227		

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\171213.b\03.D
Lab Smp Id: DX-0.08 Client Smp ID: DX-0.08
Inj Date : 13-DEC-2017 11:03 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : CCB;CCB
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS003\Target\CHEM\SV5.i\171213.b\DXSIM.m
Meth Date : 11-Jan-2018 17:20 SV5.i Quant Type: ISTD
Cal Date : 27-NOV-2017 19:22 Cal File: 09.D
Als bottle: 3 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	4.756	4.756	(1.000)	88336	0.10000	
$ 33 Nitrobenzene-d5	82	4.109	4.109	(0.864)	35506	0.08000	0.08424
* 86 Acenaphthene-d10	164	6.437	6.437	(1.000)	42990	0.10000	
$ 69 2-Fluorobiphenyl	172	5.781	5.781	(0.898)	35293	0.08000	0.09263(M)
* 126 Phenanthrene-d10	188	7.774	7.774	(1.000)	59284	0.10000	
* 182 Chrysene-d12	240	10.142	10.142	(1.000)	21918	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.054	9.054	(0.893)	16740	0.08000	0.08797(M)
* 198 Perylene-d12	264	12.045	12.045	(1.000)	13773	0.10000	
1 1,4-Dioxane	58	1.952	1.952	(0.411)	6511	0.08000	0.08895(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\171213.b\03.D

Date : 13-DEC-2017 11:03

Client ID: DX-0.08

Instrument: SV5.i

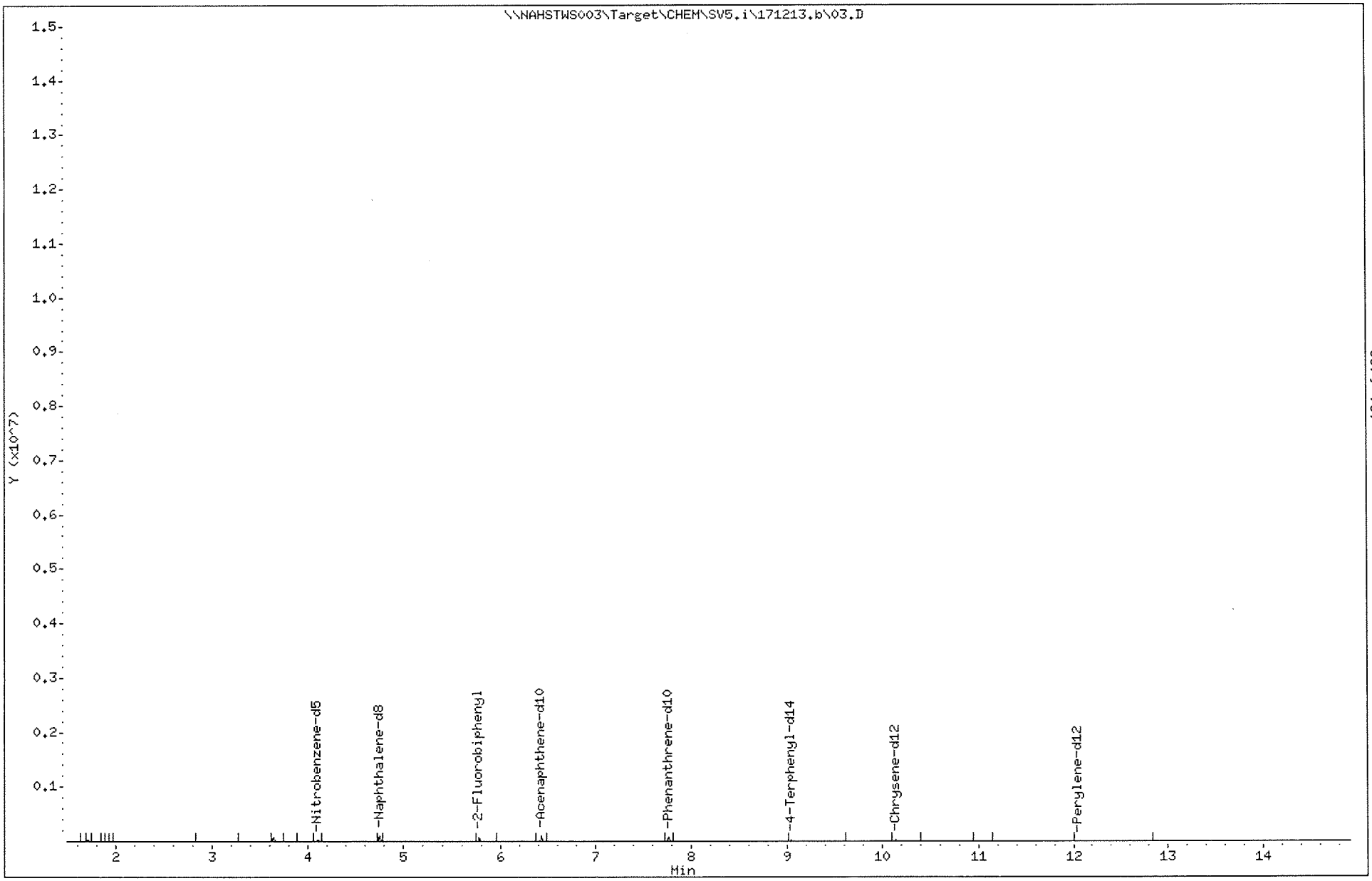
Sample Info: CCB;CCB

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\171213.b\05.D
Lab Smp Id: MBLK-123073 Client Smp ID: MBLK-123703
Inj Date : 13-DEC-2017 11:45 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : MBLK-123073;MBLK-123703;3;;BLANK
Misc Info : HS17120283;1;0;1
Comment :
Method : \\nahstws003\Target\chem\SV5.i\171213.b\DXSIM.m
Meth Date : 11-Jan-2018 17:20 SV5.i Quant Type: ISTD
Cal Date : 27-NOV-2017 19:22 Cal File: 09.D
Als bottle: 5 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)	FINAL (ug/L)
* 45 Naphthalene-d8	136	4.759	4.756	(1.000)	51692	0.10000	
$ 33 Nitrobenzene-d5	82	4.109	4.109	(0.863)	11786	0.04778	0.04778(M)
* 86 Acenaphthene-d10	164	6.437	6.437	(1.000)	24950	0.10000	
$ 69 2-Fluorobiphenyl	172	5.781	5.781	(0.898)	22659	0.10247	0.1025(M)
* 126 Phenanthrene-d10	188	7.774	7.774	(1.000)	33687	0.10000	
* 182 Chrysene-d12	240	10.142	10.142	(1.000)	14912	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.054	9.054	(0.893)	11099	0.08573	0.08573(M)
* 198 Perylene-d12	264	12.045	12.045	(1.000)	9248	0.10000	

QC Flag Legend

M - Compound response manually integrated.

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171213.b\05.D

Date : 13-DEC-2017 11:45

Client ID: MBLK-123703

Instrument: SV5.i

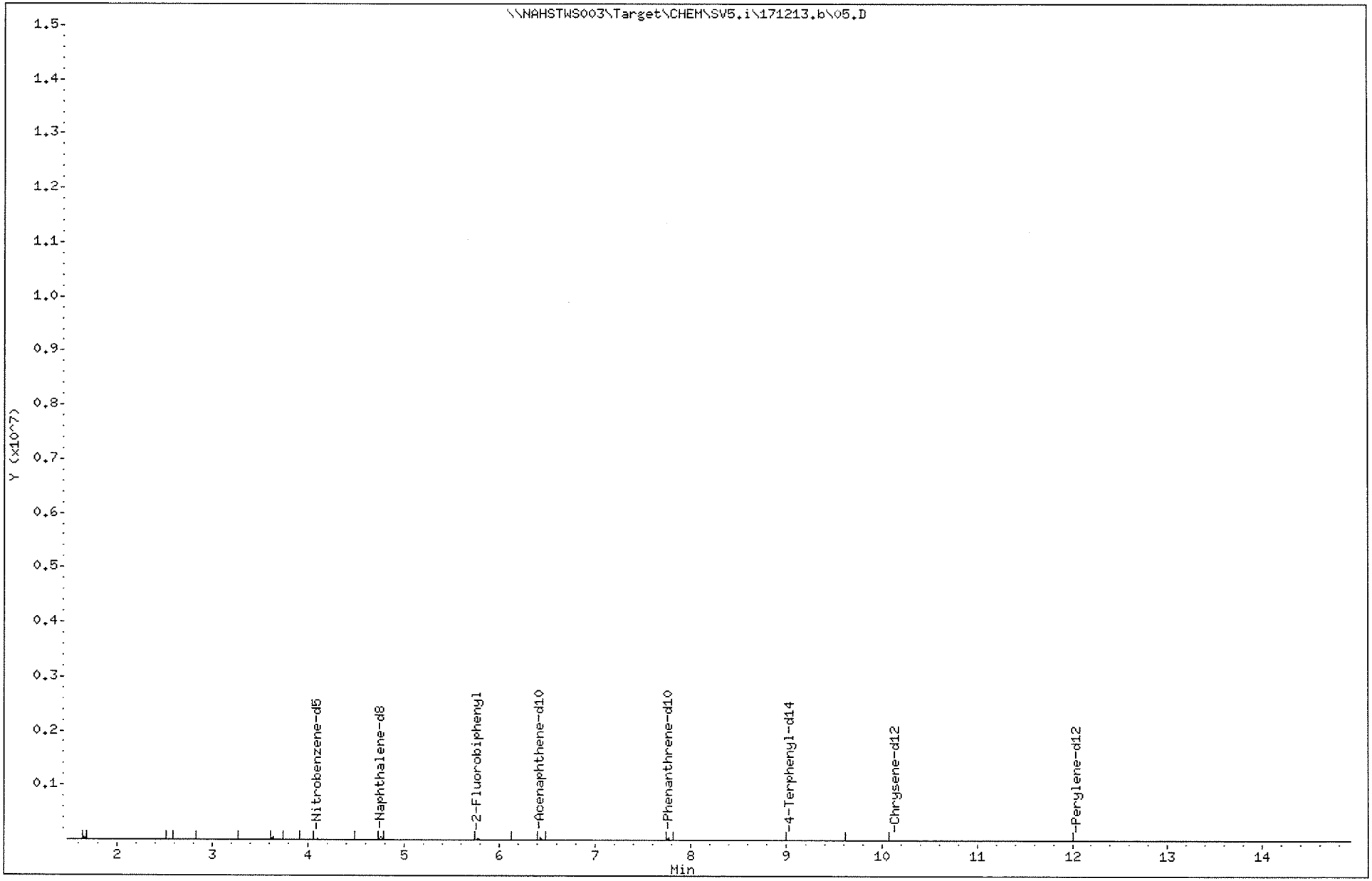
Sample Info: MBLK-123073;MBLK-123703;3;;BLANK

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\171213.b\06.D
Lab Smp Id: LCS-123073 Client Smp ID: LCS-123703
Inj Date : 13-DEC-2017 12:05 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : LCS-123073;LCS-123703;3;;LCS
Misc Info : HS17120283;1;0;1
Comment :
Method : \\nahstws003\Target\chem\SV5.i\171213.b\DXSIM.m
Meth Date : 11-Jan-2018 17:20 SV5.i Quant Type: ISTD
Cal Date : 27-NOV-2017 19:22 Cal File: 09.D
Als bottle: 6 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)	FINAL (ug/L)
* 45 Naphthalene-d8	136	4.756	4.756	(1.000)	68296	0.10000	
$ 33 Nitrobenzene-d5	82	4.109	4.109	(0.864)	17685	0.05427	0.05427(M)
* 86 Acenaphthene-d10	164	6.437	6.437	(1.000)	31478	0.10000	
$ 69 2-Fluorobiphenyl	172	5.781	5.781	(0.898)	32053	0.11489	0.1149(RM)
* 126 Phenanthrene-d10	188	7.774	7.774	(1.000)	44494	0.10000	
* 182 Chrysene-d12	240	10.142	10.142	(1.000)	17412	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.054	9.054	(0.893)	15722	0.10400	0.1040(M)
* 198 Perylene-d12	264	12.045	12.045	(1.000)	13142	0.10000	
1 1,4-Dioxane	58	1.970	1.952	(0.414)	4789	0.08463	0.08463(a)

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\171213.b\06.D

Date : 13-DEC-2017 12:05

Client ID: LCS-123703

Instrument: SV5.i

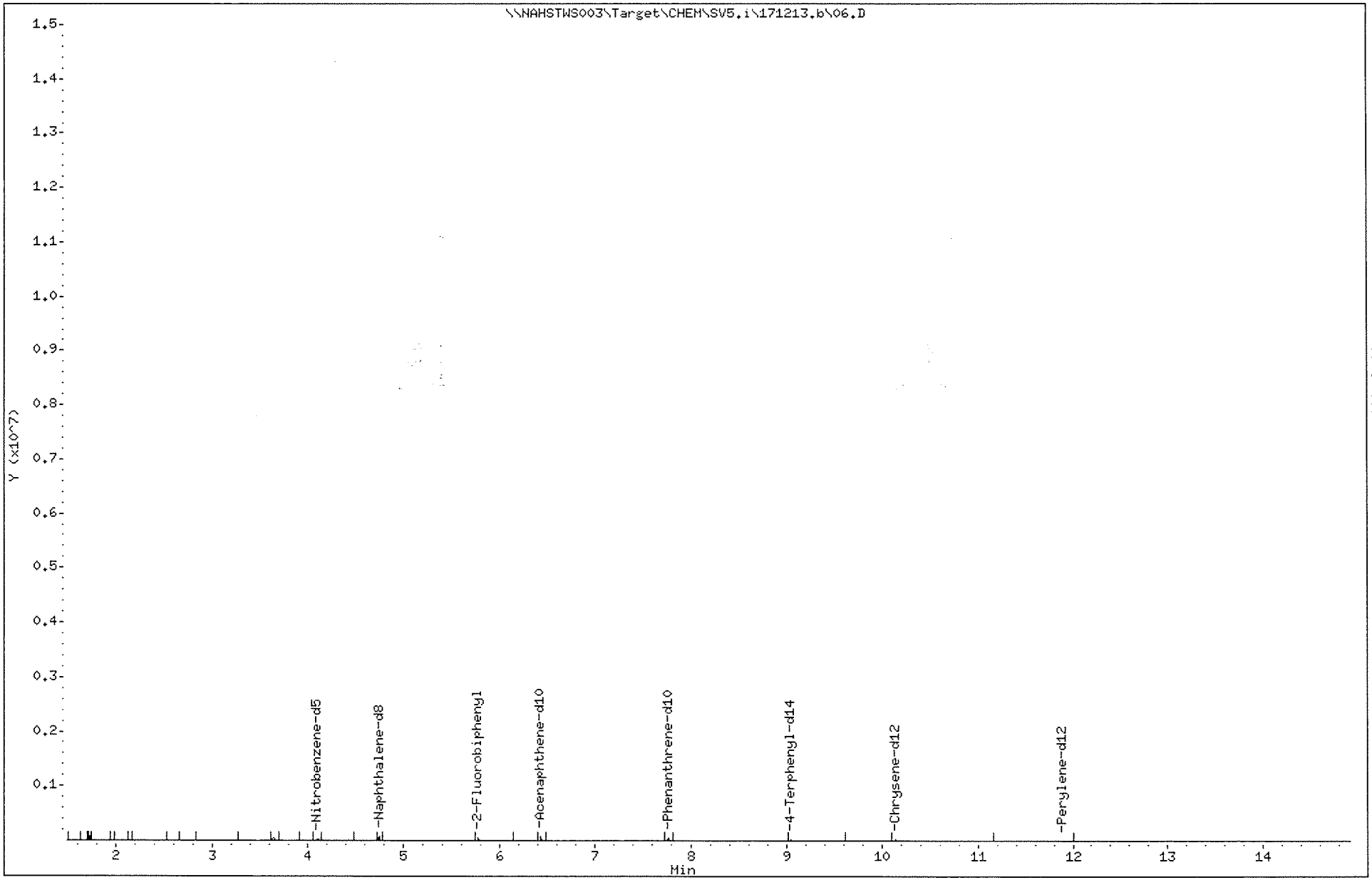
Sample Info: LCS-123073;LCS-123703;3;;LCS

Purge Volume: 1000.0

Operator: GY

Column phase: RTX-5SIL MS

Column diameter: 0.28



Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171213.b\15.D Page 1
Report Date: 11-Jan-2018 17:24

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\171213.b\15.D
Lab Smp Id: HS17120365-01 Client Smp ID: HS17120365-01
Inj Date : 13-DEC-2017 15:17 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : HS17120365-01;HS17120365-01
Misc Info : HS17120365;1;0;20
Comment :
Method : \\nahstws003\Target\chem\SV5.i\171213.b\DXSIM.m
Meth Date : 11-Jan-2018 17:20 SV5.i Quant Type: ISTD
Cal Date : 27-NOV-2017 19:22 Cal File: 09.D
Als bottle: 15
Dil Factor: 20.00000
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	20.000	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	4.759	4.756	(1.000)	44972	0.10000		(M)
$ 33 Nitrobenzene-d5	82	4.109	4.109	(0.863)	642	0.00299	0.05984	(M)
* 86 Acenaphthene-d10	164	6.437	6.437	(1.000)	18583	0.10000		(M)
$ 69 2-Fluorobiphenyl	172	5.781	5.781	(0.898)	874	0.00531	0.1061	(M)
* 126 Phenanthrene-d10	188	7.774	7.774	(1.000)	26564	0.10000		(M)
* 182 Chrysene-d12	240	10.142	10.142	(1.000)	14580	0.10000		(M)
$ 158 4-Terphenyl-d14	244	9.054	9.054	(0.893)	276	0.00218	0.04361	(M)
* 198 Perylene-d12	264	12.045	12.045	(1.000)	9204	0.10000		(M)
1 1,4-Dioxane	58	1.904	1.952	(0.400)	8834	0.23707	4.741	

QC Flag Legend

M - Compound response manually integrated.

Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171213.b\15.D

Date : 13-DEC-2017 15:17

Client ID: HS17120365-01

Instrument: SV5.i

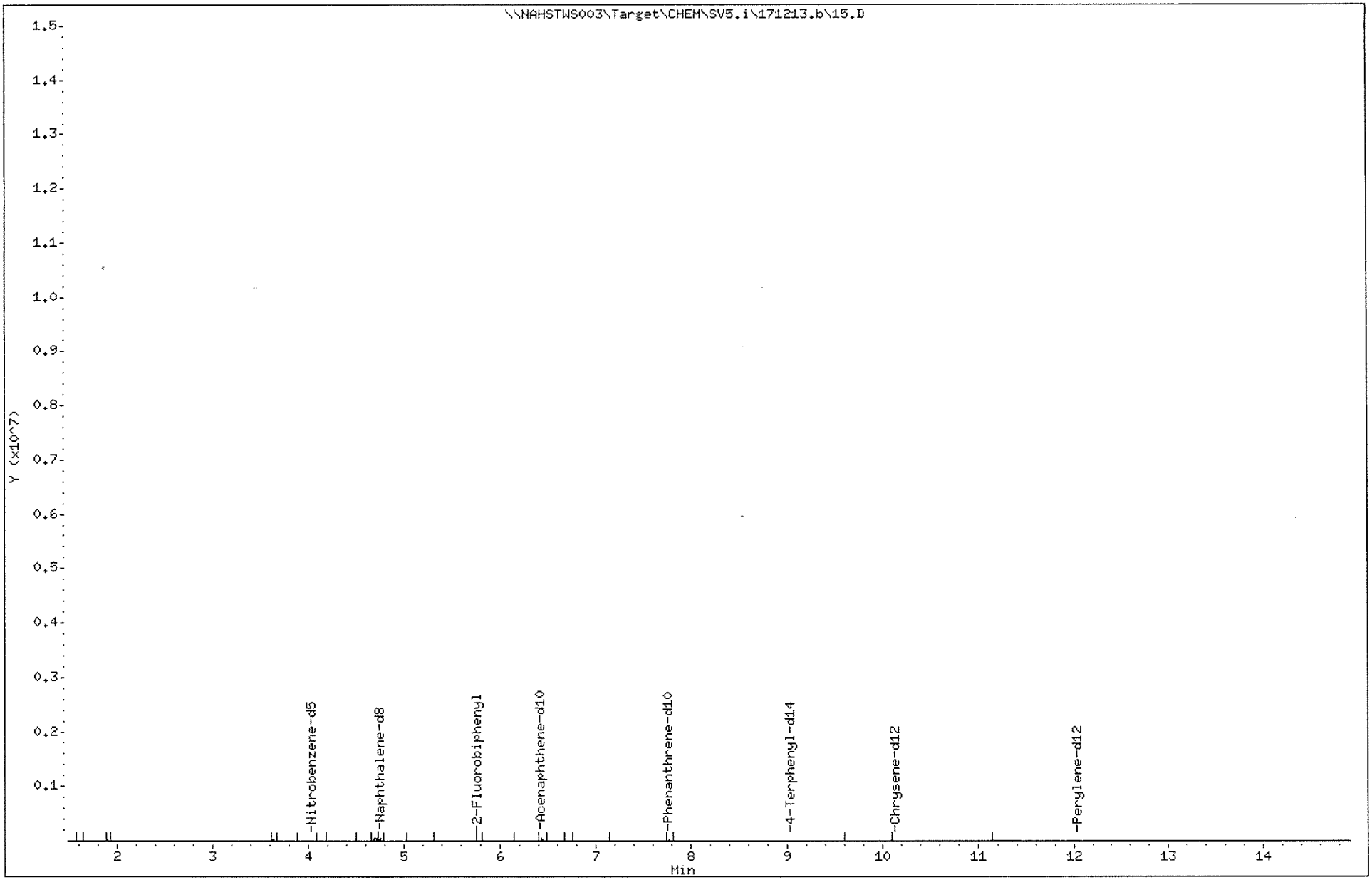
Sample Info: HS17120365-01;HS17120365-01

Purge Volume: 1000.0

Operator: GY

Column phase: RTX-5SIL MS

Column diameter: 0.28



Data File: \\NAHSTWS003\Target\CHEM\SV5.i\171213.b\15.D

Date : 13-DEC-2017 15:17

Client ID: HS17120365-01

Instrument: SV5.i

Sample Info: HS17120365-01;HS17120365-01

Purge Volume: 1000.0

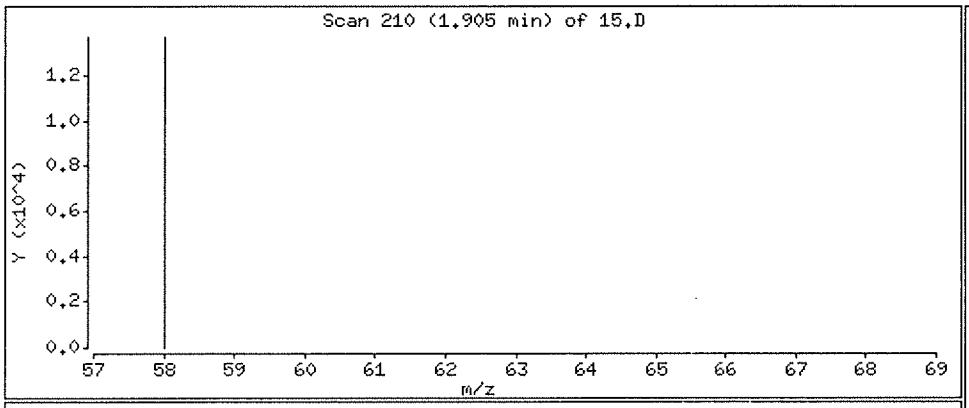
Operator: GY

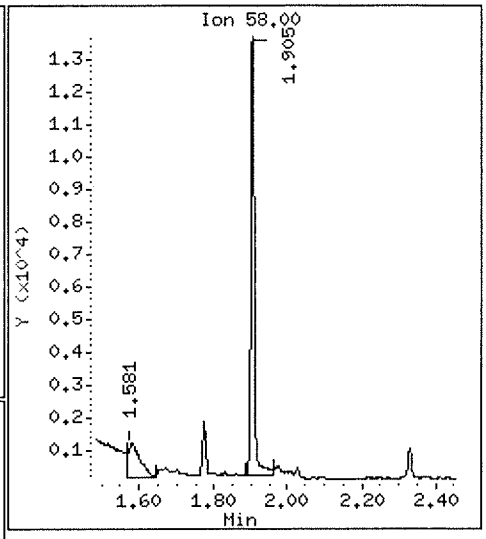
Column phase: RTX-5SIL MS

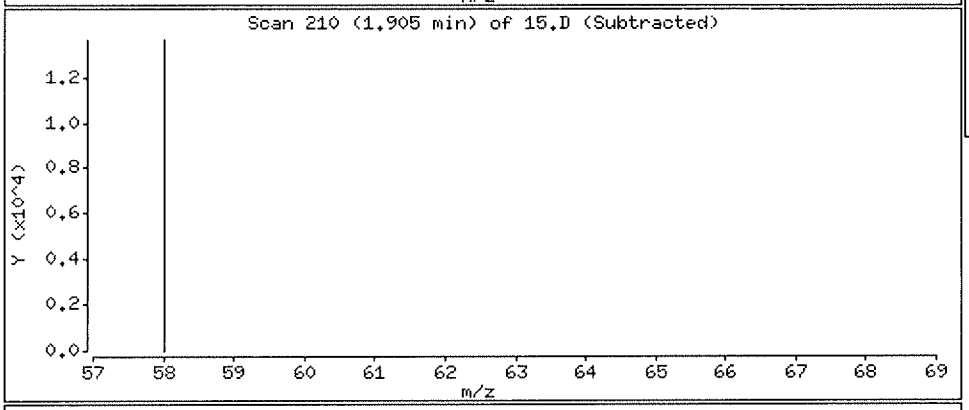
Column diameter: 0.28

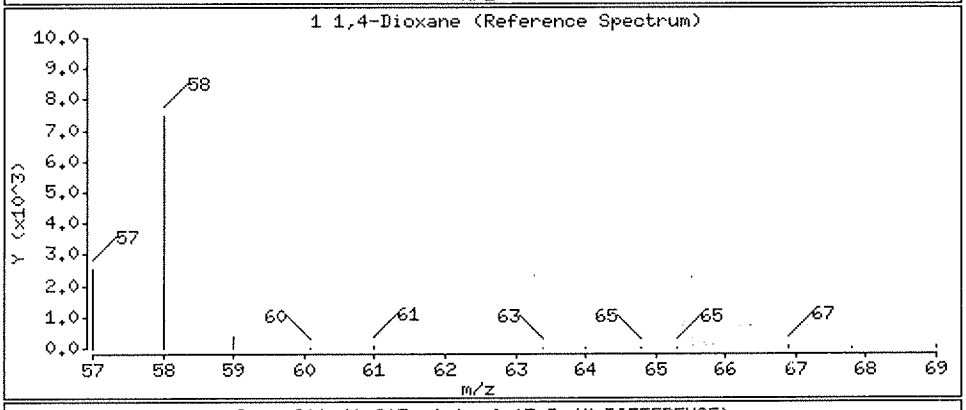
1 1,4-Dioxane

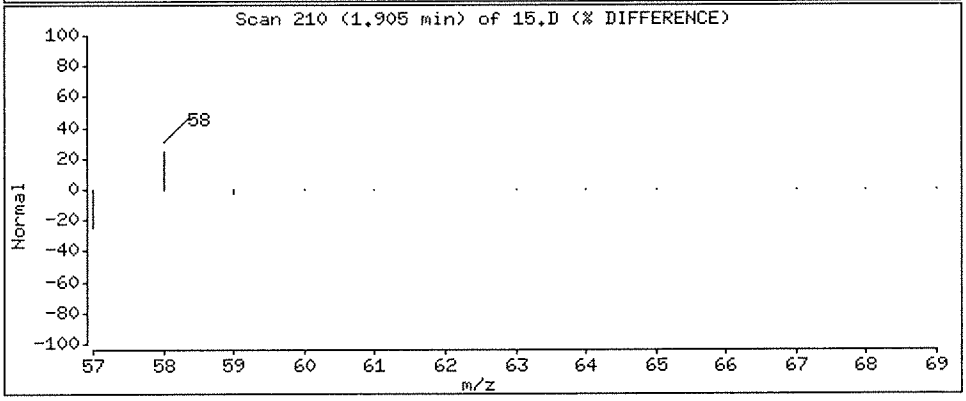
Concentration: 4.741 ug/L











ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS003\Target\CHEM\SV5.i\171213.b\16.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 13-DEC-2017 15:42 MS Autotune Date: 22-JUN-2005 09:10
Operator : GY Inst ID: SV5.i
Smp Info : CCV;CCV
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS003\Target\CHEM\SV5.i\171213.b\DXSIM.m
Meth Date : 11-Jan-2018 17:20 SV5.i Quant Type: ISTD
Cal Date : 27-NOV-2017 19:22 Cal File: 09.D
Als bottle: 16 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14DX.sub
Target Version: 4.14
Processing Host: NAHSTW7091

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	4.756	4.756	(1.000)	55439	0.10000	
$ 33 Nitrobenzene-d5	82	4.109	4.109	(0.864)	15719	0.05942	0.05942(M)
* 86 Acenaphthene-d10	164	6.437	6.437	(1.000)	28266	0.10000	
$ 69 2-Fluorobiphenyl	172	5.781	5.781	(0.898)	29293	0.11693	0.1169(RM)
* 126 Phenanthrene-d10	188	7.774	7.774	(1.000)	38234	0.10000	
* 182 Chrysene-d12	240	10.142	10.142	(1.000)	14062	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.054	9.054	(0.893)	13029	0.10672	0.1067(M)
* 198 Perylene-d12	264	12.045	12.045	(1.000)	8019	0.10000	
1 1,4-Dioxane	58	1.923	1.952	(0.404)	3850	0.08381	0.08381(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\171213.b\16.D

Date : 13-DEC-2017 15:42

Client ID: CCV

Instrument: SV5.i

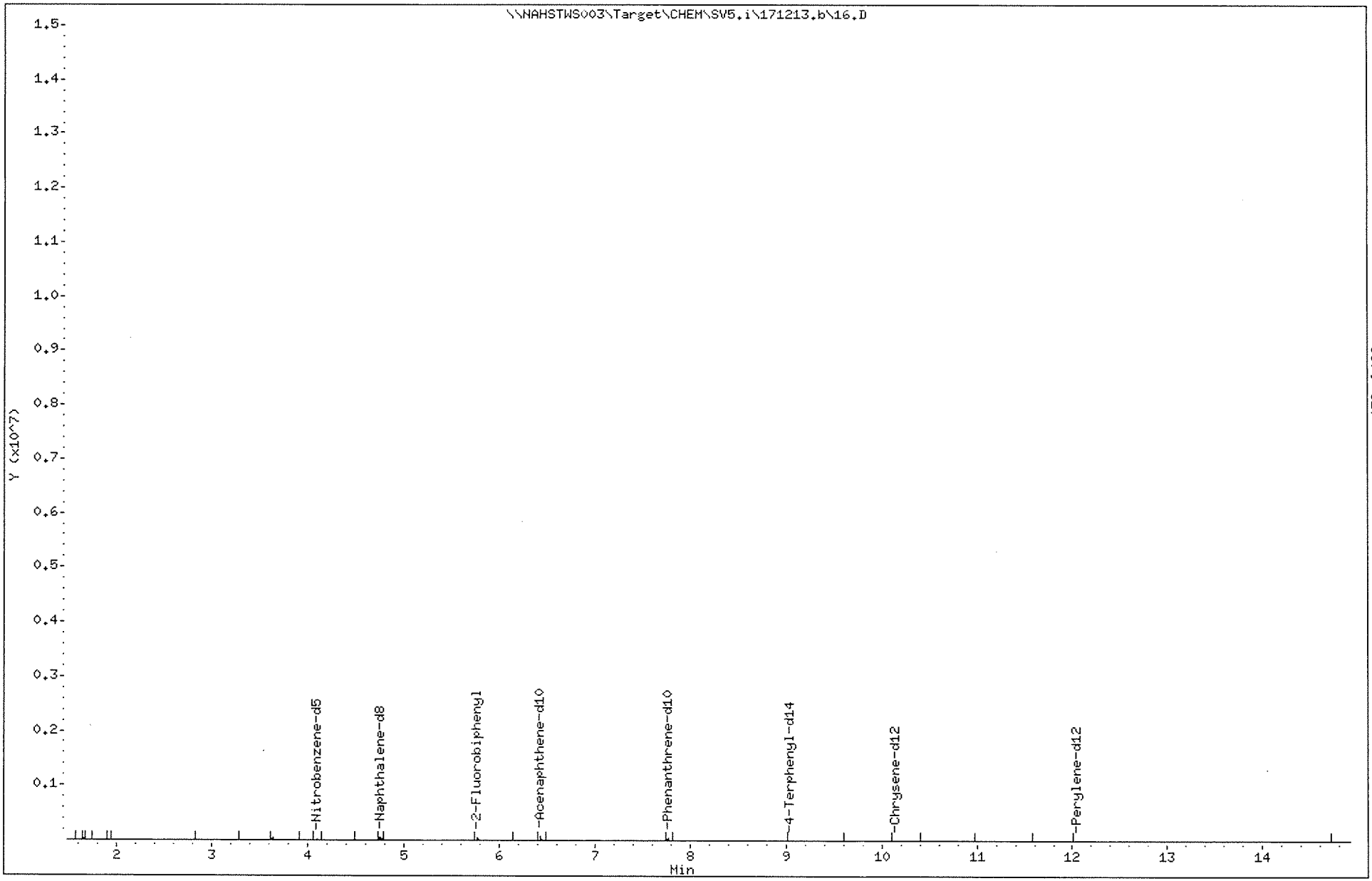
Sample Info: CCV;CCV

Purge Volume: 1000.0

Operator: GY

Column phase: RTX-5SIL MS

Column diameter: 0.28



PREP BATCH REPORT

Batch ID: **123073**
Prep Code: **3510_B_SIM**
InitSampWt/Vol 0
FinSampVol: 1
Start Date: **08-Dec-17 10:10 am**
End Date: **08-Dec-17 03:24 pm**
OriginalFac: 0.001
Technician: **Todi Lala**
PrepUnitFac: 1

SampID	Frac	Matrix	pH	Init Wt/Vol	FinalVol (mL)	PrepFac	SpkFac	Failsafe	TestDueDate	Comments
HS17120283-01	B	Groundwa	7	1000	1	0.001	1	12-11-17	12-13-17	ph adj 1/13
HS17120283-02	B	Groundwa	7	1000	1	0.001	1	12-11-17	12-13-17	ph adj 1/13
HS17120283-03	B	Groundwa	7	1000	1	0.001	1	12-11-17	12-13-17	ph adj 1/13
HS17120283-04	B	Groundwa	7	1000	1	0.001	1	12-11-17	12-13-17	ph adj 1/13
HS17120365-01	D	Water	7	1000	1	0.001	1	12-18-17	12-21-17	ph adj 1/13
HS17120283-03MS	A		7	990	1	0.00101	1.01			ph adj 1/13
HS17120283-03MSD	A		7	1000	1	0.001	1			ph adj 1/13
MBLK-123073	A		5	1000	1	0.001	1			ph adj 1/13
LCS-123073	A		5	1000	1	0.001	1			ph adj 1/13

Metals Raw Data

Bhate Environmental Associates, Inc.
Project: GROUNDWATER TREATMENT PLANT
MONTHLY EFFLUENT SAMPLES
ALS WO# HS17120365

ALS Group USA, Corp Date: 21-Dec-17

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc. Run ID: ICPMS05_307200
Project: Groundwater Treatment Plant Monthly Effluent Samples Instrument: ICPMS05
WorkOrder: HS17120365 Method: SW6020

ICV	Date: 14-Dec-2017 09:38		Seq: 4350726	ICV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	92.829	93	90-110	
Lead	100	98.075	98	90-110	
Selenium	100	98.782	99	90-110	
Silver	100	95.671	96	90-110	

CCV1	Date: 14-Dec-2017 10:00		Seq: 4350765	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	96.704	97	90-110	
Lead	100	102.062	102	90-110	
Selenium	100	96.098	96	90-110	
Silver	100	95.359	95	90-110	

CCV2	Date: 14-Dec-2017 10:25		Seq: 4351296	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	95.145	95	90-110	
Lead	100	97.78	98	90-110	
Selenium	100	100.282	100	90-110	
Silver	100	94.415	94	90-110	

CCV3	Date: 14-Dec-2017 10:55		Seq: 4351311	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	92.083	92	90-110	
Lead	100	94.887	95	90-110	
Selenium	100	98.054	98	90-110	
Silver	100	93.212	93	90-110	

CCV4	Date: 14-Dec-2017 11:56		Seq: 4351321	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	95.408	95	90-110	
Lead	100	96.462	97	90-110	
Selenium	100	95.932	96	90-110	
Silver	100	91.801	92	90-110	

CCV5	Date: 14-Dec-2017 12:20		Seq: 4351488	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	92.653	93	90-110	
Lead	100	99.744	100	90-110	
Selenium	100	100.672	101	90-110	
Silver	100	92.53	93	90-110	

CCV6	Date: 14-Dec-2017 12:44		Seq: 4351522	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	96.347	96	90-110	
Lead	100	97.372	97	90-110	
Selenium	100	100.75	101	90-110	
Silver	100	94.544	95	90-110	

CCV7	Date: 14-Dec-2017 13:08		Seq: 4351572	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	92.212	92	90-110	
Lead	100	102.452	102	90-110	
Selenium	100	96.491	97	90-110	
Silver	100	93.76	94	90-110	

CCV8	Date: 14-Dec-2017 13:32		Seq: 4351685	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	98.488	99	90-110	
ıd	100	104.144	104	90-110	

ALS Group USA, Corp

Date: 21-Dec-17

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365

Run ID: ICPMS05_307200
Instrument: ICPMS05
Method: SW6020

CCV8	Date: 14-Dec-2017 13:32		Seq: 4351685	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	102.624	103	90-110	
Silver	100	91.033	91	90-110	

CCV9	Date: 14-Dec-2017 13:56		Seq: 4351734	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	96.212	96	90-110	
Lead	100	96.399	96	90-110	
Selenium	100	99.388	99	90-110	
Silver	100	93.058	93	90-110	

CCV10	Date: 14-Dec-2017 14:20		Seq: 4351765	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	92.443	92	90-110	
Lead	100	102.944	103	90-110	
Selenium	100	98.204	98	90-110	
Silver	100	93.381	93	90-110	

CCV11	Date: 14-Dec-2017 14:45		Seq: 4351947	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	94.434	94	90-110	
Lead	100	103.752	104	90-110	
Selenium	100	94.161	94	90-110	
Silver	100	92.949	93	90-110	

CCV12	Date: 14-Dec-2017 15:09		Seq: 4352185	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	95.78	96	90-110	
Lead	100	99.005	99	90-110	
Selenium	100	96.797	97	90-110	
Silver	100	93.008	93	90-110	

CCV13	Date: 14-Dec-2017 15:33		Seq: 4352197	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	93.735	94	90-110	
Lead	100	108.266	108	90-110	
Selenium	100	95.79	96	90-110	
Silver	100	91.826	92	90-110	

CCV14	Date: 14-Dec-2017 15:57		Seq: 4352748	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	96.415	96	90-110	
Lead	100	102.137	102	90-110	
Selenium	100	100.05	100	90-110	
Silver	100	95.022	95	90-110	

CCV15	Date: 14-Dec-2017 16:21		Seq: 4352760	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	97.581	98	90-110	
Lead	100	94.635	95	90-110	
Selenium	100	94.858	95	90-110	
Silver	100	94.84	95	90-110	

CCV16	Date: 14-Dec-2017 16:45		Seq: 4352772	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	95.479	96	90-110	
Lead	100	102.272	102	90-110	
Selenium	100	92.988	93	90-110	
Silver	100	91.352	91	90-110	

ALS Group USA, Corp Date: 21-Dec-17

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365

Run ID: ICPMS05_307200
Instrument: ICPMS05
Method: SW6020

CCV17	Date: 14-Dec-2017 17:09		Seq: 4352784	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	95.46	96	90-110	
Lead	100	108.565	109	90-110	
Selenium	100	96.037	96	90-110	
Silver	100	93.699	94	90-110	

CCV18	Date: 14-Dec-2017 17:33		Seq: 4352796	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	95.557	96	90-110	
Lead	100	90.112	90	90-110	
Selenium	100	98.376	98	90-110	
Silver	100	93.919	94	90-110	

CCV19	Date: 14-Dec-2017 17:45		Seq: 4352802	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	95.334	95	90-110	
Lead	100	98.994	99	90-110	
Selenium	100	100.781	101	90-110	
Silver	100	95.156	95	90-110	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365

Run ID: ICPMS05_307200
Instrument: ICPMS05
Method: SW6020

ICB	Date: 14-Dec-2017 09:44		Seq: 4350729	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB1	Date: 14-Dec-2017 10:02		Seq: 4350766	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB2	Date: 14-Dec-2017 10:27		Seq: 4351297	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB3	Date: 14-Dec-2017 10:51		Seq: 4351309	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB4	Date: 14-Dec-2017 11:58		Seq: 4351322	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB5	Date: 14-Dec-2017 12:22		Seq: 4351489	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB6	Date: 14-Dec-2017 12:46		Seq: 4351523	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB7	Date: 14-Dec-2017 13:10		Seq: 4351573	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB8	Date: 14-Dec-2017 13:34		Seq: 4351686	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365

Run ID: ICPMS05_307200
Instrument: ICPMS05
Method: SW6020

CCB8	Date: 14-Dec-2017 13:34		Seq: 4351686	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB9	Date: 14-Dec-2017 13:58		Seq: 4351735	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

MBLK-123278	Date: 14-Dec-2017 14:00		Seq: 4351736	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB10	Date: 14-Dec-2017 14:22		Seq: 4351766	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB11	Date: 14-Dec-2017 14:47		Seq: 4351948	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB12	Date: 14-Dec-2017 15:11		Seq: 4352186	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB13	Date: 14-Dec-2017 15:35		Seq: 4352198	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB14	Date: 14-Dec-2017 15:59		Seq: 4352749	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB15	Date: 14-Dec-2017 16:23		Seq: 4352761	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365

Run ID: ICPMS05_307200
Instrument: ICPMS05
Method: SW6020

CCB15	Date: 14-Dec-2017 16:23		Seq: 4352761	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB16	Date: 14-Dec-2017 16:47		Seq: 4352773	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB17	Date: 14-Dec-2017 17:11		Seq: 4352785	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB18	Date: 14-Dec-2017 17:35		Seq: 4352797	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB19	Date: 14-Dec-2017 17:47		Seq: 4352803	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

ALS Group USA, Corp Date: 21-Dec-17

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc. Run ID:ICPMS05_307200

Project: Groundwater Treatment Plant Monthly Effluent Samples Instrument:ICPMS05

WorkOrder: HS17120365 Method:SW6020

ICSA	Date: 14-Dec-2017 09:46	Seq: 4350730	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Barium		-0.013	0	
Lead		0.108	0	
Selenium		-0.22	0	
Silver		0.019	0	
ICSAB	Date: 14-Dec-2017 09:48	Seq: 4350731	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Barium	100	90.95	91.0	
Lead	100	87.32	87.3	
Selenium	100	89.35	89.3	
Silver	100	80.95	81.0	
ICSA	Date: 14-Dec-2017 17:52	Seq: 4352806	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Barium		0.01	0	
Lead		0.081	0	
Selenium		0.41	0	
Silver		0.016	0	
ICSAB	Date: 14-Dec-2017 17:55	Seq: 4352807	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Barium	100	88.55	88.5	
Lead	100	86.98	87.0	
Selenium	100	86.1	86.1	
Silver	100	80.56	80.6	

ALS Group USA, Corp Date: 21-Dec-17

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365

Date Analyzed: 14-Dec-2017 14:14
Date Extracted: 13-Dec-2017 11:45
Units: ug/L

Matrix Spike: HS17120435-01MS
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Barium	927.4	1085	50.00	316	1075	50.00	295	80-120	0.969	20
Lead	0.6190	46.61	50.00	92.0	46.35	50.00	91.5	80-120	0.572	20
Selenium	2.000	45.24	50.00	90.2	44.06	50.00	87.8	80-120	2.66	20
Silver	2.000	41.74	50.00	83.5	41.86	50.00	83.7	80-120	0.287	20

ALS Group USA, Corp Date: 21-Dec-17

Form 5B - Post Digest Sample Recovery

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365

Date Analyzed: 14-Dec-2017 14:16
Date Extracted: 13-Dec-2017 11:45
Units: ug/L

Lab Sample ID: HS17120435-01PDS
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	PDS Result	Spike Amount	% Rec	% Rec Limits
Barium	927.4	1032	100	105	75-125
Lead	0.619	86.45	100	86	75-125
Selenium	0	90.18	100	90	75-125
Silver	0	78.49	100	79	75-125

ALS Group USA, Corp Date: 21-Dec-17

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365

Date Analyzed: 14-Dec-2017 14:02
Date Extracted: 13-Dec-2017 11:45
Units: ug/L

Lab Sample ID: LCS-123278 Analysis Method: SW6020

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Barium	50	42.95	86	80-120
Lead	50	48.85	98	80-120
Selenium	50	42.67	85	80-120
Silver	50	44.8	90	80-120

ALS Group USA, Corp

Date: 21-Dec-17

Form 8 - ICP Serial Dilutions

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365

Date Analyzed: 14-Dec-2017 14:10
Date Extracted: 13-Dec-2017 11:45
Units: ug/L

Lab Sample ID: HS17120435-01SD
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	C	SD Result	C	RPD	Q
Barium	927.4		859.9		7	
Lead	0.619	J	0	U	0	
Selenium	0	U	0	U	0	
Silver	0	U	0	U	0	

ALS Group USA, Corp Date: 21-Dec-17

Form 11 - INTERNAL STANDARD ASSOCIATION

Client: Bhate Environmental Associates, Inc. Instrument:ICPMS05
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365

Mass	Analyte	Assoc Int Standard 1	Assoc Int Standard 2	Mode
9	Beryllium	Lithium		Ar
11	Boron	Lithium		Ar
23	Sodium	Germanium		Ar
24	Magnesium	Germanium		Ar
27	Aluminum	Germanium		Ar
39	Potassium	Germanium		Ar
44	Calcium	Germanium		Ar
47	Titanium	Germanium		Ar
51	Vanadium	Germanium		ArHe
52	Chromium	Germanium		ArHe
55	Manganese	Germanium		ArHe
56	Iron	Germanium		ArHe
59	Cobalt	Germanium		ArHe
60	Nickel	Germanium		ArHe
63	Copper	Germanium		ArHe
66	Zinc	Germanium		ArHe
75	Arsenic	Germanium		ArHe
78	Selenium	Germanium		ArHe
88	Strontium	Germanium		Ar
95	Molybdenum	Germanium		Ar
105	Palladium	Germanium		Ar
107	Silver	Germanium		Ar
114	Cadmium	Indium		Ar
118	Tin	Germanium		Ar
121	Antimony	Germanium		ArHe
137	Barium	Indium		Ar
205	Thallium	Bismuth		Ar
208	Lead	Bismuth		Ar

ALS Group USA, Corp Date: 21-Dec-17

FORM 12 - PREPARATION LOG

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365
Start Date: 13-Dec-2017 11:45 End Date: 13-Dec-2017 15:30

Batch ID: 123278
Prep Code: 3010A
Method: SW3010A
Technician:

SampID	ClientID	Matrix	Init Wt	Init Vol	FinalVol (mL)	PrepFac
HS17120365-01	LH18/24-SP650_120617	Water		10	10	1
HS17120435-01MS				10	10	1
HS17120435-01MSD				10	10	1
HS17120435-01PDS				10	10	1
HS17120435-01SD				10	10	1
LCS-123278				10	10	1
MBLK-123278				10	10	1

ALS Group USA, Corp Date: 21-Dec-17

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365
Start Date: 14-Dec-2017 End Date: 14-Dec-2017

Run ID:ICPMS05_307200
Instrument:ICPMS05
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS05_307200_Tune	1	14-Dec-2017 00:00	ICPMS05_307200_Tune_1	
CAL BLK	1	14-Dec-2017 09:25	004CALB.d_4350719	AG BA PB SE
2/10/200	1	14-Dec-2017 09:27	005CALS.d_4350720	AG BA PB SE
5/25/500	1	14-Dec-2017 09:29	006CALS.d_4350721	AG BA PB SE
10/50/1000	1	14-Dec-2017 09:31	007CALS.d_4350722	AG BA PB SE
100/500/10K	1	14-Dec-2017 09:33	008CALS.d_4350723	AG BA PB SE
200/1000/20K	1	14-Dec-2017 09:34	009CALS.d_4350724	AG BA PB SE
ICV	1	14-Dec-2017 09:38	011_ICV.d_4350726	AG BA PB SE
LLICV2	1	14-Dec-2017 09:40	012SMPL.d_4350727	AG BA PB SE
LLICV5	1	14-Dec-2017 09:42	013LICV.d_4350728	AG BA PB SE
ICB	1	14-Dec-2017 09:44	014_ICB.d_4350729	AG BA PB SE
ICSA	1	14-Dec-2017 09:46	015ICSA.d_4350730	AG BA PB SE
ICSAB	1	14-Dec-2017 09:48	016ICSB.d_4350731	AG BA PB SE
CCV 1	1	14-Dec-2017 10:00	022_CCV.d_4350765	AG BA PB SE
CCB 1	1	14-Dec-2017 10:02	023_CCB.d_4350766	AG BA PB SE
CCV 2	1	14-Dec-2017 10:25	034_CCV.d_4351296	AG BA PB SE
CCB 2	1	14-Dec-2017 10:27	035_CCB.d_4351297	AG BA PB SE
CCB 3	1	14-Dec-2017 10:51	047_CCB.d_4351309	AG BA PB SE
CCV 3	1	14-Dec-2017 10:55	049_CCV.d_4351311	AG BA PB SE
CCV 4	1	14-Dec-2017 11:56	062_CCV.d_4351321	AG BA PB SE
CCB 4	1	14-Dec-2017 11:58	063_CCB.d_4351322	AG BA PB SE
CCV 5	1	14-Dec-2017 12:20	074_CCV.d_4351488	AG BA PB SE
CCB 5	1	14-Dec-2017 12:22	075_CCB.d_4351489	AG BA PB SE
CCV 6	1	14-Dec-2017 12:44	086_CCV.d_4351522	AG BA PB SE
CCB 6	1	14-Dec-2017 12:46	087_CCB.d_4351523	AG BA PB SE
CCV 7	1	14-Dec-2017 13:08	098_CCV.d_4351572	AG BA PB SE
CCB 7	1	14-Dec-2017 13:10	099_CCB.d_4351573	AG BA PB SE
CCV 8	1	14-Dec-2017 13:32	110_CCV.d_4351685	AG BA PB SE
CCB 8	1	14-Dec-2017 13:34	111_CCB.d_4351686	AG BA PB SE
CCV 9	1	14-Dec-2017 13:56	122_CCV.d_4351734	AG BA PB SE
CCB 9	1	14-Dec-2017 13:58	123_CCB.d_4351735	AG BA PB SE
MBLK-123278	1	14-Dec-2017 14:00	124SMPL.d_4351736	AG BA PB SE
LCS-123278	1	14-Dec-2017 14:02	125SMPL.d_4351737	AG BA PB SE
LH18/24-SP650_120617	1	14-Dec-2017 14:04	126SMPL.d_4351738	AG BA PB SE
ZZZZZZSD	5	14-Dec-2017 14:10	129SMPL.d_4351741	AG BA PB SE
ZZZZZZMS	1	14-Dec-2017 14:12	130SMPL.d_4351742	AG BA PB SE
ZZZZZZMSD	1	14-Dec-2017 14:14	131SMPL.d_4351743	AG BA PB SE
ZZZZZZPDS	1	14-Dec-2017 14:16	132SMPL.d_4351744	AG BA PB SE
CCV 10	1	14-Dec-2017 14:20	134_CCV.d_4351765	AG BA PB SE
CCB 10	1	14-Dec-2017 14:22	135_CCB.d_4351766	AG BA PB SE
CCV 11	1	14-Dec-2017 14:45	146_CCV.d_4351947	AG BA PB SE
CCB 11	1	14-Dec-2017 14:47	147_CCB.d_4351948	AG BA PB SE
CCV 12	1	14-Dec-2017 15:09	158_CCV.d_4352185	AG BA PB SE
CCB 12	1	14-Dec-2017 15:11	159_CCB.d_4352186	AG BA PB SE
CCV 13	1	14-Dec-2017 15:33	170_CCV.d_4352197	AG BA PB SE
CCB 13	1	14-Dec-2017 15:35	171_CCB.d_4352198	AG BA PB SE
CCV 14	1	14-Dec-2017 15:57	182_CCV.d_4352748	AG BA PB SE
CCB 14	1	14-Dec-2017 15:59	183_CCB.d_4352749	AG BA PB SE
CCV 15	1	14-Dec-2017 16:21	194_CCV.d_4352760	AG BA PB SE
CCB 15	1	14-Dec-2017 16:23	195_CCB.d_4352761	AG BA PB SE
CCV 16	1	14-Dec-2017 16:45	206_CCV.d_4352772	AG BA PB SE
CCB 16	1	14-Dec-2017 16:47	207_CCB.d_4352773	AG BA PB SE
CCV 17	1	14-Dec-2017 17:09	218_CCV.d_4352784	AG BA PB SE
17	1	14-Dec-2017 17:11	219_CCB.d_4352785	AG BA PB SE

ALS Group USA, Corp Date: 21-Dec-17

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Effluent Samples
WorkOrder: HS17120365
Start Date: 14-Dec-2017 End Date: 14-Dec-2017

Run ID:ICPMS05_307200
Instrument:ICPMS05
Method:

Sample No.	D/F	Time	FileID	Analytes
CCV 18	1	14-Dec-2017 17:33	230_CCV.d_4352796	AG BA PB SE
CCB 18	1	14-Dec-2017 17:35	231_CCB.d_4352797	AG BA PB SE
CCV 19	1	14-Dec-2017 17:45	236_CCV.d_4352802	AG BA PB SE
CCB 19	1	14-Dec-2017 17:47	237_CCB.d_4352803	AG BA PB SE
LLCCV5	1	14-Dec-2017 17:48	238LICV.d_4352804	AG BA PB SE
LLCCV2	1	14-Dec-2017 17:50	239SMPL.d_4352805	AG BA PB SE
ICSA	1	14-Dec-2017 17:52	240ICSA.d_4352806	AG BA PB SE
ICSAB	1	14-Dec-2017 17:55	241ICSB.d_4352807	AG BA PB SE

Tune Report

Batch Folder C:\Agilent\ICPMH\1\DATA\121417A.b
Report Comment
Instrument Name G3281A JP11080910

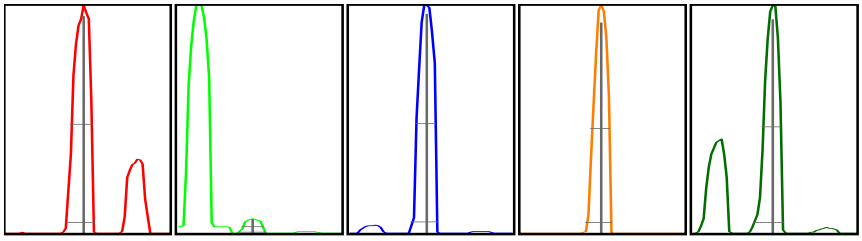
[nogas]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
9		8145				NaN	-	
24		28754				NaN	-	
59		41338				NaN	-	
115		53605				NaN	-	
208		35877				NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
9	1.23	5.00				
24	1.24	5.00				
59	1.28	5.00				
115	1.72	5.00				
208	0.79	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	8256	8240	8047	8132	8051
24	28736	28440	28788	29331	28476
59	41922	41820	41131	40655	41161
115	54944	53932	53334	52422	53392
208	36234	35829	36101	35585	35636

Integration Time [sec] 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
9	2143.21	8.95	8.9 - 9.1		0.39	0.492	0.750	
24	7708.53	23.90	23.9 - 24.1		0.37	0.488	0.750	
59	11601.69	58.95	58.9 - 59.1		0.37	0.461	0.750	
115	15962.57	115.00	114.9 - 115.1		0.33	0.468	0.750	
208	10231.30	208.00	207.9 - 208.1		0.34	0.526	0.750	

X = 5 **Integration Time [sec]** 0.1 **Acquisition Time [sec]** 168.5 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1600 W	Carrier Gas	0.35 L/min	S/C Temp	2 ℃
RF Matching	1.70 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.50 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	8.0 V	Deflect	15.6 V
Extract 2	-200.0 V	Cell Entrance	-38 V	Plate Bias	-50 V
Omega Bias	-100 V	Cell Exit	-58 V		

Cell Parameters

OctP Bias	-8.0 V	He Flow	0.0 mL/min	Energy Discrimination	5.0 V
OctP RF	190 V	H2 Flow	0.0 mL/min		
Use Gas	true	3rd Gas Flow	0 %		

[He]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
9		74				NaN	-	
24		600				NaN	-	
59		11332				NaN	-	

Tune Report

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
9	11.38	5.00	[F]			
24	1.99	5.00				
59	2.36	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	75	62	84	72	80
24	602	608	580	600	611
59	11036	11087	11382	11485	11668

Integration Time [sec] 0.1

Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
9	20.16	8.90	8.9 - 9.1		0.37	0.494	0.750	
24	165.05	23.90	23.9 - 24.1		0.38	0.481	0.750	
59	3326.34	58.95	58.9 - 59.1		0.34	0.443	0.750	

X = 5 **Integration Time [sec]** 0.1 **Acquisition Time [sec]** 100.6 **Y Axis** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.35 L/min	S/C Temp	2 ℃
RF Matching	1.70 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.50 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	8.0 V	Deflect	2.0 V
Extract 2	-200.0 V	Cell Entrance	-32 V	Plate Bias	-60 V
Omega Bias	-100 V	Cell Exit	-70 V		

Cell Parameters

OctP Bias	-18.0 V	He Flow	5.5 mL/min	Energy Discrimination	5.0 V
OctP RF	190 V	H2 Flow	0.0 mL/min		
Use Gas	true	3rd Gas Flow	0 %		

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	004CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T09:25:04-06:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	27	532.40
Na	23	1	nogas	1681525	0.00
Mg	24	1	nogas	7603	0.28
Al	27	1	nogas	16297	0.04
K	39	1	nogas	4653435	0.00
Ti	47	1	nogas	343	9.07
V	51	1	nogas	1661966	0.00
Cr	52	1	nogas	43184	0.01
Mn	55	1	nogas	11067	0.04
Co	59	1	nogas	513	3.61
Ni	60	1	nogas	2143	0.40
Cu	63	1	nogas	4697	0.06
Zn	66	1	nogas	1200	0.62
As	75	1	nogas	245399	0.00
Sr	88	1	nogas	2207	0.13
Ag	107	1	nogas	517	2.29
Cd	111	1	nogas	30	293.97
Sb	121	1	nogas	1097	0.41
Tl	205	1	nogas	170	12.48
Pb	208	1	nogas	580	1.57
[Pb]	206	1	nogas	180	17.19
[Pb]	207	1	nogas	157	6.22
Na	23	2	He	49936	0.01
Mg	24	2	He	373	9.14
Al	27	2	He	63	28.79
K	39	2	He	12561	0.04
Ca	43	2	He	13	859.23
Ca	44	2	He	167	21.70
V	51	2	He	1145	0.60
Cr	52	2	He	1697	0.27
Mn	55	2	He	283	8.01
Fe	56	2	He	13612	0.03
Co	59	2	He	60	121.08
Ni	60	2	He	343	5.65
Cu	63	2	He	883	1.54
Zn	66	2	He	137	12.36
As	75	2	He	50	26.68
Se	78	2	He	3	1623.80
B	11	1	nogas	35871	0.00
Si	28	1	nogas	875903	0.00
Ca	43	1	nogas	637	2.59
Ca	44	1	nogas	170807	0.00

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	1044651	0.00
Se	77	1	nogas	81995	0.01
Se	82	1	nogas	500	2.88
Mo	95	1	nogas	290	10.30
Sn	118	1	nogas	1683	0.95
Ba	137	1	nogas	490	3.70
Sb	121	2	He	120	18.37
Li	7	1	nogas	28819	0.02
P	31	1	nogas	58086	0.00
La	139	1	nogas	57	64.83

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	6	1	nogas	317621	0.77
Ge	72	1	nogas	1478633	1.97
In	115	1	nogas	1539303	2.92
Bi	209	1	nogas	1532165	2.24
Ge	72	2	He	126743	2.07

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	005CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T09:27:03-06:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	5568	0.07
Na	23	1	nogas	3788459	0.00
Mg	24	1	nogas	1562348	0.00
Al	27	1	nogas	32246	0.01
K	39	1	nogas	6407989	0.00
Ti	47	1	nogas	2064	0.41
V	51	1	nogas	1768997	0.00
Cr	52	1	nogas	66336	0.01
Mn	55	1	nogas	39012	0.01
Co	59	1	nogas	26570	0.01
Ni	60	1	nogas	7952	0.01
Cu	63	1	nogas	18633	0.01
Zn	66	1	nogas	6208	0.04
As	75	1	nogas	256295	0.00
Sr	88	1	nogas	33882	0.00
Ag	107	1	nogas	18640	0.01
Cd	111	1	nogas	3897	0.10
Sb	121	1	nogas	18123	0.00
Tl	205	1	nogas	32693	0.01
Pb	208	1	nogas	45489	0.00
[Pb]	206	1	nogas	11197	0.02
[Pb]	207	1	nogas	10437	0.02
Na	23	2	He	96667	0.00
Mg	24	2	He	23575	0.02
Al	27	2	He	117	29.69
K	39	2	He	24997	0.01
Ca	43	2	He	70	35.35
Ca	44	2	He	913	0.91
V	51	2	He	3797	0.08
Cr	52	2	He	5044	0.06
Mn	55	2	He	1537	0.37
Fe	56	2	He	274672	0.00
Co	59	2	He	6181	0.10
Ni	60	2	He	1963	0.31
Cu	63	2	He	5741	0.07
Zn	66	2	He	800	2.11
As	75	2	He	473	2.58
Se	78	2	He	18	61.73
B	11	1	nogas	50775	0.00
Si	28	1	nogas	1444928	0.00

Calibration Standard Report

Ca	43	1	nogas	4354	0.02
Ca	44	1	nogas	224818	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	3788244	0.00
Se	77	1	nogas	83404	0.01
Se	82	1	nogas	700	1.24
Mo	95	1	nogas	6875	0.08
Sn	118	1	nogas	11954	0.02
Ba	137	1	nogas	5354	0.12
Sb	121	2	He	2284	0.28
P	31	1	nogas	63182	0.00
La	139	1	nogas	63	38.08

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	314356	1.57	317621	98.97	70	125	
Ge	72	1	nogas	1429390	0.10	1478633	96.67	70	125	
In	115	1	nogas	1523832	1.49	1539303	98.99	70	125	
Bi	209	1	nogas	1524242	0.70	1532165	99.48	70	125	
Ge	72	2	He	126043	1.35	126743	99.45	70	125	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	006CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T09:29:02-06:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	12304	0.08
Na	23	1	nogas	7038279	0.00
Mg	24	1	nogas	3918088	0.00
Al	27	1	nogas	69308	0.00
K	39	1	nogas	8960287	0.00
Ti	47	1	nogas	4811	0.03
V	51	1	nogas	1981813	0.00
Cr	52	1	nogas	108983	0.00
Mn	55	1	nogas	86410	0.00
Co	59	1	nogas	65819	0.00
Ni	60	1	nogas	16798	0.02
Cu	63	1	nogas	40786	0.00
Zn	66	1	nogas	13225	0.01
As	75	1	nogas	287711	0.00
Sr	88	1	nogas	82888	0.00
Ag	107	1	nogas	47635	0.00
Cd	111	1	nogas	10016	0.03
Sb	121	1	nogas	45276	0.00
Tl	205	1	nogas	79408	0.00
Pb	208	1	nogas	114768	0.00
[Pb]	206	1	nogas	27844	0.00
[Pb]	207	1	nogas	25253	0.01
Na	23	2	He	170698	0.00
Mg	24	2	He	59313	0.00
Al	27	2	He	307	9.88
K	39	2	He	43153	0.01
Ca	43	2	He	113	11.89
Ca	44	2	He	2144	0.35
V	51	2	He	7922	0.03
Cr	52	2	He	10196	0.01
Mn	55	2	He	3844	0.14
Fe	56	2	He	683621	0.00
Co	59	2	He	15340	0.01
Ni	60	2	He	4564	0.13
Cu	63	2	He	12751	0.03
Zn	66	2	He	2000	0.42
As	75	2	He	1363	0.62
Se	78	2	He	63	10.38
B	11	1	nogas	72077	0.00
Si	28	1	nogas	2165356	0.00

Calibration Standard Report

Ca	43	1	nogas	9659	0.02
Ca	44	1	nogas	309879	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	7969533	0.00
Se	77	1	nogas	92189	0.00
Se	82	1	nogas	1117	0.26
Mo	95	1	nogas	17179	0.01
Sn	118	1	nogas	27606	0.00
Ba	137	1	nogas	13569	0.02
Sb	121	2	He	5674	0.10
P	31	1	nogas	74547	0.00
La	139	1	nogas	50	105.83

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	314702	1.81	317621	99.08	70	125	
Ge	72	1	nogas	1456757	1.87	1478633	98.52	70	125	
In	115	1	nogas	1567267	1.55	1539303	101.82	70	125	
Bi	209	1	nogas	1525031	2.04	1532165	99.53	70	125	
Ge	72	2	He	128375	2.90	126743	101.29	70	125	

Calibration Standard Report

Sample Table

Sample Name	10/50/1000
Data File Name	007CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T09:31:01-06:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	25698	0.02
Na	23	1	nogas	13100336	0.00
Mg	24	1	nogas	8124185	0.00
Al	27	1	nogas	133878	0.00
K	39	1	nogas	13450004	0.00
Ti	47	1	nogas	9696	0.03
V	51	1	nogas	2121200	0.00
Cr	52	1	nogas	169880	0.00
Mn	55	1	nogas	164307	0.00
Co	59	1	nogas	137138	0.00
Ni	60	1	nogas	32272	0.01
Cu	63	1	nogas	80269	0.00
Zn	66	1	nogas	24867	0.01
As	75	1	nogas	318098	0.00
Sr	88	1	nogas	170185	0.00
Ag	107	1	nogas	100553	0.00
Cd	111	1	nogas	19601	0.01
Sb	121	1	nogas	89673	0.00
Tl	205	1	nogas	166180	0.00
Pb	208	1	nogas	236098	0.00
[Pb]	206	1	nogas	56679	0.00
[Pb]	207	1	nogas	52903	0.00
Na	23	2	He	300081	0.00
Mg	24	2	He	122133	0.00
Al	27	2	He	473	2.20
K	39	2	He	77571	0.00
Ca	43	2	He	237	3.72
Ca	44	2	He	4187	0.08
V	51	2	He	14758	0.02
Cr	52	2	He	19831	0.02
Mn	55	2	He	7725	0.07
Fe	56	2	He	1486213	0.00
Co	59	2	He	31935	0.01
Ni	60	2	He	8716	0.04
Cu	63	2	He	25051	0.02
Zn	66	2	He	3967	0.21
As	75	2	He	2602	0.13
Se	78	2	He	105	26.57
B	11	1	nogas	112053	0.00
Si	28	1	nogas	3340532	0.00

Calibration Standard Report

Ca	43	1	nogas	19000	0.00
Ca	44	1	nogas	463147	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	15324405	0.00
Se	77	1	nogas	97822	0.00
Se	82	1	nogas	1787	0.32
Mo	95	1	nogas	34794	0.00
Sn	118	1	nogas	54930	0.00
Ba	137	1	nogas	26461	0.02
Sb	121	2	He	11891	0.03
P	31	1	nogas	93122	0.00
La	139	1	nogas	47	185.58

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	308454	1.72	317621	97.11	70	125	
Ge	72	1	nogas	1433648	1.92	1478633	96.96	70	125	
In	115	1	nogas	1564080	1.46	1539303	101.61	70	125	
Bi	209	1	nogas	1491384	2.00	1532165	97.34	70	125	
Ge	72	2	He	131572	3.87	126743	103.81	70	125	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	008CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T09:33:00-06:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	241385	0.00
Na	23	1	nogas	107708948	0.00
Mg	24	1	nogas	74627545	0.00
Al	27	1	nogas	938706	0.00
K	39	1	nogas	86160796	0.00
Ti	47	1	nogas	86837	0.00
V	51	1	nogas	2932660	0.00
Cr	52	1	nogas	1178599	0.00
Mn	55	1	nogas	1452202	0.00
Co	59	1	nogas	1236028	0.00
Ni	60	1	nogas	278608	0.00
Cu	63	1	nogas	687717	0.00
Zn	66	1	nogas	226176	0.00
As	75	1	nogas	493791	0.00
Sr	88	1	nogas	1515556	0.00
Ag	107	1	nogas	900779	0.00
Cd	111	1	nogas	188144	0.00
Sb	121	1	nogas	795473	0.00
Tl	205	1	nogas	1562776	0.00
Pb	208	1	nogas	2193726	0.00
[Pb]	206	1	nogas	537976	0.00
[Pb]	207	1	nogas	489719	0.00
Na	23	2	He	2334400	0.00
Mg	24	2	He	1132790	0.00
Al	27	2	He	3117	0.21
K	39	2	He	603596	0.00
Ca	43	2	He	2013	0.29
Ca	44	2	He	34218	0.00
V	51	2	He	128032	0.00
Cr	52	2	He	169465	0.00
Mn	55	2	He	68765	0.00
Fe	56	2	He	13196361	0.00
Co	59	2	He	286034	0.00
Ni	60	2	He	80869	0.00
Cu	63	2	He	226628	0.00
Zn	66	2	He	34386	0.00
As	75	2	He	24137	0.01
Se	78	2	He	963	0.26
B	11	1	nogas	804314	0.00
Si	28	1	nogas	22069426	0.00

Calibration Standard Report

Ca	43	1	nogas	167831	0.00
Ca	44	1	nogas	2869964	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	133382386	0.00
Se	77	1	nogas	93666	0.00
Se	82	1	nogas	13288	0.02
Mo	95	1	nogas	324785	0.00
Sn	118	1	nogas	502090	0.00
Ba	137	1	nogas	248985	0.00
Sb	121	2	He	102620	0.00
P	31	1	nogas	357240	0.00
La	139	1	nogas	323	3.07

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	288108	3.96	317621	90.71	70	125	
Ge	72	1	nogas	1509166	0.54	1478633	102.06	70	125	
In	115	1	nogas	1546521	3.05	1539303	100.47	70	125	
Bi	209	1	nogas	1464629	1.56	1532165	95.59	70	125	
Ge	72	2	He	129227	1.09	126743	101.96	70	125	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	009CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T09:34:57-06:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	495882	0.00
Na	23	1	nogas	222142805	0.00
Mg	24	1	nogas	152520591	0.00
Al	27	1	nogas	1946534	0.00
K	39	1	nogas	175299246	0.00
Ti	47	1	nogas	180845	0.00
V	51	1	nogas	4470534	0.00
Cr	52	1	nogas	2366920	0.00
Mn	55	1	nogas	2843023	0.00
Co	59	1	nogas	2578233	0.00
Ni	60	1	nogas	561996	0.00
Cu	63	1	nogas	1369562	0.00
Zn	66	1	nogas	441808	0.00
As	75	1	nogas	815251	0.00
Sr	88	1	nogas	3110234	0.00
Ag	107	1	nogas	1821791	0.00
Cd	111	1	nogas	374776	0.00
Sb	121	1	nogas	1739209	0.00
Tl	205	1	nogas	3118204	0.00
Pb	208	1	nogas	4508172	0.00
[Pb]	206	1	nogas	1084880	0.00
[Pb]	207	1	nogas	988690	0.00
Na	23	2	He	4642055	0.00
Mg	24	2	He	2233252	0.00
Al	27	2	He	6865	0.10
K	39	2	He	1205454	0.00
Ca	43	2	He	4021	0.06
Ca	44	2	He	72130	0.00
V	51	2	He	261168	0.00
Cr	52	2	He	337453	0.00
Mn	55	2	He	137388	0.00
Fe	56	2	He	27225255	0.00
Co	59	2	He	586439	0.00
Ni	60	2	He	164201	0.00
Cu	63	2	He	451593	0.00
Zn	66	2	He	69389	0.00
As	75	2	He	49204	0.00
Se	78	2	He	1877	0.42
B	11	1	nogas	1680374	0.00
Si	28	1	nogas	42718266	0.00

Calibration Standard Report

Ca	43	1	nogas	341699	0.00
Ca	44	1	nogas	5588725	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	269489864	0.00
Se	77	1	nogas	126268	0.00
Se	82	1	nogas	26750	0.01
Mo	95	1	nogas	674069	0.00
Sn	118	1	nogas	1044404	0.00
Ba	137	1	nogas	502786	0.00
Sb	121	2	He	219648	0.00
P	31	1	nogas	679234	0.00
La	139	1	nogas	537	2.70

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	247473	1.70	317621	77.91	70	125	
Ge	72	1	nogas	1400017	3.57	1478633	94.68	70	125	
In	115	1	nogas	1492961	2.66	1539303	96.99	70	125	
Bi	209	1	nogas	1383536	4.86	1532165	90.30	70	125	
Ge	72	2	He	123925	0.57	126743	97.78	70	125	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	011_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T09:38:56-06:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	98.504	2.524	237665	1.31	100	98.5	90	110	
Na	23	1	nogas	9330.443	3.960	106185654	1.44	10000	93.3	90	110	
Mg	24	1	nogas	9438.250	1.054	73389108	1.47	10000	94.4	90	110	
Al	27	1	nogas	92.147	2.159	924353	1.35	100	92.1	90	110	
K	39	1	nogas	9591.966	3.307	88153112	2.18	10000	95.9	90	110	
Ti	47	1	nogas	92.566	2.992	85596	2.46	100	92.6	90	110	
V	51	1	nogas	78.482	6.277	2787027	1.67	100	78.5	90	110	ICV Main CR1 Failed
Cr	52	1	nogas	92.400	5.476	1143583	4.37	100	92.4	90	110	
Mn	55	1	nogas	98.129	3.371	1445498	2.67	100	98.1	90	110	
Co	59	1	nogas	96.429	2.413	1268828	1.49	100	96.4	90	110	
Ni	60	1	nogas	97.683	1.704	282063	1.29	100	97.7	90	110	
Cu	63	1	nogas	98.945	2.115	699395	1.73	100	98.9	90	110	
Zn	66	1	nogas	98.263	1.738	224528	1.08	100	98.3	90	110	
As	75	1	nogas	76.512	9.186	474219	3.23	100	76.5	90	110	ICV Main CR1 Failed
Sr	88	1	nogas	98.631	2.181	1571491	1.53	100	98.6	90	110	
Ag	107	1	nogas	95.671	2.728	894568	1.81	100	95.7	90	110	
Cd	111	1	nogas	95.347	1.846	189117	1.91	100	95.3	90	110	
Sb	121	1	nogas	92.339	0.637	813855	0.56	100	92.3	90	110	
Tl	205	1	nogas	95.995	2.608	1568145	4.39	100	96.0	90	110	
Pb	208	1	nogas	98.075	1.112	2199335	1.11	100	98.1	90	110	
U	238	1	nogas	99.222	4.556	2291659	2.86	100	99.2	90	110	
[Pb]	206	1	nogas	94.207	1.474	534061	2.71	100	94.2	90	110	
[Pb]	207	1	nogas	93.852	0.916	484638	1.41	100	93.9	90	110	
Na	23	2	He	9960.471	1.233	2372013	0.43	10000	99.6	90	110	
Mg	24	2	He	9806.424	2.925	1115942	2.02	10000	98.1	90	110	
Al	27	2	He	98.424	5.521	3390	4.96	100	98.4	90	110	
K	39	2	He	9805.693	0.879	596474	0.86	10000	98.1	90	110	
Ca	43	2	He	10964.534	6.690	2247	7.92	10000	109.6	90	110	
Ca	44	2	He	9715.189	1.336	35327	1.53	10000	97.2	90	110	
V	51	2	He	96.558	2.110	127787	0.86	100	96.6	90	110	
Cr	52	2	He	97.493	2.888	167985	1.71	100	97.5	90	110	
Mn	55	2	He	97.512	2.062	68220	3.07	100	97.5	90	110	
Fe	56	2	He	9436.975	1.260	12982246	0.48	10000	94.4	90	110	
Co	59	2	He	95.884	1.855	284376	1.29	100	95.9	90	110	
Ni	60	2	He	97.802	1.063	81297	1.81	100	97.8	90	110	
Cu	63	2	He	100.166	1.780	230116	1.50	100	100.2	90	110	
Zn	66	2	He	99.132	1.336	34900	0.41	100	99.1	90	110	
As	75	2	He	96.805	0.950	24134	0.85	100	96.8	90	110	
Se	78	2	He	94.461	2.416	907	1.27	100	94.5	90	110	
B	11	1	nogas	507.728	2.318	816032	0.39	500	101.5	90	110	
Si	28	1	nogas	4899.042	1.342	22030686	0.48	5000	98.0	90	110	
Ca	43	1	nogas	9791.479	1.415	171782	1.15	10000	97.9	90	110	
Ca	44	1	nogas	9736.975	1.338	2883961	1.71	10000	97.4	90	110	
Fe	56	1	nogas	9561.991	5.075	132749974	4.24	10000	95.6	90	110	
Se	77	1	nogas	36.959	49.720	89328	3.74	100	37.0	90	110	ICV Main CR1 Failed
Se	82	1	nogas	98.782	2.502	13779	1.89	100	98.8	90	110	
Mo	95	1	nogas	95.577	0.948	329324	0.67	100	95.6	90	110	
Sn	118	1	nogas	95.100	1.590	521911	1.95	100	95.1	90	110	
Ba	137	1	nogas	92.829	1.654	246648	2.20	100	92.8	90	110	
Sb	121	2	He	95.253	0.980	105011	0.71	100	95.3	90	110	
Li	7	1	nogas	99.613	0.785	599533	2.03	100	99.6	90	110	
P	31	1	nogas	468.858	1.278	356038	0.32	500	93.8	90	110	
La	139	1	nogas	120.431	42.625	370	35.75	100	120.4	90	110	ICV Main CR1 Failed
Au	197	1	nogas	-13868.329	-291.695	27	78.06	100	-13868.3	90	110	ICV Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	287902	1.95	317621	90.64	70	125	
Ge	72	1	nogas	1460205	0.97	1478633	98.75	70	125	
In	115	1	nogas	1589525	1.40	1539303	103.26	70	125	
Bi	209	1	nogas	1462428	1.77	1532165	95.45	70	125	

Initial Calibration Verification (ICV) Report

Ge	72	2	He	126975	1.25	126743	100.18	70	125	

Sample Report

Sample Table

Sample Name	LLICV2
Data File Name	012SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T09:40:52-06:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	2.169	2.169	15.53	5594	0.04	2000	
Na	23	1	nogas	181.323	181.323	1.18	3766845	0.00	200000	
Mg	24	1	nogas	217.686	217.686	1.46	1710931	0.01	200000	
Al	27	1	nogas	2.606	2.606	1.40	42559	0.01	2000	
K	39	1	nogas	181.472	181.472	11.61	6289835	0.00	200000	
Ti	47	1	nogas	1.981	1.981	19.42	2200	0.09	2000	
V	51	1	nogas	0.597	0.597	451.19	1680305	0.00	2000	
Cr	52	1	nogas	1.945	1.945	2.14	67041	0.00	2000	
Mn	55	1	nogas	2.123	2.123	7.56	42726	0.00	2000	
Co	59	1	nogas	2.054	2.054	8.63	28008	0.01	2000	
Ni	60	1	nogas	2.752	2.752	8.04	8352	0.03	2000	
Cu	63	1	nogas	2.110	2.110	7.94	19804	0.01	2000	
Zn	66	1	nogas	2.596	2.596	8.42	6631	0.04	2000	
As	75	1	nogas	-4.213	-4.213	-64.80	251633	0.00	2000	
Sr	88	1	nogas	2.052	2.052	7.34	35449	0.01	2000	
Ag	107	1	nogas	2.099	2.099	3.90	20489	0.01	2000	
Cd	111	1	nogas	2.089	2.089	3.14	4217	0.05	2000	
Sb	121	1	nogas	3.611	3.611	16.75	33416	0.01	2000	
Tl	205	1	nogas	2.293	2.293	4.25	38774	0.01	2000	
Pb	208	1	nogas	2.310	2.310	4.64	52364	0.00	2000	
U	238	1	nogas	2.139	2.139	4.42	51189	0.00	2000	
[Pb]	206	1	nogas	2.178	2.178	1.62	12895	0.02	2000	
[Pb]	207	1	nogas	2.138	2.138	8.75	11538	0.02	2000	
Na	23	2	He	172.797	172.797	4.71	93615	0.18	200000	
Mg	24	2	He	199.370	199.370	3.60	23905	0.83	200000	
Al	27	2	He	4.673	4.673	50.27	207	2.26	2000	
K	39	2	He	192.637	192.637	4.65	24032	0.80	200000	
Ca	43	2	He	266.055	266.055	63.04	70	380.08	200000	
Ca	44	2	He	199.128	199.128	13.04	920	21.64	200000	
V	51	2	He	2.453	2.453	2.32	3694	0.07	2000	
Cr	52	2	He	1.874	1.874	4.43	5077	0.04	2000	
Mn	55	2	He	1.720	1.720	5.81	1537	0.11	2000	
Fe	56	2	He	187.199	187.199	3.83	280831	0.07	200000	
Co	59	2	He	1.988	1.988	8.31	6171	0.03	2000	
Ni	60	2	He	2.561	2.561	7.44	2013	0.13	2000	
Cu	63	2	He	2.246	2.246	13.36	5568	0.04	2000	
Zn	66	2	He	2.116	2.116	12.18	783	0.27	2000	
As	75	2	He	1.943	1.943	22.61	553	0.35	2000	
Se	78	2	He	2.020	2.020	45.22	24	8.42	2000	
B	11	1	nogas	20.564	20.564	17.17	68434	0.03	2000	
Si	28	1	nogas	154.627	154.627	12.66	1560647	0.01	2000	
Ca	43	1	nogas	212.807	212.807	3.76	4427	4.81	200000	
Ca	44	1	nogas	155.267	155.267	14.70	215850	0.07	200000	
Fe	56	1	nogas	206.574	206.574	6.69	3947604	0.01	200000	

Sample Report

Se	77	1	nogas	0.292	0.292	5964.85	82550	0.00	2000	
Se	82	1	nogas	2.049	2.049	29.26	783	0.26	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	2.200	2.200	9.87	7999	0.03	2000	
Sn	118	1	nogas	2.073	2.073	1.03	13222	0.02	2000	
Ba	137	1	nogas	2.010	2.010	7.81	5894	0.03	2000	
Sb	121	2	He	2.992	2.992	1.68	3540	0.08	2000	
La	139	1	nogas	14.411	14.411	63.51	97	14.91	2000	
Au	197	1	nogas	6937.817	6937.817	546.48	17	41626.90	2000	>LDR

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	306941	1.98	317621	96.64	70	125	
Ge	72	1	nogas	1487179	1.82	1478633	100.58	70	125	
In	115	1	nogas	1606228	1.65	1539303	104.35	70	125	
Bi	209	1	nogas	1507124	1.64	1532165	98.37	70	125	
Ge	72	2	He	131638	0.79	126743	103.86	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	LLICV5
Data File Name	013LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T09:42:51-06:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	4.759	4.528	12875	4.00	5	95.2	70	130	
Na	23	1	nogas	470.157	3.767	6960555	1.70	500	94.0	70	130	
Mg	24	1	nogas	504.696	4.272	3920962	3.50	500	100.9	70	130	
Al	27	1	nogas	5.249	5.054	69382	3.16	5	105.0	70	130	
K	39	1	nogas	471.914	2.232	8907206	1.33	500	94.4	70	130	
Ti	47	1	nogas	4.505	2.211	4591	2.78	5	90.1	70	130	
V	51	1	nogas	11.535	52.368	1850032	4.15	5	230.7	70	130	LLICV Main CR1 Failed
Cr	52	1	nogas	5.017	7.438	104756	3.62	5	100.3	70	130	
Mn	55	1	nogas	4.965	4.228	85419	2.98	5	99.3	70	130	
Co	59	1	nogas	4.891	4.512	66320	4.04	5	97.8	70	130	
Ni	60	1	nogas	5.604	2.640	16808	1.95	5	112.1	70	130	
Cu	63	1	nogas	5.002	2.592	40666	1.59	5	100.0	70	130	
Zn	66	1	nogas	5.474	2.748	13372	2.40	5	109.5	70	130	
As	75	1	nogas	6.612	82.579	283733	4.83	5	132.2	70	130	LLICV Main CR1 Failed
Sr	88	1	nogas	4.829	0.593	80819	0.37	5	96.6	70	130	
Ag	107	1	nogas	4.999	1.696	48307	1.06	5	100.0	70	130	
Cd	111	1	nogas	4.988	1.015	9943	1.16	5	99.8	70	130	
Sb	121	1	nogas	5.333	2.874	49130	3.55	5	106.7	70	130	
Tl	205	1	nogas	4.952	4.461	83178	3.09	5	99.0	70	130	
Pb	208	1	nogas	5.292	1.425	119229	1.42	5	105.8	70	130	
U	238	1	nogas	4.996	4.303	118737	2.12	5	99.9	70	130	
[Pb]	206	1	nogas	5.046	4.818	29527	2.62	5	100.9	70	130	
[Pb]	207	1	nogas	4.902	2.643	26138	0.57	5	98.0	70	130	
Na	23	2	He	469.115	1.650	163821	1.44	500	93.8	70	130	
Mg	24	2	He	507.449	2.412	59725	2.55	500	101.5	70	130	
Al	27	2	He	5.858	26.690	247	22.33	5	117.2	70	130	
K	39	2	He	514.690	5.389	43210	3.82	500	102.9	70	130	
Ca	43	2	He	493.407	59.500	117	52.37	500	98.7	70	130	
Ca	44	2	He	511.416	8.680	2073	8.16	500	102.3	70	130	
V	51	2	He	5.434	1.155	7707	0.80	5	108.7	70	130	
Cr	52	2	He	5.114	11.439	10713	9.22	5	102.3	70	130	
Mn	55	2	He	4.844	4.667	3760	4.28	5	96.9	70	130	
Fe	56	2	He	473.415	2.745	682685	2.45	500	94.7	70	130	
Co	59	2	He	5.112	2.604	15644	2.92	5	102.2	70	130	
Ni	60	2	He	5.427	5.594	4451	6.09	5	108.5	70	130	
Cu	63	2	He	5.445	4.206	13065	3.80	5	108.9	70	130	
Zn	66	2	He	5.784	3.253	2103	3.06	5	115.7	70	130	
As	75	2	He	4.657	0.377	1242	0.68	5	93.1	70	130	
Se	78	2	He	4.825	31.560	51	29.24	5	96.5	70	130	
B	11	1	nogas	25.196	6.383	79892	2.82	25	100.8	70	130	
Si	28	1	nogas	284.966	2.593	2144175	0.93	25	1139.9	70	130	LLICV Main CR1 Failed
Ca	43	1	nogas	505.886	4.173	9689	4.53	500	101.2	70	130	
Ca	44	1	nogas	441.637	1.976	298509	0.20	500	88.3	70	130	
Fe	56	1	nogas	484.531	4.085	7882735	2.82	500	96.9	70	130	
Se	77	1	nogas	37.170	70.495	91412	5.96	5	743.4	70	130	LLICV Main CR1 Failed
Se	82	1	nogas	4.866	14.899	1173	8.05	5	97.3	70	130	
Mo	95	1	nogas	4.910	2.970	17579	2.42	5	98.2	70	130	
Sn	118	1	nogas	4.830	4.738	28227	4.70	5	96.6	70	130	
Ba	137	1	nogas	4.738	6.872	13089	5.33	5	94.8	70	130	
Sb	121	2	He	5.174	6.162	5981	6.36	5	103.5	70	130	
Li	7	1	nogas	4.736	7.448	59722	2.84	5	94.7	70	130	
P	31	1	nogas	26.244	7.358	75772	0.98	25	105.0	70	130	
La	139	1	nogas	14.817	158.721	97	62.36	5	296.3	70	130	LLICV Main CR1 Failed
Au	197	1	nogas	12405.729	175.562	13	86.60	5	248114.6	70	130	LLICV Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	322153	1.04	317621	101.43	70	125	
Ge	72	1	nogas	1493512	0.75	1478633	101.01	70	125	
In	115	1	nogas	1593008	1.76	1539303	103.49	70	125	
Bi	209	1	nogas	1502063	2.24	1532165	98.04	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Ge	72	2	He	130499	0.33	126743	102.96	70	125	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	014_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T09:44:50-06:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.042	29.3	140	25.8	1	
Na	23	1	nogas	-23.329	-12.3	1472983	1.6	100	
Mg	24	1	nogas	1.650	24.4	20883	15.8	100	
Al	27	1	nogas	-0.183	-2.9	14439	2.0	5	
K	39	1	nogas	-8.195	-191.6	4567197	0.7	100	
Ti	47	1	nogas	-0.014	-675.4	327	24.7	2.5	
V	51	1	nogas	9.866	71.8	1800548	3.6	2.5	ICB Main CR1 Failed
Cr	52	1	nogas	0.328	51.2	46980	2.6	2.5	
Mn	55	1	nogas	-0.060	-61.8	10136	3.7	2.5	
Co	59	1	nogas	0.018	23.2	747	8.7	2.5	
Ni	60	1	nogas	0.498	14.5	1717	10.3	2.5	
Cu	63	1	nogas	-0.111	-15.3	3897	2.6	2.5	
Zn	66	1	nogas	0.383	16.5	1487	9.8	2.5	
As	75	1	nogas	4.470	141.2	273832	4.6	2.5	ICB Main CR1 Failed
Sr	88	1	nogas	0.028	31.5	2644	3.1	2.5	
Ag	107	1	nogas	-0.009	-65.7	433	13.9	2.5	
Cd	111	1	nogas	0.018	56.0	67	31.2	1	
Sb	121	1	nogas	0.137	16.8	2314	10.7	2.5	
Tl	205	1	nogas	0.067	26.1	1310	25.9	1	
Pb	208	1	nogas	0.033	28.2	1320	15.8	2.5	
U	238	1	nogas	0.008	95.3	440	46.4	2.5	
[Pb]	206	1	nogas	0.025	4.0	327	1.8	2.5	
[Pb]	207	1	nogas	0.031	49.3	323	28.6	2.5	
Na	23	2	He	-28.953	-4.1	44258	0.7	100	
Mg	24	2	He	0.161	358.2	400	17.5	100	
Al	27	2	He	1.589	39.4	97	21.5	5	
K	39	2	He	0.730	1545.6	12605	5.3	100	
Ca	43	2	He	-64.683	0.0	0	#DIV/0!	100	
Ca	44	2	He	-7.264	-295.6	143	56.0	100	
V	51	2	He	0.564	5.7	1093	3.1	2.5	
Cr	52	2	He	-0.107	-226.9	1553	27.1	2.5	
Mn	55	2	He	-0.138	-40.9	193	20.9	2.5	
Fe	56	2	He	-4.837	-6.3	7141	5.1	100	
Co	59	2	He	0.006	192.0	80	43.3	2.5	
Ni	60	2	He	0.567	5.1	287	8.8	2.5	
Cu	63	2	He	0.279	19.5	877	15.5	2.5	
Zn	66	2	He	0.552	25.8	210	25.2	2.5	
As	75	2	He	-0.013	-590.5	48	42.1	2.5	
Se	78	2	He	0.149	290.3	5	78.1	2.5	
B	11	1	nogas	1.833	23.7	39161	1.6	10	
Si	28	1	nogas	-4.452	-101.1	853932	0.3	5	
Ca	43	1	nogas	18.193	51.8	957	18.4	100	
Ca	44	1	nogas	-73.930	-23.4	149460	1.2	100	
Fe	56	1	nogas	-11.761	-5.8	878123	1.3	100	
Se	77	1	nogas	43.023	58.3	91529	4.2	2.5	ICB Main CR1 Failed
Se	82	1	nogas	-0.608	-117.5	417	25.9	2.5	

Initial Calibration Blank (ICB) Report

Mo	95	1	nogas	0.000	8127.0	290	42.4	2.5	
Sn	118	1	nogas	-0.068	-24.7	1377	7.6	5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Ba	137	1	nogas	-0.056	-40.3	357	17.8	2.5	
Sb	121	2	He	0.222	7.3	373	4.1	2.5	
P	31	1	nogas	4.094	26.9	60550	1.5	10	
La	139	1	nogas	-6.980	-112.7	40	50.0	2.5	
Au	197	1	nogas	-50254.224	-119.1	47	65.5	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	319112	3.44	317621	100.47	70	125	
Ge	72	1	nogas	1474394	2.35	1478633	99.71	70	125	
In	115	1	nogas	1591312	0.96	1539303	103.38	70	125	
Bi	209	1	nogas	1511310	3.18	1532165	98.64	70	125	
Ge	72	2	He	129871	0.92	126743	102.47	70	125	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	015ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T09:46:49-06:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.009	110.5	50	52.9	0	ICSA Main CR1 Failed
Na	23	1	nogas	103180.413	1.1	1107080925	0.6	0	
Mg	24	1	nogas	101233.561	5.0	752429833	3.3	0	
Al	27	1	nogas	87354.343	2.2	867469160	1.7	0	
K	39	1	nogas	94920.322	1.0	837790419	0.9	0	
Ti	47	1	nogas	1992.323	3.2	1849073	2.8	0	
V	51	1	nogas	-16.922	-3.8	1403743	1.0	0	ICSA Main CR1 Failed
Cr	52	1	nogas	0.355	11.6	47214	0.6	0	ICSA Main CR1 Failed
Mn	55	1	nogas	0.311	13.0	15597	3.4	0	ICSA Main CR1 Failed
Co	59	1	nogas	0.116	5.8	2040	3.9	0	ICSA Main CR1 Failed
Ni	60	1	nogas	1.253	7.0	3910	6.1	0	ICSA Main CR1 Failed
Cu	63	1	nogas	1.117	7.1	12578	4.2	0	ICSA Main CR1 Failed
Zn	66	1	nogas	1.960	3.5	5104	3.4	0	ICSA Main CR1 Failed
As	75	1	nogas	-4.590	-27.3	247754	1.3	0	ICSA Main CR1 Failed
Sr	88	1	nogas	0.906	3.3	16718	2.5	0	ICSA Main CR1 Failed
Ag	107	1	nogas	0.019	46.7	697	12.5	0	ICSA Main CR1 Failed
Cd	111	1	nogas	1.329	3.6	2530	3.2	0	ICSA Main CR1 Failed
Sb	121	1	nogas	0.184	7.8	2720	4.5	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.018	52.1	433	34.6	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.108	7.1	2990	5.7	0	ICSA Main CR1 Failed
[Pb]	206	1	nogas	0.115	16.0	770	11.3	0	ICSA Main CR1 Failed
[Pb]	207	1	nogas	0.101	16.6	627	11.8	0	ICSA Main CR1 Failed
Na	23	2	He	100030.685	1.1	22809644	2.2	0	
Mg	24	2	He	98693.584	1.5	10959205	1.9	0	
Al	27	2	He	88729.784	3.5	2948197	4.2	0	
K	39	2	He	98904.773	2.9	5902178	2.9	0	
Ca	43	2	He	96126.625	0.5	19113	1.6	0	
Ca	44	2	He	95571.378	2.1	337687	1.5	0	
V	51	2	He	0.389	10.7	818	5.4	0	ICSA Main CR1 Failed
Cr	52	2	He	0.198	68.2	1990	11.6	0	ICSA Main CR1 Failed
Mn	55	2	He	0.322	25.1	497	11.4	0	ICSA Main CR1 Failed
Fe	56	2	He	98351.884	1.8	131924591	2.0	0	
Co	59	2	He	0.017	68.9	107	30.1	0	ICSA Main CR1 Failed
Ni	60	2	He	0.759	10.9	430	16.3	0	ICSA Main CR1 Failed
Cu	63	2	He	0.867	8.2	2150	6.0	0	ICSA Main CR1 Failed
Zn	66	2	He	0.883	19.4	313	17.6	0	ICSA Main CR1 Failed
As	75	2	He	-0.055	-107.2	36	39.0	0	ICSA Main CR1 Failed
Se	78	2	He	0.390	86.2	7	41.7	0	ICSA Main CR1 Failed
B	11	1	nogas	4.343	20.7	41990	2.8	0	ICSA Main CR1 Failed
Si	28	1	nogas	115.352	2.1	1373756	0.6	0	
Ca	43	1	nogas	100470.841	0.6	1769989	0.9	0	
Ca	44	1	nogas	95475.219	1.6	26990435	1.3	0	
Fe	56	1	nogas	94833.320	1.0	1317439729	0.8	0	
Se	77	1	nogas	0.452	1183.8	81646	1.1	0	ICSA Main CR1 Failed
Se	82	1	nogas	-0.220	-309.2	467	19.4	0	ICSA Main CR1 Failed
Mo	95	1	nogas	1926.637	3.4	6682073	3.1	0	
Sn	118	1	nogas	-0.023	-59.8	1537	5.0	0	ICSA Main CR1 Failed
Ba	137	1	nogas	-0.013	-237.1	447	18.2	0	ICSA Main CR1 Failed
Sb	121	2	He	0.290	32.5	430	24.3	0	ICSA Main CR1 Failed

Interference Check Solution A (ICS-A) Report

P	31	1	nogas	92207.147	1.0	59236119	1.2	0	
La	139	1	nogas	57.587	16.4	197	11.7	0	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	308283	0.74	317621	97.06	70	125	
Ge	72	1	nogas	1471045	0.46	1478633	99.49	70	125	
In	115	1	nogas	1508178	0.64	1539303	97.98	70	125	
Bi	209	1	nogas	1371982	1.45	1532165	89.55	70	125	
Ge	72	2	He	123915	1.27	126743	97.77	70	125	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	016ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T09:48:52-06:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	92.655	3.735	219140	1.98	100	92.7	80	120	
Na	23	1	nogas	110348.778	4.390	1200995560	2.89	100	110348.8	80	120	ICSB Main CR1 Failed
Mg	24	1	nogas	110421.488	2.455	833537519	4.11	100	110421.5	80	120	
Al	27	1	nogas	89767.824	0.305	886298173	0.40	100	89767.8	80	120	ICSB Main CR1 Failed
K	39	1	nogas	105239.797	0.755	922995121	1.14	100	105239.8	80	120	
Ti	47	1	nogas	2134.265	0.955	1969421	0.94	100	2134.3	80	120	ICSB Main CR1 Failed
V	51	1	nogas	58.186	7.949	2494935	3.07	100	58.2	80	120	ICSB Main CR1 Failed
Cr	52	1	nogas	82.120	2.140	1023045	2.30	100	82.1	80	120	
Mn	55	1	nogas	84.669	2.714	1250955	3.03	100	84.7	80	120	
Co	59	1	nogas	84.184	3.373	1109747	3.75	100	84.2	80	120	
Ni	60	1	nogas	88.405	4.491	255744	4.86	100	88.4	80	120	
Cu	63	1	nogas	87.147	0.964	617553	0.96	100	87.1	80	120	
Zn	66	1	nogas	91.438	1.212	209312	0.83	100	91.4	80	120	
As	75	1	nogas	70.488	6.490	458124	3.20	100	70.5	80	120	ICSB Main CR1 Failed
Sr	88	1	nogas	88.444	1.252	1411739	1.10	100	88.4	80	120	
Ag	107	1	nogas	80.952	0.943	758312	0.76	100	81.0	80	120	
Cd	111	1	nogas	89.099	1.371	165258	0.91	100	89.1	80	120	
Sb	121	1	nogas	86.316	2.803	762104	3.18	100	86.3	80	120	
Tl	205	1	nogas	86.096	2.993	1343721	2.53	100	86.1	80	120	
Pb	208	1	nogas	87.321	0.773	1958247	0.77	100	87.3	80	120	
U	238	1	nogas	95.380	2.509	2106270	1.09	100	95.4	80	120	
[Pb]	206	1	nogas	86.826	1.673	470383	0.40	100	86.8	80	120	
[Pb]	207	1	nogas	88.363	2.009	436095	0.55	100	88.4	80	120	
Na	23	2	He	109717.477	1.470	25030690	1.76	100	109717.5	80	120	
Mg	24	2	He	108891.845	0.712	12100621	1.17	100	108891.8	80	120	
Al	27	2	He	88193.108	3.073	2932317	3.48	100	88193.1	80	120	ICSB Main CR1 Failed
K	39	2	He	108370.970	1.642	6465874	1.64	100	108371.0	80	120	
Ca	43	2	He	106412.205	3.585	21172	3.68	100	106412.2	80	120	
Ca	44	2	He	104272.076	0.343	368730	0.92	100	104272.1	80	120	
V	51	2	He	89.073	0.828	115166	0.84	100	89.1	80	120	
Cr	52	2	He	88.232	1.419	148672	2.04	100	88.2	80	120	
Mn	55	2	He	86.767	1.223	59306	1.40	100	86.8	80	120	
Fe	56	2	He	108082.584	0.292	145084965	0.93	100	108082.6	80	120	
Co	59	2	He	87.165	0.598	252507	1.19	100	87.2	80	120	
Ni	60	2	He	86.525	2.246	70222	2.80	100	86.5	80	120	
Cu	63	2	He	88.002	0.541	197489	1.20	100	88.0	80	120	
Zn	66	2	He	91.692	1.469	31531	1.90	100	91.7	80	120	
As	75	2	He	89.375	0.822	21765	1.17	100	89.4	80	120	
Se	78	2	He	98.863	4.158	927	3.96	100	98.9	80	120	
B	11	1	nogas	470.291	6.829	742598	2.08	100	470.3	80	120	
Si	28	1	nogas	4574.078	2.542	20659368	2.11	100	4574.1	80	120	ICSB Main CR1 Failed
Ca	43	1	nogas	111517.059	1.597	1953104	1.81	100	111517.1	80	120	
Ca	44	1	nogas	108424.471	2.537	30452061	2.77	100	108424.5	80	120	ICSB Main CR1 Failed
Fe	56	1	nogas	105968.747	2.267	1463508299	2.49	100	105968.7	80	120	
Se	77	1	nogas	39.705	27.940	90125	3.14	100	39.7	80	120	ICSB Main CR1 Failed
Se	82	1	nogas	89.348	2.429	12531	2.63	100	89.3	80	120	
Mo	95	1	nogas	2140.088	1.641	7379913	1.93	100	2140.1	80	120	ICSB Main CR1 Failed
Sn	118	1	nogas	91.294	2.925	468633	3.51	100	91.3	80	120	
Ba	137	1	nogas	90.953	1.865	225979	1.68	100	91.0	80	120	
Sb	121	2	He	87.979	1.620	94736	1.55	100	88.0	80	120	
La	139	1	nogas	300.884	3.774	783	5.16	100	300.9	80	120	ICSB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	282455	4.84	317621	88.93	70	125	
Ge	72	1	nogas	1462479	0.39	1478633	98.91	70	125	
In	115	1	nogas	1486540	1.99	1539303	96.57	70	125	
Bi	209	1	nogas	1397868	1.61	1532165	91.23	70	125	
Ge	72	2	He	124005	0.66	126743	97.84	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	022_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T10:00:57-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	100.020	1.654	247233	0.50	100	100.0	90	110	
Na	23	1	nogas	9421.709	2.991	113212786	2.74	10000	94.2	90	110	
Mg	24	1	nogas	9438.929	2.007	77463848	1.09	10000	94.4	90	110	
Al	27	1	nogas	90.296	2.719	959733	0.51	100	90.3	90	110	
K	39	1	nogas	9046.493	2.480	88352192	1.15	10000	90.5	90	110	
Ti	47	1	nogas	93.468	1.514	91560	1.03	100	93.5	90	110	
V	51	1	nogas	64.588	5.547	2737330	0.19	100	64.6	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	94.125	2.616	1233316	0.63	100	94.1	90	110	
Mn	55	1	nogas	95.279	5.395	1486502	3.55	100	95.3	90	110	
Co	59	1	nogas	90.831	2.528	1266095	1.62	100	90.8	90	110	
Ni	60	1	nogas	92.970	1.503	284402	1.24	100	93.0	90	110	
Cu	63	1	nogas	95.273	2.205	713561	1.72	100	95.3	90	110	
Zn	66	1	nogas	96.753	1.616	234202	0.78	100	96.8	90	110	
As	75	1	nogas	63.487	8.642	463454	1.48	100	63.5	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	94.357	2.391	1592699	1.81	100	94.4	90	110	
Ag	107	1	nogas	95.359	3.358	944370	1.21	100	95.4	90	110	
Cd	111	1	nogas	96.621	1.130	193147	3.25	100	96.6	90	110	
Sb	121	1	nogas	88.219	2.532	823553	0.61	100	88.2	90	110	CCV Main CR1-2 Failed
Tl	205	1	nogas	96.617	5.000	1618337	3.16	100	96.6	90	110	
Pb	208	1	nogas	102.062	2.656	2288719	2.66	100	102.1	90	110	
U	238	1	nogas	99.675	1.978	2363574	1.49	100	99.7	90	110	
[Pb]	206	1	nogas	95.144	3.714	553273	1.91	100	95.1	90	110	
[Pb]	207	1	nogas	97.122	4.657	514465	2.96	100	97.1	90	110	
Na	23	2	He	9833.876	3.038	2376039	3.48	10000	98.3	90	110	
Mg	24	2	He	9838.481	3.282	1135759	3.81	10000	98.4	90	110	
Al	27	2	He	95.689	11.965	3344	11.48	100	95.7	90	110	
K	39	2	He	10047.990	1.023	610902	1.00	10000	100.5	90	110	
Ca	43	2	He	9704.073	10.570	2017	10.32	10000	97.0	90	110	
Ca	44	2	He	9638.577	2.118	35545	1.78	10000	96.4	90	110	
V	51	2	He	96.269	1.536	129219	1.01	100	96.3	90	110	
Cr	52	2	He	98.164	1.450	171549	1.02	100	98.2	90	110	
Mn	55	2	He	98.298	1.961	69733	2.27	100	98.3	90	110	
Fe	56	2	He	9838.630	1.969	13727593	2.49	10000	98.4	90	110	
Co	59	2	He	96.771	0.446	291087	0.08	100	96.8	90	110	
Ni	60	2	He	95.990	1.090	80909	0.58	100	96.0	90	110	
Cu	63	2	He	97.198	1.567	226474	1.52	100	97.2	90	110	
Zn	66	2	He	96.398	1.507	34423	2.00	100	96.4	90	110	
As	75	2	He	97.373	1.351	24619	1.33	100	97.4	90	110	
Se	78	2	He	100.147	3.353	975	2.88	100	100.1	90	110	
B	11	1	nogas	515.891	1.452	848966	0.72	500	103.2	90	110	
Si	28	1	nogas	4717.893	2.965	22504101	0.76	5000	94.4	90	110	
Ca	43	1	nogas	9454.873	2.567	175714	1.22	10000	94.5	90	110	
Ca	44	1	nogas	9549.165	2.955	2998796	1.11	10000	95.5	90	110	
Fe	56	1	nogas	9258.553	3.086	136193353	0.89	10000	92.6	90	110	
Se	77	1	nogas	-25.154	-76.712	79637	4.23	100	-25.2	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.098	5.212	14209	3.66	100	96.1	90	110	
Mo	95	1	nogas	92.066	1.782	336037	0.86	100	92.1	90	110	
Sn	118	1	nogas	95.277	1.848	526775	1.35	100	95.3	90	110	
Ba	137	1	nogas	96.704	4.424	258776	3.36	100	96.7	90	110	
Sb	121	2	He	92.769	0.950	103730	1.32	100	92.8	90	110	
Li	7	1	nogas	101.481	1.933	625074	1.13	100	101.5	90	110	
P	31	1	nogas	440.208	4.518	357705	1.69	500	88.0	90	110	CCV Main CR1-2 Failed
La	139	1	nogas	110.217	13.388	347	13.01	100	110.2	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	25003.476	86.895	7	173.21	100	25003.5	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	294910	1.18	317621	92.85	70	125	
Ge	72	1	nogas	1547038	2.20	1478633	104.63	70	125	
In	115	1	nogas	1601716	2.32	1539303	104.05	70	125	
Bi	209	1	nogas	1500922	1.88	1532165	97.96	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	128768	0.53	126743	101.60	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	023_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T10:02:57-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.166	69.9	480	67.1	1	
Na	23	1	nogas	-5.657	-118.0	1700107	5.2	100	
Mg	24	1	nogas	17.822	60.5	151096	58.2	100	
Al	27	1	nogas	1.125	14.7	28335	6.3	5	
K	39	1	nogas	0.640	143.7	4795620	1.0	100	
Ti	47	1	nogas	0.067	55.0	417	9.1	2.5	
V	51	1	nogas	-25.035	-13.5	1328110	3.2	2.5	
Cr	52	1	nogas	-0.500	-14.6	38216	2.4	2.5	
Mn	55	1	nogas	0.550	16.4	19781	7.7	2.5	
Co	59	1	nogas	0.136	72.9	2400	57.4	2.5	
Ni	60	1	nogas	0.571	12.7	1997	11.4	2.5	
Cu	63	1	nogas	0.050	238.2	5208	17.4	2.5	
Zn	66	1	nogas	0.482	22.1	1770	15.0	2.5	
As	75	1	nogas	-25.146	-17.4	195868	5.8	2.5	
Sr	88	1	nogas	0.148	61.2	4737	32.5	2.5	
Ag	107	1	nogas	0.076	69.7	1273	41.1	2.5	
Cd	111	1	nogas	0.132	65.2	293	58.1	1	
Sb	121	1	nogas	1.362	22.2	13636	21.0	2.5	
Tl	205	1	nogas	0.356	52.4	6355	54.4	1	
Pb	208	1	nogas	0.194	49.4	4927	43.6	2.5	
U	238	1	nogas	0.165	64.1	4318	63.8	2.5	
[Pb]	206	1	nogas	0.175	51.8	1240	47.5	2.5	
[Pb]	207	1	nogas	0.161	52.6	1043	48.2	2.5	
Na	23	2	He	-16.062	-60.3	48663	2.7	100	
Mg	24	2	He	5.969	5.1	1107	4.5	100	
Al	27	2	He	5.139	13.8	227	11.1	5	CCB Main CR1 Failed
K	39	2	He	20.726	23.1	13795	2.1	100	
Ca	43	2	He	-48.708	-56.8	3	173.2	100	
Ca	44	2	He	2.138	606.9	183	28.0	100	
V	51	2	He	0.405	9.4	903	3.5	2.5	
Cr	52	2	He	-0.139	-89.5	1540	13.8	2.5	
Mn	55	2	He	0.418	20.5	607	12.5	2.5	
Fe	56	2	He	0.215	241.9	14646	3.2	100	
Co	59	2	He	0.051	47.5	223	31.8	2.5	
Ni	60	2	He	0.607	3.0	330	5.3	2.5	
Cu	63	2	He	0.326	18.0	1013	12.5	2.5	
Zn	66	2	He	0.536	22.7	210	21.8	2.5	
As	75	2	He	-0.035	-210.9	43	42.8	2.5	
Se	78	2	He	0.266	49.5	7	17.3	2.5	
B	11	1	nogas	8.658	13.9	51650	5.2	10	
Si	28	1	nogas	-8.132	-38.1	865025	2.3	5	
Ca	43	1	nogas	32.227	46.2	1243	22.6	100	
Ca	44	1	nogas	-124.592	-7.7	139606	2.8	100	
Fe	56	1	nogas	9.250	161.6	1209160	18.5	100	
Se	77	1	nogas	-80.531	-22.1	65227	5.7	2.5	
Se	82	1	nogas	-0.409	-144.7	457	18.9	2.5	
Mo	95	1	nogas	0.305	51.3	1393	40.9	2.5	
Sn	118	1	nogas	0.116	114.2	2390	29.7	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.062	129.2	673	31.2	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.988	13.9	1270	11.7	2.5	
P	31	1	nogas	-0.720	-231.2	59297	1.6	10	
La	139	1	nogas	-3.284	-14.4	50	0.0	2.5	
Au	197	1	nogas	-5526.128	-532.0	23	65.5	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	323998	1.23	317621	102.01	70	125	
Ge	72	1	nogas	1521518	0.93	1478633	102.90	70	125	
In	115	1	nogas	1601157	2.47	1539303	104.02	70	125	
Bi	209	1	nogas	1542487	3.60	1532165	100.67	70	125	
Ge	72	2	He	133613	2.28	126743	105.42	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	034_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T10:25:10-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	96.545	1.758	242399	1.02	100	96.5	90	110	
Na	23	1	nogas	9585.171	3.872	111144819	5.21	10000	95.9	90	110	
Mg	24	1	nogas	9598.386	1.556	76022866	2.91	10000	96.0	90	110	
Al	27	1	nogas	91.851	4.724	931724	1.00	100	91.9	90	110	
K	39	1	nogas	9373.233	5.289	87211864	1.43	10000	93.7	90	110	
Ti	47	1	nogas	94.809	5.420	88626	1.78	100	94.8	90	110	
V	51	1	nogas	73.175	16.777	2738878	3.63	100	73.2	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	94.875	6.797	1185908	3.12	100	94.9	90	110	
Mn	55	1	nogas	97.062	4.706	1445962	1.22	100	97.1	90	110	
Co	59	1	nogas	92.111	4.380	1225760	1.63	100	92.1	90	110	
Ni	60	1	nogas	94.508	2.936	276059	0.96	100	94.5	90	110	
Cu	63	1	nogas	97.370	2.782	696322	1.14	100	97.4	90	110	
Zn	66	1	nogas	98.462	1.741	227656	2.17	100	98.5	90	110	
As	75	1	nogas	66.881	11.352	452150	1.15	100	66.9	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	95.883	1.438	1546059	2.32	100	95.9	90	110	
Ag	107	1	nogas	94.415	4.942	892678	1.27	100	94.4	90	110	
Cd	111	1	nogas	95.423	3.662	186138	1.26	100	95.4	90	110	
Sb	121	1	nogas	89.365	3.395	796664	0.86	100	89.4	90	110	CCV Main CR1-2 Failed
Tl	205	1	nogas	98.802	3.746	1607559	3.65	100	98.8	90	110	
Pb	208	1	nogas	97.780	1.549	2192720	1.55	100	97.8	90	110	
U	238	1	nogas	98.925	4.644	2277066	3.71	100	98.9	90	110	
[Pb]	206	1	nogas	95.121	1.986	537174	0.88	100	95.1	90	110	
[Pb]	207	1	nogas	94.629	2.543	486846	1.90	100	94.6	90	110	
Na	23	2	He	9782.343	2.544	2321531	2.31	10000	97.8	90	110	
Mg	24	2	He	9610.631	1.509	1089598	1.33	10000	96.1	90	110	
Al	27	2	He	88.773	9.136	3050	8.84	100	88.8	90	110	CCV Main CR1-2 Failed
K	39	2	He	9672.216	1.614	588526	1.58	10000	96.7	90	110	
Ca	43	2	He	10044.666	5.938	2050	5.75	10000	100.4	90	110	
Ca	44	2	He	9443.695	3.328	34212	3.32	10000	94.4	90	110	
V	51	2	He	94.934	1.698	125171	1.57	100	94.9	90	110	
Cr	52	2	He	95.747	2.252	164396	2.05	100	95.7	90	110	
Mn	55	2	He	93.932	1.705	65460	1.58	100	93.9	90	110	
Fe	56	2	He	9515.201	1.320	13039807	1.27	10000	95.2	90	110	
Co	59	2	He	94.537	1.885	279315	1.81	100	94.5	90	110	
Ni	60	2	He	95.545	2.509	79104	2.49	100	95.5	90	110	
Cu	63	2	He	97.039	0.992	222090	1.15	100	97.0	90	110	
Zn	66	2	He	95.968	1.390	33658	1.30	100	96.0	90	110	
As	75	2	He	95.558	2.822	23731	2.64	100	95.6	90	110	
Se	78	2	He	100.282	6.279	959	6.11	100	100.3	90	110	
B	11	1	nogas	512.165	5.893	855904	3.98	500	102.4	90	110	
Si	28	1	nogas	4765.187	2.450	21704043	1.70	5000	95.3	90	110	
Ca	43	1	nogas	9607.253	5.206	170420	1.90	10000	96.1	90	110	
Ca	44	1	nogas	9566.389	5.954	2867055	1.95	10000	95.7	90	110	
Fe	56	1	nogas	9489.260	5.736	133213353	2.38	10000	94.9	90	110	
Se	77	1	nogas	-8.422	-308.661	79848	3.93	100	-8.4	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	95.151	4.871	13439	1.04	100	95.2	90	110	
Mo	95	1	nogas	93.208	4.465	324754	1.00	100	93.2	90	110	
Sn	118	1	nogas	93.641	2.446	505516	0.07	100	93.6	90	110	
Ba	137	1	nogas	95.145	2.642	248651	1.40	100	95.1	90	110	
Sb	121	2	He	91.505	1.655	100495	1.48	100	91.5	90	110	
Li	7	1	nogas	99.130	0.938	620902	1.59	100	99.1	90	110	
P	31	1	nogas	457.576	2.447	352953	1.62	500	91.5	90	110	
La	139	1	nogas	75.640	3.167	250	4.00	100	75.6	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	11836.337	188.156	13	86.60	100	11836.3	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	299566	1.83	317621	94.32	70	125	
Ge	72	1	nogas	1478002	3.63	1478633	99.96	70	125	
In	115	1	nogas	1564113	2.53	1539303	101.61	70	125	
Bi	209	1	nogas	1457153	1.20	1532165	95.10	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	126479	0.19	126743	99.79	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	035_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T10:27:10-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.135	60.3	410	59.6	1	
Na	23	1	nogas	36.918	13.3	2137964	4.4	100	
Mg	24	1	nogas	15.868	56.2	132977	55.9	100	
Al	27	1	nogas	0.611	7.2	22187	2.4	5	
K	39	1	nogas	22.407	51.7	4804149	1.5	100	
Ti	47	1	nogas	0.097	173.3	427	34.8	2.5	
V	51	1	nogas	-18.422	-11.4	1375029	2.2	2.5	
Cr	52	1	nogas	-0.572	-7.8	35912	1.1	2.5	
Mn	55	1	nogas	0.612	19.3	19934	8.7	2.5	
Co	59	1	nogas	0.163	65.6	2664	53.5	2.5	
Ni	60	1	nogas	0.688	3.4	2260	3.8	2.5	
Cu	63	1	nogas	0.197	52.3	6041	12.1	2.5	
Zn	66	1	nogas	0.562	33.2	1887	23.1	2.5	
As	75	1	nogas	-23.146	-14.8	194160	4.8	2.5	
Sr	88	1	nogas	0.152	62.2	4611	33.1	2.5	
Ag	107	1	nogas	0.083	52.3	1287	31.9	2.5	
Cd	111	1	nogas	0.112	71.0	257	63.3	1	
Sb	121	1	nogas	1.343	24.6	12939	22.6	2.5	
Tl	205	1	nogas	0.357	59.9	6042	57.6	1	
Pb	208	1	nogas	0.177	54.0	4544	47.1	2.5	
U	238	1	nogas	0.175	73.0	4304	68.2	2.5	
[Pb]	206	1	nogas	0.173	55.2	1157	46.2	2.5	
[Pb]	207	1	nogas	0.167	61.0	1020	51.3	2.5	
Na	23	2	He	30.059	35.4	57434	0.6	100	
Mg	24	2	He	4.401	33.6	877	16.2	100	
Al	27	2	He	2.513	46.8	127	29.9	5	
K	39	2	He	18.821	23.6	13682	1.9	100	
Ca	43	2	He	30.585	303.7	20	100.0	100	
Ca	44	2	He	-1.100	-696.3	163	15.4	100	
V	51	2	He	0.440	5.3	913	3.8	2.5	
Cr	52	2	He	-0.204	-29.8	1367	10.5	2.5	
Mn	55	2	He	0.335	10.9	523	8.6	2.5	
Fe	56	2	He	-1.031	-90.1	12281	6.4	100	
Co	59	2	He	0.055	7.1	227	9.2	2.5	
Ni	60	2	He	0.589	15.3	300	23.3	2.5	
Cu	63	2	He	0.445	14.6	1243	8.3	2.5	
Zn	66	2	He	0.515	15.6	193	13.0	2.5	
As	75	2	He	-0.025	-358.3	44	49.9	2.5	
Se	78	2	He	0.228	248.0	6	88.2	2.5	
B	11	1	nogas	25.092	10.3	82371	6.0	10	CCB Main CR1 Failed
Si	28	1	nogas	-7.146	-61.1	836509	2.0	5	
Ca	43	1	nogas	32.587	58.8	1203	28.7	100	
Ca	44	1	nogas	-179.810	-5.6	118868	1.7	100	
Fe	56	1	nogas	18.377	71.6	1288880	14.5	100	
Se	77	1	nogas	-69.304	-26.3	65348	6.5	2.5	
Se	82	1	nogas	-0.421	-229.2	437	29.1	2.5	
Mo	95	1	nogas	0.249	52.1	1147	39.5	2.5	
Sn	118	1	nogas	0.104	118.0	2344	29.0	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.072	160.9	707	44.8	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.861	19.6	1073	14.3	2.5	
P	31	1	nogas	1.563	270.7	58497	3.4	10	
La	139	1	nogas	-7.440	-174.8	40	86.6	2.5	
Au	197	1	nogas	19253.638	164.6	10	173.2	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	332914	3.49	317621	104.81	70	125	
Ge	72	1	nogas	1464088	1.32	1478633	99.02	70	125	
In	115	1	nogas	1612824	2.37	1539303	104.78	70	125	
Bi	209	1	nogas	1474047	3.58	1532165	96.21	70	125	
Ge	72	2	He	128031	4.34	126743	101.02	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	047_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T10:51:12-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.172	45.1	503	43.8	1	
Na	23	1	nogas	77.111	3.8	2531663	2.0	100	
Mg	24	1	nogas	17.911	50.7	145636	50.7	100	
Al	27	1	nogas	0.997	2.9	25017	2.4	5	
K	39	1	nogas	70.741	12.6	5027836	0.1	100	
Ti	47	1	nogas	0.128	10.0	440	3.9	2.5	
V	51	1	nogas	-57.734	-5.9	768527	5.5	2.5	
Cr	52	1	nogas	-1.150	-4.6	27908	2.5	2.5	
Mn	55	1	nogas	0.715	11.7	20618	5.4	2.5	
Co	59	1	nogas	0.143	57.3	2307	45.6	2.5	
Ni	60	1	nogas	0.642	23.6	2043	20.6	2.5	
Cu	63	1	nogas	0.495	21.0	7828	9.4	2.5	
Zn	66	1	nogas	1.052	4.7	2890	2.6	2.5	
As	75	1	nogas	-39.730	-5.1	141717	2.9	2.5	
Sr	88	1	nogas	0.134	63.1	4161	31.6	2.5	
Ag	107	1	nogas	0.110	54.8	1483	37.2	2.5	
Cd	111	1	nogas	0.130	59.8	280	57.5	1	
Sb	121	1	nogas	1.414	23.8	13045	21.9	2.5	
Tl	205	1	nogas	0.457	57.6	7402	54.0	1	
Pb	208	1	nogas	0.341	27.7	8234	25.8	2.5	
U	238	1	nogas	0.172	71.1	4067	65.1	2.5	
[Pb]	206	1	nogas	0.317	40.0	1920	33.8	2.5	
[Pb]	207	1	nogas	0.355	25.8	1937	20.4	2.5	
Na	23	2	He	85.093	5.9	66225	0.9	100	
Mg	24	2	He	7.418	7.6	1153	5.8	100	
Al	27	2	He	2.111	59.0	107	37.9	5	
K	39	2	He	63.135	5.9	16321	1.4	100	
Ca	43	2	He	-12.581	-414.5	10	100.0	100	
Ca	44	2	He	46.272	85.9	317	43.1	100	
V	51	2	He	0.194	13.7	551	6.8	2.5	
Cr	52	2	He	-0.163	-79.4	1350	16.1	2.5	
Mn	55	2	He	0.460	17.9	573	8.8	2.5	
Fe	56	2	He	1.852	43.9	15343	7.8	100	
Co	59	2	He	0.065	6.4	240	4.2	2.5	
Ni	60	2	He	0.492	2.5	207	5.6	2.5	
Cu	63	2	He	0.686	7.3	1697	5.7	2.5	
Zn	66	2	He	1.008	4.0	347	4.4	2.5	
As	75	2	He	-0.037	-151.0	39	34.6	2.5	
Se	78	2	He	0.044	875.5	4	86.6	2.5	
B	11	1	nogas	383.010	2.4	711695	3.5	10	CCB Main CR1 Failed
Si	28	1	nogas	91.848	2.2	1217418	1.7	5	CCB Main CR1 Failed
Ca	43	1	nogas	61.575	24.6	1647	16.7	100	
Ca	44	1	nogas	-165.769	-6.0	118150	2.8	100	
Fe	56	1	nogas	16.225	95.8	1210398	16.8	100	
Se	77	1	nogas	-142.771	-5.0	46737	3.2	2.5	
Se	82	1	nogas	-0.296	-114.5	437	8.7	2.5	
Mo	95	1	nogas	0.285	58.3	1223	45.6	2.5	
Sn	118	1	nogas	0.119	83.0	2304	27.0	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.098	64.0	737	26.3	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.865	16.4	1017	14.4	2.5	
P	31	1	nogas	5.917	14.3	58969	0.6	10	
La	139	1	nogas	3.008	175.7	63	24.1	2.5	CCB Main CR1 Failed
Au	197	1	nogas	-46757.618	-87.0	43	48.0	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	328440	1.41	317621	103.41	70	125	
Ge	72	1	nogas	1408492	1.38	1478633	95.26	70	125	
In	115	1	nogas	1520949	4.69	1539303	98.81	70	125	
Bi	209	1	nogas	1437203	4.29	1532165	93.80	70	125	
Ge	72	2	He	120377	0.90	126743	94.98	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	049_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T10:55:14-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	89.583	0.912	241541	1.18	100	89.6	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	9673.925	1.936	110033686	1.01	10000	96.7	90	110	
Mg	24	1	nogas	9665.178	1.974	75128445	2.26	10000	96.7	90	110	
Al	27	1	nogas	91.335	2.853	921214	2.14	100	91.3	90	110	
K	39	1	nogas	9244.586	5.141	85587779	4.56	10000	92.4	90	110	
Ti	47	1	nogas	93.563	2.408	87025	4.42	100	93.6	90	110	
V	51	1	nogas	39.930	6.049	2236701	3.64	100	39.9	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	90.624	1.429	1129247	3.97	100	90.6	90	110	
Mn	55	1	nogas	98.059	5.874	1452850	6.65	100	98.1	90	110	
Co	59	1	nogas	93.510	6.313	1236624	5.17	100	93.5	90	110	
Ni	60	1	nogas	95.919	4.403	278339	2.39	100	95.9	90	110	
Cu	63	1	nogas	95.248	4.688	676624	1.64	100	95.2	90	110	
Zn	66	1	nogas	95.070	3.013	218369	1.32	100	95.1	90	110	
As	75	1	nogas	49.877	7.546	401462	2.87	100	49.9	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	92.255	2.463	1477957	2.25	100	92.3	90	110	
Ag	107	1	nogas	93.212	2.193	876399	2.51	100	93.2	90	110	
Cd	111	1	nogas	92.038	1.724	181348	4.95	100	92.0	90	110	
Sb	121	1	nogas	88.234	3.997	781515	1.49	100	88.2	90	110	CCV Main CR1-2 Failed
Tl	205	1	nogas	92.674	4.462	1519397	1.69	100	92.7	90	110	
Pb	208	1	nogas	94.887	2.138	2127862	2.14	100	94.9	90	110	
U	238	1	nogas	97.347	1.417	2260976	4.36	100	97.3	90	110	
[Pb]	206	1	nogas	90.547	3.236	515426	0.62	100	90.5	90	110	
[Pb]	207	1	nogas	90.749	1.560	470794	2.05	100	90.7	90	110	
Na	23	2	He	9764.259	1.014	2263818	0.77	10000	97.6	90	110	
Mg	24	2	He	9612.393	2.881	1064478	2.01	10000	96.1	90	110	
Al	27	2	He	90.979	1.449	3054	2.50	100	91.0	90	110	
K	39	2	He	9321.287	1.560	567628	1.53	10000	93.2	90	110	
Ca	43	2	He	9793.413	16.117	1950	14.44	10000	97.9	90	110	
Ca	44	2	He	9551.543	2.867	33798	2.33	10000	95.5	90	110	
V	51	2	He	94.906	1.644	122236	0.74	100	94.9	90	110	
Cr	52	2	He	94.544	1.990	158585	0.69	100	94.5	90	110	
Mn	55	2	He	92.392	1.921	62898	0.83	100	92.4	90	110	
Fe	56	2	He	9258.805	0.759	12395696	0.86	10000	92.6	90	110	
Co	59	2	He	94.746	1.106	273457	0.58	100	94.7	90	110	
Ni	60	2	He	96.588	0.664	78124	1.18	100	96.6	90	110	
Cu	63	2	He	96.981	2.568	216820	2.48	100	97.0	90	110	
Zn	66	2	He	97.898	2.793	33534	1.27	100	97.9	90	110	
As	75	2	He	95.231	1.180	23104	0.63	100	95.2	90	110	
Se	78	2	He	98.054	1.666	916	2.79	100	98.1	90	110	
B	11	1	nogas	798.049	2.207	1412447	1.38	500	159.6	90	110	CCV Main CR1-2 Failed
Si	28	1	nogas	4886.273	3.419	22092117	2.92	5000	97.7	90	110	
Ca	43	1	nogas	9210.915	4.909	162414	2.79	10000	92.1	90	110	
Ca	44	1	nogas	9185.999	3.645	2743733	0.85	10000	91.9	90	110	
Fe	56	1	nogas	9390.068	3.986	131087324	3.20	10000	93.9	90	110	
Se	77	1	nogas	-67.750	-24.553	65889	6.32	100	-67.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	95.631	6.144	13419	3.84	100	95.6	90	110	
Mo	95	1	nogas	89.456	4.468	309746	2.14	100	89.5	90	110	CCV Main CR1-2 Failed
Sn	118	1	nogas	91.200	2.341	496899	2.43	100	91.2	90	110	
Ba	137	1	nogas	92.083	6.470	242571	2.35	100	92.1	90	110	
Sb	121	2	He	91.008	2.398	97629	1.34	100	91.0	90	110	
Li	7	1	nogas	93.020	1.863	627474	2.69	100	93.0	90	110	
P	31	1	nogas	467.655	4.825	357088	2.92	500	93.5	90	110	
La	139	1	nogas	107.815	28.951	333	20.42	100	107.8	90	110	
Au	197	1	nogas	18748.357	98.297	10	100.00	100	18748.4	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	321646	0.96	317621	101.27	70	125	
Ge	72	1	nogas	1468394	3.04	1478633	99.31	70	125	
In	115	1	nogas	1578954	4.72	1539303	102.58	70	125	
Bi	209	1	nogas	1469517	3.17	1532165	95.91	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	123566	1.50	126743	97.49	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	062_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T11:56:14-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	97.004	3.796	247493	0.79	100	97.0	90	110	
Na	23	1	nogas	9372.806	1.709	107664048	1.29	10000	93.7	90	110	
Mg	24	1	nogas	9551.001	2.773	74966114	4.60	10000	95.5	90	110	
Al	27	1	nogas	90.640	1.106	923489	2.32	100	90.6	90	110	
K	39	1	nogas	9565.337	4.635	89237983	3.00	10000	95.7	90	110	
Ti	47	1	nogas	91.000	0.463	85447	1.91	100	91.0	90	110	
V	51	1	nogas	5.036	9.391	1740424	2.16	100	5.0	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	89.546	1.839	1126735	1.86	100	89.5	90	110	CCV Main CR1-2 Failed
Mn	55	1	nogas	95.995	2.301	1435696	0.65	100	96.0	90	110	
Co	59	1	nogas	91.532	5.221	1222190	3.44	100	91.5	90	110	
Ni	60	1	nogas	93.884	3.593	275138	1.79	100	93.9	90	110	
Cu	63	1	nogas	95.873	2.607	688001	1.11	100	95.9	90	110	
Zn	66	1	nogas	98.384	1.936	228298	3.67	100	98.4	90	110	
As	75	1	nogas	31.450	5.419	352781	3.14	100	31.4	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	92.226	7.103	1491054	5.66	100	92.2	90	110	
Ag	107	1	nogas	91.801	1.582	871735	3.05	100	91.8	90	110	
Cd	111	1	nogas	93.938	1.799	181250	1.12	100	93.9	90	110	
Sb	121	1	nogas	92.280	3.439	825413	1.63	100	92.3	90	110	
Tl	205	1	nogas	91.416	0.624	1541205	1.15	100	91.4	90	110	
Pb	208	1	nogas	96.462	3.236	2163184	3.24	100	96.5	90	110	
U	238	1	nogas	92.600	0.873	2209227	1.74	100	92.6	90	110	
[Pb]	206	1	nogas	90.325	0.968	528621	1.84	100	90.3	90	110	
[Pb]	207	1	nogas	90.845	4.485	484432	5.21	100	90.8	90	110	
Na	23	2	He	9388.414	3.546	2254610	2.12	10000	93.9	90	110	
Mg	24	2	He	9149.581	3.063	1048764	1.45	10000	91.5	90	110	
Al	27	2	He	93.335	3.796	3240	2.16	100	93.3	90	110	
K	39	2	He	9406.728	2.391	572716	2.34	10000	94.1	90	110	
Ca	43	2	He	9524.821	18.533	1967	18.59	10000	95.2	90	110	
Ca	44	2	He	9153.055	4.564	33537	4.66	10000	91.5	90	110	
V	51	2	He	90.559	2.720	120738	1.22	100	90.6	90	110	
Cr	52	2	He	90.643	2.689	157447	1.34	100	90.6	90	110	
Mn	55	2	He	91.163	1.250	64253	1.11	100	91.2	90	110	
Fe	56	2	He	9010.569	2.451	12485687	1.01	10000	90.1	90	110	
Co	59	2	He	92.329	4.397	275761	2.89	100	92.3	90	110	
Ni	60	2	He	92.459	1.688	77401	1.50	100	92.5	90	110	
Cu	63	2	He	94.080	2.019	217712	0.43	100	94.1	90	110	
Zn	66	2	He	95.232	1.953	33785	3.53	100	95.2	90	110	
As	75	2	He	94.144	2.314	23641	1.14	100	94.1	90	110	
Se	78	2	He	95.932	5.561	927	4.71	100	95.9	90	110	
B	11	1	nogas	650.199	5.870	1094967	2.61	500	130.0	90	110	CCV Main CR1-2 Failed
Si	28	1	nogas	4594.904	2.726	21034462	3.32	5000	91.9	90	110	
Ca	43	1	nogas	9669.321	1.358	172212	0.57	10000	96.7	90	110	
Ca	44	1	nogas	9357.850	1.079	2820382	1.68	10000	93.6	90	110	
Fe	56	1	nogas	9128.584	2.799	128710128	1.50	10000	91.3	90	110	
Se	77	1	nogas	-150.219	-6.267	47492	5.91	100	-150.2	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	88.946	6.241	12638	4.17	100	88.9	90	110	CCV Main CR1-2 Failed
Mo	95	1	nogas	93.221	2.881	326012	1.11	100	93.2	90	110	
Sn	118	1	nogas	94.794	2.498	506059	2.13	100	94.8	90	110	
Ba	137	1	nogas	95.408	2.348	246568	1.86	100	95.4	90	110	
Sb	121	2	He	92.320	1.972	102520	1.03	100	92.3	90	110	
Li	7	1	nogas	97.880	0.984	623654	2.42	100	97.9	90	110	
P	31	1	nogas	457.326	1.801	353977	1.12	500	91.5	90	110	
La	139	1	nogas	186.367	26.897	527	24.71	100	186.4	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	6696.607	315.887	17	69.28	100	6696.6	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	304613	3.37	317621	95.90	70	125	
Ge	72	1	nogas	1482443	1.77	1478633	100.26	70	125	
In	115	1	nogas	1546293	0.72	1539303	100.45	70	125	
Bi	209	1	nogas	1509750	0.87	1532165	98.54	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	127911	1.63	126743	100.92	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	063_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T11:58:10-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.085	21.1	277	21.2	1	
Na	23	1	nogas	8.115	24.8	1856550	0.6	100	
Mg	24	1	nogas	8.775	16.8	78178	14.8	100	
Al	27	1	nogas	1.025	10.1	27634	3.3	5	
K	39	1	nogas	21.325	26.1	5043254	1.1	100	
Ti	47	1	nogas	0.058	148.4	413	21.1	2.5	
V	51	1	nogas	-76.217	-2.7	555728	6.0	2.5	
Cr	52	1	nogas	-1.802	-1.6	22317	2.0	2.5	
Mn	55	1	nogas	0.449	7.3	18449	2.6	2.5	
Co	59	1	nogas	0.066	29.4	1450	17.9	2.5	
Ni	60	1	nogas	0.748	2.5	2557	3.0	2.5	
Cu	63	1	nogas	0.455	1.4	8265	1.3	2.5	
Zn	66	1	nogas	0.728	6.5	2380	4.0	2.5	
As	75	1	nogas	-51.183	-3.8	120972	5.1	2.5	
Sr	88	1	nogas	0.092	14.1	3834	4.9	2.5	
Ag	107	1	nogas	0.102	13.1	1540	7.9	2.5	
Cd	111	1	nogas	0.052	21.7	137	15.2	1	
Sb	121	1	nogas	0.932	13.5	9793	11.2	2.5	
Tl	205	1	nogas	0.222	29.3	3961	30.9	1	
Pb	208	1	nogas	0.139	18.4	3697	15.5	2.5	
U	238	1	nogas	0.076	19.1	2084	19.9	2.5	
[Pb]	206	1	nogas	0.144	26.0	1027	21.5	2.5	
[Pb]	207	1	nogas	0.102	7.6	707	8.5	2.5	
Na	23	2	He	-3.223	-130.5	51116	1.9	100	
Mg	24	2	He	6.290	16.4	1130	12.3	100	
Al	27	2	He	2.584	6.2	133	4.3	5	
K	39	2	He	37.757	27.1	14809	4.1	100	
Ca	43	2	He	-49.009	-55.4	3	173.2	100	
Ca	44	2	He	-14.268	-161.3	120	74.1	100	
V	51	2	He	0.072	2.2	436	2.6	2.5	
Cr	52	2	He	-0.314	-15.4	1210	9.1	2.5	
Mn	55	2	He	0.445	32.6	617	16.3	2.5	
Fe	56	2	He	-0.048	-1250.6	14076	6.2	100	
Co	59	2	He	0.046	42.7	207	31.5	2.5	
Ni	60	2	He	0.884	16.7	567	24.3	2.5	
Cu	63	2	He	0.850	3.4	2247	0.9	2.5	
Zn	66	2	He	0.945	14.5	357	15.4	2.5	
As	75	2	He	-0.081	-63.9	31	44.6	2.5	
Se	78	2	He	-0.060	-522.6	3	91.7	2.5	
B	11	1	nogas	133.853	6.2	288807	2.5	10	CCB Main CR1 Failed
Si	28	1	nogas	11.626	44.8	965276	1.7	5	CCB Main CR1 Failed
Ca	43	1	nogas	27.863	26.6	1177	12.1	100	
Ca	44	1	nogas	-302.684	-2.3	88900	2.3	100	
Fe	56	1	nogas	-9.278	-24.8	953131	2.7	100	
Se	77	1	nogas	-188.417	-4.5	40151	5.5	2.5	
Se	82	1	nogas	-0.846	-45.3	400	13.9	2.5	
Mo	95	1	nogas	0.175	31.7	937	20.7	2.5	
Sn	118	1	nogas	-0.007	-442.9	1747	8.5	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.019	141.8	570	13.9	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.769	5.1	1003	2.3	2.5	
P	31	1	nogas	3.696	26.6	62978	1.0	10	
La	139	1	nogas	23.948	37.2	123	20.4	2.5	CCB Main CR1 Failed
Au	197	1	nogas	-5192.943	-400.4	23	49.5	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	348077	3.05	317621	109.59	70	125	
Ge	72	1	nogas	1539816	0.79	1478633	104.14	70	125	
In	115	1	nogas	1628693	1.40	1539303	105.81	70	125	
Bi	209	1	nogas	1522617	2.82	1532165	99.38	70	125	
Ge	72	2	He	131748	2.13	126743	103.95	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	074_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T12:20:07-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	88.243	3.847	259098	2.69	100	88.2	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	10680.530	0.689	126525524	1.16	10000	106.8	90	110	
Mg	24	1	nogas	9987.285	3.099	80953437	2.64	10000	99.9	90	110	
Al	27	1	nogas	92.976	2.665	1009286	1.66	100	93.0	90	110	
K	39	1	nogas	9330.785	1.418	92981237	2.51	10000	93.3	90	110	
Ti	47	1	nogas	92.081	0.663	92173	0.86	100	92.1	90	110	
V	51	1	nogas	70.671	6.711	2893390	2.47	100	70.7	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	93.465	2.944	1251800	2.49	100	93.5	90	110	
Mn	55	1	nogas	97.739	0.871	1558634	1.16	100	97.7	90	110	
Co	59	1	nogas	93.709	3.233	1334647	2.75	100	93.7	90	110	
Ni	60	1	nogas	94.555	0.458	295564	1.54	100	94.6	90	110	
Cu	63	1	nogas	93.980	1.160	719288	0.96	100	94.0	90	110	
Zn	66	1	nogas	95.400	1.793	235951	0.46	100	95.4	90	110	
As	75	1	nogas	60.228	6.105	463685	0.97	100	60.2	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	92.973	3.182	1603319	2.09	100	93.0	90	110	
Ag	107	1	nogas	92.530	2.549	936444	1.07	100	92.5	90	110	
Cd	111	1	nogas	93.805	2.872	197123	0.50	100	93.8	90	110	
Sb	121	1	nogas	87.523	2.399	834876	0.96	100	87.5	90	110	CCV Main CR1-2 Failed
Tl	205	1	nogas	97.176	1.490	1627114	0.84	100	97.2	90	110	
Pb	208	1	nogas	99.744	1.067	2236760	1.07	100	99.7	90	110	
U	238	1	nogas	101.893	3.893	2413517	2.23	100	101.9	90	110	
[Pb]	206	1	nogas	94.649	2.900	549996	0.86	100	94.6	90	110	
[Pb]	207	1	nogas	94.784	2.610	501795	0.86	100	94.8	90	110	
Na	23	2	He	10032.238	3.985	2457593	2.83	10000	100.3	90	110	
Mg	24	2	He	9720.632	2.213	1138354	1.46	10000	97.2	90	110	
Al	27	2	He	93.315	1.826	3310	1.60	100	93.3	90	110	
K	39	2	He	10081.867	0.583	612920	0.57	10000	100.8	90	110	
Ca	43	2	He	9517.966	6.236	2007	5.11	10000	95.2	90	110	
Ca	44	2	He	9368.817	3.651	35080	5.38	10000	93.7	90	110	
V	51	2	He	94.234	3.564	128320	2.22	100	94.2	90	110	
Cr	52	2	He	95.455	2.403	169314	2.42	100	95.5	90	110	
Mn	55	2	He	95.585	2.908	68829	4.29	100	95.6	90	110	
Fe	56	2	He	9376.759	2.180	13278255	3.66	10000	93.8	90	110	
Co	59	2	He	95.621	1.114	291843	1.13	100	95.6	90	110	
Ni	60	2	He	94.987	3.593	81216	2.40	100	95.0	90	110	
Cu	63	2	He	97.438	2.770	230304	0.67	100	97.4	90	110	
Zn	66	2	He	95.331	4.095	34526	2.54	100	95.3	90	110	
As	75	2	He	94.625	2.135	24273	0.63	100	94.6	90	110	
Se	78	2	He	100.672	2.633	994	0.73	100	100.7	90	110	
B	11	1	nogas	591.369	0.642	1150498	1.44	500	118.3	90	110	CCV Main CR1-2 Failed
Si	28	1	nogas	4952.913	1.893	24097335	1.40	5000	99.1	90	110	
Ca	43	1	nogas	9357.434	0.714	177738	1.74	10000	93.6	90	110	
Ca	44	1	nogas	9122.133	1.732	2936306	2.80	10000	91.2	90	110	
Fe	56	1	nogas	9374.869	1.586	140922011	0.83	10000	93.7	90	110	
Se	77	1	nogas	-31.310	-38.099	79881	2.69	100	-31.3	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	86.738	4.807	13162	4.66	100	86.7	90	110	CCV Main CR1-2 Failed
Mo	95	1	nogas	92.358	1.012	344489	1.80	100	92.4	90	110	
Sn	118	1	nogas	91.151	2.361	530130	1.49	100	91.2	90	110	
Ba	137	1	nogas	92.653	3.193	260786	0.20	100	92.7	90	110	
Sb	121	2	He	92.699	3.567	105150	2.75	100	92.7	90	110	
Li	7	1	nogas	93.324	3.045	685447	2.24	100	93.3	90	110	
P	31	1	nogas	470.495	2.411	386464	0.89	500	94.1	90	110	
La	139	1	nogas	117.970	17.084	387	17.22	100	118.0	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-61895.267	-75.328	53	47.19	100	-61895.3	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	350374	1.46	317621	110.31	70	125	
Ge	72	1	nogas	1580552	1.51	1478633	106.89	70	125	
In	115	1	nogas	1685004	3.23	1539303	109.47	70	125	
Bi	209	1	nogas	1499730	2.04	1532165	97.88	70	125	
Ge	72	2	He	130673	2.13	126743	103.10	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	075_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T12:22:03-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.091	20.4	330	16.9	1	
Na	23	1	nogas	175.116	3.7	3968854	2.0	100	CCB Main CR1 Failed
Mg	24	1	nogas	12.394	8.0	112418	6.9	100	
Al	27	1	nogas	0.708	19.8	25054	6.4	5	
K	39	1	nogas	19.295	16.5	5171254	0.6	100	
Ti	47	1	nogas	0.030	240.9	397	18.6	2.5	
V	51	1	nogas	-38.899	-7.0	1163824	4.2	2.5	
Cr	52	1	nogas	-1.275	-6.8	29788	4.2	2.5	
Mn	55	1	nogas	0.503	4.5	19848	1.9	2.5	
Co	59	1	nogas	0.066	14.7	1493	9.1	2.5	
Ni	60	1	nogas	0.752	4.5	2644	4.1	2.5	
Cu	63	1	nogas	0.352	11.1	7718	3.6	2.5	
Zn	66	1	nogas	0.519	8.5	1933	6.0	2.5	
As	75	1	nogas	-34.300	-8.6	176124	5.6	2.5	
Sr	88	1	nogas	0.108	16.8	4237	7.6	2.5	
Ag	107	1	nogas	0.073	5.8	1293	3.5	2.5	
Cd	111	1	nogas	0.054	56.0	150	43.7	1	
Sb	121	1	nogas	0.753	15.5	8369	12.9	2.5	
Tl	205	1	nogas	0.209	39.5	3791	36.9	1	
Pb	208	1	nogas	0.101	10.4	2833	8.3	2.5	
U	238	1	nogas	0.074	25.2	2050	21.3	2.5	
[Pb]	206	1	nogas	0.089	14.2	717	10.1	2.5	
[Pb]	207	1	nogas	0.081	26.6	600	18.3	2.5	
Na	23	2	He	165.160	5.3	91351	1.7	100	CCB Main CR1 Failed
Mg	24	2	He	11.770	3.7	1767	4.0	100	
Al	27	2	He	4.699	17.0	207	12.2	5	
K	39	2	He	49.466	17.2	15507	3.3	100	
Ca	43	2	He	-32.816	-168.2	7	173.2	100	
Ca	44	2	He	4.881	359.3	190	34.5	100	
V	51	2	He	0.330	4.2	785	0.9	2.5	
Cr	52	2	He	-0.377	-29.3	1090	16.3	2.5	
Mn	55	2	He	0.453	26.8	620	14.8	2.5	
Fe	56	2	He	-0.705	-80.2	13061	4.3	100	
Co	59	2	He	0.049	24.6	213	19.5	2.5	
Ni	60	2	He	0.688	5.0	393	6.4	2.5	
Cu	63	2	He	0.646	8.0	1753	6.7	2.5	
Zn	66	2	He	0.660	30.6	250	27.7	2.5	
As	75	2	He	-0.011	-767.6	49	41.1	2.5	
Se	78	2	He	-0.194	-104.8	2	100.0	2.5	
B	11	1	nogas	115.152	3.3	286324	3.3	10	CCB Main CR1 Failed
Si	28	1	nogas	-13.315	-24.6	876564	1.3	5	
Ca	43	1	nogas	19.733	26.0	1057	9.6	100	
Ca	44	1	nogas	-338.468	-0.3	80666	0.5	100	
Fe	56	1	nogas	13.767	9.9	1325711	1.3	100	
Se	77	1	nogas	-118.189	-11.2	58672	6.1	2.5	
Se	82	1	nogas	-0.492	-89.7	463	14.4	2.5	
Mo	95	1	nogas	0.101	23.5	687	12.7	2.5	
Sn	118	1	nogas	-0.043	-3.4	1637	0.9	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	-0.010	-240.4	520	13.5	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.580	15.5	783	12.8	2.5	
P	31	1	nogas	1.778	99.4	63494	2.3	10	
La	139	1	nogas	0.115	4820.8	63	24.1	2.5	
Au	197	1	nogas	7400.109	145.0	17	34.6	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	392028	1.63	317621	123.43	70	125	
Ge	72	1	nogas	1584739	0.48	1478633	107.18	70	125	
In	115	1	nogas	1723228	0.43	1539303	111.95	70	125	
Bi	209	1	nogas	1554596	1.37	1532165	101.46	70	125	
Ge	72	2	He	131052	2.02	126743	103.40	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	086_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T12:44:26-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	92.035	5.312	253118	2.46	100	92.0	90	110	
Na	23	1	nogas	9970.439	2.175	114303019	3.48	10000	99.7	90	110	
Mg	24	1	nogas	9911.161	1.825	77672970	3.14	10000	99.1	90	110	
Al	27	1	nogas	94.172	2.072	941617	2.12	100	94.2	90	110	
K	39	1	nogas	9832.499	3.530	89964967	0.80	10000	98.3	90	110	
Ti	47	1	nogas	95.650	3.165	88161	1.41	100	95.7	90	110	
V	51	1	nogas	57.297	7.966	2470107	1.52	100	57.3	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	96.475	5.159	1188129	1.86	100	96.5	90	110	
Mn	55	1	nogas	100.720	7.303	1477222	3.49	100	100.7	90	110	
Co	59	1	nogas	94.905	5.715	1244316	3.15	100	94.9	90	110	
Ni	60	1	nogas	95.694	6.209	275211	2.33	100	95.7	90	110	
Cu	63	1	nogas	96.939	5.049	682839	2.19	100	96.9	90	110	
Zn	66	1	nogas	97.444	3.418	221940	1.17	100	97.4	90	110	
As	75	1	nogas	60.576	7.228	428169	2.69	100	60.6	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	95.776	6.333	1520111	2.93	100	95.8	90	110	
Ag	107	1	nogas	94.544	2.989	881408	2.09	100	94.5	90	110	
Cd	111	1	nogas	95.835	2.084	184645	1.69	100	95.8	90	110	
Sb	121	1	nogas	92.081	5.250	808536	1.97	100	92.1	90	110	
Tl	205	1	nogas	94.571	1.993	1548539	1.59	100	94.6	90	110	
Pb	208	1	nogas	97.372	3.014	2183584	3.01	100	97.4	90	110	
U	238	1	nogas	99.008	1.684	2294442	2.58	100	99.0	90	110	
[Pb]	206	1	nogas	94.062	2.453	534663	2.59	100	94.1	90	110	
[Pb]	207	1	nogas	93.784	3.607	485716	4.22	100	93.8	90	110	
Na	23	2	He	9853.580	1.189	2303131	0.51	10000	98.5	90	110	
Mg	24	2	He	9500.883	2.548	1060954	1.64	10000	95.0	90	110	
Al	27	2	He	92.491	8.852	3130	9.36	100	92.5	90	110	
K	39	2	He	9456.961	0.997	575708	0.98	10000	94.6	90	110	
Ca	43	2	He	10386.285	7.955	2087	6.82	10000	103.9	90	110	
Ca	44	2	He	9476.610	5.881	33804	4.74	10000	94.8	90	110	
V	51	2	He	94.651	2.384	122920	1.28	100	94.7	90	110	
Cr	52	2	He	96.472	3.168	163140	2.59	100	96.5	90	110	
Mn	55	2	He	96.716	3.269	66380	2.88	100	96.7	90	110	
Fe	56	2	He	9531.466	3.898	12865420	3.41	10000	95.3	90	110	
Co	59	2	He	95.500	2.753	277931	2.40	100	95.5	90	110	
Ni	60	2	He	94.632	1.190	77172	0.39	100	94.6	90	110	
Cu	63	2	He	95.914	2.180	216214	1.34	100	95.9	90	110	
Zn	66	2	He	97.069	2.017	33535	1.73	100	97.1	90	110	
As	75	2	He	96.451	0.566	23596	1.28	100	96.5	90	110	
Se	78	2	He	100.750	2.423	949	1.29	100	100.8	90	110	
B	11	1	nogas	583.124	8.432	1062653	6.25	500	116.6	90	110	CCV Main CR1-2 Failed
Si	28	1	nogas	4996.368	3.914	22382733	3.11	5000	99.9	90	110	
Ca	43	1	nogas	10020.704	4.242	175185	1.78	10000	100.2	90	110	
Ca	44	1	nogas	9419.335	6.590	2783930	2.48	10000	94.2	90	110	
Fe	56	1	nogas	9847.747	7.266	136153982	3.91	10000	98.5	90	110	
Se	77	1	nogas	-30.602	-45.758	73769	4.65	100	-30.6	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	95.912	2.038	13355	2.48	100	95.9	90	110	
Mo	95	1	nogas	94.715	6.288	325051	2.92	100	94.7	90	110	
Sn	118	1	nogas	95.620	2.856	509615	0.51	100	95.6	90	110	
Ba	137	1	nogas	96.347	3.675	248541	0.72	100	96.3	90	110	
Sb	121	2	He	93.645	1.374	101313	1.77	100	93.6	90	110	
Li	7	1	nogas	96.710	2.441	664650	2.21	100	96.7	90	110	
P	31	1	nogas	487.313	5.805	366433	0.88	500	97.5	90	110	
La	139	1	nogas	87.181	17.414	277	17.08	100	87.2	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	5864.809	496.247	17	91.65	100	5864.8	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	328440	3.24	317621	103.41	70	125	
Ge	72	1	nogas	1456657	4.10	1478633	98.51	70	125	
In	115	1	nogas	1544523	3.09	1539303	100.34	70	125	
Bi	209	1	nogas	1466475	1.19	1532165	95.71	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	124595	1.12	126743	98.30	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	087_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T12:46:23-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.076	31.5	267	32.3	1	
Na	23	1	nogas	55.012	6.1	2475391	1.4	100	
Mg	24	1	nogas	6.811	6.8	64490	4.9	100	
Al	27	1	nogas	0.360	22.9	20201	3.2	5	
K	39	1	nogas	35.564	72.0	5041874	0.2	100	
Ti	47	1	nogas	0.068	132.2	410	18.4	2.5	
V	51	1	nogas	-37.589	-6.1	1123383	6.4	2.5	
Cr	52	1	nogas	-1.214	-10.2	28976	5.8	2.5	
Mn	55	1	nogas	0.250	16.1	14990	3.4	2.5	
Co	59	1	nogas	0.045	8.1	1130	5.5	2.5	
Ni	60	1	nogas	0.583	5.2	2003	1.0	2.5	
Cu	63	1	nogas	0.119	66.1	5621	6.2	2.5	
Zn	66	1	nogas	0.190	23.4	1060	6.2	2.5	
As	75	1	nogas	-32.705	-9.1	171364	2.8	2.5	
Sr	88	1	nogas	0.033	66.3	2767	8.3	2.5	
Ag	107	1	nogas	0.069	31.5	1187	13.4	2.5	
Cd	111	1	nogas	0.030	42.6	93	27.0	1	
Sb	121	1	nogas	0.717	19.4	7582	13.8	2.5	
Tl	205	1	nogas	0.219	39.5	3887	38.9	1	
Pb	208	1	nogas	0.074	7.1	2230	5.3	2.5	
U	238	1	nogas	0.050	23.7	1443	20.4	2.5	
[Pb]	206	1	nogas	0.073	18.7	607	12.4	2.5	
[Pb]	207	1	nogas	0.058	13.7	467	9.9	2.5	
Na	23	2	He	65.557	5.0	65991	1.6	100	
Mg	24	2	He	4.908	31.8	940	18.6	100	
Al	27	2	He	1.711	110.8	100	65.6	5	
K	39	2	He	23.079	45.1	13935	4.4	100	
Ca	43	2	He	-32.094	-175.9	7	173.2	100	
Ca	44	2	He	2.317	597.1	177	29.0	100	
V	51	2	He	0.275	6.8	696	4.0	2.5	
Cr	52	2	He	-0.299	-28.9	1203	11.9	2.5	
Mn	55	2	He	0.131	30.7	380	7.0	2.5	
Fe	56	2	He	-2.631	-19.6	10123	7.4	100	
Co	59	2	He	0.037	118.4	173	76.8	2.5	
Ni	60	2	He	0.619	8.9	327	13.8	2.5	
Cu	63	2	He	0.396	10.7	1137	9.0	2.5	
Zn	66	2	He	0.242	66.8	97	58.8	2.5	
As	75	2	He	-0.091	-9.0	28	6.9	2.5	
Se	78	2	He	0.221	246.6	6	88.2	2.5	
B	11	1	nogas	92.130	7.5	222378	1.3	10	CCB Main CR1 Failed
Si	28	1	nogas	7.219	171.5	920743	1.5	5	CCB Main CR1 Failed
Ca	43	1	nogas	12.883	24.4	877	1.7	100	
Ca	44	1	nogas	-349.610	-3.1	73203	2.2	100	
Fe	56	1	nogas	-5.441	-71.9	982971	1.6	100	
Se	77	1	nogas	-112.300	-7.9	56986	5.4	2.5	
Se	82	1	nogas	-0.451	-89.4	443	9.1	2.5	
Mo	95	1	nogas	0.088	49.2	607	25.2	2.5	
Sn	118	1	nogas	-0.018	-138.9	1710	7.6	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	-0.084	-24.6	293	17.5	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.576	23.9	763	20.5	2.5	
P	31	1	nogas	7.562	60.5	63898	0.7	10	
La	139	1	nogas	8.607	136.7	83	36.7	2.5	CCB Main CR1 Failed
Au	197	1	nogas	-17870.018	-99.8	30	33.3	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	367151	5.07	317621	115.59	70	125	
Ge	72	1	nogas	1502612	4.76	1478633	101.62	70	125	
In	115	1	nogas	1654260	2.17	1539303	107.47	70	125	
Bi	209	1	nogas	1512899	1.63	1532165	98.74	70	125	
Ge	72	2	He	128301	0.49	126743	101.23	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	098_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T13:08:22-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	87.004	5.799	268370	3.98	100	87.0	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	10058.211	1.846	121490074	3.72	10000	100.6	90	110	
Mg	24	1	nogas	10202.770	1.097	84251908	3.09	10000	102.0	90	110	
Al	27	1	nogas	97.293	5.034	1039581	1.82	100	97.3	90	110	
K	39	1	nogas	9842.267	3.686	96353752	1.51	10000	98.4	90	110	
Ti	47	1	nogas	95.395	2.040	94103	1.81	100	95.4	90	110	
V	51	1	nogas	45.549	15.829	2459712	3.68	100	45.5	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	99.273	2.904	1307700	2.60	100	99.3	90	110	
Mn	55	1	nogas	103.760	3.461	1629519	0.72	100	103.8	90	110	
Co	59	1	nogas	94.736	3.700	1329440	0.95	100	94.7	90	110	
Ni	60	1	nogas	96.018	3.515	295679	0.37	100	96.0	90	110	
Cu	63	1	nogas	96.791	2.728	729856	0.54	100	96.8	90	110	
Zn	66	1	nogas	98.337	2.408	239704	1.77	100	98.3	90	110	
As	75	1	nogas	52.890	10.686	434959	2.87	100	52.9	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	94.566	1.813	1607602	1.66	100	94.6	90	110	
Ag	107	1	nogas	93.760	5.216	934709	2.10	100	93.8	90	110	
Cd	111	1	nogas	95.127	2.840	200355	1.71	100	95.1	90	110	
Sb	121	1	nogas	92.688	2.459	871416	1.53	100	92.7	90	110	
Tl	205	1	nogas	93.523	1.047	1638687	0.82	100	93.5	90	110	
Pb	208	1	nogas	102.452	0.527	2297467	0.53	100	102.5	90	110	
U	238	1	nogas	101.381	1.675	2513743	1.88	100	101.4	90	110	
[Pb]	206	1	nogas	91.180	1.545	554545	0.75	100	91.2	90	110	
[Pb]	207	1	nogas	92.272	1.780	511236	0.87	100	92.3	90	110	
Na	23	2	He	9656.359	2.041	2365403	2.04	10000	96.6	90	110	
Mg	24	2	He	9594.784	2.149	1122456	1.97	10000	95.9	90	110	
Al	27	2	He	88.943	3.493	3154	3.25	100	88.9	90	110	CCV Main CR1-2 Failed
K	39	2	He	9598.947	0.485	584163	0.47	10000	96.0	90	110	
Ca	43	2	He	10241.757	2.251	2157	2.19	10000	102.4	90	110	
Ca	44	2	He	8927.150	0.690	33380	0.74	10000	89.3	90	110	CCV Main CR1-2 Failed
V	51	2	He	91.865	0.827	124996	0.64	100	91.9	90	110	
Cr	52	2	He	94.472	1.952	167398	1.74	100	94.5	90	110	
Mn	55	2	He	93.196	0.059	67020	0.18	100	93.2	90	110	
Fe	56	2	He	9263.668	0.404	13100013	0.24	10000	92.6	90	110	
Co	59	2	He	94.803	1.313	289033	1.51	100	94.8	90	110	
Ni	60	2	He	95.544	1.211	81625	1.40	100	95.5	90	110	
Cu	63	2	He	97.180	2.644	229502	2.78	100	97.2	90	110	
Zn	66	2	He	96.832	1.538	35044	1.72	100	96.8	90	110	
As	75	2	He	95.667	1.541	24517	1.72	100	95.7	90	110	
Se	78	2	He	96.491	4.136	952	4.01	100	96.5	90	110	
B	11	1	nogas	585.711	5.431	1197251	3.63	500	117.1	90	110	CCV Main CR1-2 Failed
Si	28	1	nogas	5100.016	5.701	24410112	2.36	5000	102.0	90	110	
Ca	43	1	nogas	9615.760	4.478	179890	1.83	10000	96.2	90	110	
Ca	44	1	nogas	9395.884	5.450	2973548	3.21	10000	94.0	90	110	
Fe	56	1	nogas	9809.359	2.667	145262149	0.83	10000	98.1	90	110	
Se	77	1	nogas	-69.371	-25.894	69476	4.78	100	-69.4	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	93.478	1.270	13942	2.70	100	93.5	90	110	
Mo	95	1	nogas	92.487	0.488	340112	3.34	100	92.5	90	110	
Sn	118	1	nogas	93.308	3.111	543722	1.19	100	93.3	90	110	
Ba	137	1	nogas	92.212	4.968	260018	2.02	100	92.2	90	110	
Sb	121	2	He	92.326	0.741	104630	0.94	100	92.3	90	110	
Li	7	1	nogas	95.978	3.249	739800	1.86	100	96.0	90	110	
P	31	1	nogas	488.264	6.500	392718	2.59	500	97.7	90	110	
La	139	1	nogas	113.634	17.644	373	12.08	100	113.6	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	13571.037	203.460	13	114.56	100	13571.0	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	368240	2.23	317621	115.94	70	125	
Ge	72	1	nogas	1558255	3.18	1478633	105.38	70	125	
In	115	1	nogas	1688685	3.32	1539303	109.70	70	125	
Bi	209	1	nogas	1569160	0.92	1532165	102.41	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	130510	0.20	126743	102.97	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	099_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T13:10:17-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.086	33.9	313	32.0	1	
Na	23	1	nogas	-2.423	-263.3	1857587	1.2	100	
Mg	24	1	nogas	6.175	24.1	61379	20.0	100	
Al	27	1	nogas	0.494	34.7	23501	8.7	5	
K	39	1	nogas	-6.420	-113.1	5087078	0.8	100	
Ti	47	1	nogas	0.002	3042.5	380	13.7	2.5	
V	51	1	nogas	-51.726	-10.9	991513	9.7	2.5	
Cr	52	1	nogas	-1.408	-8.1	28970	5.7	2.5	
Mn	55	1	nogas	0.169	8.3	15010	1.9	2.5	
Co	59	1	nogas	0.042	24.1	1187	12.0	2.5	
Ni	60	1	nogas	0.413	12.3	1633	9.4	2.5	
Cu	63	1	nogas	-0.024	-97.7	5007	3.1	2.5	
Zn	66	1	nogas	0.131	12.4	1007	3.5	2.5	
As	75	1	nogas	-37.681	-8.4	171120	5.9	2.5	
Sr	88	1	nogas	0.020	80.3	2804	11.0	2.5	
Ag	107	1	nogas	0.076	25.6	1363	15.1	2.5	
Cd	111	1	nogas	0.041	61.5	123	46.8	1	
Sb	121	1	nogas	0.729	12.7	8406	10.8	2.5	
Tl	205	1	nogas	0.228	34.1	4327	35.7	1	
Pb	208	1	nogas	0.081	32.1	2390	24.3	2.5	
U	238	1	nogas	0.046	25.9	1440	24.2	2.5	
[Pb]	206	1	nogas	0.062	31.9	580	24.4	2.5	
[Pb]	207	1	nogas	0.066	48.6	547	36.8	2.5	
Na	23	2	He	2.064	346.1	52680	3.6	100	
Mg	24	2	He	2.800	21.6	720	8.4	100	
Al	27	2	He	3.015	62.1	150	46.2	5	
K	39	2	He	21.959	52.6	13869	5.0	100	
Ca	43	2	He	76.842	62.2	30	33.3	100	
Ca	44	2	He	-6.170	-159.9	150	24.0	100	
V	51	2	He	0.226	14.9	650	6.3	2.5	
Cr	52	2	He	-0.331	-15.7	1187	9.2	2.5	
Mn	55	2	He	0.120	86.2	383	17.8	2.5	
Fe	56	2	He	-2.231	-16.7	11017	3.1	100	
Co	59	2	He	0.036	34.2	173	21.8	2.5	
Ni	60	2	He	0.559	21.5	287	38.3	2.5	
Cu	63	2	He	0.355	4.3	1073	1.9	2.5	
Zn	66	2	He	0.260	34.3	107	30.1	2.5	
As	75	2	He	-0.073	-30.4	33	17.3	2.5	
Se	78	2	He	0.935	42.5	13	31.2	2.5	
B	11	1	nogas	110.170	2.0	273785	1.8	10	CCB Main CR1 Failed
Si	28	1	nogas	-22.746	-11.1	859252	1.1	5	
Ca	43	1	nogas	6.436	42.4	830	6.0	100	
Ca	44	1	nogas	-373.617	-1.3	72289	1.9	100	
Fe	56	1	nogas	-13.164	-7.3	952787	1.0	100	
Se	77	1	nogas	-136.449	-9.8	55903	6.2	2.5	
Se	82	1	nogas	-0.545	-124.1	470	21.6	2.5	
Mo	95	1	nogas	0.124	38.2	800	22.9	2.5	
Sn	118	1	nogas	-0.046	-30.4	1627	6.2	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	-0.078	-16.0	327	9.4	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.602	7.5	817	4.9	2.5	
P	31	1	nogas	4.712	31.3	67638	1.9	10	
La	139	1	nogas	10.473	98.4	93	32.7	2.5	CCB Main CR1 Failed
Au	197	1	nogas	20317.331	83.0	10	100.0	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	389135	1.85	317621	122.52	70	125	
Ge	72	1	nogas	1635951	0.64	1478633	110.64	70	125	
In	115	1	nogas	1733974	1.84	1539303	112.65	70	125	
Bi	209	1	nogas	1615507	3.28	1532165	105.44	70	125	
Ge	72	2	He	132450	1.76	126743	104.50	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	110_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T13:32:24-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	94.850	3.289	282782	0.92	100	94.9	90	110	
Na	23	1	nogas	9948.110	1.954	123505415	1.99	10000	99.5	90	110	
Mg	24	1	nogas	10147.660	1.655	86116717	1.16	10000	101.5	90	110	
Al	27	1	nogas	95.567	2.716	1068291	2.22	100	95.6	90	110	
K	39	1	nogas	9509.404	1.925	97508496	1.76	10000	95.1	90	110	
Ti	47	1	nogas	94.514	1.969	97446	1.28	100	94.5	90	110	
V	51	1	nogas	84.417	4.995	3204393	1.12	100	84.4	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	94.196	3.276	1299320	2.89	100	94.2	90	110	
Mn	55	1	nogas	98.869	2.500	1623839	1.37	100	98.9	90	110	
Co	59	1	nogas	94.349	4.077	1384184	3.31	100	94.3	90	110	
Ni	60	1	nogas	94.011	2.729	302679	1.95	100	94.0	90	110	
Cu	63	1	nogas	94.467	0.452	744866	1.28	100	94.5	90	110	
Zn	66	1	nogas	96.078	2.504	244785	1.38	100	96.1	90	110	
As	75	1	nogas	66.865	7.912	498567	2.95	100	66.9	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	94.706	2.413	1682551	1.32	100	94.7	90	110	
Ag	107	1	nogas	91.033	1.835	949294	1.91	100	91.0	90	110	
Cd	111	1	nogas	97.260	1.766	199986	1.56	100	97.3	90	110	
Sb	121	1	nogas	89.995	1.835	884467	1.70	100	90.0	90	110	CCV Main CR1-2 Failed
Tl	205	1	nogas	97.624	2.649	1663492	1.13	100	97.6	90	110	
Pb	208	1	nogas	104.144	0.727	2335389	0.73	100	104.1	90	110	
U	238	1	nogas	100.391	3.631	2420290	1.77	100	100.4	90	110	
[Pb]	206	1	nogas	95.914	1.667	567361	0.44	100	95.9	90	110	
[Pb]	207	1	nogas	96.417	2.680	519531	1.24	100	96.4	90	110	
Na	23	2	He	10099.802	3.369	2474061	1.87	10000	101.0	90	110	
Mg	24	2	He	9929.112	3.767	1162624	2.19	10000	99.3	90	110	
Al	27	2	He	98.391	5.764	3487	4.31	100	98.4	90	110	
K	39	2	He	9952.757	0.284	605231	0.28	10000	99.5	90	110	
Ca	43	2	He	9360.036	6.177	1973	4.25	10000	93.6	90	110	
Ca	44	2	He	9536.813	2.507	35688	1.72	10000	95.4	90	110	
V	51	2	He	96.000	2.940	130739	1.49	100	96.0	90	110	
Cr	52	2	He	97.671	1.915	173210	1.23	100	97.7	90	110	
Mn	55	2	He	95.370	3.240	68638	1.09	100	95.4	90	110	
Fe	56	2	He	9605.491	3.346	13596211	1.97	10000	96.1	90	110	
Co	59	2	He	97.049	4.941	296089	3.06	100	97.0	90	110	
Ni	60	2	He	98.696	5.385	84375	3.40	100	98.7	90	110	
Cu	63	2	He	98.361	2.958	232503	0.80	100	98.4	90	110	
Zn	66	2	He	98.459	1.840	35675	1.83	100	98.5	90	110	
As	75	2	He	97.788	1.930	25086	0.79	100	97.8	90	110	
Se	78	2	He	102.624	6.961	1013	6.47	100	102.6	90	110	
B	11	1	nogas	592.824	2.495	1170812	0.75	500	118.6	90	110	CCV Main CR1-2 Failed
Si	28	1	nogas	4948.537	2.871	24803965	2.56	5000	99.0	90	110	
Ca	43	1	nogas	9593.889	1.989	187697	1.99	10000	95.9	90	110	
Ca	44	1	nogas	9132.750	4.011	3027251	3.06	10000	91.3	90	110	
Fe	56	1	nogas	9558.232	1.258	147996045	0.63	10000	95.6	90	110	
Se	77	1	nogas	-1.035	-1644.209	89982	4.42	100	-1.0	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.167	3.593	14970	2.42	100	96.2	90	110	
Mo	95	1	nogas	93.545	2.734	359382	2.12	100	93.5	90	110	
Sn	118	1	nogas	96.676	2.107	549955	1.75	100	96.7	90	110	
Ba	137	1	nogas	98.488	3.523	271241	3.54	100	98.5	90	110	
Sb	121	2	He	93.840	2.946	106443	0.79	100	93.8	90	110	
Li	7	1	nogas	100.688	2.964	748678	3.73	100	100.7	90	110	
P	31	1	nogas	467.820	0.749	396289	1.22	500	93.6	90	110	
La	139	1	nogas	89.238	18.422	300	15.27	100	89.2	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	19391.149	93.458	10	100.00	100	19391.1	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	355883	3.08	317621	112.05	70	125	
Ge	72	1	nogas	1628213	1.15	1478633	110.12	70	125	
In	115	1	nogas	1647787	0.59	1539303	107.05	70	125	
Bi	209	1	nogas	1526390	1.84	1532165	99.62	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	130688	2.16	126743	103.11	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	111_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T13:34:22-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.077	11.9	283	11.3	1	
Na	23	1	nogas	-11.806	-22.1	1774611	2.0	100	
Mg	24	1	nogas	5.990	16.2	60944	13.1	100	
Al	27	1	nogas	1.145	16.0	30505	8.6	5	
K	39	1	nogas	-15.322	-199.5	4959598	0.9	100	
Ti	47	1	nogas	0.208	65.4	590	25.0	2.5	
V	51	1	nogas	-2.767	-179.8	1779007	0.7	2.5	
Cr	52	1	nogas	-0.757	-12.4	37398	2.6	2.5	
Mn	55	1	nogas	0.271	15.6	16554	3.1	2.5	
Co	59	1	nogas	0.047	31.5	1247	17.8	2.5	
Ni	60	1	nogas	0.424	12.7	1657	10.1	2.5	
Cu	63	1	nogas	-0.050	-70.1	4764	1.0	2.5	
Zn	66	1	nogas	0.123	37.9	983	16.4	2.5	
As	75	1	nogas	-19.825	-20.3	225840	5.4	2.5	
Sr	88	1	nogas	0.020	87.1	2774	6.6	2.5	
Ag	107	1	nogas	0.062	12.9	1220	10.7	2.5	
Cd	111	1	nogas	0.035	31.1	110	18.2	1	
Sb	121	1	nogas	0.647	22.2	7508	14.5	2.5	
Tl	205	1	nogas	0.214	38.7	4017	34.0	1	
Pb	208	1	nogas	0.081	29.5	2393	22.3	2.5	
U	238	1	nogas	0.058	21.1	1723	15.1	2.5	
[Pb]	206	1	nogas	0.064	29.3	590	17.2	2.5	
[Pb]	207	1	nogas	0.063	47.1	523	29.6	2.5	
Na	23	2	He	-10.819	-20.0	49896	1.4	100	
Mg	24	2	He	4.267	20.5	900	10.0	100	
Al	27	2	He	2.784	71.7	143	52.4	5	
K	39	2	He	6.890	124.5	12971	3.9	100	
Ca	43	2	He	-64.683	0.0	0	#DIV/0!	100	
Ca	44	2	He	11.865	27.0	220	7.9	100	
V	51	2	He	0.604	0.6	1179	2.3	2.5	
Cr	52	2	He	-0.267	-18.7	1307	4.5	2.5	
Mn	55	2	He	0.210	40.2	453	14.7	2.5	
Fe	56	2	He	-0.776	-46.6	13195	1.9	100	
Co	59	2	He	0.028	50.7	150	29.1	2.5	
Ni	60	2	He	0.588	6.5	313	13.3	2.5	
Cu	63	2	He	0.335	23.1	1037	20.0	2.5	
Zn	66	2	He	0.386	37.0	153	32.2	2.5	
As	75	2	He	-0.002	-825.0	52	9.7	2.5	
Se	78	2	He	0.204	266.0	6	88.2	2.5	
B	11	1	nogas	93.374	2.8	238395	3.8	10	CCB Main CR1 Failed
Si	28	1	nogas	-15.988	-51.1	885157	0.6	5	
Ca	43	1	nogas	14.630	83.0	977	18.9	100	
Ca	44	1	nogas	-394.276	-2.4	65334	0.9	100	
Fe	56	1	nogas	-11.221	-32.3	975065	2.4	100	
Se	77	1	nogas	-62.843	-26.1	74138	5.5	2.5	
Se	82	1	nogas	-1.154	-43.0	377	21.3	2.5	
Mo	95	1	nogas	0.080	118.9	613	53.3	2.5	
Sn	118	1	nogas	-0.015	-253.0	1833	9.8	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	-0.049	-33.6	413	9.2	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.533	12.7	743	11.6	2.5	
P	31	1	nogas	0.310	1696.8	63972	1.3	10	
La	139	1	nogas	19.779	78.5	120	33.3	2.5	CCB Main CR1 Failed
Au	197	1	nogas	-14558.442	-119.1	30	33.3	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	388449	1.75	317621	122.30	70	125	
Ge	72	1	nogas	1625829	5.05	1478633	109.95	70	125	
In	115	1	nogas	1758014	3.64	1539303	114.21	70	125	
Bi	209	1	nogas	1616145	2.76	1532165	105.48	70	125	
Ge	72	2	He	133400	2.44	126743	105.25	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	122_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T13:56:35-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	98.068	2.666	258313	1.48	100	98.1	90	110	
Na	23	1	nogas	9848.197	2.612	110878048	1.76	10000	98.5	90	110	
Mg	24	1	nogas	9985.209	3.544	76838139	2.98	10000	99.9	90	110	
Al	27	1	nogas	95.163	3.836	961549	2.99	100	95.2	90	110	
K	39	1	nogas	9445.684	3.715	87561446	2.22	10000	94.5	90	110	
Ti	47	1	nogas	92.765	3.658	86439	1.87	100	92.8	90	110	
V	51	1	nogas	98.359	1.988	3102776	2.47	100	98.4	90	110	
Cr	52	1	nogas	94.422	5.940	1177443	6.05	100	94.4	90	110	
Mn	55	1	nogas	100.599	3.462	1494363	5.29	100	100.6	90	110	
Co	59	1	nogas	91.314	3.686	1211158	3.44	100	91.3	90	110	
Ni	60	1	nogas	93.406	1.712	271857	0.95	100	93.4	90	110	
Cu	63	1	nogas	94.109	4.957	670414	3.08	100	94.1	90	110	
Zn	66	1	nogas	97.405	5.312	224229	3.46	100	97.4	90	110	
As	75	1	nogas	74.284	5.292	471843	3.24	100	74.3	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	93.278	2.730	1498066	2.00	100	93.3	90	110	
Ag	107	1	nogas	93.058	2.307	877081	1.47	100	93.1	90	110	
Cd	111	1	nogas	96.848	1.760	184289	1.51	100	96.8	90	110	
Sb	121	1	nogas	91.286	4.794	810619	3.13	100	91.3	90	110	
Tl	205	1	nogas	92.733	6.142	1493901	3.28	100	92.7	90	110	
Pb	208	1	nogas	96.399	0.536	2161770	0.54	100	96.4	90	110	
U	238	1	nogas	98.468	1.014	2247468	3.41	100	98.5	90	110	
[Pb]	206	1	nogas	92.759	5.688	518672	2.11	100	92.8	90	110	
[Pb]	207	1	nogas	94.297	3.563	480598	0.18	100	94.3	90	110	
Na	23	2	He	9745.947	3.266	2193277	1.09	10000	97.5	90	110	
Mg	24	2	He	9364.196	3.577	1006672	1.94	10000	93.6	90	110	
Al	27	2	He	101.378	6.423	3300	7.44	100	101.4	90	110	
K	39	2	He	9105.619	1.931	554786	1.89	10000	91.1	90	110	
Ca	43	2	He	10294.767	11.463	1993	11.85	10000	102.9	90	110	
Ca	44	2	He	9137.408	0.556	31404	1.60	10000	91.4	90	110	
V	51	2	He	94.243	2.565	117843	1.46	100	94.2	90	110	
Cr	52	2	He	96.369	2.106	156915	1.21	100	96.4	90	110	
Mn	55	2	He	92.093	2.878	60861	0.75	100	92.1	90	110	
Fe	56	2	He	9277.621	2.941	12056398	1.12	10000	92.8	90	110	
Co	59	2	He	95.722	1.838	268238	1.76	100	95.7	90	110	
Ni	60	2	He	97.366	1.445	76459	1.27	100	97.4	90	110	
Cu	63	2	He	98.814	3.213	214450	2.18	100	98.8	90	110	
Zn	66	2	He	93.454	1.936	31084	0.18	100	93.5	90	110	
As	75	2	He	95.564	2.320	22507	1.22	100	95.6	90	110	
Se	78	2	He	99.388	7.443	901	5.89	100	99.4	90	110	
B	11	1	nogas	528.392	5.502	925345	3.39	500	105.7	90	110	
Si	28	1	nogas	4919.294	4.812	22290270	3.97	5000	98.4	90	110	
Ca	43	1	nogas	9526.438	4.268	168432	3.11	10000	95.3	90	110	
Ca	44	1	nogas	9171.216	4.385	2747355	3.62	10000	91.7	90	110	
Fe	56	1	nogas	9573.694	1.339	134035511	3.15	10000	95.7	90	110	
Se	77	1	nogas	30.355	44.977	88545	3.47	100	30.4	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	92.225	1.494	13002	2.32	100	92.2	90	110	
Mo	95	1	nogas	91.055	4.258	316123	2.41	100	91.1	90	110	
Sn	118	1	nogas	94.489	2.994	497348	0.27	100	94.5	90	110	
Ba	137	1	nogas	96.212	4.174	245096	1.28	100	96.2	90	110	
Sb	121	2	He	92.379	2.480	96207	0.41	100	92.4	90	110	
Li	7	1	nogas	100.254	2.384	658450	2.02	100	100.3	90	110	
P	31	1	nogas	470.150	1.090	359710	1.16	500	94.0	90	110	
La	139	1	nogas	127.649	14.205	373	13.48	100	127.6	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-33866.626	-69.822	37	31.49	100	-33866.6	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	314306	1.88	317621	98.96	70	125	
Ge	72	1	nogas	1471907	1.85	1478633	99.55	70	125	
In	115	1	nogas	1525345	2.94	1539303	99.09	70	125	
Bi	209	1	nogas	1444613	3.80	1532165	94.29	70	125	
Ge	72	2	He	119978	2.11	126743	94.66	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	123_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T13:58:35-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.077	32.2	257	29.2	1	
Na	23	1	nogas	-0.397	-516.7	1720734	1.1	100	
Mg	24	1	nogas	6.141	27.4	55728	21.5	100	
Al	27	1	nogas	1.010	1.4	26673	2.4	5	
K	39	1	nogas	-12.159	-91.3	4595665	0.9	100	
Ti	47	1	nogas	0.019	434.9	363	21.0	2.5	
V	51	1	nogas	13.186	25.0	1876978	4.1	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	-0.742	-13.5	34606	5.1	2.5	
Mn	55	1	nogas	0.255	15.8	14990	2.4	2.5	
Co	59	1	nogas	0.042	20.1	1087	9.2	2.5	
Ni	60	1	nogas	0.432	6.5	1550	5.3	2.5	
Cu	63	1	nogas	-0.098	-19.1	4047	3.8	2.5	
Zn	66	1	nogas	0.097	19.6	840	7.2	2.5	
As	75	1	nogas	-12.452	-19.5	229138	4.7	2.5	
Sr	88	1	nogas	0.022	107.1	2584	13.6	2.5	
Ag	107	1	nogas	0.065	35.7	1140	18.4	2.5	
Cd	111	1	nogas	0.023	33.8	77	19.9	1	
Sb	121	1	nogas	0.523	12.8	5818	8.7	2.5	
Tl	205	1	nogas	0.260	44.0	4257	41.7	1	
Pb	208	1	nogas	0.079	42.9	2343	32.3	2.5	
U	238	1	nogas	0.055	37.2	1447	30.2	2.5	
[Pb]	206	1	nogas	0.078	48.1	597	34.5	2.5	
[Pb]	207	1	nogas	0.082	45.6	553	32.8	2.5	
Na	23	2	He	13.319	69.9	50310	2.4	100	
Mg	24	2	He	2.745	29.6	650	15.6	100	
Al	27	2	He	3.868	9.4	163	9.4	5	
K	39	2	He	2.633	83.3	12718	1.0	100	
Ca	43	2	He	3.318	2311.5	13	114.6	100	
Ca	44	2	He	-8.050	-60.5	130	13.3	100	
V	51	2	He	0.742	4.0	1236	0.6	2.5	
Cr	52	2	He	-0.319	-31.6	1097	14.5	2.5	
Mn	55	2	He	0.232	57.5	423	21.2	2.5	
Fe	56	2	He	-0.787	-24.4	11894	3.9	100	
Co	59	2	He	0.054	47.8	207	32.9	2.5	
Ni	60	2	He	0.755	19.1	413	26.5	2.5	
Cu	63	2	He	0.329	6.0	920	2.9	2.5	
Zn	66	2	He	0.292	54.2	107	47.2	2.5	
As	75	2	He	-0.051	-111.4	36	39.0	2.5	
Se	78	2	He	-0.181	-118.9	2	100.0	2.5	
B	11	1	nogas	40.643	16.4	115500	6.2	10	CCB Main CR1 Failed
Si	28	1	nogas	-3.577	-140.9	869573	0.9	5	
Ca	43	1	nogas	15.806	17.6	927	7.2	100	
Ca	44	1	nogas	-397.451	-2.1	59217	2.3	100	
Fe	56	1	nogas	-11.551	-36.4	892763	5.5	100	
Se	77	1	nogas	-29.842	-29.4	75911	3.7	2.5	
Se	82	1	nogas	-0.370	-140.2	453	15.0	2.5	
Mo	95	1	nogas	0.111	80.6	680	44.9	2.5	
Sn	118	1	nogas	-0.035	-102.3	1550	10.6	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	-0.077	-5.3	300	6.7	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.464	22.8	597	16.8	2.5	
P	31	1	nogas	-0.039	-7578.9	58678	2.1	10	
La	139	1	nogas	5.950	50.1	73	7.9	2.5	CCB Main CR1 Failed
Au	197	1	nogas	17001.366	209.3	10	173.2	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	350367	5.54	317621	110.31	70	125	
Ge	72	1	nogas	1494654	1.91	1478633	101.08	70	125	
In	115	1	nogas	1587653	3.72	1539303	103.14	70	125	
Bi	209	1	nogas	1415252	3.89	1532165	92.37	70	125	
Ge	72	2	He	120308	2.55	126743	94.92	70	125	

Sample Report

Sample Table

Sample Name	MBLK-123278
Data File Name	124SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T14:00:38-06:00
Sample Type	Sample
Dilution	1
Comment	B123278 TW
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.017	0.017	69.54	80	0.02	2000	
Na	23	1	nogas	-22.502	-22.502	-24.42	1553739	0.00	200000	
Mg	24	1	nogas	10.695	10.695	5.18	96696	0.01	200000	
Al	27	1	nogas	4.083	4.083	3.81	60699	0.01	2000	
K	39	1	nogas	-33.248	-33.248	-35.01	4636960	0.00	200000	
Ti	47	1	nogas	-0.088	-0.088	-59.02	277	-0.03	2000	
V	51	1	nogas	2.406	2.406	137.23	1804362	0.00	2000	
Cr	52	1	nogas	-0.981	-0.981	-16.46	33327	0.00	2000	
Mn	55	1	nogas	-0.086	-0.086	-8.42	10413	0.00	2000	
Co	59	1	nogas	-0.009	-0.009	-48.83	423	0.00	2000	
Ni	60	1	nogas	0.409	0.409	2.51	1560	0.03	2000	
Cu	63	1	nogas	-0.171	-0.171	-9.67	3700	0.00	2000	
Zn	66	1	nogas	0.220	0.220	20.78	1187	0.02	2000	
As	75	1	nogas	-19.658	-19.658	-21.38	219094	-0.01	2000	
Sr	88	1	nogas	-0.047	-0.047	-19.70	1543	0.00	2000	
Ag	107	1	nogas	0.022	0.022	36.70	770	0.00	2000	
Cd	111	1	nogas	0.001	0.001	1840.01	33	0.00	2000	
Sb	121	1	nogas	0.078	0.078	13.47	1907	0.00	2000	
Tl	205	1	nogas	0.025	0.025	6.26	620	0.00	2000	
Pb	208	1	nogas	0.004	0.004	129.42	663	0.00	2000	
U	238	1	nogas	-0.004	-0.004	-21.64	153	0.00	2000	
[Pb]	206	1	nogas	-0.004	-0.004	-122.88	163	0.00	2000	
[Pb]	207	1	nogas	-0.006	-0.006	-70.42	127	-0.01	2000	
Na	23	2	He	-15.211	-15.211	-48.50	47847	-0.03	200000	
Mg	24	2	He	9.638	9.638	6.29	1513	0.64	200000	
Al	27	2	He	7.529	7.529	26.57	307	2.46	2000	
K	39	2	He	0.448	0.448	2014.68	12588	0.00	200000	
Ca	43	2	He	-1.532	-1.532	-1667.79	13	-11.49	200000	
Ca	44	2	He	-11.830	-11.830	-113.06	127	-9.34	200000	
V	51	2	He	0.642	0.642	8.16	1207	0.05	2000	
Cr	52	2	He	-0.349	-0.349	-2.60	1140	-0.03	2000	
Mn	55	2	He	-0.185	-0.185	-36.54	160	-0.12	2000	
Fe	56	2	He	-4.680	-4.680	-5.44	7412	-0.06	200000	
Co	59	2	He	0.004	0.004	335.73	73	0.01	2000	
Ni	60	2	He	0.669	0.669	7.56	377	0.18	2000	
Cu	63	2	He	0.271	0.271	7.54	863	0.03	2000	
Zn	66	2	He	0.404	0.404	30.25	157	0.26	2000	
As	75	2	He	-0.054	-0.054	-84.49	38	-0.14	2000	
Se	78	2	He	0.215	0.215	170.60	6	3.59	2000	
B	11	1	nogas	43.515	43.515	5.16	124409	0.03	2000	
Si	28	1	nogas	70.981	70.981	16.77	1261497	0.01	2000	
Ca	43	1	nogas	1.713	1.713	345.64	710	0.24	200000	

Sample Report

Ca	44	1	nogas	-416.532	-416.532	-1.19	56586	-0.74	200000	
Fe	56	1	nogas	-18.831	-18.831	-4.41	831792	0.00	200000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Se	77	1	nogas	-55.618	-55.618	-20.34	73528	-0.08	2000	
Se	82	1	nogas	-0.811	-0.811	-35.33	413	-0.20	2000	
Mo	95	1	nogas	-0.045	-0.045	-26.21	140	-0.03	2000	
Sn	118	1	nogas	-0.202	-0.202	-9.47	667	-0.03	2000	
Ba	137	1	nogas	0.189	0.189	17.92	1050	0.02	2000	
Sb	121	2	He	0.129	0.129	58.72	270	0.05	2000	
La	139	1	nogas	3.475	3.475	286.01	70	4.96	2000	
Au	197	1	nogas	1758.219	1758.219	1816.99	20	8791.09	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	359401	2.28	317621	113.15	70	125	
Ge	72	1	nogas	1572483	1.86	1478633	106.35	70	125	
In	115	1	nogas	1659386	0.91	1539303	107.80	70	125	
Bi	209	1	nogas	1591611	2.66	1532165	103.88	70	125	
Ge	72	2	He	130780	2.63	126743	103.18	70	125	

Sample Report

Sample Table

Sample Name	LCS-123278
Data File Name	125SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T14:02:38-06:00
Sample Type	Sample
Dilution	1
Comment	B123278 TW
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	44.925	44.925	7.62	129259	0.03	2000	
Na	23	1	nogas	4469.291	4469.291	4.95	57495680	0.01	200000	
Mg	24	1	nogas	4584.140	4584.140	5.15	39586121	0.01	200000	
Al	27	1	nogas	91.455	91.455	2.64	990338	0.01	2000	
K	39	1	nogas	4477.967	4477.967	4.92	47065054	0.01	200000	
Ti	47	1	nogas	136.185	136.185	3.40	135734	0.10	2000	
V	51	1	nogas	25.666	25.666	29.07	2174762	0.00	2000	
Cr	52	1	nogas	42.514	42.514	3.71	592852	0.01	2000	
Mn	55	1	nogas	45.536	45.536	2.64	730424	0.01	2000	
Co	59	1	nogas	43.826	43.826	2.00	622807	0.01	2000	
Ni	60	1	nogas	47.127	47.127	5.04	147014	0.03	2000	
Cu	63	1	nogas	46.834	46.834	3.50	359894	0.01	2000	
Zn	66	1	nogas	48.475	48.475	2.57	119869	0.04	2000	
As	75	1	nogas	8.697	8.697	28.58	305778	0.00	2000	
Sr	88	1	nogas	87.891	87.891	0.52	1511854	0.01	2000	
Ag	107	1	nogas	44.795	44.795	0.18	452456	0.01	2000	
Cd	111	1	nogas	45.446	45.446	1.61	95864	0.05	2000	
Sb	121	1	nogas	45.032	45.032	2.86	428920	0.01	2000	
Tl	205	1	nogas	45.346	45.346	3.56	779879	0.01	2000	
Pb	208	1	nogas	48.854	48.854	2.85	1095851	0.00	2000	
U	238	1	nogas	91.200	91.200	2.88	2219974	0.00	2000	
[Pb]	206	1	nogas	45.583	45.583	3.85	272194	0.02	2000	
[Pb]	207	1	nogas	44.773	44.773	4.77	243552	0.02	2000	
Na	23	2	He	4472.089	4472.089	3.57	1146967	0.39	200000	
Mg	24	2	He	4406.900	4406.900	2.29	526554	0.84	200000	
Al	27	2	He	83.437	83.437	4.34	3027	2.76	2000	
K	39	2	He	4668.946	4668.946	2.00	290589	1.61	200000	
Ca	43	2	He	4386.219	4386.219	9.07	953	460.07	200000	
Ca	44	2	He	4501.841	4501.841	1.65	17275	26.06	200000	
V	51	2	He	43.246	43.246	3.44	60241	0.07	2000	
Cr	52	2	He	44.489	44.489	3.85	81409	0.05	2000	
Mn	55	2	He	43.054	43.054	1.73	31778	0.14	2000	
Fe	56	2	He	4327.021	4327.021	2.32	6254569	0.07	200000	
Co	59	2	He	44.472	44.472	3.25	138423	0.03	2000	
Ni	60	2	He	45.069	45.069	5.55	39172	0.12	2000	
Cu	63	2	He	45.310	45.310	4.12	109316	0.04	2000	
Zn	66	2	He	46.708	46.708	5.39	17252	0.27	2000	
As	75	2	He	44.183	44.183	2.90	11586	0.38	2000	
Se	78	2	He	42.670	42.670	20.11	431	9.89	2000	
B	11	1	nogas	487.929	487.929	6.38	936925	0.05	2000	
Si	28	1	nogas	4802.350	4802.350	1.21	23327615	0.02	2000	>LDR
Ca	43	1	nogas	4595.850	4595.850	4.70	87369	5.26	200000	
Ca	44	1	nogas	4189.724	4189.724	6.01	1442721	0.29	200000	
Fe	56	1	nogas	4437.314	4437.314	1.62	67110870	0.01	200000	

Sample Report

Se	77	1	nogas	-84.521	-84.521	-12.15	66592	-0.13	2000	
Se	82	1	nogas	43.205	43.205	7.22	6801	0.64	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	43.014	43.014	3.58	160126	0.03	2000	
Sn	118	1	nogas	88.149	88.149	0.28	514524	0.02	2000	
Ba	137	1	nogas	42.948	42.948	1.65	121611	0.04	2000	
Sb	121	2	He	45.683	45.683	4.81	52887	0.09	2000	
La	139	1	nogas	24.685	24.685	36.93	130	18.99	2000	
Au	197	1	nogas	1548.895	1548.895	1109.11	20	7744.48	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	343927	4.41	317621	108.28	70	125	
Ge	72	1	nogas	1576049	1.10	1478633	106.59	70	125	
In	115	1	nogas	1690110	1.17	1539303	109.80	70	125	
Bi	209	1	nogas	1541336	3.76	1532165	100.60	70	125	
Ge	72	2	He	133310	3.45	126743	105.18	70	125	

Sample Report

Sample Table

Sample Name	HS17120365-01
Data File Name	126SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T14:04:37-06:00
Sample Type	Sample
Dilution	1
Comment	B123278 TW
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.039	0.039	86.70	140	0.03	2000	
Na	23	1	nogas	OR	OR	#VALUE!	OR	#VALUE!	200000	
Mg	24	1	nogas	26861.498	26861.498	2.68	218076713	0.01	200000	
Al	27	1	nogas	7.585	7.585	1.03	94489	0.01	2000	
K	39	1	nogas	1757.559	1757.559	3.38	20695317	0.01	200000	
Ti	47	1	nogas	3.260	3.260	6.08	3474	0.09	2000	
V	51	1	nogas	8.425	8.425	107.73	1832192	0.00	2000	
Cr	52	1	nogas	-0.270	-0.270	-80.71	40949	0.00	2000	
Mn	55	1	nogas	82.217	82.217	3.88	1260644	0.01	2000	
Co	59	1	nogas	0.268	0.268	11.53	4194	0.01	2000	
Ni	60	1	nogas	2.017	2.017	11.51	6321	0.03	2000	
Cu	63	1	nogas	0.789	0.789	15.70	10580	0.01	2000	
Zn	66	1	nogas	5.679	5.679	1.53	14082	0.04	2000	
As	75	1	nogas	-15.958	-15.958	-20.89	222294	-0.01	2000	
Sr	88	1	nogas	379.017	379.017	5.34	6267973	0.01	2000	
Ag	107	1	nogas	0.032	0.032	22.08	843	0.00	2000	
Cd	111	1	nogas	0.050	0.050	7.44	130	0.04	2000	
Sb	121	1	nogas	0.125	0.125	20.43	2274	0.01	2000	
Tl	205	1	nogas	0.170	0.170	44.29	2900	0.01	2000	
Pb	208	1	nogas	0.054	0.054	34.23	1783	0.00	2000	
U	238	1	nogas	0.174	0.174	9.83	4151	0.00	2000	
[Pb]	206	1	nogas	0.052	0.052	57.29	460	0.01	2000	
[Pb]	207	1	nogas	0.050	0.050	13.51	400	0.01	2000	
Na	23	2	He	439523.705	439523.705	2.43	103477252	0.42	200000	>LDR
Mg	24	2	He	25867.552	25867.552	3.74	2969817	0.87	200000	
Al	27	2	He	6.762	6.762	10.04	273	2.47	2000	
K	39	2	He	1790.372	1790.372	1.25	119175	1.50	200000	
Ca	43	2	He	16655.229	16655.229	5.11	3434	485.05	200000	
Ca	44	2	He	14925.487	14925.487	2.43	54698	27.29	200000	
V	51	2	He	0.885	0.885	11.65	1505	0.06	2000	
Cr	52	2	He	0.222	0.222	10.83	2100	0.01	2000	
Mn	55	2	He	75.644	75.644	0.69	53478	0.14	2000	
Fe	56	2	He	20.658	20.658	3.35	42416	0.05	200000	
Co	59	2	He	0.260	0.260	19.64	840	0.03	2000	
Ni	60	2	He	1.426	1.426	11.50	1003	0.14	2000	
Cu	63	2	He	0.524	0.524	5.23	1433	0.04	2000	
Zn	66	2	He	5.717	5.717	6.04	2043	0.28	2000	
As	75	2	He	0.416	0.416	26.35	156	0.27	2000	
Se	78	2	He	0.834	0.834	71.01	12	6.95	2000	
B	11	1	nogas	96.283	96.283	5.96	214931	0.04	2000	
Si	28	1	nogas	15418.150	15418.150	3.07	70135992	0.02	2000	>LDR
Ca	43	1	nogas	14713.569	14713.569	2.96	268042	5.49	200000	
Ca	44	1	nogas	14161.635	14161.635	1.98	4281098	0.33	200000	
Fe	56	1	nogas	26.806	26.806	9.07	1456732	0.00	200000	
Se	77	1	nogas	-43.562	-43.562	-27.16	73826	-0.06	2000	
Se	82	1	nogas	0.084	0.084	468.49	523	0.02	2000	

Sample Report

Mo	95	1	nogas	0.177	0.177	52.45	933	0.02	2000	
Sn	118	1	nogas	-0.073	-0.073	-61.53	1350	-0.01	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ba	137	1	nogas	227.306	227.306	2.64	606273	0.04	2000	
Sb	121	2	He	0.178	0.178	39.05	320	0.06	2000	
La	139	1	nogas	47.770	47.770	35.68	183	26.06	2000	
Au	197	1	nogas	-1131.118	-1131.118	-1567.96	20	-5655.59	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	341908	2.87	317621	107.65	70	125	
Ge	72	1	nogas	1518496	2.81	1478633	102.70	70	125	
In	115	1	nogas	1598143	2.19	1539303	103.82	70	125	
Bi	209	1	nogas	1427062	5.14	1532165	93.14	70	125	
Ge	72	2	He	128188	2.68	126743	101.14	70	125	

Sample Report

Sample Table

Sample Name	HS17120435-01SD
Data File Name	129SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T14:10:43-06:00
Sample Type	Sample
Dilution	5
Comment	B123278 TW
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.020	0.099	31.53	90	0.02	2000	
Na	23	1	nogas	99767.209	498836.046	4.02	1194540260	0.01	200000	
Mg	24	1	nogas	31105.339	155526.693	1.35	258193581	0.01	200000	
Al	27	1	nogas	14.724	73.622	2.09	176098	0.01	2000	
K	39	1	nogas	219.068	1095.339	8.88	7100821	0.00	200000	
Ti	47	1	nogas	0.214	1.072	61.33	587	0.04	2000	
V	51	1	nogas	-24.013	-120.066	-21.88	1407703	0.00	2000	
Cr	52	1	nogas	-1.034	-5.169	-15.43	33093	0.00	2000	
Mn	55	1	nogas	8.170	40.848	0.89	142368	0.01	2000	
Co	59	1	nogas	0.101	0.504	5.25	2000	0.01	2000	
Ni	60	1	nogas	2.711	13.554	4.12	8829	0.03	2000	
Cu	63	1	nogas	0.606	3.030	6.66	9719	0.01	2000	
Zn	66	1	nogas	2.240	11.200	2.68	6231	0.04	2000	
As	75	1	nogas	-27.037	-135.186	-16.76	199428	-0.01	2000	
Sr	88	1	nogas	1143.244	5716.219	2.67	19860093	0.01	2000	
Ag	107	1	nogas	-0.012	-0.061	-49.92	433	0.00	2000	
Cd	111	1	nogas	0.069	0.347	36.83	180	0.04	2000	
Sb	121	1	nogas	0.044	0.218	24.54	1603	0.00	2000	
Tl	205	1	nogas	0.007	0.037	16.63	290	0.00	2000	
Pb	208	1	nogas	0.128	0.642	8.14	3460	0.00	2000	
U	238	1	nogas	1.100	5.499	1.89	26142	0.00	2000	
[Pb]	206	1	nogas	0.113	0.567	22.13	830	0.01	2000	
[Pb]	207	1	nogas	0.107	0.533	11.94	713	0.01	2000	
Na	23	2	He	97654.042	488270.210	1.54	23728265	0.41	200000	
Mg	24	2	He	30205.133	151025.663	1.03	3574533	0.85	200000	
Al	27	2	He	17.651	88.256	12.67	667	2.65	2000	
K	39	2	He	242.245	1211.225	1.65	26986	0.90	200000	
Ca	43	2	He	59676.315	298381.575	6.92	12655	471.58	200000	
Ca	44	2	He	53761.237	268806.187	0.25	202539	26.54	200000	
V	51	2	He	0.586	2.928	4.88	1142	0.05	2000	
Cr	52	2	He	-0.187	-0.933	-83.98	1437	-0.01	2000	
Mn	55	2	He	8.286	41.430	9.94	6298	0.13	2000	
Fe	56	2	He	11.314	56.570	7.38	30345	0.04	200000	
Co	59	2	He	0.076	0.378	18.94	297	0.03	2000	
Ni	60	2	He	2.023	10.116	5.18	1553	0.13	2000	
Cu	63	2	He	0.706	3.531	15.96	1910	0.04	2000	
Zn	66	2	He	2.055	10.276	16.04	763	0.27	2000	
As	75	2	He	-0.030	-0.151	-240.43	44	-0.07	2000	
Se	78	2	He	-0.132	-0.658	-175.93	3	-4.93	2000	
B	11	1	nogas	61.352	306.761	3.95	159023	0.04	2000	
Si	28	1	nogas	2792.067	13960.337	0.43	14117671	0.02	2000	>LDR
Ca	43	1	nogas	53058.989	265294.945	2.37	1013114	5.24	200000	
Ca	44	1	nogas	52354.402	261772.008	2.33	16120276	0.32	200000	
Fe	56	1	nogas	31.380	156.899	6.34	1598495	0.00	200000	
Se	77	1	nogas	-83.070	-415.352	-21.55	67713	-0.12	2000	
Se	82	1	nogas	0.298	1.489	188.31	583	0.05	2000	

Sample Report

Mo	95	1	nogas	0.022	0.112	50.70	397	0.01	2000	
Sn	118	1	nogas	-0.165	-0.825	-8.64	903	-0.02	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ba	137	1	nogas	171.974	859.869	2.66	489331	0.04	2000	
Sb	121	2	He	0.039	0.196	47.15	170	0.02	2000	
La	139	1	nogas	647.017	3235.084	8.40	1860	34.78	2000	
Au	197	1	nogas	12513.135	62565.676	85.42	13	93848.51	2000	>LDR

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	359999	2.09	317621	113.34	70	125	
Ge	72	1	nogas	1594587	2.77	1478633	107.84	70	125	
In	115	1	nogas	1704279	1.50	1539303	110.72	70	125	
Bi	209	1	nogas	1490687	1.14	1532165	97.29	70	125	
Ge	72	2	He	132057	0.96	126743	104.19	70	125	

Sample Report

Sample Table

Sample Name	HS17120435-01MS
Data File Name	130SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T14:12:49-06:00
Sample Type	Sample
Dilution	1
Comment	B123278 TW
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	56.342	56.342	4.24	124205	0.05	2000	
Na	23	1	nogas	OR	OR	#VALUE!	OR	#VALUE!	200000	
Mg	24	1	nogas	159453.603	159453.603	4.84	1327231130	0.01	200000	
Al	27	1	nogas	163.641	163.641	3.59	1714490	0.01	2000	
K	39	1	nogas	5523.881	5523.881	1.64	55503453	0.01	200000	
Ti	47	1	nogas	133.917	133.917	1.40	130201	0.10	2000	
V	51	1	nogas	22.586	22.586	8.07	2074442	0.00	2000	
Cr	52	1	nogas	42.258	42.258	3.38	574931	0.01	2000	
Mn	55	1	nogas	85.939	85.939	2.55	1333961	0.01	2000	
Co	59	1	nogas	41.798	41.798	1.76	579257	0.01	2000	
Ni	60	1	nogas	51.878	51.878	1.18	157825	0.03	2000	
Cu	63	1	nogas	44.792	44.792	1.26	335995	0.01	2000	
Zn	66	1	nogas	52.940	52.940	1.87	127661	0.04	2000	
As	75	1	nogas	22.915	22.915	6.00	340441	0.01	2000	
Sr	88	1	nogas	6100.182	6100.182	1.86	102173715	0.01	2000	>LDR
Ag	107	1	nogas	41.740	41.740	0.63	411209	0.01	2000	
Cd	111	1	nogas	44.934	44.934	3.29	87997	0.05	2000	
Sb	121	1	nogas	44.248	44.248	0.46	411176	0.01	2000	
Tl	205	1	nogas	42.910	42.910	0.59	686616	0.01	2000	
Pb	208	1	nogas	46.614	46.614	1.02	1045616	0.00	2000	
U	238	1	nogas	102.357	102.357	1.68	2317178	0.00	2000	
[Pb]	206	1	nogas	46.375	46.375	2.75	257603	0.02	2000	
[Pb]	207	1	nogas	46.213	46.213	1.54	233873	0.02	2000	
Na	23	2	He	520411.987	520411.987	4.76	122434348	0.43	200000	>LDR
Mg	24	2	He	160108.299	160108.299	5.41	18373710	0.87	200000	
Al	27	2	He	160.696	160.696	4.90	5561	2.89	2000	
K	39	2	He	5699.344	5699.344	1.78	351948	1.62	200000	
Ca	43	2	He	322440.264	322440.264	1.70	66266	486.59	200000	>LDR
Ca	44	2	He	292989.317	292989.317	2.74	1070157	27.38	200000	>LDR
V	51	2	He	46.455	46.455	4.17	62200	0.07	2000	
Cr	52	2	He	45.761	45.761	1.19	80506	0.06	2000	
Mn	55	2	He	84.957	84.957	2.77	60005	0.14	2000	
Fe	56	2	He	4424.894	4424.894	2.78	6149813	0.07	200000	
Co	59	2	He	42.366	42.366	3.91	126805	0.03	2000	
Ni	60	2	He	49.220	49.220	3.79	41183	0.12	2000	
Cu	63	2	He	44.059	44.059	1.79	102276	0.04	2000	
Zn	66	2	He	52.766	52.766	5.86	18743	0.28	2000	
As	75	2	He	45.408	45.408	3.07	11450	0.40	2000	
Se	78	2	He	45.244	45.244	3.06	441	10.27	2000	
B	11	1	nogas	680.429	680.429	8.33	987823	0.07	2000	
Si	28	1	nogas	19367.006	19367.006	2.88	88974425	0.02	2000	>LDR
Ca	43	1	nogas	296983.699	296983.699	2.06	5466102	5.43	200000	>LDR
Ca	44	1	nogas	289445.338	289445.338	2.58	85142740	0.34	200000	>LDR
Fe	56	1	nogas	4443.668	4443.668	2.08	65529666	0.01	200000	
Se	77	1	nogas	-31.227	-31.227	-11.62	77722	-0.04	2000	
Se	82	1	nogas	47.832	47.832	6.13	7292	0.66	2000	

Sample Report

Mo	95	1	nogas	43.496	43.496	1.75	157959	0.03	2000	
Sn	118	1	nogas	89.002	89.002	2.96	482220	0.02	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ba	137	1	nogas	1085.168	1085.168	6.20	2839217	0.04	2000	
Sb	121	2	He	45.817	45.817	3.55	51025	0.09	2000	
La	139	1	nogas	3992.653	3992.653	6.45	10257	38.93	2000	>LDR
Au	197	1	nogas	-27574.864	-27574.864	-80.78	33	-82724.59	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	263277	4.52	317621	82.89	70	125	
Ge	72	1	nogas	1537172	1.56	1478633	103.96	70	125	
In	115	1	nogas	1569589	2.49	1539303	101.97	70	125	
Bi	209	1	nogas	1432782	0.74	1532165	93.51	70	125	
Ge	72	2	He	128172	2.42	126743	101.13	70	125	

Sample Report

Sample Table

Sample Name	HS17120435-01MSD
Data File Name	131SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T14:14:48-06:00
Sample Type	Sample
Dilution	1
Comment	B123278 TW
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	58.604	58.604	4.98	123277	0.05	2000	
Na	23	1	nogas	OR	OR	#VALUE!	OR	#VALUE!	200000	
Mg	24	1	nogas	170456.105	170456.105	4.99	1376526364	0.01	200000	
Al	27	1	nogas	166.891	166.891	1.72	1721100	0.01	2000	
K	39	1	nogas	5490.113	5490.113	2.10	54312260	0.01	200000	
Ti	47	1	nogas	136.976	136.976	2.28	131083	0.10	2000	
V	51	1	nogas	21.295	21.295	17.71	2021531	0.00	2000	
Cr	52	1	nogas	42.926	42.926	4.23	574023	0.01	2000	
Mn	55	1	nogas	86.168	86.168	4.22	1316004	0.01	2000	
Co	59	1	nogas	42.139	42.139	2.61	574695	0.01	2000	
Ni	60	1	nogas	53.351	53.351	3.85	159673	0.03	2000	
Cu	63	1	nogas	46.447	46.447	2.02	342658	0.01	2000	
Zn	66	1	nogas	53.972	53.972	0.31	128052	0.04	2000	
As	75	1	nogas	23.448	23.448	17.98	336485	0.01	2000	
Sr	88	1	nogas	6341.718	6341.718	4.03	104505275	0.01	2000	>LDR
Ag	107	1	nogas	41.860	41.860	0.89	405829	0.01	2000	
Cd	111	1	nogas	46.048	46.048	2.37	88363	0.05	2000	
Sb	121	1	nogas	45.390	45.390	1.28	415073	0.01	2000	
Tl	205	1	nogas	44.237	44.237	1.00	700981	0.01	2000	
Pb	208	1	nogas	46.348	46.348	1.19	1039663	0.00	2000	
U	238	1	nogas	102.500	102.500	1.59	2298355	0.00	2000	
[Pb]	206	1	nogas	46.710	46.710	1.44	256987	0.02	2000	
[Pb]	207	1	nogas	46.338	46.338	1.90	232230	0.02	2000	
Na	23	2	He	523419.810	523419.810	5.46	122117592	0.43	200000	>LDR
Mg	24	2	He	161513.158	161513.158	6.46	18377097	0.88	200000	
Al	27	2	He	163.812	163.812	6.79	5618	2.92	2000	
K	39	2	He	5696.920	5696.920	1.10	351803	1.62	200000	
Ca	43	2	He	323217.087	323217.087	6.01	65830	490.99	200000	>LDR
Ca	44	2	He	292189.893	292189.893	5.33	1058034	27.62	200000	>LDR
V	51	2	He	47.245	47.245	4.46	62737	0.08	2000	
Cr	52	2	He	45.385	45.385	6.61	79123	0.06	2000	
Mn	55	2	He	85.479	85.479	3.45	59885	0.14	2000	
Fe	56	2	He	4379.570	4379.570	4.38	6036464	0.07	200000	
Co	59	2	He	42.652	42.652	7.27	126508	0.03	2000	
Ni	60	2	He	48.844	48.844	6.39	40512	0.12	2000	
Cu	63	2	He	44.098	44.098	3.41	101531	0.04	2000	
Zn	66	2	He	52.672	52.672	6.54	18553	0.28	2000	
As	75	2	He	45.462	45.462	7.80	11356	0.40	2000	
Se	78	2	He	44.056	44.056	8.82	425	10.37	2000	
B	11	1	nogas	715.283	715.283	7.86	989756	0.07	2000	
Si	28	1	nogas	19981.202	19981.202	0.89	90337635	0.02	2000	>LDR
Ca	43	1	nogas	292784.350	292784.350	2.13	5303596	5.52	200000	>LDR
Ca	44	1	nogas	288042.195	288042.195	0.37	83386579	0.35	200000	>LDR
Fe	56	1	nogas	4381.180	4381.180	3.06	63590320	0.01	200000	
Se	77	1	nogas	-23.490	-23.490	-42.47	78301	-0.03	2000	
Se	82	1	nogas	48.438	48.438	3.51	7262	0.67	2000	

Sample Report

Mo	95	1	nogas	45.554	45.554	1.41	162753	0.03	2000	
Sn	118	1	nogas	91.659	91.659	2.93	486587	0.02	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ba	137	1	nogas	1074.701	1074.701	2.94	2756575	0.04	2000	
Sb	121	2	He	45.271	45.271	3.21	50026	0.09	2000	
La	139	1	nogas	4061.721	4061.721	5.04	10226	39.72	2000	>LDR
Au	197	1	nogas	-1964.533	-1964.533	-18.38	20	-9822.66	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	251332	4.99	317621	79.13	70	125	
Ge	72	1	nogas	1512767	1.62	1478633	102.31	70	125	
In	115	1	nogas	1537969	2.08	1539303	99.91	70	125	
Bi	209	1	nogas	1418903	0.91	1532165	92.61	70	125	
Ge	72	2	He	127221	4.61	126743	100.38	70	125	

Sample Report

Sample Table

Sample Name	HS17120435-01PDS
Data File Name	132SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T14:16:48-06:00
Sample Type	Sample
Dilution	1
Comment	B123278 TW
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	97.201	97.201	1.90	235840	0.04	2000	
Na	23	1	nogas	OR	OR	#VALUE!	OR	#VALUE!	200000	
Mg	24	1	nogas	165581.547	165581.547	2.69	1339628897	0.01	200000	
Al	27	1	nogas	149.805	149.805	5.21	1572364	0.01	2000	
K	39	1	nogas	9349.814	9349.814	1.22	90714292	0.01	200000	
Ti	47	1	nogas	86.970	86.970	4.05	84748	0.10	2000	
V	51	1	nogas	66.624	66.624	11.56	2753807	0.00	2000	
Cr	52	1	nogas	82.672	82.672	5.04	1082803	0.01	2000	
Mn	55	1	nogas	125.911	125.911	3.82	1951399	0.01	2000	
Co	59	1	nogas	79.883	79.883	4.10	1107603	0.01	2000	
Ni	60	1	nogas	90.029	90.029	2.01	273986	0.03	2000	
Cu	63	1	nogas	82.360	82.360	1.14	614501	0.01	2000	
Zn	66	1	nogas	93.549	93.549	0.80	225375	0.04	2000	
As	75	1	nogas	66.131	66.131	6.61	469048	0.01	2000	
Sr	88	1	nogas	5980.352	5980.352	3.43	100260382	0.01	2000	>LDR
Ag	107	1	nogas	78.493	78.493	3.42	773466	0.01	2000	
Cd	111	1	nogas	85.145	85.145	1.89	167747	0.05	2000	
Sb	121	1	nogas	77.987	77.987	1.40	724570	0.01	2000	
Tl	205	1	nogas	90.694	90.694	1.33	1394682	0.01	2000	
Pb	208	1	nogas	86.449	86.449	1.75	1938697	0.00	2000	
U	238	1	nogas	6.042	6.042	3.35	131651	0.00	2000	
[Pb]	206	1	nogas	89.536	89.536	2.46	477902	0.02	2000	
[Pb]	207	1	nogas	88.986	88.986	0.36	432828	0.02	2000	
Na	23	2	He	507827.903	507827.903	0.47	118380215	0.43	200000	>LDR
Mg	24	2	He	160960.243	160960.243	0.99	18306586	0.88	200000	
Al	27	2	He	148.675	148.675	8.99	5094	2.92	2000	
K	39	2	He	9764.251	9764.251	1.41	594006	1.64	200000	
Ca	43	2	He	321344.944	321344.944	2.00	65405	491.31	200000	>LDR
Ca	44	2	He	295137.011	295137.011	4.75	1067419	27.65	200000	>LDR
V	51	2	He	87.828	87.828	2.30	116200	0.08	2000	
Cr	52	2	He	87.813	87.813	1.23	151411	0.06	2000	
Mn	55	2	He	124.928	124.928	0.76	87270	0.14	2000	
Fe	56	2	He	8297.470	8297.470	0.97	11411742	0.07	200000	
Co	59	2	He	81.885	81.885	0.49	242765	0.03	2000	
Ni	60	2	He	86.833	86.833	2.34	72112	0.12	2000	
Cu	63	2	He	83.102	83.102	1.69	190833	0.04	2000	
Zn	66	2	He	94.740	94.740	1.71	33334	0.28	2000	
As	75	2	He	87.854	87.854	1.05	21894	0.40	2000	
Se	78	2	He	90.175	90.175	5.36	866	10.41	2000	
B	11	1	nogas	109.220	109.220	6.96	201998	0.05	2000	
Si	28	1	nogas	14759.287	14759.287	2.85	68099874	0.02	2000	>LDR
Ca	43	1	nogas	287248.675	287248.675	1.19	5293225	5.43	200000	>LDR
Ca	44	1	nogas	279489.325	279489.325	1.43	82345527	0.34	200000	>LDR
Fe	56	1	nogas	8358.842	8358.842	4.37	122420715	0.01	200000	
Se	77	1	nogas	11.148	11.148	88.06	88005	0.01	2000	
Se	82	1	nogas	87.385	87.385	4.54	12901	0.68	2000	

Sample Report

Mo	95	1	nogas	83.691	83.691	1.06	303958	0.03	2000	
Sn	118	1	nogas	0.129	0.129	58.54	2430	0.01	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ba	137	1	nogas	1031.950	1031.950	2.80	2717833	0.04	2000	
Sb	121	2	He	82.271	82.271	2.59	90689	0.09	2000	
La	139	1	nogas	3670.196	3670.196	1.52	9499	38.64	2000	>LDR
Au	197	1	nogas	-3465.896	-3465.896	-1199.29	20	-17329.48	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	289467	2.70	317621	91.14	70	125	
Ge	72	1	nogas	1539134	2.33	1478633	104.09	70	125	
In	115	1	nogas	1579051	2.15	1539303	102.58	70	125	
Bi	209	1	nogas	1377337	2.00	1532165	89.89	70	125	
Ge	72	2	He	126911	1.85	126743	100.13	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	134_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T14:20:50-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	90.559	5.088	260732	2.75	100	90.6	90	110	
Na	23	1	nogas	10003.349	3.455	121784499	0.64	10000	100.0	90	110	
Mg	24	1	nogas	9917.429	2.138	82572323	1.99	10000	99.2	90	110	
Al	27	1	nogas	95.089	8.252	1005331	3.24	100	95.1	90	110	
K	39	1	nogas	9675.530	4.999	93842094	1.78	10000	96.8	90	110	
Ti	47	1	nogas	91.538	5.457	89354	2.37	100	91.5	90	110	
V	51	1	nogas	95.709	4.895	3210648	2.94	100	95.7	90	110	
Cr	52	1	nogas	92.678	5.819	1210612	0.66	100	92.7	90	110	
Mn	55	1	nogas	99.741	5.357	1550631	1.00	100	99.7	90	110	
Co	59	1	nogas	94.747	3.035	1317166	3.43	100	94.7	90	110	
Ni	60	1	nogas	97.764	5.886	297936	2.63	100	97.8	90	110	
Cu	63	1	nogas	99.271	7.979	739939	3.03	100	99.3	90	110	
Zn	66	1	nogas	98.562	5.914	237650	1.39	100	98.6	90	110	
As	75	1	nogas	81.512	3.317	516065	3.30	100	81.5	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	99.057	6.495	1665949	4.35	100	99.1	90	110	
Ag	107	1	nogas	93.381	5.493	921573	0.73	100	93.4	90	110	
Cd	111	1	nogas	94.442	3.313	195701	1.96	100	94.4	90	110	
Sb	121	1	nogas	94.084	3.779	875574	1.54	100	94.1	90	110	
Tl	205	1	nogas	96.904	4.402	1664710	3.68	100	96.9	90	110	
Pb	208	1	nogas	102.944	1.088	2308493	1.09	100	102.9	90	110	
U	238	1	nogas	98.481	0.186	2394523	1.01	100	98.5	90	110	
[Pb]	206	1	nogas	93.506	2.525	557628	1.71	100	93.5	90	110	
[Pb]	207	1	nogas	94.105	2.169	511297	1.87	100	94.1	90	110	
Na	23	2	He	10145.440	0.891	2429958	0.49	10000	101.5	90	110	
Mg	24	2	He	9960.987	2.787	1140412	1.48	10000	99.6	90	110	
Al	27	2	He	96.641	12.945	3347	11.52	100	96.6	90	110	
K	39	2	He	9598.712	0.790	584149	0.77	10000	96.0	90	110	
Ca	43	2	He	9905.124	7.244	2043	8.40	10000	99.1	90	110	
Ca	44	2	He	9430.774	0.239	34509	1.35	10000	94.3	90	110	
V	51	2	He	96.478	0.903	128477	0.92	100	96.5	90	110	
Cr	52	2	He	95.424	1.948	165506	2.56	100	95.4	90	110	
Mn	55	2	He	92.934	3.841	65420	4.00	100	92.9	90	110	
Fe	56	2	He	9445.267	0.996	13073345	0.52	10000	94.5	90	110	
Co	59	2	He	95.188	0.956	284051	0.72	100	95.2	90	110	
Ni	60	2	He	95.614	2.615	79951	2.39	100	95.6	90	110	
Cu	63	2	He	97.674	3.313	225737	2.37	100	97.7	90	110	
Zn	66	2	He	98.843	3.660	35004	2.36	100	98.8	90	110	
As	75	2	He	96.146	1.984	24116	1.76	100	96.1	90	110	
Se	78	2	He	98.204	3.186	949	4.55	100	98.2	90	110	
B	11	1	nogas	530.545	1.490	1016631	2.86	500	106.1	90	110	
Si	28	1	nogas	4997.546	6.668	23693784	2.13	5000	100.0	90	110	
Ca	43	1	nogas	9927.192	6.291	183755	2.16	10000	99.3	90	110	
Ca	44	1	nogas	9577.318	7.095	2995841	3.32	10000	95.8	90	110	
Fe	56	1	nogas	9512.891	5.017	139458920	2.39	10000	95.1	90	110	
Se	77	1	nogas	53.703	11.772	98509	5.71	100	53.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	94.810	3.878	13992	4.02	100	94.8	90	110	
Mo	95	1	nogas	94.534	6.033	343693	1.31	100	94.5	90	110	
Sn	118	1	nogas	94.841	1.890	543829	0.55	100	94.8	90	110	
Ba	137	1	nogas	92.443	3.634	256559	1.27	100	92.4	90	110	
Sb	121	2	He	94.194	1.514	104478	1.10	100	94.2	90	110	
Li	7	1	nogas	98.214	2.233	706398	4.30	100	98.2	90	110	
P	31	1	nogas	475.485	5.498	380301	0.64	500	95.1	90	110	
La	139	1	nogas	92.045	49.369	310	40.29	100	92.0	90	110	
Au	197	1	nogas	-4887.245	-427.266	23	49.49	100	-4887.2	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	343880	4.31	317621	108.27	70	125	
Ge	72	1	nogas	1543598	4.80	1478633	104.39	70	125	
In	115	1	nogas	1661264	2.41	1539303	107.92	70	125	
Bi	209	1	nogas	1538725	0.83	1532165	100.43	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	127753	1.36	126743	100.80	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	135_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T14:22:46-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.075	40.6	270	38.7	1	
Na	23	1	nogas	130.607	5.0	3371242	0.6	100	CCB Main CR1 Failed
Mg	24	1	nogas	11.623	7.3	104138	6.0	100	
Al	27	1	nogas	0.473	10.7	22040	2.5	5	
K	39	1	nogas	14.797	54.4	5015253	0.8	100	
Ti	47	1	nogas	0.019	224.2	377	10.7	2.5	
V	51	1	nogas	-0.264	-1032.5	1737879	4.2	2.5	
Cr	52	1	nogas	-0.632	-17.9	37288	5.8	2.5	
Mn	55	1	nogas	0.261	3.5	15650	2.8	2.5	
Co	59	1	nogas	0.051	24.9	1247	12.3	2.5	
Ni	60	1	nogas	0.644	16.0	2254	12.3	2.5	
Cu	63	1	nogas	-0.051	-51.4	4544	2.6	2.5	
Zn	66	1	nogas	0.156	11.1	1013	4.5	2.5	
As	75	1	nogas	-13.808	-18.3	233534	4.4	2.5	
Sr	88	1	nogas	0.191	14.4	5544	9.1	2.5	
Ag	107	1	nogas	0.066	18.2	1197	11.9	2.5	
Cd	111	1	nogas	0.050	60.0	133	45.8	1	
Sb	121	1	nogas	0.627	12.3	6998	8.4	2.5	
Tl	205	1	nogas	0.228	41.9	4214	41.8	1	
Pb	208	1	nogas	0.079	23.1	2357	17.4	2.5	
U	238	1	nogas	0.061	27.6	1777	25.5	2.5	
[Pb]	206	1	nogas	0.074	43.1	640	32.3	2.5	
[Pb]	207	1	nogas	0.073	16.2	570	12.7	2.5	
Na	23	2	He	127.590	2.5	82816	0.6	100	CCB Main CR1 Failed
Mg	24	2	He	10.468	10.0	1623	7.8	100	
Al	27	2	He	3.715	12.3	173	8.8	5	
K	39	2	He	3.697	34.1	12781	0.6	100	
Ca	43	2	He	14.380	195.1	17	34.6	100	
Ca	44	2	He	-8.747	-74.7	140	18.9	100	
V	51	2	He	0.540	5.7	1078	2.6	2.5	
Cr	52	2	He	-0.368	-33.7	1113	19.2	2.5	
Mn	55	2	He	0.039	116.5	323	8.9	2.5	
Fe	56	2	He	-1.811	-1.5	11570	1.1	100	
Co	59	2	He	0.028	73.5	150	41.6	2.5	
Ni	60	2	He	0.674	9.2	383	12.9	2.5	
Cu	63	2	He	0.272	8.2	873	7.0	2.5	
Zn	66	2	He	0.389	26.4	153	24.7	2.5	
As	75	2	He	-0.034	-66.6	43	13.3	2.5	
Se	78	2	He	0.610	34.0	10	20.0	2.5	
B	11	1	nogas	57.513	12.0	158892	5.0	10	CCB Main CR1 Failed
Si	28	1	nogas	-16.067	-37.7	844382	1.3	5	
Ca	43	1	nogas	11.209	93.3	877	23.7	100	
Ca	44	1	nogas	-395.316	-0.8	62059	1.1	100	
Fe	56	1	nogas	22.244	20.6	1419749	2.8	100	
Se	77	1	nogas	-37.064	-31.9	76976	4.5	2.5	
Se	82	1	nogas	-0.373	-80.9	470	9.3	2.5	
Mo	95	1	nogas	0.158	76.9	873	48.6	2.5	
Sn	118	1	nogas	0.004	604.3	1817	6.4	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	-0.011	-293.6	490	18.1	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.465	16.3	657	13.8	2.5	
P	31	1	nogas	8.105	17.3	66363	0.6	10	
La	139	1	nogas	1.231	1143.7	63	59.8	2.5	
Au	197	1	nogas	2368.267	1286.5	20	86.6	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	377933	3.66	317621	118.99	70	125	
Ge	72	1	nogas	1549954	1.98	1478633	104.82	70	125	
In	115	1	nogas	1636531	0.78	1539303	106.32	70	125	
Bi	209	1	nogas	1578054	1.84	1532165	103.00	70	125	
Ge	72	2	He	131834	1.32	126743	104.02	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	146_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T14:45:07-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	92.181	0.330	266292	1.21	100	92.2	90	110	
Na	23	1	nogas	9877.348	3.616	120826107	3.69	10000	98.8	90	110	
Mg	24	1	nogas	9596.484	3.679	80240525	3.85	10000	96.0	90	110	
Al	27	1	nogas	90.798	5.258	982557	1.29	100	90.8	90	110	
K	39	1	nogas	9434.436	5.831	93598642	2.28	10000	94.3	90	110	
Ti	47	1	nogas	92.462	4.323	92234	0.82	100	92.5	90	110	
V	51	1	nogas	75.936	13.247	2966147	2.66	100	75.9	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	93.996	6.392	1253745	2.22	100	94.0	90	110	
Mn	55	1	nogas	97.217	6.358	1544091	2.18	100	97.2	90	110	
Co	59	1	nogas	89.046	4.065	1264123	1.12	100	89.0	90	110	CCV Main CR1-2 Failed
Ni	60	1	nogas	92.743	4.395	288899	1.52	100	92.7	90	110	
Cu	63	1	nogas	94.720	2.915	722743	1.82	100	94.7	90	110	
Zn	66	1	nogas	97.534	2.352	240548	2.22	100	97.5	90	110	
As	75	1	nogas	65.767	12.522	479004	3.09	100	65.8	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	94.048	1.843	1618579	4.78	100	94.0	90	110	
Ag	107	1	nogas	92.949	4.056	937678	0.84	100	92.9	90	110	
Cd	111	1	nogas	97.147	2.665	200437	0.60	100	97.1	90	110	
Sb	121	1	nogas	89.673	4.872	852697	3.23	100	89.7	90	110	CCV Main CR1-2 Failed
Tl	205	1	nogas	99.323	2.331	1664551	2.88	100	99.3	90	110	
Pb	208	1	nogas	103.752	2.362	2326619	2.36	100	103.8	90	110	
U	238	1	nogas	101.615	4.610	2409163	4.12	100	101.6	90	110	
[Pb]	206	1	nogas	97.007	1.995	564193	0.67	100	97.0	90	110	
[Pb]	207	1	nogas	96.610	1.582	511973	2.01	100	96.6	90	110	
Na	23	2	He	9613.606	1.802	2334989	2.48	10000	96.1	90	110	
Mg	24	2	He	9571.381	1.547	1109966	0.37	10000	95.7	90	110	
Al	27	2	He	89.307	7.994	3137	6.54	100	89.3	90	110	CCV Main CR1-2 Failed
K	39	2	He	9684.507	0.796	589258	0.78	10000	96.8	90	110	
Ca	43	2	He	9504.681	10.092	1983	8.65	10000	95.0	90	110	
Ca	44	2	He	9160.609	2.297	33948	1.24	10000	91.6	90	110	
V	51	2	He	93.649	2.477	126293	1.06	100	93.6	90	110	
Cr	52	2	He	94.819	1.098	166551	0.53	100	94.8	90	110	
Mn	55	2	He	93.591	4.000	66701	2.81	100	93.6	90	110	
Fe	56	2	He	9200.712	2.009	12897993	1.71	10000	92.0	90	110	
Co	59	2	He	93.327	4.097	281983	2.86	100	93.3	90	110	
Ni	60	2	He	94.630	2.816	80127	1.65	100	94.6	90	110	
Cu	63	2	He	94.447	0.593	221131	1.52	100	94.4	90	110	
Zn	66	2	He	92.793	0.171	33294	1.65	100	92.8	90	110	
As	75	2	He	96.064	1.409	24405	1.82	100	96.1	90	110	
Se	78	2	He	94.161	4.631	921	5.39	100	94.2	90	110	
B	11	1	nogas	524.570	1.959	1008013	0.65	500	104.9	90	110	
Si	28	1	nogas	4910.871	6.354	23807065	2.09	5000	98.2	90	110	
Ca	43	1	nogas	9738.404	5.313	184243	1.40	10000	97.4	90	110	
Ca	44	1	nogas	9327.409	2.159	2989572	2.72	10000	93.3	90	110	
Fe	56	1	nogas	9403.821	4.843	140852891	0.75	10000	94.0	90	110	
Se	77	1	nogas	-8.035	-287.573	85357	5.65	100	-8.0	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	94.310	9.069	14213	7.15	100	94.3	90	110	
Mo	95	1	nogas	91.274	2.838	339410	1.96	100	91.3	90	110	
Sn	118	1	nogas	93.338	0.938	533108	2.82	100	93.3	90	110	
Ba	137	1	nogas	94.434	3.950	260912	1.09	100	94.4	90	110	
Sb	121	2	He	93.072	1.813	104550	0.83	100	93.1	90	110	
Li	7	1	nogas	98.994	1.388	713289	0.11	100	99.0	90	110	
P	31	1	nogas	467.631	7.626	382971	2.27	500	93.5	90	110	
La	139	1	nogas	77.758	4.884	270	3.70	100	77.8	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	13041.727	214.169	13	114.56	100	13041.7	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	344614	1.35	317621	108.50	70	125	
Ge	72	1	nogas	1576896	4.28	1478633	106.65	70	125	
In	115	1	nogas	1654333	3.25	1539303	107.47	70	125	
Bi	209	1	nogas	1500900	2.25	1532165	97.96	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	129389	1.49	126743	102.09	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	147_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T14:47:04-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.061	21.7	233	20.3	1	
Na	23	1	nogas	58.353	11.3	2570416	3.0	100	
Mg	24	1	nogas	8.804	7.3	82767	6.7	100	
Al	27	1	nogas	0.347	24.5	21396	2.2	5	
K	39	1	nogas	-3.017	-407.6	5011652	0.7	100	
Ti	47	1	nogas	-0.037	-135.8	333	17.6	2.5	
V	51	1	nogas	-11.074	-50.1	1620936	3.7	2.5	
Cr	52	1	nogas	-0.964	-16.3	34149	4.2	2.5	
Mn	55	1	nogas	0.322	18.8	17145	4.1	2.5	
Co	59	1	nogas	0.047	10.4	1240	7.0	2.5	
Ni	60	1	nogas	0.601	6.3	2197	7.6	2.5	
Cu	63	1	nogas	-0.104	-9.0	4287	3.4	2.5	
Zn	66	1	nogas	0.161	66.5	1063	27.3	2.5	
As	75	1	nogas	-22.745	-22.2	213457	5.4	2.5	
Sr	88	1	nogas	0.086	21.8	3884	6.5	2.5	
Ag	107	1	nogas	0.059	19.1	1167	12.1	2.5	
Cd	111	1	nogas	0.046	35.8	130	26.6	1	
Sb	121	1	nogas	0.509	15.0	6114	14.2	2.5	
Tl	205	1	nogas	0.265	44.0	4811	41.1	1	
Pb	208	1	nogas	0.073	26.7	2213	19.7	2.5	
U	238	1	nogas	0.063	24.2	1803	19.2	2.5	
[Pb]	206	1	nogas	0.058	48.2	537	30.1	2.5	
[Pb]	207	1	nogas	0.083	32.1	620	22.2	2.5	
Na	23	2	He	67.038	14.2	66683	2.4	100	
Mg	24	2	He	8.164	19.4	1323	15.0	100	
Al	27	2	He	1.605	22.2	97	11.9	5	
K	39	2	He	7.114	184.5	12985	6.0	100	
Ca	43	2	He	-16.084	-301.7	10	100.0	100	
Ca	44	2	He	-8.701	-130.0	137	29.6	100	
V	51	2	He	0.560	2.0	1082	1.8	2.5	
Cr	52	2	He	-0.293	-42.2	1220	17.3	2.5	
Mn	55	2	He	0.166	36.1	407	9.9	2.5	
Fe	56	2	He	-1.699	-18.2	11480	4.5	100	
Co	59	2	He	0.036	16.5	170	10.2	2.5	
Ni	60	2	He	0.675	7.5	377	12.5	2.5	
Cu	63	2	He	0.245	24.4	790	17.0	2.5	
Zn	66	2	He	0.250	41.4	100	36.1	2.5	
As	75	2	He	0.010	866.5	53	41.0	2.5	
Se	78	2	He	0.492	86.7	9	48.0	2.5	
B	11	1	nogas	48.995	6.4	147122	2.9	10	CCB Main CR1 Failed
Si	28	1	nogas	-6.957	-51.3	915870	0.6	5	
Ca	43	1	nogas	18.774	13.7	1050	6.9	100	
Ca	44	1	nogas	-398.359	-1.4	63190	1.7	100	
Fe	56	1	nogas	4.414	169.6	1196954	7.5	100	
Se	77	1	nogas	-72.353	-19.8	70687	3.6	2.5	
Se	82	1	nogas	-0.658	-21.3	443	2.6	2.5	
Mo	95	1	nogas	0.115	30.2	747	18.3	2.5	
Sn	118	1	nogas	-0.011	-141.7	1787	6.8	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	-0.020	-150.9	480	14.4	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.388	8.7	557	5.8	2.5	
P	31	1	nogas	5.253	25.1	66584	0.9	10	
La	139	1	nogas	5.613	160.4	77	30.1	2.5	CCB Main CR1 Failed
Au	197	1	nogas	1436.321	3323.1	20	132.3	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	391856	1.89	317621	123.37	70	125	
Ge	72	1	nogas	1601659	2.14	1478633	108.32	70	125	
In	115	1	nogas	1685742	2.91	1539303	109.51	70	125	
Bi	209	1	nogas	1572501	2.42	1532165	102.63	70	125	
Ge	72	2	He	128999	1.07	126743	101.78	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	158_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T15:09:07-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	90.651	4.960	259742	3.11	100	90.7	90	110	
Na	23	1	nogas	9825.857	3.641	118595573	0.97	10000	98.3	90	110	
Mg	24	1	nogas	9872.934	4.355	81445337	2.73	10000	98.7	90	110	
Al	27	1	nogas	92.289	3.755	985772	2.94	100	92.3	90	110	
K	39	1	nogas	9469.341	1.886	92747304	0.94	10000	94.7	90	110	
Ti	47	1	nogas	92.248	1.947	90842	0.83	100	92.2	90	110	
V	51	1	nogas	57.295	9.210	2638494	2.78	100	57.3	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	92.661	3.665	1221239	2.46	100	92.7	90	110	
Mn	55	1	nogas	96.675	3.051	1516726	2.34	100	96.7	90	110	
Co	59	1	nogas	90.514	1.407	1268540	1.73	100	90.5	90	110	
Ni	60	1	nogas	92.777	1.557	285295	0.44	100	92.8	90	110	
Cu	63	1	nogas	92.941	2.813	699850	2.00	100	92.9	90	110	
Zn	66	1	nogas	97.594	0.378	237500	0.94	100	97.6	90	110	
As	75	1	nogas	56.356	8.259	444663	3.04	100	56.4	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	92.516	0.522	1570145	1.58	100	92.5	90	110	
Ag	107	1	nogas	93.008	1.839	926187	0.76	100	93.0	90	110	
Cd	111	1	nogas	97.219	1.763	193076	1.69	100	97.2	90	110	
Sb	121	1	nogas	87.717	2.600	823247	1.48	100	87.7	90	110	CCV Main CR1-2 Failed
Tl	205	1	nogas	99.807	1.575	1628413	1.98	100	99.8	90	110	
Pb	208	1	nogas	99.005	1.430	2220179	1.43	100	99.0	90	110	
U	238	1	nogas	101.477	2.313	2342654	2.13	100	101.5	90	110	
[Pb]	206	1	nogas	95.792	0.803	542474	0.71	100	95.8	90	110	
[Pb]	207	1	nogas	95.800	1.320	494272	1.84	100	95.8	90	110	
Na	23	2	He	9751.234	1.699	2273046	1.95	10000	97.5	90	110	
Mg	24	2	He	9552.361	1.265	1063616	1.04	10000	95.5	90	110	
Al	27	2	He	86.585	6.191	2924	6.46	100	86.6	90	110	CCV Main CR1-2 Failed
K	39	2	He	9229.417	0.105	562158	0.10	10000	92.3	90	110	
Ca	43	2	He	9809.538	9.416	1967	9.41	10000	98.1	90	110	
Ca	44	2	He	9238.072	1.550	32870	0.69	10000	92.4	90	110	
V	51	2	He	95.183	0.356	123260	1.03	100	95.2	90	110	
Cr	52	2	He	95.004	0.785	160226	1.41	100	95.0	90	110	
Mn	55	2	He	93.971	1.830	64322	2.50	100	94.0	90	110	
Fe	56	2	He	9410.032	0.910	12666171	1.80	10000	94.1	90	110	
Co	59	2	He	94.232	1.062	273461	1.96	100	94.2	90	110	
Ni	60	2	He	94.029	1.191	76453	1.18	100	94.0	90	110	
Cu	63	2	He	96.134	1.218	216079	1.15	100	96.1	90	110	
Zn	66	2	He	96.174	3.827	33120	2.89	100	96.2	90	110	
As	75	2	He	95.329	1.168	23250	0.26	100	95.3	90	110	
Se	78	2	He	96.797	6.831	909	6.01	100	96.8	90	110	
B	11	1	nogas	496.546	5.646	948462	3.17	500	99.3	90	110	
Si	28	1	nogas	4916.676	4.239	23537498	3.03	5000	98.3	90	110	
Ca	43	1	nogas	9554.811	1.248	178539	1.61	10000	95.5	90	110	
Ca	44	1	nogas	9140.510	2.933	2894643	3.84	10000	91.4	90	110	
Fe	56	1	nogas	9447.657	1.170	139721686	0.52	10000	94.5	90	110	
Se	77	1	nogas	-41.141	-40.732	76226	5.27	100	-41.1	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	95.238	2.521	14169	3.33	100	95.2	90	110	
Mo	95	1	nogas	89.076	1.273	326870	0.91	100	89.1	90	110	CCV Main CR1-2 Failed
Sn	118	1	nogas	92.158	1.734	506455	1.73	100	92.2	90	110	
Ba	137	1	nogas	95.780	1.051	254826	2.46	100	95.8	90	110	
Sb	121	2	He	92.382	1.429	99650	1.98	100	92.4	90	110	
Li	7	1	nogas	98.013	2.779	701157	2.13	100	98.0	90	110	
P	31	1	nogas	465.711	2.544	376992	1.19	500	93.1	90	110	
La	139	1	nogas	107.510	31.404	337	25.61	100	107.5	90	110	
Au	197	1	nogas	-20209.851	-252.031	30	88.19	100	-20209.9	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	342047	2.43	317621	107.69	70	125	
Ge	72	1	nogas	1555021	1.11	1478633	105.17	70	125	
In	115	1	nogas	1591608	1.46	1539303	103.40	70	125	
Bi	209	1	nogas	1461030	0.61	1532165	95.36	70	125	
Ge	72	2	He	124220	0.94	126743	98.01	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	159_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T15:11:04-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.066	3.4	233	2.5	1	
Na	23	1	nogas	11.467	46.6	1909629	1.0	100	
Mg	24	1	nogas	7.479	23.9	68407	21.4	100	
Al	27	1	nogas	0.274	36.6	19724	3.2	5	
K	39	1	nogas	-0.614	-3695.9	4816892	0.9	100	
Ti	47	1	nogas	-0.065	-149.3	293	34.3	2.5	
V	51	1	nogas	-33.313	-22.2	1209050	5.6	2.5	
Cr	52	1	nogas	-1.237	-9.7	29260	1.4	2.5	
Mn	55	1	nogas	0.514	15.1	19354	4.3	2.5	
Co	59	1	nogas	0.053	11.0	1260	5.7	2.5	
Ni	60	1	nogas	0.467	8.4	1693	5.3	2.5	
Cu	63	1	nogas	-0.129	-7.4	3920	3.3	2.5	
Zn	66	1	nogas	0.157	52.6	1010	22.8	2.5	
As	75	1	nogas	-30.024	-16.9	182683	4.4	2.5	
Sr	88	1	nogas	0.044	28.5	3024	4.4	2.5	
Ag	107	1	nogas	0.067	3.9	1190	5.5	2.5	
Cd	111	1	nogas	0.052	83.5	130	61.5	1	
Sb	121	1	nogas	0.467	9.9	5464	11.2	2.5	
Tl	205	1	nogas	0.238	33.7	4134	35.0	1	
Pb	208	1	nogas	0.078	20.0	2333	15.0	2.5	
U	238	1	nogas	0.066	25.2	1793	24.6	2.5	
[Pb]	206	1	nogas	0.079	11.2	630	10.4	2.5	
[Pb]	207	1	nogas	0.064	12.0	487	10.3	2.5	
Na	23	2	He	12.691	48.7	52927	0.8	100	
Mg	24	2	He	5.719	25.3	1023	17.2	100	
Al	27	2	He	2.357	58.5	120	36.3	5	
K	39	2	He	6.889	33.1	12971	1.0	100	
Ca	43	2	He	-15.767	-537.3	10	173.2	100	
Ca	44	2	He	11.073	69.0	207	15.6	100	
V	51	2	He	0.306	13.8	728	5.7	2.5	
Cr	52	2	He	-0.323	-6.4	1150	4.5	2.5	
Mn	55	2	He	0.260	68.5	463	24.1	2.5	
Fe	56	2	He	-1.997	-21.6	10873	3.3	100	
Co	59	2	He	0.019	37.3	117	17.8	2.5	
Ni	60	2	He	0.713	18.6	403	29.4	2.5	
Cu	63	2	He	0.265	26.2	820	17.3	2.5	
Zn	66	2	He	0.291	29.4	113	28.4	2.5	
As	75	2	He	0.022	196.2	56	19.3	2.5	
Se	78	2	He	0.018	1146.1	4	50.0	2.5	
B	11	1	nogas	34.262	6.2	109232	3.6	10	CCB Main CR1 Failed
Si	28	1	nogas	1.306	588.0	913789	1.0	5	
Ca	43	1	nogas	20.835	20.4	1043	9.6	100	
Ca	44	1	nogas	-391.003	-2.6	62611	2.3	100	
Fe	56	1	nogas	-11.701	-12.7	914177	3.7	100	
Se	77	1	nogas	-99.039	-20.0	61236	4.7	2.5	
Se	82	1	nogas	-0.832	-15.1	400	4.3	2.5	
Mo	95	1	nogas	0.101	47.5	667	28.1	2.5	
Sn	118	1	nogas	-0.031	-43.2	1543	3.9	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	-0.017	-258.4	450	23.5	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.404	18.4	567	16.8	2.5	
P	31	1	nogas	4.546	87.6	63226	0.8	10	
La	139	1	nogas	-3.924	-135.9	47	24.7	2.5	
Au	197	1	nogas	-6048.507	-455.1	23	65.5	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	368246	0.79	317621	115.94	70	125	
Ge	72	1	nogas	1533498	3.66	1478633	103.71	70	125	
In	115	1	nogas	1556395	4.00	1539303	101.11	70	125	
Bi	209	1	nogas	1486401	2.43	1532165	97.01	70	125	
Ge	72	2	He	126897	2.39	126743	100.12	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	170_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T15:33:01-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	89.965	4.399	294831	1.82	100	90.0	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	10161.123	2.176	129590695	1.14	10000	101.6	90	110	
Mg	24	1	nogas	10035.520	3.338	87508644	1.95	10000	100.4	90	110	
Al	27	1	nogas	94.964	7.340	1081870	4.38	100	95.0	90	110	
K	39	1	nogas	9469.582	2.413	99057952	1.22	10000	94.7	90	110	
Ti	47	1	nogas	93.240	3.021	98045	0.51	100	93.2	90	110	
V	51	1	nogas	47.298	5.441	2653572	4.34	100	47.3	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	92.606	1.594	1304023	2.30	100	92.6	90	110	
Mn	55	1	nogas	98.397	1.171	1649378	3.45	100	98.4	90	110	
Co	59	1	nogas	94.377	3.387	1412560	3.18	100	94.4	90	110	
Ni	60	1	nogas	92.799	4.799	304595	1.28	100	92.8	90	110	
Cu	63	1	nogas	95.333	5.794	765975	2.22	100	95.3	90	110	
Zn	66	1	nogas	97.335	3.323	252898	0.33	100	97.3	90	110	
As	75	1	nogas	48.447	1.541	449760	3.22	100	48.4	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	94.598	3.053	1714071	0.44	100	94.6	90	110	
Ag	107	1	nogas	91.826	3.663	976572	2.82	100	91.8	90	110	
Cd	111	1	nogas	94.667	1.411	206082	1.00	100	94.7	90	110	
Sb	121	1	nogas	91.307	4.715	914730	1.24	100	91.3	90	110	
Tl	205	1	nogas	96.509	2.880	1734613	0.89	100	96.5	90	110	
Pb	208	1	nogas	108.266	0.797	2427807	0.80	100	108.3	90	110	
U	238	1	nogas	99.595	3.097	2532874	0.58	100	99.6	90	110	
[Pb]	206	1	nogas	93.703	2.949	584591	0.76	100	93.7	90	110	
[Pb]	207	1	nogas	93.704	1.310	532718	1.27	100	93.7	90	110	
Na	23	2	He	9916.881	2.707	2438395	1.65	10000	99.2	90	110	
Mg	24	2	He	9671.614	1.930	1136590	2.14	10000	96.7	90	110	
Al	27	2	He	87.178	2.035	3107	3.76	100	87.2	90	110	CCV Main CR1-2 Failed
K	39	2	He	9860.471	1.069	599736	1.05	10000	98.6	90	110	
Ca	43	2	He	9309.572	15.100	1973	16.26	10000	93.1	90	110	
Ca	44	2	He	9372.790	1.788	35194	1.18	10000	93.7	90	110	
V	51	2	He	95.260	2.579	130163	0.92	100	95.3	90	110	
Cr	52	2	He	98.219	2.378	174730	1.03	100	98.2	90	110	
Mn	55	2	He	94.457	2.638	68214	0.82	100	94.5	90	110	
Fe	56	2	He	9653.543	0.872	13712331	0.99	10000	96.5	90	110	
Co	59	2	He	94.263	1.596	288664	1.13	100	94.3	90	110	
Ni	60	2	He	95.496	3.426	81953	3.65	100	95.5	90	110	
Cu	63	2	He	97.409	0.411	231086	1.42	100	97.4	90	110	
Zn	66	2	He	98.075	1.300	35652	1.03	100	98.1	90	110	
As	75	2	He	95.677	1.548	24631	2.27	100	95.7	90	110	
Se	78	2	He	95.790	2.812	949	2.47	100	95.8	90	110	
B	11	1	nogas	526.249	2.465	1147639	0.51	500	105.2	90	110	
Si	28	1	nogas	4918.762	8.418	25120735	4.70	5000	98.4	90	110	
Ca	43	1	nogas	9851.348	1.164	196622	2.77	10000	98.5	90	110	
Ca	44	1	nogas	9346.641	0.935	3157050	2.81	10000	93.5	90	110	
Fe	56	1	nogas	9507.902	0.930	150215533	2.76	10000	95.1	90	110	
Se	77	1	nogas	-69.141	-14.921	74248	6.63	100	-69.1	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	91.869	2.421	14619	3.67	100	91.9	90	110	
Mo	95	1	nogas	91.506	4.246	358438	0.75	100	91.5	90	110	
Sn	118	1	nogas	93.428	1.545	562807	1.96	100	93.4	90	110	
Ba	137	1	nogas	93.735	1.280	273320	0.50	100	93.7	90	110	
Sb	121	2	He	94.605	0.865	107698	1.74	100	94.6	90	110	
Li	7	1	nogas	99.605	4.257	814103	1.61	100	99.6	90	110	
P	31	1	nogas	471.786	5.167	406855	0.87	500	94.4	90	110	
La	139	1	nogas	107.603	21.872	370	18.92	100	107.6	90	110	
Au	197	1	nogas	-26887.177	-192.984	37	78.73	100	-26887.2	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	391247	2.72	317621	123.18	70	125	
Ge	72	1	nogas	1661453	3.42	1478633	112.36	70	125	
In	115	1	nogas	1744560	0.78	1539303	113.33	70	125	
Bi	209	1	nogas	1610314	2.58	1532165	105.10	70	125	
Ge	72	2	He	131111	1.80	126743	103.45	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	171_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T15:35:00-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.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	0.080	32.0	320	25.6	1	
Na	23	1	nogas	6.393	46.7	2032234	1.3	100	
Mg	24	1	nogas	6.866	22.1	69511	17.8	100	
Al	27	1	nogas	0.325	10.8	21536	1.8	5	
K	39	1	nogas	0.597	1182.9	5133752	0.6	100	
Ti	47	1	nogas	-0.030	-320.8	347	30.3	2.5	
V	51	1	nogas	-37.957	-4.9	1211918	3.9	2.5	
Cr	52	1	nogas	-1.305	-3.9	30225	2.6	2.5	
Mn	55	1	nogas	0.307	5.9	17195	2.4	2.5	
Co	59	1	nogas	0.040	23.1	1157	10.0	2.5	
Ni	60	1	nogas	0.455	14.2	1760	10.8	2.5	
Cu	63	1	nogas	-0.143	-10.3	4057	2.9	2.5	
Zn	66	1	nogas	0.147	32.2	1043	11.5	2.5	
As	75	1	nogas	-34.255	-5.9	181231	4.9	2.5	
Sr	88	1	nogas	0.048	20.3	3284	6.8	2.5	
Ag	107	1	nogas	0.060	17.4	1197	9.2	2.5	
Cd	111	1	nogas	0.049	52.8	140	39.8	1	
Sb	121	1	nogas	0.489	22.0	5998	16.4	2.5	
Tl	205	1	nogas	0.228	33.0	4214	29.1	1	
Pb	208	1	nogas	0.069	22.5	2117	16.3	2.5	
U	238	1	nogas	0.061	18.2	1783	13.7	2.5	
[Pb]	206	1	nogas	0.062	31.3	570	18.2	2.5	
[Pb]	207	1	nogas	0.048	14.3	433	8.7	2.5	
Na	23	2	He	6.077	105.0	53923	1.3	100	
Mg	24	2	He	3.804	20.2	843	9.2	100	
Al	27	2	He	2.652	50.1	137	33.0	5	
K	39	2	He	-3.193	-192.7	12371	3.0	100	
Ca	43	2	He	-48.759	-56.6	3	173.2	100	
Ca	44	2	He	-4.468	-394.1	157	40.5	100	
V	51	2	He	0.272	10.1	717	6.9	2.5	
Cr	52	2	He	-0.344	-28.1	1170	15.5	2.5	
Mn	55	2	He	0.169	147.3	420	41.3	2.5	
Fe	56	2	He	-1.739	-4.5	11791	2.2	100	
Co	59	2	He	0.039	76.2	183	49.5	2.5	
Ni	60	2	He	0.658	4.9	373	8.6	2.5	
Cu	63	2	He	0.254	11.9	837	7.2	2.5	
Zn	66	2	He	0.340	2.8	137	4.2	2.5	
As	75	2	He	-0.008	-1746.7	50	74.2	2.5	
Se	78	2	He	-0.132	-228.6	3	114.6	2.5	
B	11	1	nogas	49.346	8.4	160805	2.8	10	CCB Main CR1 Failed
Si	28	1	nogas	-11.394	-46.3	910157	1.0	5	
Ca	43	1	nogas	17.410	18.8	1040	4.4	100	
Ca	44	1	nogas	-400.730	-1.9	63531	2.2	100	
Fe	56	1	nogas	-6.441	-129.0	1050756	10.3	100	
Se	77	1	nogas	-117.508	-5.6	60491	4.1	2.5	
Se	82	1	nogas	-0.008	-10232.1	550	23.6	2.5	
Mo	95	1	nogas	0.132	45.5	823	26.0	2.5	
Sn	118	1	nogas	-0.004	-909.1	1893	12.5	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	-0.039	-75.0	443	18.8	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.411	24.4	600	17.4	2.5	
P	31	1	nogas	8.058	24.4	69719	0.4	10	
La	139	1	nogas	11.480	78.0	97	26.0	2.5	CCB Main CR1 Failed
Au	197	1	nogas	19613.072	92.4	10	100.0	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	426524	3.58	317621	134.29	70	125	ISTD Failed
Ge	72	1	nogas	1629175	1.75	1478633	110.18	70	125	
In	115	1	nogas	1749380	0.37	1539303	113.65	70	125	
Bi	209	1	nogas	1594050	2.90	1532165	104.04	70	125	
Ge	72	2	He	133148	1.76	126743	105.05	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	182_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T15:57:07-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	92.360	3.389	274071	1.20	100	92.4	90	110	
Na	23	1	nogas	10578.402	2.257	126640340	0.37	10000	105.8	90	110	
Mg	24	1	nogas	10173.457	2.762	83335758	2.06	10000	101.7	90	110	
Al	27	1	nogas	93.969	3.919	994888	2.57	100	94.0	90	110	
K	39	1	nogas	9717.613	1.111	94276510	2.46	10000	97.2	90	110	
Ti	47	1	nogas	93.932	1.175	91724	0.78	100	93.9	90	110	
V	51	1	nogas	57.164	6.210	2614176	0.68	100	57.2	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	94.389	1.716	1233042	1.93	100	94.4	90	110	
Mn	55	1	nogas	99.863	4.767	1552929	3.57	100	99.9	90	110	
Co	59	1	nogas	95.311	5.000	1324388	4.74	100	95.3	90	110	
Ni	60	1	nogas	96.841	3.279	295234	1.85	100	96.8	90	110	
Cu	63	1	nogas	97.905	1.708	730805	0.32	100	97.9	90	110	
Zn	66	1	nogas	99.231	1.702	239424	0.81	100	99.2	90	110	
As	75	1	nogas	56.769	12.801	442001	3.45	100	56.8	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	96.933	1.391	1631020	0.90	100	96.9	90	110	
Ag	107	1	nogas	95.022	2.856	938281	2.25	100	95.0	90	110	
Cd	111	1	nogas	96.685	2.897	197457	0.53	100	96.7	90	110	
Sb	121	1	nogas	93.424	1.652	869449	0.82	100	93.4	90	110	
Tl	205	1	nogas	98.125	7.434	1618709	3.10	100	98.1	90	110	
Pb	208	1	nogas	102.137	1.317	2290399	1.32	100	102.1	90	110	
U	238	1	nogas	102.017	1.765	2385308	2.75	100	102.0	90	110	
[Pb]	206	1	nogas	97.681	6.871	559404	2.47	100	97.7	90	110	
[Pb]	207	1	nogas	98.116	3.592	512386	0.99	100	98.1	90	110	
Na	23	2	He	10091.057	1.595	2383635	1.56	10000	100.9	90	110	
Mg	24	2	He	9589.699	1.260	1082860	1.30	10000	95.9	90	110	
Al	27	2	He	96.715	13.804	3307	13.77	100	96.7	90	110	
K	39	2	He	9499.067	1.908	578215	1.87	10000	95.0	90	110	
Ca	43	2	He	10315.884	2.777	2097	2.87	10000	103.2	90	110	
Ca	44	2	He	9188.217	3.117	33157	3.14	10000	91.9	90	110	
V	51	2	He	96.420	0.515	126614	0.32	100	96.4	90	110	
Cr	52	2	He	97.705	0.597	167052	0.77	100	97.7	90	110	
Mn	55	2	He	94.708	1.505	65731	1.30	100	94.7	90	110	
Fe	56	2	He	9657.610	1.469	13181091	1.20	10000	96.6	90	110	
Co	59	2	He	94.986	1.018	279507	0.78	100	95.0	90	110	
Ni	60	2	He	96.593	1.084	79650	0.89	100	96.6	90	110	
Cu	63	2	He	96.682	0.137	220378	0.33	100	96.7	90	110	
Zn	66	2	He	99.070	3.079	34607	3.19	100	99.1	90	110	
As	75	2	He	97.091	1.985	24014	1.71	100	97.1	90	110	
Se	78	2	He	100.050	2.128	953	2.19	100	100.0	90	110	
B	11	1	nogas	517.563	4.033	1022238	1.77	500	103.5	90	110	
Si	28	1	nogas	5028.487	5.381	23850675	4.47	5000	100.6	90	110	
Ca	43	1	nogas	9903.589	1.759	183463	1.20	10000	99.0	90	110	
Ca	44	1	nogas	9505.552	3.696	2976702	2.76	10000	95.1	90	110	
Fe	56	1	nogas	9567.532	4.852	140285149	4.49	10000	95.7	90	110	
Se	77	1	nogas	-53.671	-38.242	72538	5.44	100	-53.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.660	6.165	14249	5.80	100	96.7	90	110	
Mo	95	1	nogas	92.558	2.796	336735	1.58	100	92.6	90	110	
Sn	118	1	nogas	95.640	3.141	540420	1.50	100	95.6	90	110	
Ba	137	1	nogas	96.415	2.350	263778	1.40	100	96.4	90	110	
Sb	121	2	He	94.981	1.060	103888	0.86	100	95.0	90	110	
Li	7	1	nogas	97.888	3.665	724963	1.64	100	97.9	90	110	
P	31	1	nogas	489.274	3.039	389694	2.12	500	97.9	90	110	
La	139	1	nogas	87.755	45.070	293	35.48	100	87.8	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-38152.107	-129.661	40	66.14	100	-38152.1	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	354180	2.48	317621	111.51	70	125	
Ge	72	1	nogas	1542022	1.42	1478633	104.29	70	125	
In	115	1	nogas	1637655	3.41	1539303	106.39	70	125	
Bi	209	1	nogas	1480434	4.38	1532165	96.62	70	125	
Ge	72	2	He	125969	0.27	126743	99.39	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	183_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T15:59:04-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.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	0.084	39.7	320	35.2	1	
Na	23	1	nogas	144.371	2.1	3700827	1.9	100	CCB Main CR1 Failed
Mg	24	1	nogas	9.708	11.9	92546	11.9	100	
Al	27	1	nogas	0.309	11.9	20992	2.4	5	
K	39	1	nogas	9.336	92.4	5127293	1.0	100	
Ti	47	1	nogas	-0.021	-395.6	350	24.9	2.5	
V	51	1	nogas	-35.212	-15.5	1233651	5.9	2.5	
Cr	52	1	nogas	-1.194	-10.4	31133	4.4	2.5	
Mn	55	1	nogas	0.251	23.6	16007	6.3	2.5	
Co	59	1	nogas	0.052	29.2	1307	18.0	2.5	
Ni	60	1	nogas	0.660	5.5	2380	5.0	2.5	
Cu	63	1	nogas	-0.121	-15.5	4154	4.0	2.5	
Zn	66	1	nogas	0.256	6.6	1297	4.2	2.5	
As	75	1	nogas	-32.718	-10.1	182652	4.4	2.5	
Sr	88	1	nogas	0.071	14.1	3630	6.0	2.5	
Ag	107	1	nogas	0.055	35.0	1120	18.8	2.5	
Cd	111	1	nogas	0.027	30.8	90	19.2	1	
Sb	121	1	nogas	0.474	17.9	5771	15.4	2.5	
Tl	205	1	nogas	0.264	41.6	4694	40.2	1	
Pb	208	1	nogas	0.082	31.0	2413	23.6	2.5	
U	238	1	nogas	0.064	15.2	1783	12.9	2.5	
[Pb]	206	1	nogas	0.072	54.8	610	38.8	2.5	
[Pb]	207	1	nogas	0.073	32.5	550	23.2	2.5	
Na	23	2	He	133.642	2.2	83830	0.1	100	CCB Main CR1 Failed
Mg	24	2	He	6.229	8.5	1117	6.3	100	
Al	27	2	He	0.510	240.3	60	72.6	5	
K	39	2	He	11.987	55.9	13275	3.0	100	
Ca	43	2	He	-1.149	-2433.5	13	43.3	100	
Ca	44	2	He	0.404	3948.1	173	34.8	100	
V	51	2	He	0.294	17.2	736	9.2	2.5	
Cr	52	2	He	-0.347	-15.0	1147	8.4	2.5	
Mn	55	2	He	0.083	73.7	353	11.8	2.5	
Fe	56	2	He	-2.015	-19.3	11217	4.2	100	
Co	59	2	He	0.040	78.0	187	52.0	2.5	
Ni	60	2	He	0.653	10.9	363	16.1	2.5	
Cu	63	2	He	0.283	17.1	893	12.7	2.5	
Zn	66	2	He	0.382	18.5	150	17.6	2.5	
As	75	2	He	-0.085	-16.0	30	11.1	2.5	
Se	78	2	He	-0.196	-104.3	2	100.0	2.5	
B	11	1	nogas	42.573	4.6	139004	3.0	10	CCB Main CR1 Failed
Si	28	1	nogas	-16.442	-7.0	870572	1.5	5	
Ca	43	1	nogas	12.296	58.0	923	13.5	100	
Ca	44	1	nogas	-396.215	-0.7	63815	0.5	100	
Fe	56	1	nogas	2.402	208.4	1167878	7.5	100	
Se	77	1	nogas	-116.092	-14.5	59735	5.8	2.5	
Se	82	1	nogas	-0.999	-81.4	393	31.1	2.5	
Mo	95	1	nogas	0.112	42.8	737	25.8	2.5	
Sn	118	1	nogas	-0.035	-98.8	1650	10.9	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	-0.022	-139.8	477	19.5	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.295	21.6	460	16.4	2.5	
P	31	1	nogas	7.500	5.7	68120	1.0	10	
La	139	1	nogas	4.190	435.0	73	68.6	2.5	CCB Main CR1 Failed
Au	197	1	nogas	19367.555	94.1	10	100.0	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	407404	0.87	317621	128.27	70	125	ISTD Failed
Ge	72	1	nogas	1600577	1.26	1478633	108.25	70	125	
In	115	1	nogas	1692224	1.31	1539303	109.93	70	125	
Bi	209	1	nogas	1534400	1.08	1532165	100.15	70	125	
Ge	72	2	He	131124	0.71	126743	103.46	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	194_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T16:21:03-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	97.038	3.955	248781	1.29	100	97.0	90	110	
Na	23	1	nogas	10295.336	5.561	112834536	3.17	10000	103.0	90	110	
Mg	24	1	nogas	9944.864	5.709	74552312	3.83	10000	99.4	90	110	
Al	27	1	nogas	92.695	3.053	915238	0.22	100	92.7	90	110	
K	39	1	nogas	9638.849	3.935	87174600	1.06	10000	96.4	90	110	
Ti	47	1	nogas	94.030	1.278	85625	2.37	100	94.0	90	110	
V	51	1	nogas	104.846	7.369	3122576	1.26	100	104.8	90	110	
Cr	52	1	nogas	91.559	3.059	1116113	0.46	100	91.6	90	110	
Mn	55	1	nogas	98.546	5.026	1428470	2.20	100	98.5	90	110	
Co	59	1	nogas	90.153	5.170	1167353	2.64	100	90.2	90	110	
Ni	60	1	nogas	98.227	5.431	279070	2.65	100	98.2	90	110	
Cu	63	1	nogas	98.354	3.888	684260	1.27	100	98.4	90	110	
Zn	66	1	nogas	100.293	2.826	225580	0.71	100	100.3	90	110	
As	75	1	nogas	83.528	9.480	486199	1.77	100	83.5	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	95.153	5.195	1491874	2.49	100	95.2	90	110	
Ag	107	1	nogas	94.840	2.211	873255	2.15	100	94.8	90	110	
Cd	111	1	nogas	98.726	2.821	182119	0.63	100	98.7	90	110	
Sb	121	1	nogas	93.754	4.384	813134	1.59	100	93.8	90	110	
Tl	205	1	nogas	98.124	4.813	1526603	3.66	100	98.1	90	110	
Pb	208	1	nogas	94.635	1.794	2122223	1.79	100	94.6	90	110	
U	238	1	nogas	97.372	3.290	2143934	2.11	100	97.4	90	110	
[Pb]	206	1	nogas	96.347	2.630	520366	0.51	100	96.3	90	110	
[Pb]	207	1	nogas	96.058	3.049	472657	1.95	100	96.1	90	110	
Na	23	2	He	10240.986	4.189	2231953	1.33	10000	102.4	90	110	
Mg	24	2	He	9466.319	3.244	986830	1.93	10000	94.7	90	110	
Al	27	2	He	93.040	5.334	2940	6.57	100	93.0	90	110	
K	39	2	He	9107.607	1.329	554904	1.30	10000	91.1	90	110	
Ca	43	2	He	10897.547	8.344	2047	10.14	10000	109.0	90	110	
Ca	44	2	He	9350.575	4.018	31140	1.08	10000	93.5	90	110	
V	51	2	He	95.006	3.185	115170	0.64	100	95.0	90	110	
Cr	52	2	He	97.498	2.059	153927	1.77	100	97.5	90	110	
Mn	55	2	He	97.054	3.141	62175	0.59	100	97.1	90	110	
Fe	56	2	He	9581.753	4.492	12068837	1.27	10000	95.8	90	110	
Co	59	2	He	96.783	4.938	262798	1.74	100	96.8	90	110	
Ni	60	2	He	95.751	4.765	72858	1.55	100	95.8	90	110	
Cu	63	2	He	96.291	3.556	202637	2.60	100	96.3	90	110	
Zn	66	2	He	97.285	3.336	31370	1.59	100	97.3	90	110	
As	75	2	He	97.977	5.302	22359	2.07	100	98.0	90	110	
Se	78	2	He	94.858	7.623	834	7.08	100	94.9	90	110	
B	11	1	nogas	493.424	2.502	844018	2.20	500	98.7	90	110	
Si	28	1	nogas	4857.372	2.861	21510036	0.72	5000	97.1	90	110	
Ca	43	1	nogas	9768.227	5.623	168618	3.22	10000	97.7	90	110	
Ca	44	1	nogas	9284.730	3.251	2714656	1.73	10000	92.8	90	110	
Fe	56	1	nogas	9329.716	5.820	127488282	3.11	10000	93.3	90	110	
Se	77	1	nogas	61.746	46.433	93435	4.18	100	61.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	94.503	0.404	13005	3.08	100	94.5	90	110	
Mo	95	1	nogas	92.826	6.963	314649	4.74	100	92.8	90	110	
Sn	118	1	nogas	97.414	0.742	497312	1.60	100	97.4	90	110	
Ba	137	1	nogas	97.581	2.385	241111	0.26	100	97.6	90	110	
Sb	121	2	He	95.124	3.640	96040	1.46	100	95.1	90	110	
Li	7	1	nogas	100.832	1.830	644611	1.42	100	100.8	90	110	
P	31	1	nogas	467.091	2.828	349394	0.43	500	93.4	90	110	
La	139	1	nogas	88.276	38.648	267	30.54	100	88.3	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-9400.616	-124.597	23	24.74	100	-9400.6	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	306078	3.14	317621	96.37	70	125	
Ge	72	1	nogas	1438035	2.78	1478633	97.25	70	125	
In	115	1	nogas	1478855	2.20	1539303	96.07	70	125	
Bi	209	1	nogas	1394149	3.13	1532165	90.99	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	116361	3.23	126743	91.81	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	195_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T16:23:00-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.103	56.4	313	51.6	1	
Na	23	1	nogas	301.379	3.3	4967390	1.5	100	CCB Main CR1 Failed
Mg	24	1	nogas	11.370	6.5	93881	6.8	100	
Al	27	1	nogas	0.295	21.3	18800	2.9	5	
K	39	1	nogas	32.835	17.5	4830410	0.5	100	
Ti	47	1	nogas	-0.085	-106.8	257	31.5	2.5	
V	51	1	nogas	3.955	84.9	1680706	4.1	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	-0.625	-12.1	34816	2.8	2.5	
Mn	55	1	nogas	0.760	2.5	21810	0.9	2.5	
Co	59	1	nogas	0.049	29.3	1143	15.7	2.5	
Ni	60	1	nogas	0.786	3.4	2507	2.2	2.5	
Cu	63	1	nogas	-0.058	-31.8	4191	4.0	2.5	
Zn	66	1	nogas	0.336	4.1	1350	3.4	2.5	
As	75	1	nogas	-9.369	-24.4	230036	3.9	2.5	
Sr	88	1	nogas	0.086	8.5	3514	4.4	2.5	
Ag	107	1	nogas	0.053	21.9	990	9.6	2.5	
Cd	111	1	nogas	0.052	45.6	127	37.3	1	
Sb	121	1	nogas	0.469	25.8	5154	19.6	2.5	
Tl	205	1	nogas	0.252	40.5	4044	37.6	1	
Pb	208	1	nogas	0.071	29.0	2167	21.2	2.5	
U	238	1	nogas	0.067	49.7	1673	41.9	2.5	
[Pb]	206	1	nogas	0.077	63.1	573	43.9	2.5	
[Pb]	207	1	nogas	0.069	45.6	477	30.7	2.5	
Na	23	2	He	343.955	0.7	121776	0.5	100	CCB Main CR1 Failed
Mg	24	2	He	10.138	15.8	1427	11.7	100	
Al	27	2	He	0.902	122.4	67	52.7	5	
K	39	2	He	16.190	12.0	13525	0.9	100	
Ca	43	2	He	22.803	352.1	17	91.7	100	
Ca	44	2	He	24.983	43.5	240	15.0	100	
V	51	2	He	0.608	5.0	1055	3.3	2.5	
Cr	52	2	He	-0.193	-40.7	1283	9.8	2.5	
Mn	55	2	He	0.558	17.3	630	9.7	2.5	
Fe	56	2	He	-1.283	-16.3	11100	2.2	100	
Co	59	2	He	0.031	59.5	143	35.8	2.5	
Ni	60	2	He	0.598	3.3	287	5.3	2.5	
Cu	63	2	He	0.276	13.6	793	10.3	2.5	
Zn	66	2	He	0.304	26.6	110	24.1	2.5	
As	75	2	He	0.057	68.2	60	14.7	2.5	
Se	78	2	He	0.347	134.4	7	62.4	2.5	
B	11	1	nogas	19.226	4.6	71779	1.8	10	CCB Main CR1 Failed
Si	28	1	nogas	10.798	40.7	902042	1.2	5	CCB Main CR1 Failed
Ca	43	1	nogas	23.060	24.3	1020	8.7	100	
Ca	44	1	nogas	-366.277	-0.9	65856	0.5	100	
Fe	56	1	nogas	11.998	18.1	1184174	1.3	100	
Se	77	1	nogas	-18.707	-64.5	75885	4.5	2.5	
Se	82	1	nogas	-0.231	-218.8	457	13.9	2.5	
Mo	95	1	nogas	0.095	82.7	603	43.2	2.5	
Sn	118	1	nogas	-0.002	-2491.6	1633	16.1	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	-0.019	-55.7	430	8.1	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.321	30.9	443	22.8	2.5	
P	31	1	nogas	10.415	14.8	63320	1.8	10	CCB Main CR1 Failed
La	139	1	nogas	-6.063	-116.7	40	43.3	2.5	
Au	197	1	nogas	-36625.110	-34.6	37	15.7	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	332307	1.44	317621	104.62	70	125	
Ge	72	1	nogas	1444625	1.24	1478633	97.70	70	125	
In	115	1	nogas	1496406	2.15	1539303	97.21	70	125	
Bi	209	1	nogas	1388069	1.58	1532165	90.60	70	125	
Ge	72	2	He	118747	0.33	126743	93.69	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	206_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T16:45:09-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	91.459	8.292	272307	3.28	100	91.5	90	110	
Na	23	1	nogas	11077.554	3.652	135465124	1.91	10000	110.8	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	10322.157	2.392	86435279	1.04	10000	103.2	90	110	
Al	27	1	nogas	93.190	0.376	1042341	1.56	100	93.2	90	110	
K	39	1	nogas	9459.623	1.795	97017819	0.25	10000	94.6	90	110	
Ti	47	1	nogas	91.376	3.907	94216	3.14	100	91.4	90	110	
V	51	1	nogas	85.046	3.824	3215213	2.05	100	85.0	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	93.308	1.814	1287676	2.23	100	93.3	90	110	
Mn	55	1	nogas	96.075	2.678	1578243	1.15	100	96.1	90	110	
Co	59	1	nogas	92.387	3.128	1355365	1.64	100	92.4	90	110	
Ni	60	1	nogas	94.051	2.830	302823	2.39	100	94.1	90	110	
Cu	63	1	nogas	95.680	1.398	754299	0.75	100	95.7	90	110	
Zn	66	1	nogas	96.439	1.934	245729	1.48	100	96.4	90	110	
As	75	1	nogas	75.453	3.979	525624	2.37	100	75.5	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	98.885	2.940	1756584	1.50	100	98.9	90	110	
Ag	107	1	nogas	91.352	1.737	952733	2.51	100	91.4	90	110	
Cd	111	1	nogas	96.809	4.134	204672	2.34	100	96.8	90	110	
Sb	121	1	nogas	91.497	2.515	899081	1.08	100	91.5	90	110	
Tl	205	1	nogas	102.491	7.156	1725099	3.60	100	102.5	90	110	
Pb	208	1	nogas	102.272	1.805	2293434	1.80	100	102.3	90	110	
U	238	1	nogas	99.512	2.290	2372994	1.88	100	99.5	90	110	
[Pb]	206	1	nogas	97.181	3.536	568326	1.91	100	97.2	90	110	
[Pb]	207	1	nogas	95.617	3.114	509467	1.85	100	95.6	90	110	
Na	23	2	He	10608.715	2.573	2626534	3.87	10000	106.1	90	110	
Mg	24	2	He	9530.828	3.595	1128678	2.99	10000	95.3	90	110	
Al	27	2	He	89.429	0.796	3210	1.62	100	89.4	90	110	CCV Main CR1-2 Failed
K	39	2	He	9800.463	1.678	596163	1.64	10000	98.0	90	110	
Ca	43	2	He	10183.469	9.360	2170	8.54	10000	101.8	90	110	
Ca	44	2	He	9239.265	1.688	34977	2.96	10000	92.4	90	110	
V	51	2	He	95.337	2.290	131299	1.04	100	95.3	90	110	
Cr	52	2	He	95.783	3.095	171771	1.79	100	95.8	90	110	
Mn	55	2	He	92.722	1.643	67515	2.44	100	92.7	90	110	
Fe	56	2	He	9274.657	1.063	13278389	1.20	10000	92.7	90	110	
Co	59	2	He	95.459	2.180	294598	0.73	100	95.5	90	110	
Ni	60	2	He	94.352	3.813	81579	2.43	100	94.4	90	110	
Cu	63	2	He	97.073	3.074	232033	1.61	100	97.1	90	110	
Zn	66	2	He	97.730	1.931	35809	2.30	100	97.7	90	110	
As	75	2	He	94.513	2.291	24518	0.98	100	94.5	90	110	
Se	78	2	He	92.988	4.848	929	5.90	100	93.0	90	110	
B	11	1	nogas	486.439	8.846	966745	4.62	500	97.3	90	110	
Si	28	1	nogas	4874.727	2.931	24448434	2.57	5000	97.5	90	110	
Ca	43	1	nogas	9742.035	1.263	190607	2.17	10000	97.4	90	110	
Ca	44	1	nogas	9198.360	3.321	3048286	3.29	10000	92.0	90	110	
Fe	56	1	nogas	9264.925	0.736	143498503	0.85	10000	92.6	90	110	
Se	77	1	nogas	31.997	49.943	98399	4.99	100	32.0	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	92.742	4.109	14456	2.98	100	92.7	90	110	
Mo	95	1	nogas	91.245	2.583	350536	1.37	100	91.2	90	110	
Sn	118	1	nogas	95.431	1.486	558401	0.61	100	95.4	90	110	
Ba	137	1	nogas	95.479	3.643	270388	1.72	100	95.5	90	110	
Sb	121	2	He	91.443	1.375	104922	1.96	100	91.4	90	110	
Li	7	1	nogas	100.675	5.094	748171	2.49	100	100.7	90	110	
P	31	1	nogas	477.031	2.809	402760	0.93	500	95.4	90	110	
La	139	1	nogas	90.883	29.216	313	23.95	100	90.9	90	110	
Au	197	1	nogas	13412.374	205.369	13	114.56	100	13412.4	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	356349	6.49	317621	112.19	70	125	
Ge	72	1	nogas	1628291	1.52	1478633	110.12	70	125	
In	115	1	nogas	1695055	1.93	1539303	110.12	70	125	
Bi	209	1	nogas	1510002	3.95	1532165	98.55	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	132137	1.46	126743	104.26	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	207_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T16:47:06-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.060	11.6	227	10.2	1	
Na	23	1	nogas	390.919	1.4	6626741	2.3	100	CCB Main CR1 Failed
Mg	24	1	nogas	20.173	2.5	179024	2.9	100	
Al	27	1	nogas	0.280	17.1	21026	2.5	5	
K	39	1	nogas	5.085	174.2	5173776	0.8	100	
Ti	47	1	nogas	-0.026	-243.0	350	18.7	2.5	
V	51	1	nogas	-5.187	-51.8	1744864	3.3	2.5	
Cr	52	1	nogas	-0.758	-15.7	37475	5.1	2.5	
Mn	55	1	nogas	0.483	4.6	20058	2.0	2.5	
Co	59	1	nogas	0.055	35.8	1367	20.8	2.5	
Ni	60	1	nogas	0.991	5.0	3484	3.6	2.5	
Cu	63	1	nogas	-0.013	-131.9	5071	3.0	2.5	
Zn	66	1	nogas	0.197	33.9	1167	13.9	2.5	
As	75	1	nogas	-16.240	-14.0	237624	3.5	2.5	
Sr	88	1	nogas	0.441	10.7	10250	8.6	2.5	
Ag	107	1	nogas	0.044	35.1	1027	16.3	2.5	
Cd	111	1	nogas	0.086	62.8	213	51.8	1	
Sb	121	1	nogas	0.453	20.8	5651	15.5	2.5	
Tl	205	1	nogas	0.234	40.5	4341	39.4	1	
Pb	208	1	nogas	0.075	6.0	2257	4.4	2.5	
U	238	1	nogas	0.067	28.0	1930	25.0	2.5	
[Pb]	206	1	nogas	0.066	4.3	597	2.6	2.5	
[Pb]	207	1	nogas	0.051	10.8	450	6.7	2.5	
Na	23	2	He	407.008	2.8	144583	1.2	100	CCB Main CR1 Failed
Mg	24	2	He	20.064	11.9	2650	10.6	100	
Al	27	2	He	2.240	87.3	117	57.1	5	
K	39	2	He	24.759	38.0	14035	4.0	100	
Ca	43	2	He	0.981	7701.6	13	114.6	100	
Ca	44	2	He	27.010	51.8	263	18.7	100	
V	51	2	He	0.484	5.5	962	4.4	2.5	
Cr	52	2	He	-0.318	-22.8	1157	11.3	2.5	
Mn	55	2	He	0.262	54.3	467	22.0	2.5	
Fe	56	2	He	-1.286	-23.3	11837	2.8	100	
Co	59	2	He	0.037	15.2	170	10.2	2.5	
Ni	60	2	He	0.675	9.5	370	15.0	2.5	
Cu	63	2	He	0.265	12.7	823	10.2	2.5	
Zn	66	2	He	0.301	28.0	117	26.2	2.5	
As	75	2	He	-0.022	-292.3	44	35.4	2.5	
Se	78	2	He	0.022	983.1	4	50.0	2.5	
B	11	1	nogas	33.294	4.3	112181	1.8	10	CCB Main CR1 Failed
Si	28	1	nogas	-24.790	-14.9	845140	1.3	5	
Ca	43	1	nogas	25.971	6.2	1207	2.1	100	
Ca	44	1	nogas	-389.369	-0.7	67037	0.3	100	
Fe	56	1	nogas	17.811	23.7	1423626	3.6	100	
Se	77	1	nogas	-42.657	-25.4	79430	3.9	2.5	
Se	82	1	nogas	-0.329	-96.0	500	8.7	2.5	
Mo	95	1	nogas	0.104	47.2	717	25.4	2.5	
Sn	118	1	nogas	-0.017	-161.1	1757	7.6	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.376	11.1	1600	7.6	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.433	18.5	597	15.6	2.5	
P	31	1	nogas	8.546	8.1	70027	0.5	10	
La	139	1	nogas	7.830	59.9	83	13.9	2.5	CCB Main CR1 Failed
Au	197	1	nogas	-15283.527	-117.3	30	33.3	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	384969	1.29	317621	121.20	70	125	
Ge	72	1	nogas	1627960	0.93	1478633	110.10	70	125	
In	115	1	nogas	1691900	1.89	1539303	109.91	70	125	
Bi	209	1	nogas	1593608	0.74	1532165	104.01	70	125	
Ge	72	2	He	126697	0.78	126743	99.96	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	218_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T17:09:13-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	92.971	1.600	283803	1.82	100	93.0	90	110	
Na	23	1	nogas	10262.320	1.892	133966182	1.13	10000	102.6	90	110	
Mg	24	1	nogas	9850.121	0.850	87975264	3.15	10000	98.5	90	110	
Al	27	1	nogas	93.532	3.531	1096345	1.19	100	93.5	90	110	
K	39	1	nogas	9362.306	2.232	100725256	0.54	10000	93.6	90	110	
Ti	47	1	nogas	92.342	2.752	99817	0.46	100	92.3	90	110	
V	51	1	nogas	72.000	14.272	3146101	3.51	100	72.0	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	92.657	4.772	1340304	2.55	100	92.7	90	110	
Mn	55	1	nogas	96.873	1.730	1668595	0.89	100	96.9	90	110	
Co	59	1	nogas	92.357	4.797	1420185	2.57	100	92.4	90	110	
Ni	60	1	nogas	93.143	2.372	314412	0.77	100	93.1	90	110	
Cu	63	1	nogas	94.106	1.428	777954	0.95	100	94.1	90	110	
Zn	66	1	nogas	97.145	1.623	259517	0.78	100	97.1	90	110	
As	75	1	nogas	60.225	15.392	500574	4.00	100	60.2	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	94.644	3.813	1762603	1.96	100	94.6	90	110	
Ag	107	1	nogas	93.699	2.711	1024209	0.47	100	93.7	90	110	
Cd	111	1	nogas	99.640	2.550	217075	1.66	100	99.6	90	110	
Sb	121	1	nogas	89.584	2.777	922962	1.45	100	89.6	90	110	CCV Main CR1-2 Failed
Tl	205	1	nogas	96.480	0.429	1715955	2.15	100	96.5	90	110	
Pb	208	1	nogas	108.565	1.079	2434508	1.08	100	108.6	90	110	
U	238	1	nogas	102.717	2.316	2584289	0.56	100	102.7	90	110	
[Pb]	206	1	nogas	94.476	1.550	583136	0.64	100	94.5	90	110	
[Pb]	207	1	nogas	95.593	0.946	537567	1.20	100	95.6	90	110	
Na	23	2	He	10240.269	1.995	2544566	1.34	10000	102.4	90	110	
Mg	24	2	He	9890.925	1.953	1175208	0.88	10000	98.9	90	110	
Al	27	2	He	85.564	2.449	3084	3.00	100	85.6	90	110	CCV Main CR1-2 Failed
K	39	2	He	10253.650	1.661	623149	1.63	10000	102.5	90	110	
Ca	43	2	He	10033.179	1.695	2147	2.85	10000	100.3	90	110	
Ca	44	2	He	9627.576	2.539	36556	3.13	10000	96.3	90	110	
V	51	2	He	98.881	1.163	136629	0.37	100	98.9	90	110	
Cr	52	2	He	98.686	1.784	177537	1.51	100	98.7	90	110	
Mn	55	2	He	96.121	3.007	70204	3.20	100	96.1	90	110	
Fe	56	2	He	9696.067	0.432	13927035	1.02	10000	97.0	90	110	
Co	59	2	He	98.726	1.288	305723	1.28	100	98.7	90	110	
Ni	60	2	He	100.279	1.500	87024	1.25	100	100.3	90	110	
Cu	63	2	He	100.664	2.907	241417	1.88	100	100.7	90	110	
Zn	66	2	He	97.942	0.563	36006	1.71	100	97.9	90	110	
As	75	2	He	98.985	2.508	25762	2.04	100	99.0	90	110	
Se	78	2	He	96.037	5.409	963	5.94	100	96.0	90	110	
B	11	1	nogas	509.911	3.441	1036695	3.36	500	102.0	90	110	
Si	28	1	nogas	4940.511	1.193	25976005	3.39	5000	98.8	90	110	
Ca	43	1	nogas	9783.374	3.441	200657	3.15	10000	97.8	90	110	
Ca	44	1	nogas	9291.804	3.964	3225825	2.94	10000	92.9	90	110	
Fe	56	1	nogas	9420.596	2.810	152952912	2.49	10000	94.2	90	110	
Se	77	1	nogas	-26.318	-109.403	87543	6.82	100	-26.3	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	93.369	4.190	15263	5.02	100	93.4	90	110	
Mo	95	1	nogas	93.051	0.539	374943	2.67	100	93.1	90	110	
Sn	118	1	nogas	96.156	3.676	579412	1.02	100	96.2	90	110	
Ba	137	1	nogas	95.460	3.098	278508	0.40	100	95.5	90	110	
Sb	121	2	He	93.774	2.369	107925	1.24	100	93.8	90	110	
Li	7	1	nogas	97.869	1.008	745611	1.18	100	97.9	90	110	
P	31	1	nogas	475.399	3.855	421028	1.68	500	95.1	90	110	
La	139	1	nogas	118.869	31.262	400	23.85	100	118.9	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-3904.784	-1064.102	23	98.97	100	-3904.8	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	364147	0.79	317621	114.65	70	125	
Ge	72	1	nogas	1707386	2.26	1478633	115.47	70	125	
In	115	1	nogas	1746582	3.06	1539303	113.47	70	125	
Bi	209	1	nogas	1592732	2.15	1532165	103.95	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	132570	1.20	126743	104.60	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	219_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T17:11:10-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.086	36.8	320	35.5	1	
Na	23	1	nogas	218.603	3.4	4761453	1.6	100	CCB Main CR1 Failed
Mg	24	1	nogas	11.947	8.4	115043	6.0	100	
Al	27	1	nogas	0.340	30.5	22040	1.8	5	
K	39	1	nogas	13.509	125.4	5343171	0.8	100	
Ti	47	1	nogas	-0.071	-138.4	307	30.1	2.5	
V	51	1	nogas	1.489	259.8	1885229	4.5	2.5	
Cr	52	1	nogas	-0.637	-28.6	39746	6.4	2.5	
Mn	55	1	nogas	0.395	13.3	18917	1.0	2.5	
Co	59	1	nogas	0.060	35.8	1467	18.9	2.5	
Ni	60	1	nogas	0.866	5.6	3134	1.2	2.5	
Cu	63	1	nogas	-0.051	-40.6	4854	3.1	2.5	
Zn	66	1	nogas	0.454	23.7	1847	11.5	2.5	
As	75	1	nogas	-15.121	-16.5	245239	4.1	2.5	
Sr	88	1	nogas	0.139	11.3	4974	3.7	2.5	
Ag	107	1	nogas	0.042	35.5	1027	16.2	2.5	
Cd	111	1	nogas	0.059	21.1	163	15.4	1	
Sb	121	1	nogas	0.458	25.6	5781	17.8	2.5	
Tl	205	1	nogas	0.267	39.5	5041	35.9	1	
Pb	208	1	nogas	0.086	19.2	2513	14.8	2.5	
U	238	1	nogas	0.079	19.0	2287	14.5	2.5	
[Pb]	206	1	nogas	0.070	22.5	633	13.4	2.5	
[Pb]	207	1	nogas	0.073	23.8	590	15.5	2.5	
Na	23	2	He	228.490	4.2	114240	0.8	100	CCB Main CR1 Failed
Mg	24	2	He	10.789	14.1	1767	8.3	100	
Al	27	2	He	1.300	70.1	93	34.4	5	
K	39	2	He	18.653	45.5	13672	3.7	100	
Ca	43	2	He	-49.745	-52.0	3	173.2	100	
Ca	44	2	He	4.063	92.7	200	5.0	100	
V	51	2	He	0.531	8.7	1135	5.7	2.5	
Cr	52	2	He	-0.284	-17.2	1347	9.1	2.5	
Mn	55	2	He	0.075	43.9	373	9.4	2.5	
Fe	56	2	He	-1.447	-27.4	12875	2.8	100	
Co	59	2	He	0.042	23.2	207	18.3	2.5	
Ni	60	2	He	0.689	12.3	423	19.7	2.5	
Cu	63	2	He	0.215	15.6	783	10.9	2.5	
Zn	66	2	He	0.167	26.4	77	19.9	2.5	
As	75	2	He	-0.024	-214.3	49	28.4	2.5	
Se	78	2	He	-0.018	-1084.6	4	50.0	2.5	
B	11	1	nogas	30.042	0.4	108445	2.8	10	CCB Main CR1 Failed
Si	28	1	nogas	-26.834	-32.1	848823	1.2	5	
Ca	43	1	nogas	23.340	10.3	1177	7.7	100	
Ca	44	1	nogas	-387.966	-2.2	68582	0.6	100	
Fe	56	1	nogas	17.315	32.1	1438929	2.9	100	
Se	77	1	nogas	-43.800	-34.1	80511	6.2	2.5	
Se	82	1	nogas	-0.902	-58.8	420	16.5	2.5	
Mo	95	1	nogas	0.149	49.8	900	29.5	2.5	
Sn	118	1	nogas	0.003	1837.6	1940	16.4	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.054	63.6	713	13.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.318	8.1	520	5.1	2.5	
P	31	1	nogas	13.498	43.6	74728	2.9	10	CCB Main CR1 Failed
La	139	1	nogas	-1.396	-270.6	60	16.7	2.5	
Au	197	1	nogas	-2640.927	-765.9	23	49.5	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	395740	2.58	317621	124.59	70	125	
Ge	72	1	nogas	1656273	3.93	1478633	112.01	70	125	
In	115	1	nogas	1751057	1.52	1539303	113.76	70	125	
Bi	209	1	nogas	1635757	2.19	1532165	106.76	70	125	
Ge	72	2	He	140483	2.67	126743	110.84	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	230_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T17:33:05-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	91.169	3.287	236648	2.61	100	91.2	90	110	
Na	23	1	nogas	10254.733	2.735	112762215	1.63	10000	102.5	90	110	
Mg	24	1	nogas	9974.087	2.514	75009623	1.48	10000	99.7	90	110	
Al	27	1	nogas	96.391	4.604	925276	3.19	100	96.4	90	110	
K	39	1	nogas	9834.403	1.177	86479048	0.70	10000	98.3	90	110	
Ti	47	1	nogas	95.349	3.837	84434	2.51	100	95.3	90	110	
V	51	1	nogas	84.096	4.125	2748935	2.45	100	84.1	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	94.736	2.170	1122380	1.54	100	94.7	90	110	
Mn	55	1	nogas	102.246	1.894	1442841	3.22	100	102.2	90	110	
Co	59	1	nogas	94.467	1.559	1190963	2.29	100	94.5	90	110	
Ni	60	1	nogas	96.927	1.494	268099	0.67	100	96.9	90	110	
Cu	63	1	nogas	96.675	2.438	654618	1.09	100	96.7	90	110	
Zn	66	1	nogas	99.780	1.654	218388	0.76	100	99.8	90	110	
As	75	1	nogas	70.427	5.175	437998	2.83	100	70.4	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	97.587	1.224	1489551	1.10	100	97.6	90	110	
Ag	107	1	nogas	93.919	2.509	841256	1.65	100	93.9	90	110	
Cd	111	1	nogas	97.061	0.574	180137	3.65	100	97.1	90	110	
Sb	121	1	nogas	94.967	1.852	801827	2.37	100	95.0	90	110	
Tl	205	1	nogas	97.871	1.405	1431808	0.93	100	97.9	90	110	
Pb	208	1	nogas	90.112	0.585	2020804	0.58	100	90.1	90	110	
U	238	1	nogas	104.410	1.064	2161674	1.80	100	104.4	90	110	
[Pb]	206	1	nogas	97.305	2.692	494081	1.90	100	97.3	90	110	
[Pb]	207	1	nogas	97.148	2.444	449398	1.71	100	97.1	90	110	
Na	23	2	He	10439.369	3.655	2194894	3.61	10000	104.4	90	110	
Mg	24	2	He	9713.556	1.747	977114	2.81	10000	97.1	90	110	
Al	27	2	He	98.925	6.856	3010	5.76	100	98.9	90	110	
K	39	2	He	8524.660	1.317	520191	1.29	10000	85.2	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	10723.928	9.053	1940	8.25	10000	107.2	90	110	
Ca	44	2	He	9350.041	0.129	30051	1.06	10000	93.5	90	110	
V	51	2	He	97.324	1.389	113829	1.24	100	97.3	90	110	
Cr	52	2	He	96.950	1.381	147672	2.36	100	96.9	90	110	
Mn	55	2	He	96.816	2.658	59854	3.33	100	96.8	90	110	
Fe	56	2	He	9488.872	1.211	11536228	1.58	10000	94.9	90	110	
Co	59	2	He	96.590	3.042	253145	2.61	100	96.6	90	110	
Ni	60	2	He	97.398	2.343	71554	3.47	100	97.4	90	110	
Cu	63	2	He	96.948	1.199	196821	0.11	100	96.9	90	110	
Zn	66	2	He	97.388	1.223	30299	0.20	100	97.4	90	110	
As	75	2	He	95.813	4.335	21113	5.04	100	95.8	90	110	
Se	78	2	He	98.376	5.126	835	5.94	100	98.4	90	110	
B	11	1	nogas	471.965	2.982	818550	2.16	500	94.4	90	110	
Si	28	1	nogas	5060.738	4.322	21767533	2.97	5000	101.2	90	110	
Ca	43	1	nogas	9840.515	1.140	165388	1.76	10000	98.4	90	110	
Ca	44	1	nogas	9289.657	2.204	2642674	0.83	10000	92.9	90	110	
Fe	56	1	nogas	9992.274	1.730	132865420	0.85	10000	99.9	90	110	
Se	77	1	nogas	2.001	877.905	78000	5.92	100	2.0	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	93.806	5.435	12555	4.17	100	93.8	90	110	
Mo	95	1	nogas	95.217	1.566	314260	0.40	100	95.2	90	110	
Sn	118	1	nogas	95.334	3.921	489074	0.72	100	95.3	90	110	
Ba	137	1	nogas	95.557	5.403	237218	1.29	100	95.6	90	110	
Sb	121	2	He	94.310	2.338	91888	2.77	100	94.3	90	110	
Li	7	1	nogas	98.710	2.410	639248	1.49	100	98.7	90	110	
P	31	1	nogas	500.270	3.653	360160	1.82	500	100.1	90	110	
La	139	1	nogas	103.119	25.678	303	19.32	100	103.1	90	110	
Au	197	1	nogas	8936.122	368.849	13	114.56	100	8936.1	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	309693	0.82	317621	97.50	70	125	
Ge	72	1	nogas	1398803	1.38	1478633	94.60	70	125	
In	115	1	nogas	1487463	4.21	1539303	96.63	70	125	
Bi	209	1	nogas	1310180	0.90	1532165	85.51	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	112206	1.11	126743	88.53	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\121
Acq Date Time	2017-12-14T17:35:02-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.109	9.4	330	8.0	1	
Na	23	1	nogas	273.086	2.7	4528083	0.1	100	CCB Main CR1 Failed
Mg	24	1	nogas	11.439	11.0	91844	11.7	100	
Al	27	1	nogas	0.266	21.5	17645	3.8	5	
K	39	1	nogas	50.872	36.4	4746654	1.1	100	
Ti	47	1	nogas	-0.128	-69.4	207	37.0	2.5	
V	51	1	nogas	-4.840	-126.5	1478414	4.5	2.5	
Cr	52	1	nogas	-0.916	-15.0	29868	3.4	2.5	
Mn	55	1	nogas	0.403	11.1	15837	2.2	2.5	
Co	59	1	nogas	0.077	37.0	1437	25.1	2.5	
Ni	60	1	nogas	0.840	6.4	2537	7.8	2.5	
Cu	63	1	nogas	-0.062	-48.5	3964	6.0	2.5	
Zn	66	1	nogas	0.544	4.8	1733	4.1	2.5	
As	75	1	nogas	-17.344	-27.9	197766	5.4	2.5	
Sr	88	1	nogas	0.105	14.6	3624	7.0	2.5	
Ag	107	1	nogas	0.067	28.0	1070	15.4	2.5	
Cd	111	1	nogas	0.070	98.8	153	82.8	1	
Sb	121	1	nogas	0.376	21.7	4147	17.6	2.5	
Tl	205	1	nogas	0.275	38.5	4224	38.5	1	
Pb	208	1	nogas	0.065	17.2	2040	12.3	2.5	
U	238	1	nogas	0.080	19.5	1883	19.0	2.5	
[Pb]	206	1	nogas	0.066	21.8	497	17.4	2.5	
[Pb]	207	1	nogas	0.073	8.3	477	7.9	2.5	
Na	23	2	He	300.923	3.5	108644	2.6	100	CCB Main CR1 Failed
Mg	24	2	He	9.732	23.7	1340	19.2	100	
Al	27	2	He	2.591	22.6	117	17.8	5	
K	39	2	He	3.194	322.4	12751	4.8	100	
Ca	43	2	He	-29.405	-207.8	7	173.2	100	
Ca	44	2	He	19.111	113.3	213	33.9	100	
V	51	2	He	0.432	15.7	808	8.1	2.5	
Cr	52	2	He	-0.126	-53.8	1343	8.2	2.5	
Mn	55	2	He	0.146	38.2	350	12.5	2.5	
Fe	56	2	He	-0.689	-22.8	11467	0.9	100	
Co	59	2	He	0.054	4.3	200	5.0	2.5	
Ni	60	2	He	0.683	8.2	340	10.6	2.5	
Cu	63	2	He	0.258	22.9	730	15.4	2.5	
Zn	66	2	He	0.316	12.1	110	9.1	2.5	
As	75	2	He	-0.005	-1811.2	44	51.0	2.5	
Se	78	2	He	0.296	79.7	6	33.3	2.5	
B	11	1	nogas	17.032	2.9	67383	1.1	10	CCB Main CR1 Failed
Si	28	1	nogas	2.119	202.5	823695	1.5	5	
Ca	43	1	nogas	17.819	71.0	883	22.3	100	
Ca	44	1	nogas	-362.515	-2.3	63685	1.4	100	
Fe	56	1	nogas	1.213	75.1	987934	2.1	100	
Se	77	1	nogas	-47.147	-44.1	66120	5.6	2.5	
Se	82	1	nogas	0.603	132.2	540	17.7	2.5	
Mo	95	1	nogas	0.107	68.7	617	39.1	2.5	
Sn	118	1	nogas	0.021	274.7	1680	19.1	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.067	100.3	617	27.9	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.281	33.7	390	26.0	2.5	
P	31	1	nogas	11.841	25.4	61139	1.5	10	CCB Main CR1 Failed
La	139	1	nogas	4.673	103.7	63	18.2	2.5	CCB Main CR1 Failed
Au	197	1	nogas	23378.831	52.5	7	86.6	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	329890	0.61	317621	103.86	70	125	
Ge	72	1	nogas	1375814	2.07	1478633	93.05	70	125	
In	115	1	nogas	1432166	1.98	1539303	93.04	70	125	
Bi	209	1	nogas	1324905	2.65	1532165	86.47	70	125	
Ge	72	2	He	114796	2.31	126743	90.57	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	236_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T17:45:03-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	90.667	7.291	260632	3.96	100	90.7	90	110	
Na	23	1	nogas	10690.095	3.235	126401386	2.31	10000	106.9	90	110	
Mg	24	1	nogas	10068.513	3.427	81471535	2.81	10000	100.7	90	110	
Al	27	1	nogas	96.761	5.883	1008757	3.10	100	96.8	90	110	
K	39	1	nogas	9794.918	2.763	93593425	0.31	10000	97.9	90	110	
Ti	47	1	nogas	94.976	2.575	91397	0.28	100	95.0	90	110	
V	51	1	nogas	76.552	13.848	2869779	2.93	100	76.6	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	98.181	5.017	1261794	2.95	100	98.2	90	110	
Mn	55	1	nogas	103.822	6.056	1590695	4.62	100	103.8	90	110	
Co	59	1	nogas	94.294	3.582	1291483	2.97	100	94.3	90	110	
Ni	60	1	nogas	96.103	2.797	288814	1.46	100	96.1	90	110	
Cu	63	1	nogas	96.181	1.530	707890	2.17	100	96.2	90	110	
Zn	66	1	nogas	99.062	2.562	235579	1.15	100	99.1	90	110	
As	75	1	nogas	64.652	10.640	458702	1.60	100	64.7	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	96.072	3.874	1592783	1.20	100	96.1	90	110	
Ag	107	1	nogas	95.156	3.428	925924	0.60	100	95.2	90	110	
Cd	111	1	nogas	97.471	1.301	196999	1.21	100	97.5	90	110	
Sb	121	1	nogas	94.012	1.422	862490	1.60	100	94.0	90	110	
Tl	205	1	nogas	97.126	2.134	1572497	1.62	100	97.1	90	110	
Pb	208	1	nogas	98.994	0.699	2219930	0.70	100	99.0	90	110	
U	238	1	nogas	101.172	2.274	2318247	2.90	100	101.2	90	110	
[Pb]	206	1	nogas	95.026	2.571	534018	1.93	100	95.0	90	110	
[Pb]	207	1	nogas	96.290	1.998	492976	1.30	100	96.3	90	110	
Na	23	2	He	10643.601	2.656	2396077	0.61	10000	106.4	90	110	
Mg	24	2	He	9961.712	1.153	1073402	1.07	10000	99.6	90	110	
Al	27	2	He	95.444	3.400	3114	2.09	100	95.4	90	110	
K	39	2	He	9362.761	0.434	570098	0.42	10000	93.6	90	110	
Ca	43	2	He	9781.812	7.591	1900	9.52	10000	97.8	90	110	
Ca	44	2	He	9415.134	6.212	32395	4.19	10000	94.2	90	110	
V	51	2	He	98.079	1.920	122906	2.41	100	98.1	90	110	
Cr	52	2	He	100.011	1.646	163156	2.61	100	100.0	90	110	
Mn	55	2	He	98.329	4.500	65089	2.79	100	98.3	90	110	
Fe	56	2	He	9797.717	2.352	12758665	0.46	10000	98.0	90	110	
Co	59	2	He	99.316	5.081	278733	3.06	100	99.3	90	110	
Ni	60	2	He	99.426	5.189	78204	3.41	100	99.4	90	110	
Cu	63	2	He	100.682	4.085	218902	2.10	100	100.7	90	110	
Zn	66	2	He	99.521	2.978	33167	1.79	100	99.5	90	110	
As	75	2	He	97.066	2.937	22906	1.52	100	97.1	90	110	
Se	78	2	He	100.781	6.879	917	8.84	100	100.8	90	110	
B	11	1	nogas	477.712	2.571	918013	0.85	500	95.5	90	110	
Si	28	1	nogas	5103.511	5.718	23836879	3.34	5000	102.1	90	110	
Ca	43	1	nogas	9950.079	3.851	181613	1.03	10000	99.5	90	110	
Ca	44	1	nogas	9453.902	3.794	2918471	0.99	10000	94.5	90	110	
Fe	56	1	nogas	9930.005	3.924	143466662	3.09	10000	99.3	90	110	
Se	77	1	nogas	-18.710	-103.698	79758	3.09	100	-18.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	92.108	4.572	13402	1.86	100	92.1	90	110	
Mo	95	1	nogas	92.381	1.590	331381	2.36	100	92.4	90	110	
Sn	118	1	nogas	95.829	3.625	535671	1.44	100	95.8	90	110	
Ba	137	1	nogas	95.334	4.226	257958	1.70	100	95.3	90	110	
Sb	121	2	He	95.450	1.435	99653	3.13	100	95.5	90	110	
Li	7	1	nogas	98.671	5.956	707901	2.47	100	98.7	90	110	
P	31	1	nogas	500.042	6.097	391089	3.37	500	100.0	90	110	
La	139	1	nogas	66.296	31.910	233	21.14	100	66.3	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	37547.378	0.000	0	#DIV/0!	100	37547.4	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	343458	3.28	317621	108.13	70	125	
Ge	72	1	nogas	1520297	2.88	1478633	102.82	70	125	
In	115	1	nogas	1619951	2.47	1539303	105.24	70	125	
Bi	209	1	nogas	1449971	0.69	1532165	94.64	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	120224	2.01	126743	94.86	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	237_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T17:47:00-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.112	6.4	377	4.1	1	
Na	23	1	nogas	425.525	3.1	6892268	1.7	100	CCB Main CR1 Failed
Mg	24	1	nogas	10.298	20.9	93318	18.3	100	
Al	27	1	nogas	0.285	8.4	19964	3.0	5	
K	39	1	nogas	42.051	18.2	5237439	0.5	100	
Ti	47	1	nogas	-0.161	-21.2	200	17.3	2.5	
V	51	1	nogas	-13.916	-48.7	1515701	5.0	2.5	
Cr	52	1	nogas	-1.026	-11.5	32082	3.3	2.5	
Mn	55	1	nogas	0.370	9.2	17232	1.2	2.5	
Co	59	1	nogas	0.054	37.6	1283	23.5	2.5	
Ni	60	1	nogas	0.962	9.7	3210	8.3	2.5	
Cu	63	1	nogas	0.044	104.3	5219	5.8	2.5	
Zn	66	1	nogas	0.540	10.7	1930	5.8	2.5	
As	75	1	nogas	-22.003	-19.7	207653	4.4	2.5	
Sr	88	1	nogas	0.117	17.1	4267	7.6	2.5	
Ag	107	1	nogas	0.062	38.4	1147	20.6	2.5	
Cd	111	1	nogas	0.065	31.9	167	25.0	1	
Sb	121	1	nogas	0.506	22.1	5848	18.9	2.5	
Tl	205	1	nogas	0.285	32.3	4851	32.3	1	
Pb	208	1	nogas	0.078	29.1	2337	21.8	2.5	
U	238	1	nogas	0.070	18.0	1870	16.7	2.5	
[Pb]	206	1	nogas	0.074	30.3	597	21.4	2.5	
[Pb]	207	1	nogas	0.091	9.2	620	5.8	2.5	
Na	23	2	He	435.591	3.3	150985	2.2	100	CCB Main CR1 Failed
Mg	24	2	He	7.551	9.1	1227	6.2	100	
Al	27	2	He	3.233	74.7	150	54.6	5	
K	39	2	He	30.193	23.0	14359	2.9	100	
Ca	43	2	He	66.817	42.7	27	21.7	100	
Ca	44	2	He	5.839	235.1	187	26.4	100	
V	51	2	He	0.434	7.3	895	4.7	2.5	
Cr	52	2	He	-0.162	-81.5	1420	15.7	2.5	
Mn	55	2	He	0.134	96.1	377	23.8	2.5	
Fe	56	2	He	-0.727	-10.3	12584	0.7	100	
Co	59	2	He	0.052	71.9	213	51.6	2.5	
Ni	60	2	He	0.725	9.2	410	13.6	2.5	
Cu	63	2	He	0.298	10.4	897	7.9	2.5	
Zn	66	2	He	0.226	22.0	90	19.2	2.5	
As	75	2	He	-0.076	-57.3	31	34.4	2.5	
Se	78	2	He	0.231	90.6	6	33.3	2.5	
B	11	1	nogas	36.136	12.0	112629	3.9	10	CCB Main CR1 Failed
Si	28	1	nogas	-14.191	-12.2	848425	1.2	5	
Ca	43	1	nogas	11.954	29.2	883	6.2	100	
Ca	44	1	nogas	-383.585	-1.8	65160	3.1	100	
Fe	56	1	nogas	-1.510	-409.4	1067702	9.6	100	
Se	77	1	nogas	-66.962	-27.3	69299	4.6	2.5	
Se	82	1	nogas	-0.705	-95.0	420	22.7	2.5	
Mo	95	1	nogas	0.129	31.5	773	20.7	2.5	
Sn	118	1	nogas	-0.011	-14.0	1763	0.9	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	-0.015	-309.4	490	26.8	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.343	14.5	497	11.1	2.5	
P	31	1	nogas	13.508	20.6	69608	0.8	10	CCB Main CR1 Failed
La	139	1	nogas	-5.252	-248.1	47	75.3	2.5	
Au	197	1	nogas	12402.007	231.2	13	114.6	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	367950	3.86	317621	115.85	70	125	
Ge	72	1	nogas	1541152	1.86	1478633	104.23	70	125	
In	115	1	nogas	1666032	0.95	1539303	108.23	70	125	
Bi	209	1	nogas	1470312	1.45	1532165	95.96	70	125	
Ge	72	2	He	126479	0.15	126743	99.79	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	LLCCV5
Data File Name	238LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T17:48:59-06:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	4.411	3.611	13829	2.59	5	88.2	70	130	
Na	23	1	nogas	905.567	4.912	12653832	1.73	500	181.1	70	130	LLICV Main CR1 Failed
Mg	24	1	nogas	558.508	2.053	4644546	1.81	500	111.7	70	130	
Al	27	1	nogas	5.902	3.904	80269	2.31	5	118.0	70	130	
K	39	1	nogas	553.576	3.469	10179872	1.24	500	110.7	70	130	
Ti	47	1	nogas	5.133	4.545	5474	3.66	5	102.7	70	130	
V	51	1	nogas	10.190	76.123	1933452	5.59	5	203.8	70	130	LLICV Main CR1 Failed
Cr	52	1	nogas	4.438	6.688	103238	3.14	5	88.8	70	130	
Mn	55	1	nogas	5.521	1.172	99053	1.75	5	110.4	70	130	
Co	59	1	nogas	4.936	0.493	70728	1.07	5	98.7	70	130	
Ni	60	1	nogas	6.110	0.894	19340	0.81	5	122.2	70	130	
Cu	63	1	nogas	5.279	3.723	45073	2.55	5	105.6	70	130	
Zn	66	1	nogas	6.040	6.732	15520	5.69	5	120.8	70	130	
As	75	1	nogas	-3.115	-197.441	270187	6.20	5	-62.3	70	130	LLICV Main CR1 Failed
Sr	88	1	nogas	4.944	1.358	87377	0.63	5	98.9	70	130	
Ag	107	1	nogas	5.097	2.366	52037	2.75	5	101.9	70	130	
Cd	111	1	nogas	5.411	2.102	11104	2.60	5	108.2	70	130	
Sb	121	1	nogas	4.978	1.557	48521	0.82	5	99.6	70	130	
Tl	205	1	nogas	5.086	2.936	85765	1.01	5	101.7	70	130	
Pb	208	1	nogas	5.463	1.348	123055	1.34	5	109.3	70	130	
U	238	1	nogas	5.127	0.918	122373	1.07	5	102.5	70	130	
[Pb]	206	1	nogas	5.270	2.311	30963	0.91	5	105.4	70	130	
[Pb]	207	1	nogas	5.135	5.241	27473	3.66	5	102.7	70	130	
Na	23	2	He	918.037	2.547	265196	1.16	500	183.6	70	130	LLICV Main CR1 Failed
Mg	24	2	He	523.820	0.992	60237	0.46	500	104.8	70	130	
Al	27	2	He	6.413	1.277	260	0.00	5	128.3	70	130	
K	39	2	He	535.003	2.777	44420	1.99	500	107.0	70	130	
Ca	43	2	He	309.454	70.298	77	58.82	500	61.9	70	130	LLICV Main CR1 Failed
Ca	44	2	He	462.196	11.189	1847	9.84	500	92.4	70	130	
V	51	2	He	5.603	3.198	7755	1.99	5	112.1	70	130	
Cr	52	2	He	4.874	7.751	10056	5.40	5	97.5	70	130	
Mn	55	2	He	5.019	5.537	3797	4.48	5	100.4	70	130	
Fe	56	2	He	485.093	2.854	683270	2.25	500	97.0	70	130	
Co	59	2	He	5.173	3.380	15467	2.72	5	103.5	70	130	
Ni	60	2	He	5.774	7.810	4641	8.89	5	115.5	70	130	
Cu	63	2	He	5.481	1.768	12851	0.94	5	109.6	70	130	
Zn	66	2	He	5.522	8.399	1963	8.68	5	110.4	70	130	
As	75	2	He	4.851	5.415	1262	4.44	5	97.0	70	130	
Se	78	2	He	4.808	26.364	50	24.33	5	96.2	70	130	
B	11	1	nogas	49.957	4.803	142125	2.56	25	199.8	70	130	LLICV Main CR1 Failed
Si	28	1	nogas	264.730	3.548	2171067	1.33	25	1058.9	70	130	LLICV Main CR1 Failed
Ca	43	1	nogas	529.251	2.594	10677	1.68	500	105.9	70	130	
Ca	44	1	nogas	131.667	17.398	221982	2.44	500	26.3	70	130	LLICV Main CR1 Failed
Fe	56	1	nogas	510.094	1.266	8710891	0.54	500	102.0	70	130	
Se	77	1	nogas	-4.334	-538.964	86388	5.96	5	-86.7	70	130	LLICV Main CR1 Failed
Se	82	1	nogas	3.897	30.868	1100	16.44	5	77.9	70	130	
Mo	95	1	nogas	4.812	1.306	18213	1.08	5	96.2	70	130	
Sn	118	1	nogas	4.860	2.025	29222	0.91	5	97.2	70	130	
Ba	137	1	nogas	5.050	3.331	14333	1.56	5	101.0	70	130	
Sb	121	2	He	5.101	5.893	5761	4.81	5	102.0	70	130	
Li	7	1	nogas	5.098	1.621	71925	1.72	5	102.0	70	130	
P	31	1	nogas	42.452	3.723	91226	1.05	25	169.8	70	130	LLICV Main CR1 Failed
La	139	1	nogas	7.446	82.686	80	21.65	5	148.9	70	130	LLICV Main CR1 Failed
Au	197	1	nogas	6933.464	403.637	17	91.65	5	138669.3	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
Li	6	1	nogas	373303	1.04	317621	117.53	70	125	
Ge	72	1	nogas	1578101	0.75	1478633	106.73	70	125	
In	115	1	nogas	1640015	2.04	1539303	106.54	70	125	
Bi	209	1	nogas	1508022	1.96	1532165	98.42	70	125	
Ge	72	2	He	127540	1.08	126743	100.63	70	125	

Sample Report

Sample Table

Sample Name	LLCCV2
Data File Name	239SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T17:50:58-06:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	1.808	1.808	6.50	5838	0.03	2000	
Na	23	1	nogas	500.832	500.832	3.96	7974249	0.01	200000	
Mg	24	1	nogas	215.153	215.153	2.62	1830047	0.01	200000	
Al	27	1	nogas	2.307	2.307	2.95	41814	0.01	2000	
K	39	1	nogas	223.280	223.280	4.51	7041104	0.00	200000	
Ti	47	1	nogas	2.008	2.008	11.74	2354	0.09	2000	
V	51	1	nogas	7.357	7.357	67.32	1881233	0.00	2000	
Cr	52	1	nogas	1.380	1.380	13.92	63589	0.00	2000	
Mn	55	1	nogas	2.395	2.395	2.87	49450	0.00	2000	
Co	59	1	nogas	2.022	2.022	1.42	29177	0.01	2000	
Ni	60	1	nogas	2.746	2.746	4.20	8816	0.03	2000	
Cu	63	1	nogas	2.003	2.003	1.65	20131	0.01	2000	
Zn	66	1	nogas	2.550	2.550	5.99	6901	0.04	2000	
As	75	1	nogas	-7.175	-7.175	-69.24	256786	0.00	2000	
Sr	88	1	nogas	2.024	2.024	4.41	36995	0.01	2000	
Ag	107	1	nogas	1.974	1.974	2.07	20412	0.01	2000	
Cd	111	1	nogas	1.957	1.957	1.04	4122	0.05	2000	
Sb	121	1	nogas	1.979	1.979	3.42	19915	0.01	2000	
Tl	205	1	nogas	2.026	2.026	1.83	33836	0.01	2000	
Pb	208	1	nogas	2.110	2.110	0.98	47885	0.00	2000	
U	238	1	nogas	2.016	2.016	2.76	47652	0.00	2000	
[Pb]	206	1	nogas	1.986	1.986	2.97	11628	0.02	2000	
[Pb]	207	1	nogas	1.982	1.982	1.91	10570	0.02	2000	
Na	23	2	He	534.647	534.647	1.80	177320	0.30	200000	
Mg	24	2	He	207.713	207.713	5.54	24366	0.85	200000	
Al	27	2	He	2.757	2.757	78.38	137	2.02	2000	
K	39	2	He	215.059	215.059	4.15	25367	0.85	200000	
Ca	43	2	He	80.422	80.422	60.19	30	268.07	200000	
Ca	44	2	He	179.132	179.132	21.11	827	21.67	200000	
V	51	2	He	2.474	2.474	3.26	3646	0.07	2000	
Cr	52	2	He	1.988	1.988	6.12	5171	0.04	2000	
Mn	55	2	He	1.952	1.952	6.79	1670	0.12	2000	
Fe	56	2	He	185.373	185.373	1.42	272478	0.07	200000	
Co	59	2	He	2.073	2.073	5.84	6301	0.03	2000	
Ni	60	2	He	2.564	2.564	1.05	1973	0.13	2000	
Cu	63	2	He	2.407	2.407	1.57	5828	0.04	2000	
Zn	66	2	He	2.608	2.608	11.73	943	0.28	2000	
As	75	2	He	1.839	1.839	14.00	516	0.36	2000	
Se	78	2	He	1.868	1.868	22.03	22	8.49	2000	
B	11	1	nogas	31.014	31.014	9.43	106990	0.03	2000	
Si	28	1	nogas	95.924	95.924	4.28	1377389	0.01	2000	
Ca	43	1	nogas	210.691	210.691	2.88	4641	4.54	200000	
Ca	44	1	nogas	-183.728	-183.728	-5.33	126432	-0.15	200000	
Fe	56	1	nogas	210.604	210.604	3.60	4233643	0.00	200000	

Sample Report

Se	77	1	nogas	-20.507	-20.507	-89.53	82078	-0.02	2000	
Se	82	1	nogas	1.792	1.792	39.24	790	0.23	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	1.886	1.886	4.27	7295	0.03	2000	
Sn	118	1	nogas	1.786	1.786	3.70	12134	0.01	2000	
Ba	137	1	nogas	2.056	2.056	2.79	6275	0.03	2000	
Sb	121	2	He	1.909	1.909	6.55	2257	0.08	2000	
La	139	1	nogas	19.134	19.134	42.25	113	16.88	2000	
Au	197	1	nogas	6145.385	6145.385	178.11	17	36872.31	2000	>LDR

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	383580	2.93	317621	120.77	70	125	
Ge	72	1	nogas	1571668	0.81	1478633	106.29	70	125	
In	115	1	nogas	1674865	1.93	1539303	108.81	70	125	
Bi	209	1	nogas	1488745	1.10	1532165	97.17	70	125	
Ge	72	2	He	128907	0.62	126743	101.71	70	125	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	240ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T17:52:56-06:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.017	41.4	83	25.0	0	ICSA Main CR1 Failed
Na	23	1	nogas	108654.115	0.5	1241293594	2.2	0	
Mg	24	1	nogas	107672.543	1.3	852357252	0.5	0	
Al	27	1	nogas	89939.894	1.7	947876173	1.5	0	
K	39	1	nogas	99686.409	1.6	933452354	1.0	0	
Ti	47	1	nogas	2002.188	1.5	1972211	1.5	0	
V	51	1	nogas	-9.476	-7.5	1605992	0.3	0	ICSA Main CR1 Failed
Cr	52	1	nogas	-0.157	-18.2	43595	1.6	0	ICSA Main CR1 Failed
Mn	55	1	nogas	0.563	10.4	20478	3.9	0	ICSA Main CR1 Failed
Co	59	1	nogas	0.072	11.5	1560	7.9	0	ICSA Main CR1 Failed
Ni	60	1	nogas	1.666	9.9	5424	9.1	0	ICSA Main CR1 Failed
Cu	63	1	nogas	0.790	9.5	10887	4.4	0	ICSA Main CR1 Failed
Zn	66	1	nogas	2.156	4.7	5894	3.8	0	ICSA Main CR1 Failed
As	75	1	nogas	-0.205	-933.9	276119	1.7	0	ICSA Main CR1 Failed
Sr	88	1	nogas	0.889	6.1	17445	4.6	0	ICSA Main CR1 Failed
Ag	107	1	nogas	0.016	69.5	703	15.7	0	ICSA Main CR1 Failed
Cd	111	1	nogas	1.311	6.9	2584	7.4	0	ICSA Main CR1 Failed
Sb	121	1	nogas	0.104	20.9	2137	8.8	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.026	38.9	563	29.5	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.081	16.4	2390	12.4	0	ICSA Main CR1 Failed
[Pb]	206	1	nogas	0.077	5.7	583	4.0	0	ICSA Main CR1 Failed
[Pb]	207	1	nogas	0.096	0.5	617	2.5	0	ICSA Main CR1 Failed
Na	23	2	He	103798.016	1.7	23235801	0.2	0	
Mg	24	2	He	100481.360	1.7	10955242	0.1	0	
Al	27	2	He	86042.072	1.2	2807345	2.5	0	
K	39	2	He	95286.460	2.3	5686713	2.3	0	
Ca	43	2	He	98897.122	1.7	19307	0.8	0	
Ca	44	2	He	93216.382	1.9	323423	0.4	0	
V	51	2	He	0.403	4.4	821	1.2	0	ICSA Main CR1 Failed
Cr	52	2	He	0.125	47.1	1833	4.0	0	ICSA Main CR1 Failed
Mn	55	2	He	0.129	114.5	360	29.0	0	ICSA Main CR1 Failed
Fe	56	2	He	97304.757	0.9	128167518	1.2	0	
Co	59	2	He	0.006	277.4	77	66.9	0	ICSA Main CR1 Failed
Ni	60	2	He	0.765	2.4	427	4.9	0	ICSA Main CR1 Failed
Cu	63	2	He	0.567	9.5	1453	6.5	0	ICSA Main CR1 Failed
Zn	66	2	He	1.044	24.0	363	24.8	0	ICSA Main CR1 Failed
As	75	2	He	0.018	286.2	52	22.4	0	ICSA Main CR1 Failed
Se	78	2	He	0.410	189.9	7	95.8	0	ICSA Main CR1 Failed
B	11	1	nogas	26.165	4.0	93416	1.5	0	
Si	28	1	nogas	72.979	13.9	1261946	2.9	0	
Ca	43	1	nogas	100103.755	2.1	1871324	1.3	0	
Ca	44	1	nogas	98834.466	1.3	29644635	0.8	0	
Fe	56	1	nogas	95731.798	1.1	1411354498	0.9	0	
Se	77	1	nogas	17.491	34.6	90788	0.8	0	
Se	82	1	nogas	-0.720	-70.9	423	17.1	0	ICSA Main CR1 Failed
Mo	95	1	nogas	1974.363	1.4	7267614	1.6	0	
Sn	118	1	nogas	-0.085	-63.5	1257	24.0	0	ICSA Main CR1 Failed
Ba	137	1	nogas	0.010	152.0	523	7.2	0	ICSA Main CR1 Failed
Sb	121	2	He	0.172	42.2	297	26.2	0	ICSA Main CR1 Failed

Interference Check Solution A (ICS-A) Report

P	31	1	nogas	93156.956	1.1	63507762	0.3	0	
La	139	1	nogas	79.807	15.0	260	11.5	0	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	368957	1.61	317621	116.16	70	125	
Ge	72	1	nogas	1561157	0.81	1478633	105.58	70	125	
In	115	1	nogas	1560912	1.04	1539303	101.40	70	125	
Bi	209	1	nogas	1397842	2.80	1532165	91.23	70	125	
Ge	72	2	He	121687	1.57	126743	96.01	70	125	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	241ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T17:55:00-06:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	84.518	0.622	248025	2.57	100	84.5	80	120	
Na	23	1	nogas	119787.424	0.515	1375434631	1.17	100	119787.4	80	120	
Mg	24	1	nogas	119520.380	1.189	951346388	2.27	100	119520.4	80	120	
Al	27	1	nogas	90302.418	4.598	936004919	2.49	100	90302.4	80	120	ICSB Main CR1 Failed
K	39	1	nogas	109827.198	4.454	1011034256	2.48	100	109827.2	80	120	
Ti	47	1	nogas	2135.563	5.289	2068612	3.16	100	2135.6	80	120	ICSB Main CR1 Failed
V	51	1	nogas	58.169	11.866	2619087	2.12	100	58.2	80	120	ICSB Main CR1 Failed
Cr	52	1	nogas	82.990	4.604	1084921	2.29	100	83.0	80	120	
Mn	55	1	nogas	89.426	7.298	1386016	5.47	100	89.4	80	120	
Co	59	1	nogas	82.854	1.968	1146973	0.37	100	82.9	80	120	
Ni	60	1	nogas	86.707	5.568	263268	3.43	100	86.7	80	120	
Cu	63	1	nogas	85.677	4.189	637517	2.09	100	85.7	80	120	
Zn	66	1	nogas	89.766	2.444	215806	0.37	100	89.8	80	120	
As	75	1	nogas	69.843	8.892	479079	2.08	100	69.8	80	120	ICSB Main CR1 Failed
Sr	88	1	nogas	88.759	5.301	1487235	3.18	100	88.8	80	120	
Ag	107	1	nogas	80.564	2.820	792531	1.34	100	80.6	80	120	
Cd	111	1	nogas	90.454	0.920	176306	0.69	100	90.5	80	120	
Sb	121	1	nogas	85.781	2.458	795381	1.79	100	85.8	80	120	
Tl	205	1	nogas	90.017	3.442	1413254	1.21	100	90.0	80	120	
Pb	208	1	nogas	86.978	0.541	1950550	0.54	100	87.0	80	120	
U	238	1	nogas	96.244	1.394	2139013	1.90	100	96.2	80	120	
[Pb]	206	1	nogas	87.571	2.799	477278	0.45	100	87.6	80	120	
[Pb]	207	1	nogas	86.916	3.309	431520	0.90	100	86.9	80	120	
Na	23	2	He	117190.534	1.301	25973522	0.56	100	117190.5	80	120	ICSB Main CR1 Failed
Mg	24	2	He	113692.387	1.273	12276819	1.85	100	113692.4	80	120	ICSB Main CR1 Failed
Al	27	2	He	90517.604	1.761	2924248	2.03	100	90517.6	80	120	ICSB Main CR1 Failed
K	39	2	He	106962.146	1.596	6381981	1.59	100	106962.1	80	120	
Ca	43	2	He	105482.392	1.648	20391	0.86	100	105482.4	80	120	ICSB Main CR1 Failed
Ca	44	2	He	102079.411	1.751	350728	0.96	100	102079.4	80	120	
V	51	2	He	89.873	1.103	112903	0.34	100	89.9	80	120	
Cr	52	2	He	90.215	1.015	147671	1.61	100	90.2	80	120	
Mn	55	2	He	87.591	2.761	58166	2.22	100	87.6	80	120	
Fe	56	2	He	109395.448	3.504	142680738	3.33	100	109395.4	80	120	ICSB Main CR1 Failed
Co	59	2	He	89.125	3.669	250869	3.69	100	89.1	80	120	
Ni	60	2	He	88.880	4.994	70078	4.47	100	88.9	80	120	
Cu	63	2	He	88.149	1.392	192201	0.60	100	88.1	80	120	
Zn	66	2	He	88.240	1.496	29484	1.59	100	88.2	80	120	
As	75	2	He	89.670	1.353	21218	1.11	100	89.7	80	120	
Se	78	2	He	86.096	7.000	785	6.99	100	86.1	80	120	
B	11	1	nogas	453.869	4.757	890695	1.52	100	453.9	80	120	
Si	28	1	nogas	4498.036	4.123	21347063	2.07	100	4498.0	80	120	ICSB Main CR1 Failed
Ca	43	1	nogas	114039.857	0.811	2098224	2.64	100	114039.9	80	120	ICSB Main CR1 Failed
Ca	44	1	nogas	110719.948	1.448	32657935	1.66	100	110719.9	80	120	
Fe	56	1	nogas	106229.093	6.688	1539952134	5.02	100	106229.1	80	120	
Se	77	1	nogas	43.303	58.975	95453	4.45	100	43.3	80	120	ICSB Main CR1 Failed
Se	82	1	nogas	87.439	3.504	12888	1.88	100	87.4	80	120	
Mo	95	1	nogas	2119.604	5.055	7673214	3.20	100	2119.6	80	120	ICSB Main CR1 Failed
Sn	118	1	nogas	90.643	1.579	488923	1.92	100	90.6	80	120	
Ba	137	1	nogas	88.547	1.974	231196	1.54	100	88.5	80	120	
Sb	121	2	He	87.104	2.996	91141	3.01	100	87.1	80	120	
La	139	1	nogas	282.602	13.448	777	13.03	100	282.6	80	120	ICSB Main CR1 Failed

QC ISTD Table

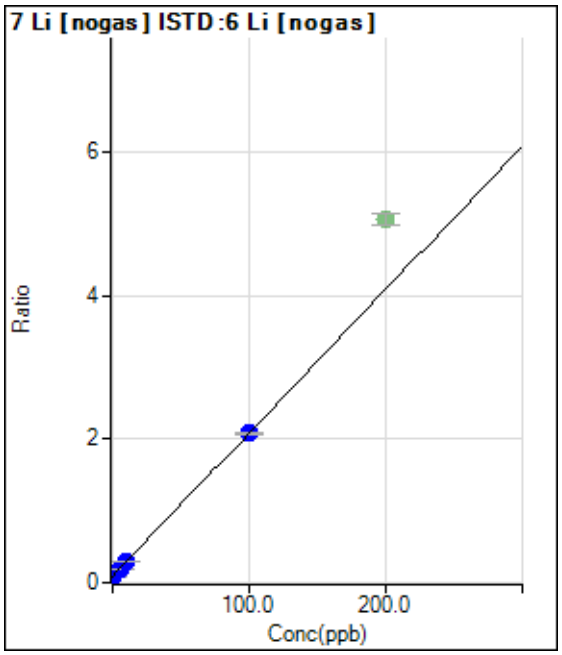
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	350116	3.20	317621	110.23	70	125	
Ge	72	1	nogas	1536332	2.10	1478633	103.90	70	125	
In	115	1	nogas	1562064	1.61	1539303	101.48	70	125	
Bi	209	1	nogas	1406693	2.45	1532165	91.81	70	125	
Ge	72	2	He	120495	0.80	126743	95.07	70	125	

Calibration for 011_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\121417A.b\
Analysis File: 121417A.batch.bin
DA Date-Time: 2017-12-14 13:49:24
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	004CALB.d	CAL BLK	2017-12-14 09:25:04
2	005CALS.d	2/10/200	2017-12-14 09:27:03
3	006CALS.d	5/25/500	2017-12-14 09:29:02
4	007CALS.d	10/50/1000	2017-12-14 09:31:01
5	008CALS.d	100/500/10K	2017-12-14 09:33:00
6	009CALS.d	200/1000/20K	2017-12-14 09:34:57
7			

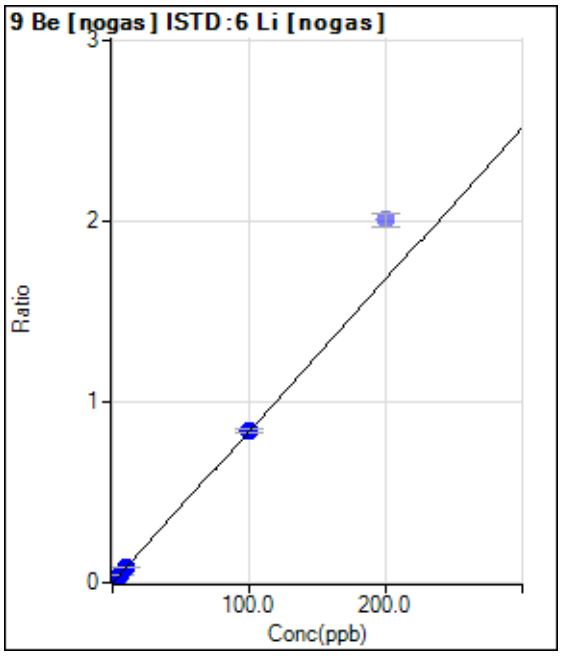
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	28819.07	0.0907	P	5.5
2	☐	2.000	1.687	39127.41	0.1245	P	1.7
3	☐	5.000	4.671	57936.18	0.1841	P	5.6
4	☐	10.000	10.060	90034.57	0.2919	P	1.4
5	☐	100.000	100.017	602226.71	2.0905	P	1.3
6	☑	200.000		1251648.24	5.0580	A	3.1
7	☐	1.000					

y = 0.0200 * x + 0.0907
R = 1.0000
DL = 0.7478
BEC = 4.538

Weight: <None>
Min Conc: <None>

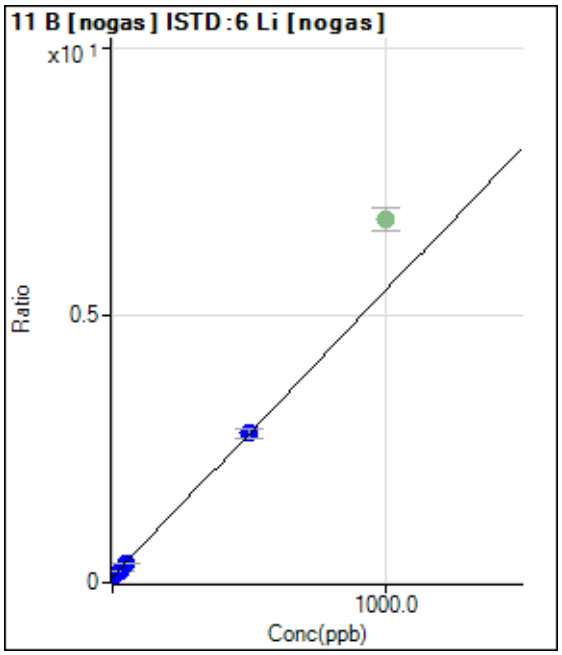


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26.67	0.0001	P	142.
2	☐	2.000	2.103	5567.60	0.0177	P	2.8
3	☐	5.000	4.653	12304.25	0.0391	P	9.5
4	☐	10.000	9.929	25697.64	0.0833	P	4.2
5	☐	100.000	100.022	241385.14	0.8385	P	3.5
6	☑	200.000		495882.08	2.0046	P	3.7
7	☐	1.000					

y = 0.0084 * x + 8.3999E-005
R = 1.0000
DL = 0.04276
BEC = 0.01002

Weight: <None>
Min Conc: <None>

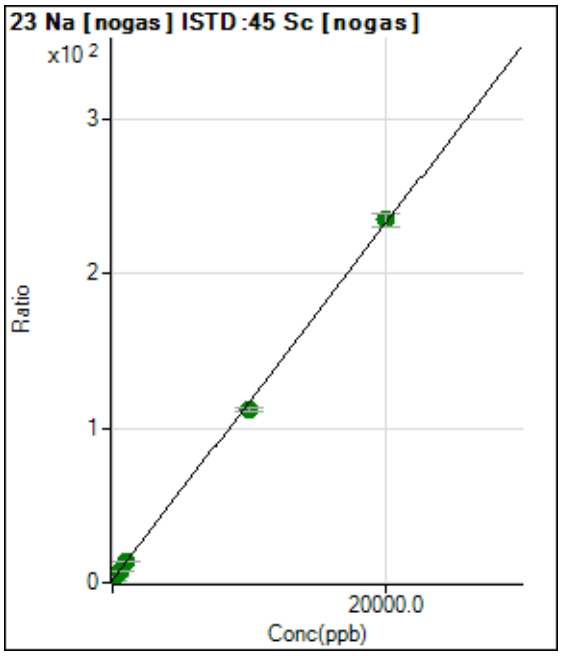
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	35871.08	0.1129	P	1.8
2	☐	10.000	9.066	50774.83	0.1616	P	2.3
3	☐	25.000	21.660	72076.58	0.2291	P	1.7
4	☐	50.000	46.692	112053.40	0.3633	P	1.0
5	☐	500.000	500.516	804314.18	2.7966	P	7.0
6	☑	1000.000		1680373.52	6.7946	A	6.4
7	☐	5.000					

y = 0.0054 * x + 0.1129
R = 1.0000
DL = 1.158
BEC = 21.06

Weight: <None>
Min Conc: <None>

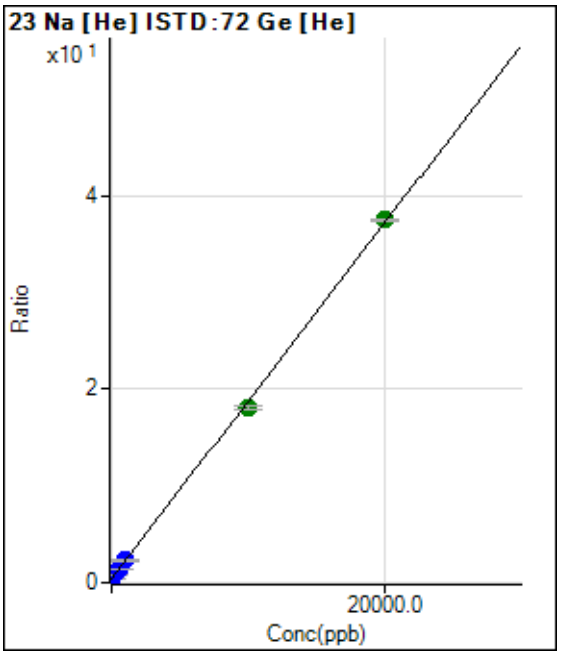


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1681525.04	1.7628	A	3.1
2	☐	200.000	188.006	3788458.55	3.9309	A	1.0
3	☐	500.000	474.432	7038279.06	7.2339	A	0.4
4	☐	1000.000	1016.655	13100336.23	13.4867	A	4.5
5	☐	10000.00	9574.983	107708948.2	112.180	A	1.9
6	☐	20000.00	20212.435	222142804.9	234.849	A	3.4
7	☐	100.000					

y = 0.0115 * x + 1.7628
R = 0.9997
DL = 14.29
BEC = 152.9

Weight: <None>
Min Conc: <None>

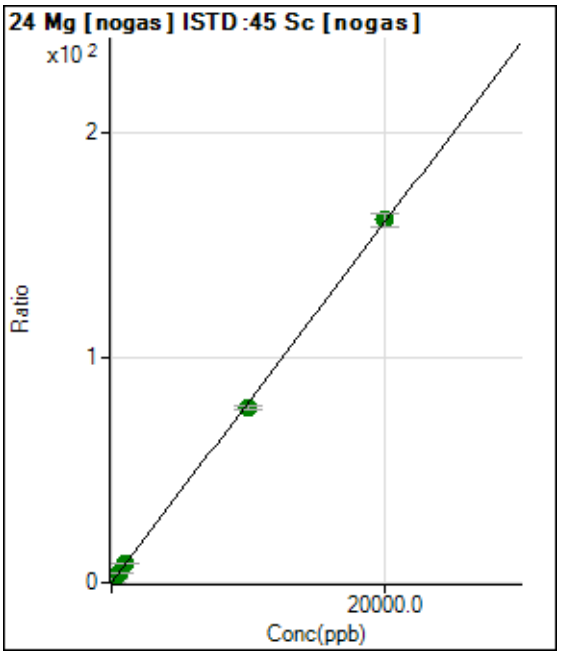
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	49936.03	0.3940	P	0.8
2	☐	200.000	203.224	96667.15	0.7671	P	3.0
3	☐	500.000	510.035	170698.11	1.3304	P	3.2
4	☐	1000.000	1029.108	300080.96	2.2835	P	4.9
5	☐	10000.00	9623.540	2334400.33	18.0640	A	1.6
6	☐	20000.00	20186.492	4642054.93	37.4590	A	0.2
7	☐	100.000					

y = 0.0018 * x + 0.3940
R = 0.9997
DL = 4.849
BEC = 214.6

Weight: <None>
Min Conc: <None>

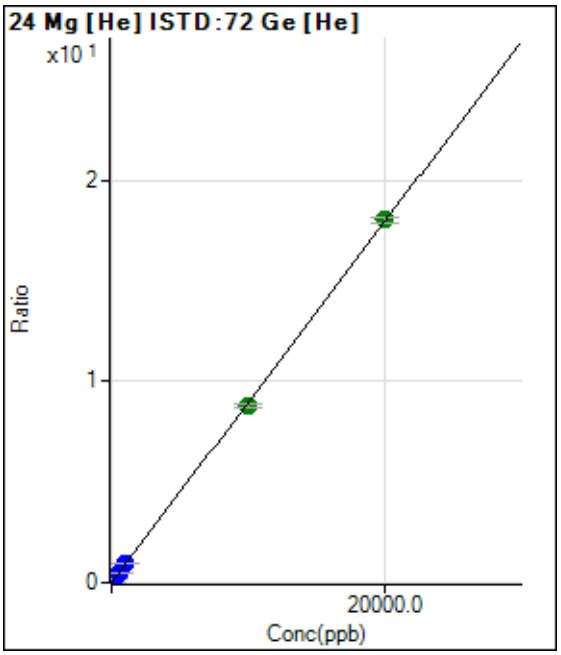


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7602.87	0.0080	P	20.6
2	☐	200.000	201.567	1562348.34	1.6212	A	1.1
3	☐	500.000	502.128	3918088.24	4.0267	A	2.3
4	☐	1000.000	1043.943	8124185.34	8.3632	A	3.9
5	☐	10000.00	9709.472	74627545.42	77.7177	A	1.7
6	☐	20000.00	20142.998	152520590.9	161.222	A	3.7
7	☐	100.000					

y = 0.0080 * x + 0.0080
R = 0.9998
DL = 0.6158
BEC = 0.9946

Weight: <None>
Min Conc: <None>

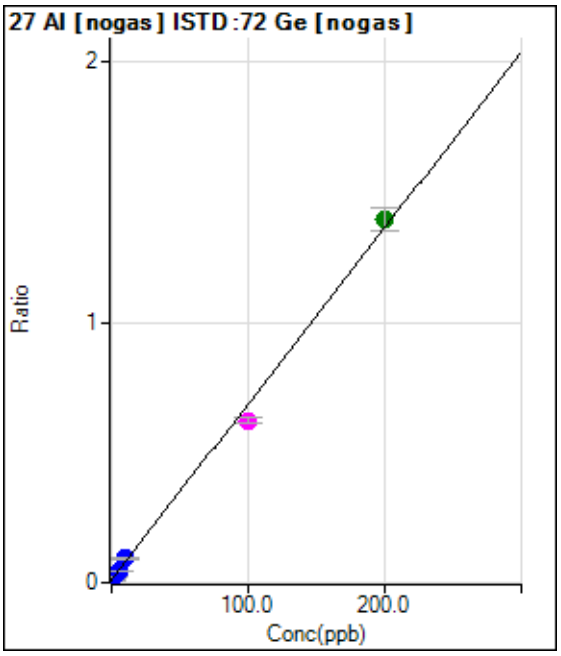
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	373.35	0.0029	P	31.8
2	☐	200.000	205.489	23575.15	0.1871	P	4.2
3	☐	500.000	512.450	59313.27	0.4621	P	1.3
4	☐	1000.000	1033.793	122132.99	0.9293	P	4.5
5	☐	10000.00	9778.807	1132789.72	8.7657	A	1.7
6	☐	20000.00	20108.541	2233252.05	18.0221	A	1.8
7	☐	100.000					

y = 8.9610E-004 * x + 0.0029
R = 0.9999
DL = 3.127
BEC = 3.273

Weight: <None>
Min Conc: <None>

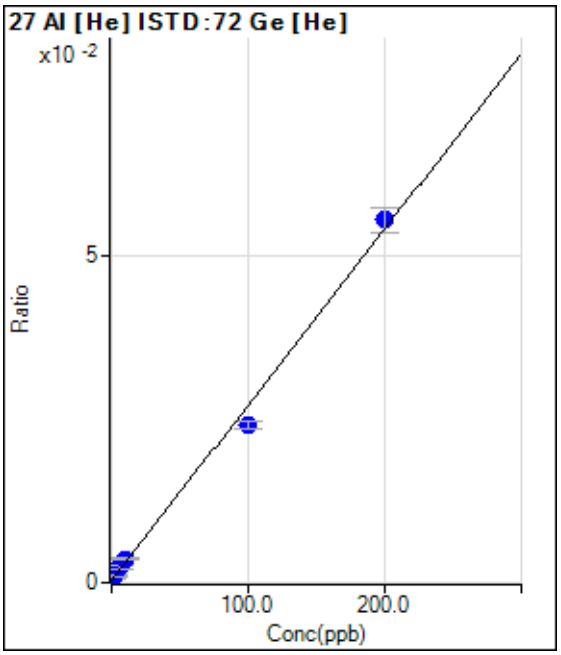


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16297.31	0.0110	P	6.6
2	☐	2.000	1.708	32246.00	0.0226	P	3.3
3	☐	5.000	5.414	69308.17	0.0476	P	0.7
4	☐	10.000	12.205	133878.13	0.0934	P	3.4
5	☐	100.000	90.515	938706.37	0.6221	M	4.2
6	☐	200.000	204.625	1946534.19	1.3924	A	6.4
7	☐	1.000					

y = 0.0068 * x + 0.0110
R = 0.9983
DL = 0.3211
BEC = 1.633

Weight: <None>
Min Conc: <None>

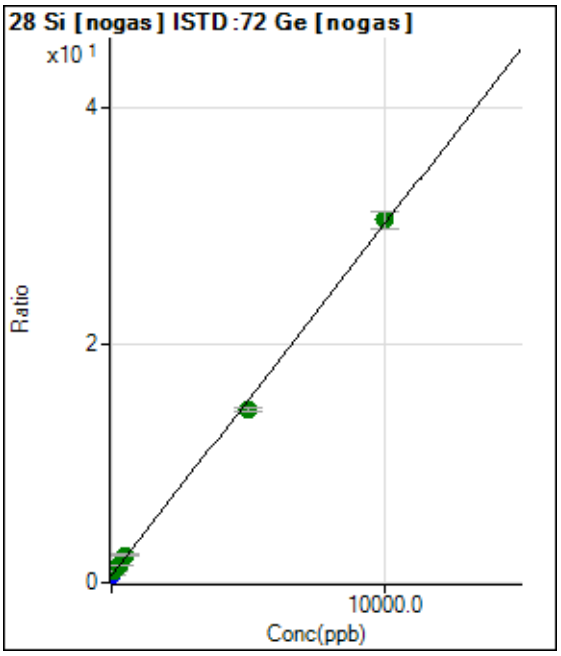
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.670	63.33	0.0005	P	17.3
2	☐	2.000	2.256	116.67	0.0009	P	34.2
3	☐	5.000	7.677	306.67	0.0024	P	28.3
4	☐	10.000	12.205	473.35	0.0036	P	6.4
5	☐	100.000	88.742	3116.97	0.0241	P	5.6
6	☐	200.000	205.449	6864.70	0.0554	P	7.1
7	☐	1.000					

y = 2.6810E-004 * x + 3.1942E-004
R = 0.9975
DL = 0.9672
BEC = 1.191

Weight: <None>
Min Conc: <None>

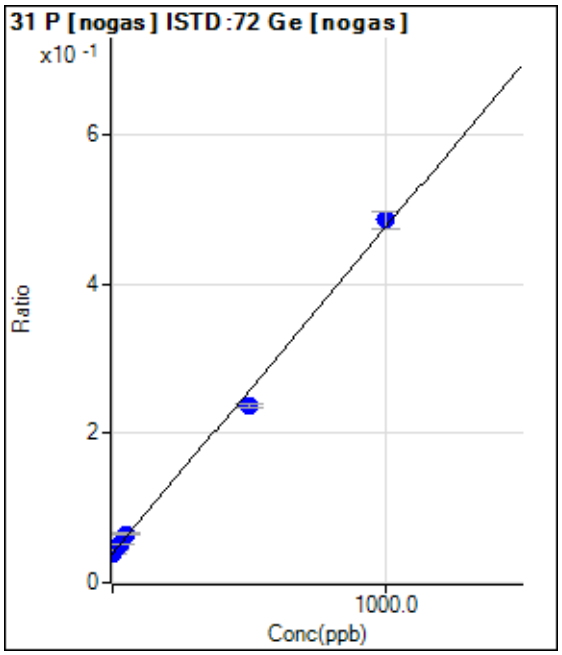


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	875902.85	0.5926	P	2.4
2	☐	100.000	141.368	1444928.10	1.0109	A	2.1
3	☐	250.000	302.068	2165355.75	1.4864	A	0.4
4	☐	500.000	587.563	3340531.72	2.3311	A	3.9
5	☐	5000.000	4741.683	22069426.34	14.6230	A	2.3
6	☐	10000.00	10123.065	42718266.03	30.5462	A	4.7
7	☐	5.000					

y = 0.0030 * x + 0.5926
R = 0.9994
DL = 14.14
BEC = 200.3

Weight: <None>
Min Conc: <None>

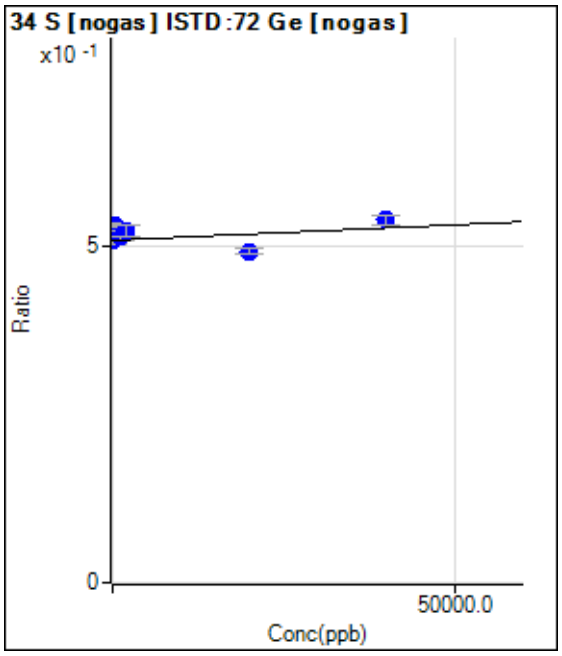
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	58086.21	0.0393	P	1.1
2	☐	10.000	11.262	63182.44	0.0442	P	2.2
3	☐	25.000	27.270	74547.09	0.0512	P	2.0
4	☐	50.000	58.875	93121.84	0.0650	P	2.4
5	☐	500.000	452.538	357239.94	0.2367	P	1.9
6	☐	1000.000	1023.218	679234.23	0.4857	P	4.7
7	☐	5.000					

y = 4.3628E-004 * x + 0.0393
R = 0.9983
DL = 2.877
BEC = 90.05

Weight: <None>
Min Conc: <None>

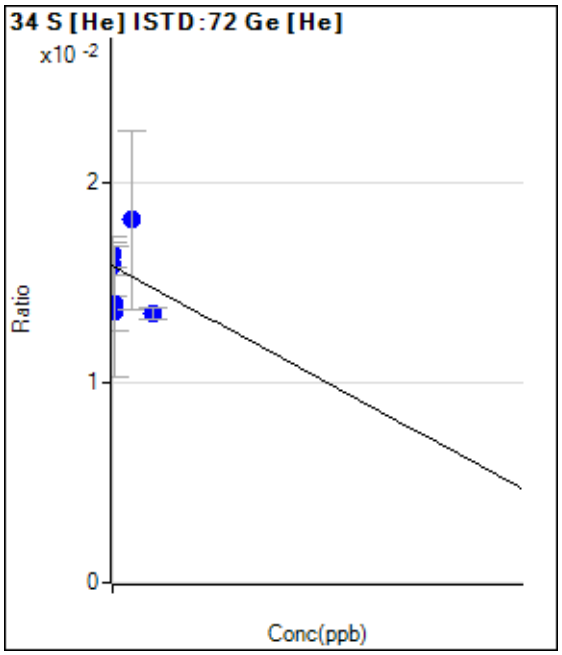


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	750532.32	0.5078	P	2.8
2	☐	400.000	50583.968	759025.78	0.5310	P	0.9
3	☐	1000.000	13051.961	748179.36	0.5138	P	2.9
4	☐	2000.000	30356.594	747656.02	0.5217	P	3.4
5	☐	20000.00	-35879.27	741427.75	0.4913	P	1.9
6	☐	40000.00	65718.667	752733.04	0.5380	P	2.7
7	☐	100.000					

y = 4.5961E-007 * x + 0.5078
R = 0.2329
DL = 9.215E+04
BEC = 1.105E+06

Weight: <None>
Min Conc: <None>

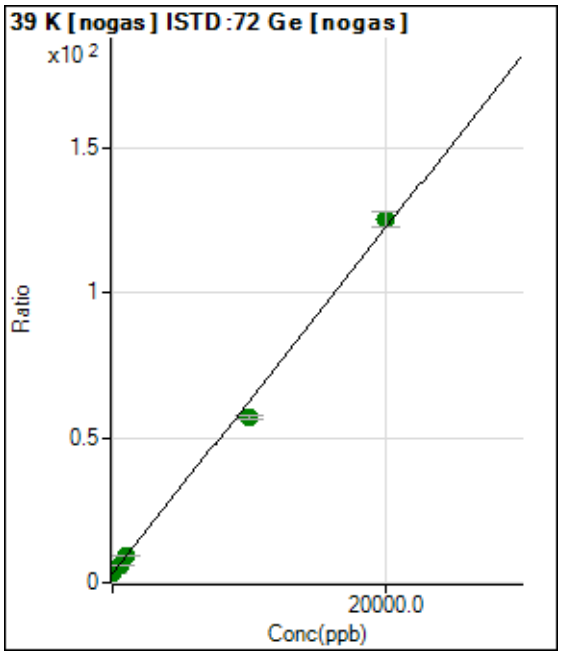
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2000.61	0.0158	P	19.1
2	☐	400.000	-21081.76	2067.23	0.0164	P	7.3
3	☐	1000.000	84408.880	1733.81	0.0135	P	48.6
4	☐	2000.000	67861.904	1833.78	0.0140	P	19.6
5	☐	20000.00	-84412.14	2334.14	0.0181	P	49.0
6	☐	40000.00	87042.571	1667.06	0.0135	P	4.0
7	☐	100.000					

y = -2.7254E-008 * x + 0.0158
R = -0.1047
DL = -3.33E+05
BEC = -5.807E+05

Weight: <None>
Min Conc: <None>

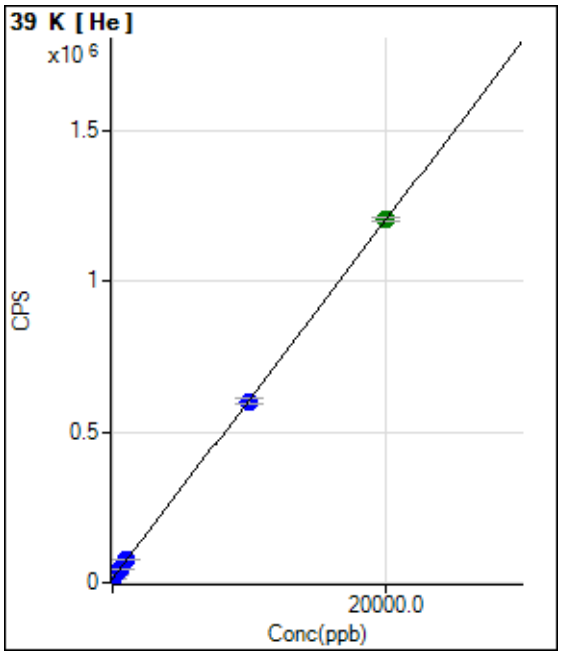


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4653435.39	3.1480	A	2.5
2	☐	200.000	223.731	6407989.20	4.4830	A	0.1
3	☐	500.000	503.729	8960286.66	6.1538	A	3.8
4	☐	1000.000	1045.252	13450004.47	9.3850	A	2.8
5	☐	10000.00	9040.548	86160795.68	57.0922	A	2.5
6	☐	20000.00	20477.133	175299245.5	125.333	A	4.2
7	☐	100.000					

y = 0.0060 * x + 3.1480
R = 0.9984
DL = 38.78
BEC = 527.6

Weight: <None>
Min Conc: <None>

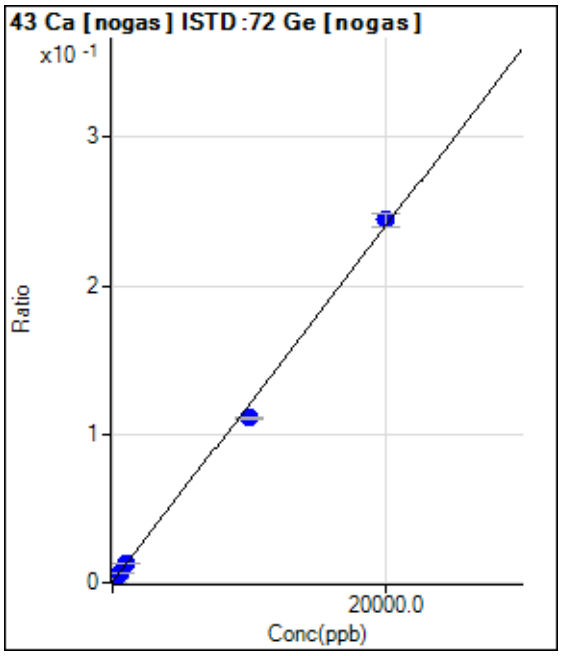
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	12561.06		P	4.4
2	☐	200.000	208.837	24996.98		P	1.9
3	☐	500.000	513.739	43153.37		P	2.6
4	☐	1000.000	1091.710	77570.62		P	1.5
5	☐	10000.00	9925.296	603596.12		P	2.8
6	☐	20000.00	20032.335	1205453.68		A	1.2
7	☐	100.000					

y = 59.5484 * x + 12561.0567
R = 1.0000
DL = 28.11
BEC = 210.9

Weight: <None>
Min Conc: <None>

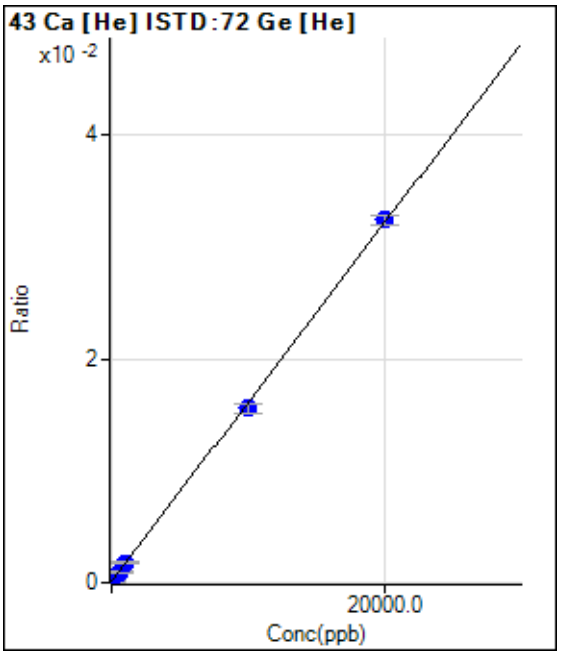


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	636.69	0.0004	P	16.2
2	☐	200.000	218.486	4353.90	0.0030	P	0.9
3	☐	500.000	518.054	9659.33	0.0066	P	2.5
4	☐	1000.000	1071.294	19000.04	0.0133	P	1.5
5	☐	10000.00	9253.804	167831.21	0.1112	P	1.4
6	☐	20000.00	20368.897	341699.11	0.2443	P	3.6
7	☐	100.000					

y = 1.1971E-005 * x + 4.3042E-004
R = 0.9990
DL = 17.46
BEC = 35.95

Weight: <None>
Min Conc: <None>

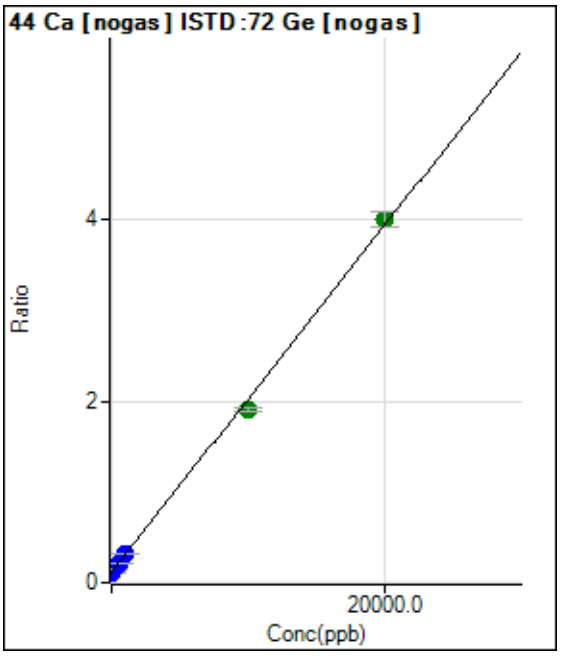
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13.33	0.0001	P	113.
2	☐	200.000	282.471	70.00	0.0006	P	25.8
3	☐	500.000	487.582	113.33	0.0009	P	16.3
4	☐	1000.000	1058.738	236.67	0.0018	P	10.4
5	☐	10000.00	9653.031	2013.48	0.0156	P	5.9
6	☐	20000.00	20170.033	4020.52	0.0324	P	2.8
7	☐	100.000					

y = 1.6035E-006 * x + 1.0372E-004
R = 0.9998
DL = 219.6
BEC = 64.68

Weight: <None>
Min Conc: <None>

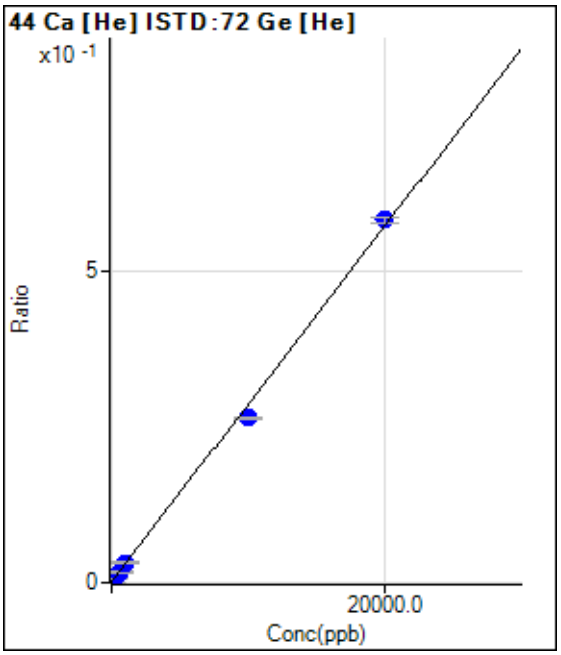


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	170807.09	0.1155	P	1.9
2	☐	200.000	218.571	224817.63	0.1573	P	2.4
3	☐	500.000	509.338	309878.98	0.2128	P	3.5
4	☐	1000.000	1087.248	463147.16	0.3232	P	2.9
5	☐	10000.00	9353.653	2869963.71	1.9018	A	1.8
6	☐	20000.00	20318.392	5588725.33	3.9957	A	4.3
7	☐	100.000					

y = 1.9097E-004 * x + 0.1155
R = 0.9992
DL = 35.32
BEC = 605

Weight: <None>
Min Conc: <None>

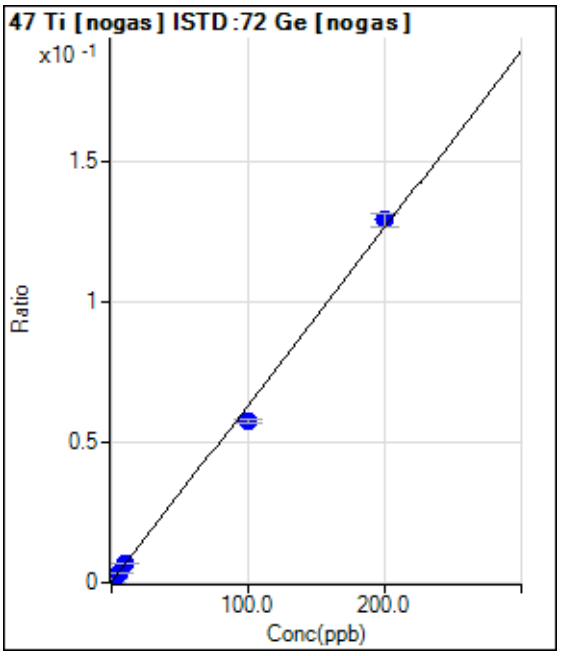
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	166.67	0.0013	P	34.2
2	☐	200.000	208.380	913.38	0.0072	P	8.9
3	☐	500.000	539.438	2143.50	0.0167	P	5.3
4	☐	1000.000	1072.556	4187.21	0.0319	P	7.0
5	☐	10000.00	9244.032	34218.36	0.2648	P	1.0
6	☐	20000.00	20373.286	72129.83	0.5820	P	1.6
7	☐	100.000					

y = 2.8504E-005 * x + 0.0013
R = 0.9990
DL = 47.2
BEC = 45.95

Weight: <None>
Min Conc: <None>

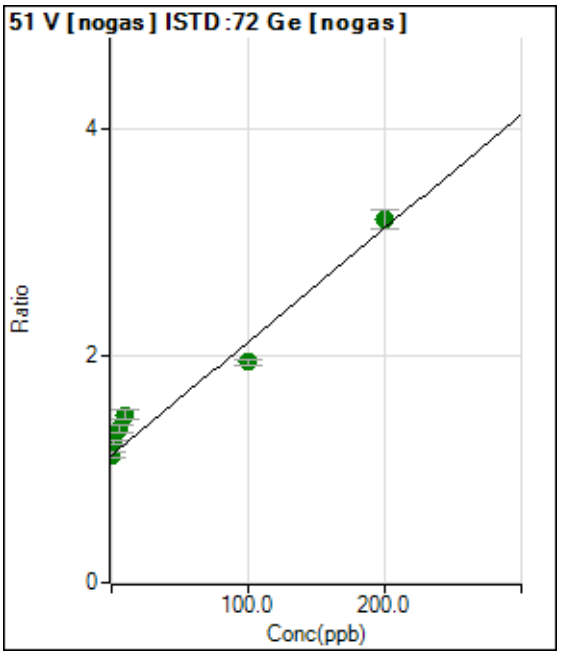


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	343.34	0.0002	P	29.1
2	☐	2.000	1.922	2063.53	0.0014	P	8.3
3	☐	5.000	4.869	4810.72	0.0033	P	2.7
4	☐	10.000	10.360	9696.04	0.0068	P	4.6
5	☐	100.000	90.840	86837.01	0.0575	P	1.7
6	☐	200.000	204.566	180844.79	0.1293	P	3.7
7	☐	1.000					

y = 6.3085E-004 * x + 2.3132E-004
R = 0.9985
DL = 0.3202
BEC = 0.3667

Weight: <None>
Min Conc: <None>

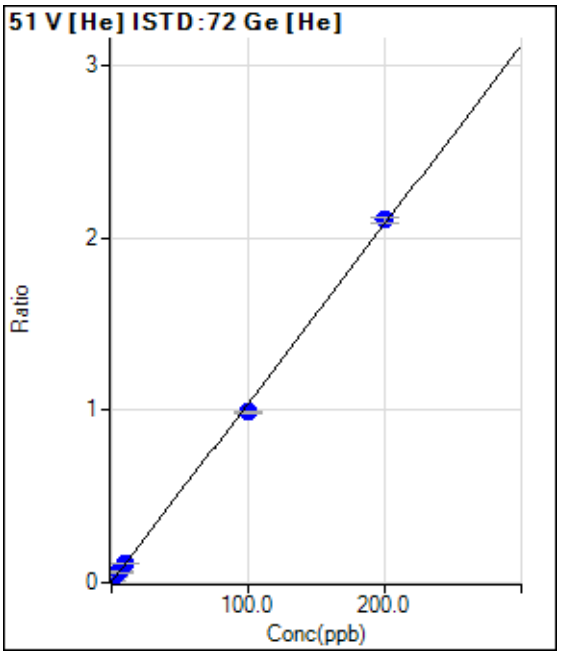
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1661966.35	1.1236	A	5.3
2	☐	2.000	11.390	1768997.11	1.2376	A	3.5
3	☐	5.000	23.739	1981813.26	1.3611	A	5.0
4	☐	10.000	35.671	2121199.85	1.4805	A	5.4
5	☐	100.000	81.907	2932659.89	1.9432	A	2.8
6	☐	200.000	207.201	4470533.56	3.1971	A	5.2
7	☐	1.000					

y = 0.0100 * x + 1.1236
R = 0.9829
DL = 17.78
BEC = 112.3

Weight: <None>
Min Conc: <None>

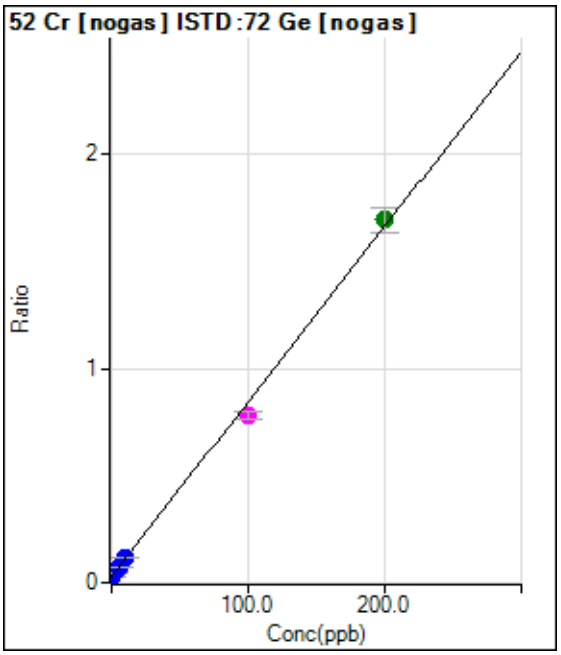


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.623	1145.37	0.0090	P	6.9
2	☐	2.000	2.652	3797.07	0.0301	P	4.2
3	☐	5.000	5.693	7921.70	0.0618	P	4.5
4	☐	10.000	10.561	14757.90	0.1124	P	7.0
5	☐	100.000	95.047	128031.56	0.9909	P	1.4
6	☐	200.000	202.425	261167.62	2.1074	P	1.8
7	☐	1.000					

y = 0.0104 * x + 0.0026
R = 0.9995
DL = 0.18
BEC = 0.2463

Weight: <None>
Min Conc: <None>

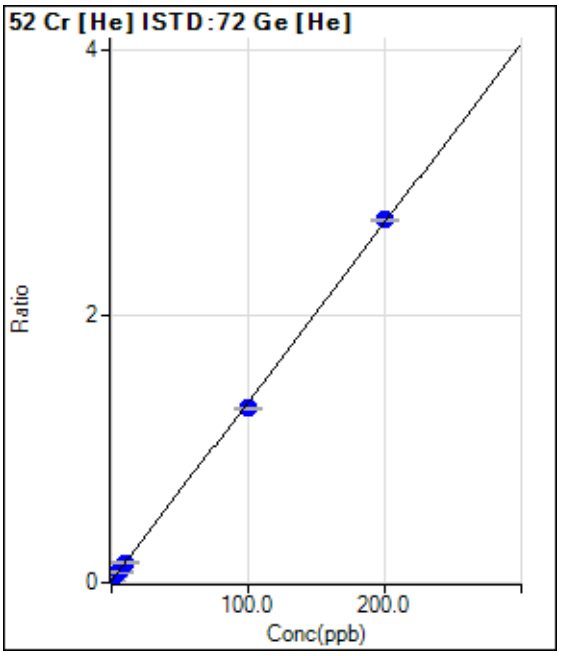
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43184.05	0.0292	P	1.6
2	☐	2.000	2.108	66335.80	0.0464	P	4.0
3	☐	5.000	5.591	108982.55	0.0748	P	3.2
4	☐	10.000	10.945	169879.64	0.1185	P	3.2
5	☐	100.000	92.096	1178599.15	0.7809	M	4.9
6	☐	200.000	203.889	2366919.65	1.6934	A	7.0
7	☐	1.000					

y = 0.0082 * x + 0.0292
R = 0.9989
DL = 0.1766
BEC = 3.578

Weight: <None>
Min Conc: <None>

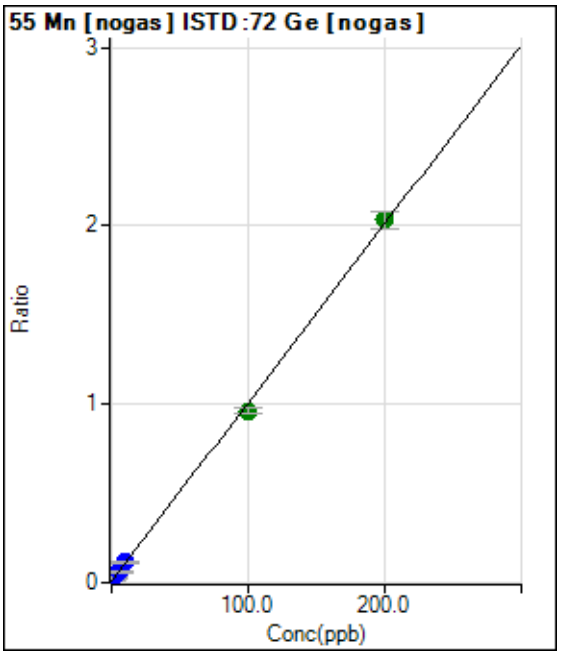


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1696.78	0.0134	P	6.6
2	☐	2.000	1.981	5044.11	0.0400	P	1.9
3	☐	5.000	4.918	10196.30	0.0795	P	3.6
4	☐	10.000	10.234	19830.92	0.1509	P	5.9
5	☐	100.000	96.615	169464.61	1.3115	P	1.2
6	☐	200.000	201.683	337452.59	2.7231	P	0.8
7	☐	1.000					

y = 0.0134 * x + 0.0134
R = 0.9998
DL = 0.1961
BEC = 0.9973

Weight: <None>
Min Conc: <None>

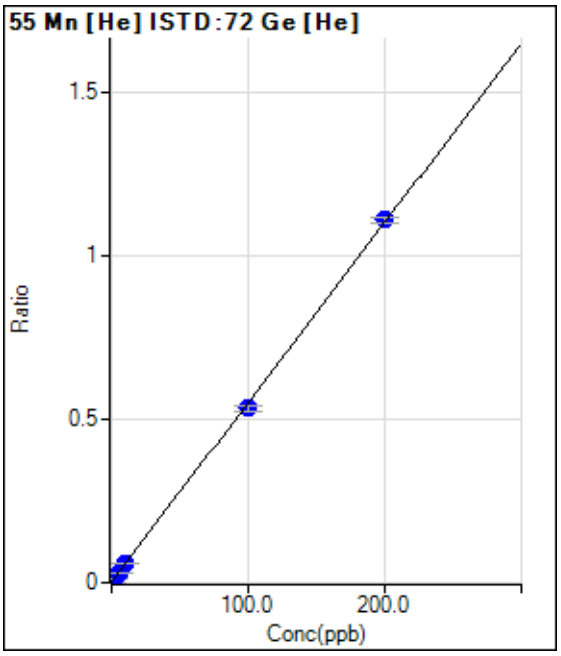
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11066.83	0.0075	P	4.1
2	☐	2.000	1.978	39011.59	0.0273	P	2.7
3	☐	5.000	5.178	86409.80	0.0593	P	3.2
4	☐	10.000	10.702	164307.27	0.1146	P	3.7
5	☐	100.000	95.350	1452201.59	0.9623	A	3.6
6	☐	200.000	202.286	2843022.88	2.0331	A	5.0
7	☐	1.000					

y = 0.0100 * x + 0.0075
R = 0.9996
DL = 0.09146
BEC = 0.7474

Weight: <None>
Min Conc: <None>

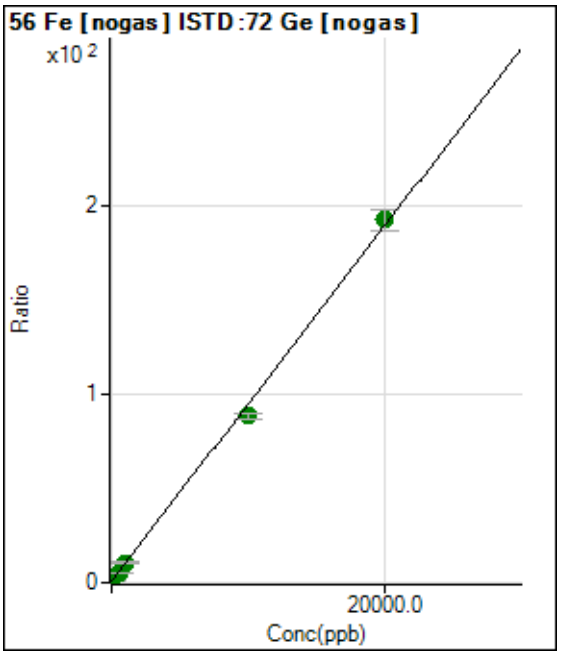


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	283.34	0.0022	P	24.4
2	☐	2.000	1.815	1536.76	0.0122	P	6.9
3	☐	5.000	5.052	3843.79	0.0300	P	6.0
4	☐	10.000	10.302	7725.09	0.0588	P	6.5
5	☐	100.000	96.604	68765.01	0.5322	P	3.2
6	☐	200.000	201.683	137388.42	1.1087	P	1.5
7	☐	1.000					

y = 0.0055 * x + 0.0022
R = 0.9998
DL = 0.2987
BEC = 0.4088

Weight: <None>
Min Conc: <None>

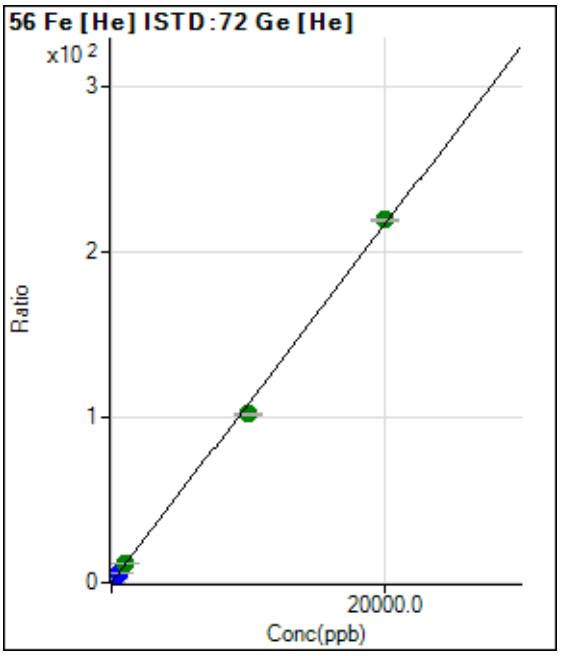
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1044651.23	0.7067	P	1.9
2	☐	200.000	205.967	3788243.58	2.6503	A	1.4
3	☐	500.000	505.005	7969533.25	5.4721	A	2.1
4	☐	1000.000	1058.294	15324404.51	10.6932	A	4.1
5	☐	10000.00	9291.415	133382386.3	88.3845	A	3.1
6	☐	20000.00	20351.193	269489864.3	192.749	A	5.8
7	☐	100.000					

y = 0.0094 * x + 0.7067
R = 0.9991
DL = 4.266
BEC = 74.89

Weight: <None>
Min Conc: <None>

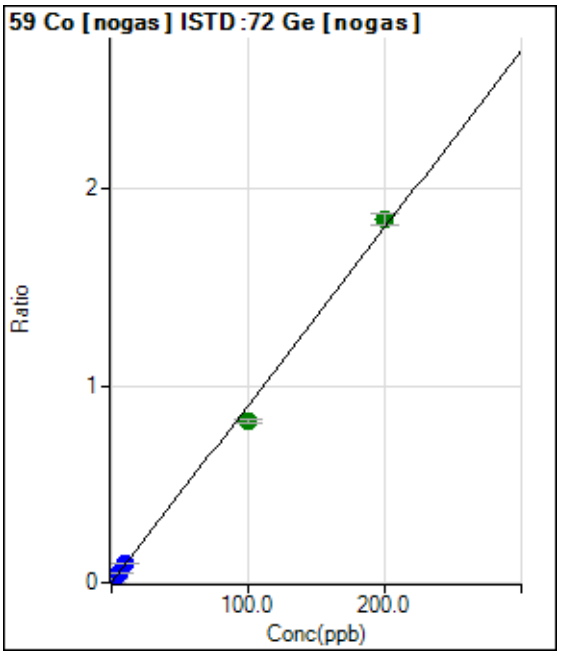


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13611.96	0.1074	P	1.9
2	☐	200.000	191.436	274672.35	2.1795	P	2.7
3	☐	500.000	482.241	683620.67	5.3271	P	1.9
4	☐	1000.000	1033.931	1486213.10	11.2985	A	1.1
5	☐	10000.00	9423.796	13196361.47	102.109	A	1.2
6	☐	20000.00	20286.935	27225255.43	219.691	A	0.5
7	☐	100.000					

y = 0.0108 * x + 0.1074
R = 0.9994
DL = 0.5799
BEC = 9.92

Weight: <None>
Min Conc: <None>

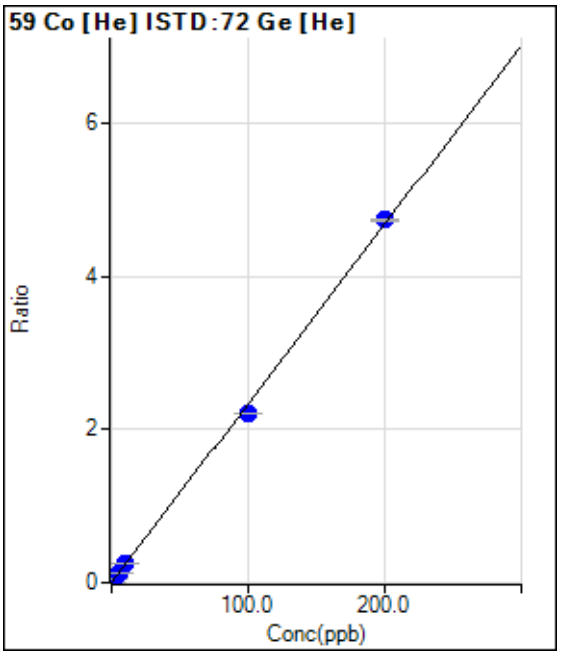
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	513.35	0.0003	P	16.6
2	☐	2.000	2.025	26569.60	0.0186	P	3.3
3	☐	5.000	4.978	65819.24	0.0452	P	2.7
4	☐	10.000	10.585	137138.12	0.0957	P	4.0
5	☐	100.000	90.879	1236028.29	0.8191	A	2.5
6	☐	200.000	204.531	2578233.35	1.8429	A	3.1
7	☐	1.000					

y = 0.0090 * x + 3.4645E-004
R = 0.9985
DL = 0.01914
BEC = 0.03846

Weight: <None>
Min Conc: <None>

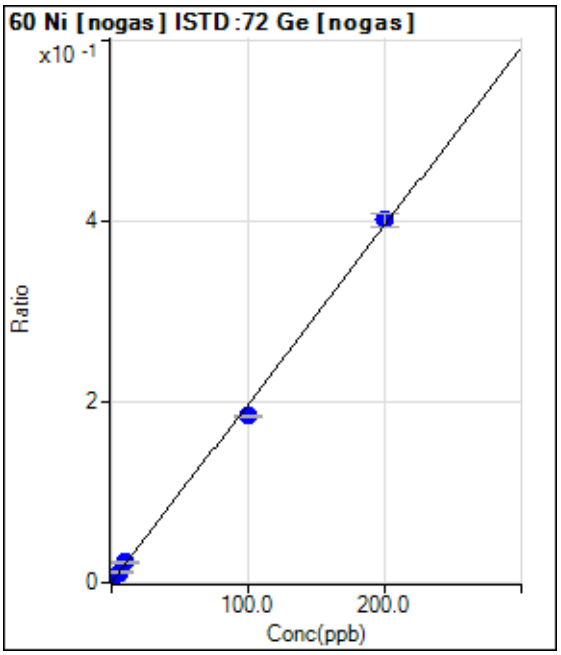


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	60.00	0.0005	P	73.8
2	☐	2.000	2.080	6181.14	0.0490	P	6.4
3	☐	5.000	5.100	15340.00	0.1196	P	4.2
4	☐	10.000	10.372	31934.96	0.2427	P	0.1
5	☐	100.000	94.751	286034.18	2.2134	P	0.3
6	☐	200.000	202.602	586438.79	4.7323	P	0.5
7	☐	1.000					

y = 0.0234 * x + 4.7663E-004
R = 0.9995
DL = 0.0452
BEC = 0.02041

Weight: <None>
Min Conc: <None>

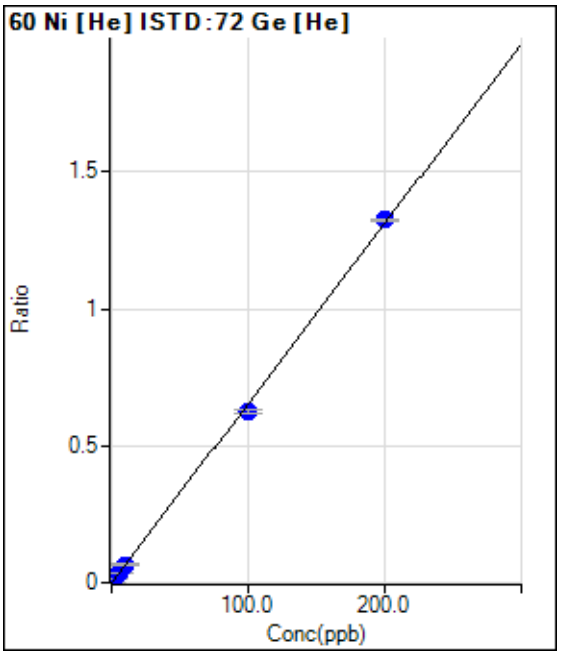
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.641	2143.49	0.0014	P	7.3
2	☐	2.000	2.723	7951.84	0.0056	P	1.2
3	☐	5.000	5.747	16797.94	0.0115	P	4.6
4	☐	10.000	11.308	32272.07	0.0225	P	5.0
5	☐	100.000	93.347	278607.94	0.1846	P	0.5
6	☐	200.000	203.235	561995.78	0.4017	P	3.5
7	☐	1.000					

y = 0.0020 * x + 1.8326E-004
R = 0.9991
DL = 0.1616
BEC = 0.09275

Weight: <None>
Min Conc: <None>

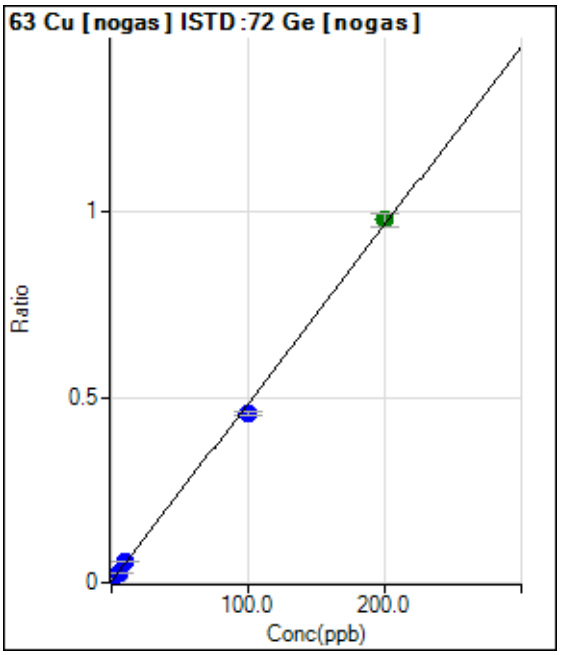


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.644	343.34	0.0027	P	20.3
2	☐	2.000	2.605	1963.48	0.0156	P	6.9
3	☐	5.000	5.651	4563.98	0.0356	P	6.0
4	☐	10.000	10.340	8715.56	0.0663	P	6.1
5	☐	100.000	95.600	80868.58	0.6258	P	1.8
6	☐	200.000	202.161	164201.37	1.3250	P	0.7
7	☐	1.000					

y = 0.0066 * x - 0.0015
R = 0.9996
DL = 0.2519
BEC = -0.2305

Weight: <None>
Min Conc: <None>

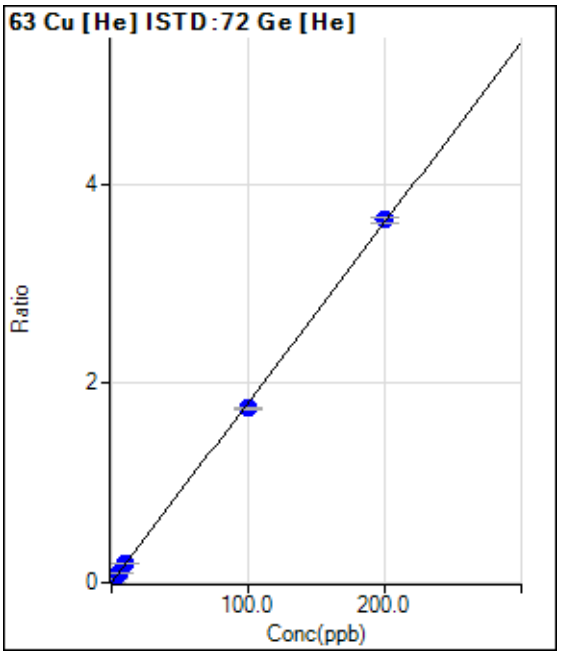
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4697.34	0.0032	P	4.2
2	☐	2.000	2.050	18633.19	0.0130	P	2.2
3	☐	5.000	5.162	40785.90	0.0280	P	2.0
4	☐	10.000	10.986	80269.38	0.0560	P	3.0
5	☐	100.000	94.098	687716.55	0.4557	P	2.1
6	☐	200.000	202.897	1369562.17	0.9789	A	3.5
7	☐	1.000					

y = 0.0048 * x + 0.0032
R = 0.9994
DL = 0.08336
BEC = 0.6609

Weight: <None>
Min Conc: <None>

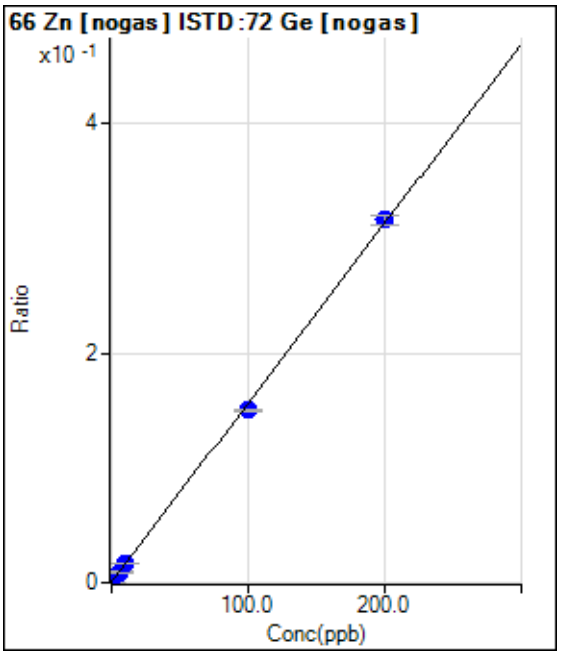


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.292	883.37	0.0070	P	15.4
2	☐	2.000	2.426	5740.98	0.0456	P	4.4
3	☐	5.000	5.408	12751.27	0.0995	P	7.1
4	☐	10.000	10.447	25050.81	0.1905	P	5.9
5	☐	100.000	96.927	226627.63	1.7539	P	1.5
6	☐	200.000	201.500	451592.55	3.6443	P	1.5
7	☐	1.000					

y = 0.0181 * x + 0.0017
R = 0.9998
DL = 0.1781
BEC = 0.09388

Weight: <None>
Min Conc: <None>

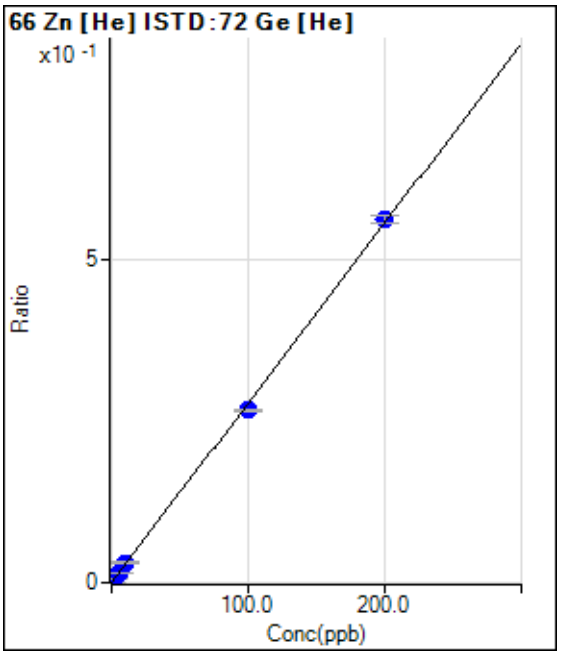
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.257	1200.06	0.0008	P	5.4
2	☐	2.000	2.520	6207.81	0.0043	P	2.5
3	☐	5.000	5.556	13225.05	0.0091	P	2.8
4	☐	10.000	10.851	24867.25	0.0173	P	1.4
5	☐	100.000	95.758	226176.27	0.1499	P	1.5
6	☐	200.000	202.059	441808.05	0.3158	P	3.0
7	☐	1.000					

y = 0.0016 * x + 4.1046E-004
R = 0.9996
DL = 0.08419
BEC = 0.263

Weight: <None>
Min Conc: <None>

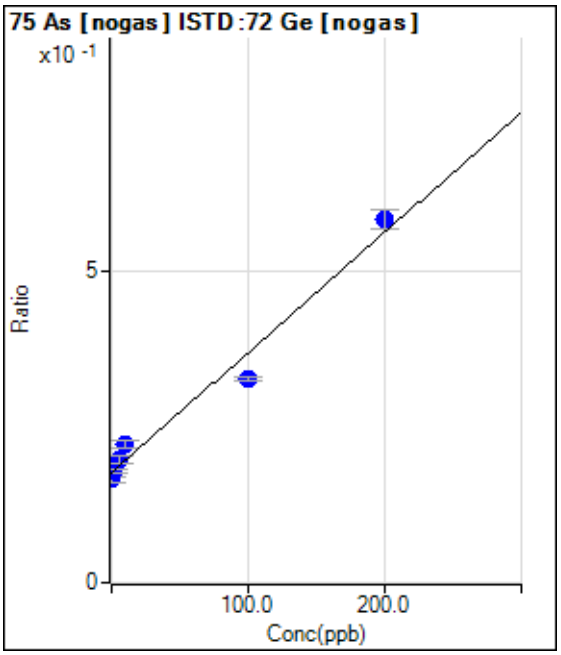


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.358	136.67	0.0011	P	16.0
2	☐	2.000	2.259	800.03	0.0063	P	17.0
3	☐	5.000	5.590	2000.15	0.0156	P	8.0
4	☐	10.000	10.873	3967.18	0.0302	P	11.1
5	☐	100.000	95.962	34385.96	0.2661	P	0.7
6	☐	200.000	201.958	69388.54	0.5599	P	2.1
7	☐	1.000					

y = 0.0028 * x + 8.4850E-005
R = 0.9997
DL = 0.1862
BEC = 0.03061

Weight: <None>
Min Conc: <None>

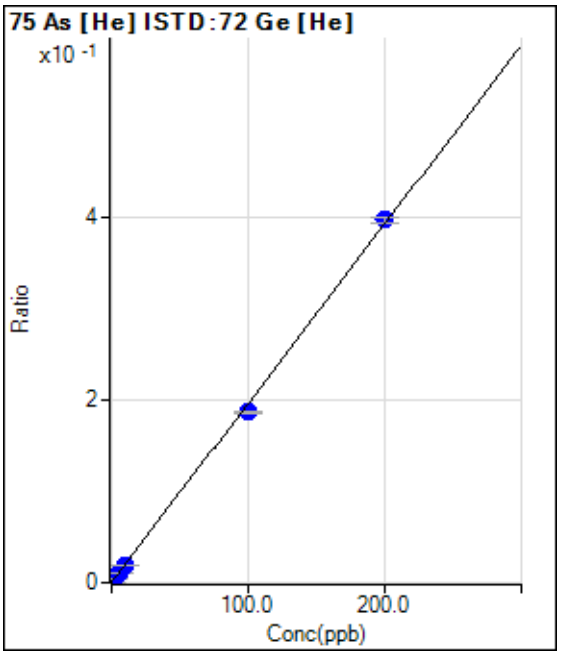
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-5.889	245398.91	0.1659	P	4.9
2	☐	2.000	1.050	256294.72	0.1793	P	4.6
3	☐	5.000	10.556	287710.78	0.1976	P	6.5
4	☐	10.000	23.206	318097.73	0.2220	P	5.6
5	☐	100.000	77.733	493791.31	0.3272	P	2.1
6	☐	200.000	210.344	815250.69	0.5830	P	5.2
7	☐	1.000					

y = 0.0019 * x + 0.1773
R = 0.9876
DL = 12.64
BEC = 91.91

Weight: <None>
Min Conc: <None>

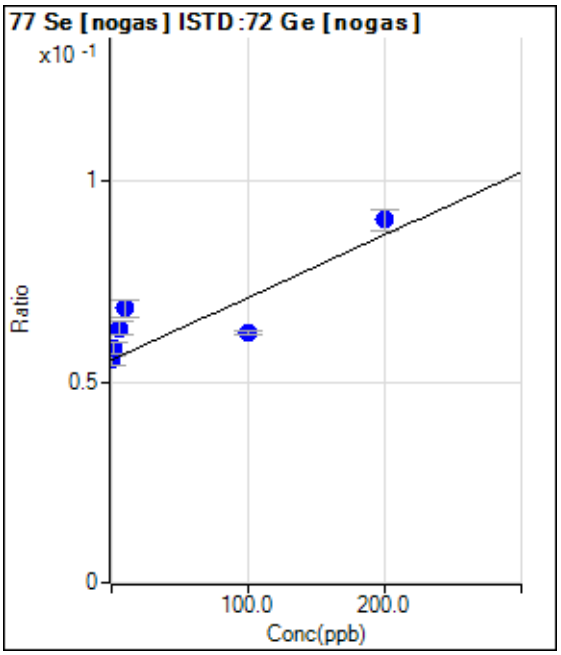


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	50.00	0.0004	P	13.8
2	☐	2.000	1.714	473.34	0.0038	P	11.6
3	☐	5.000	5.213	1363.40	0.0106	P	5.8
4	☐	10.000	9.894	2602.42	0.0198	P	0.4
5	☐	100.000	95.115	24137.16	0.1868	P	1.1
6	☐	200.000	202.445	49204.01	0.3971	P	1.7
7	☐	1.000					

y = 0.0020 * x + 3.9467E-004
R = 0.9996
DL = 0.08346
BEC = 0.2014

Weight: <None>
Min Conc: <None>

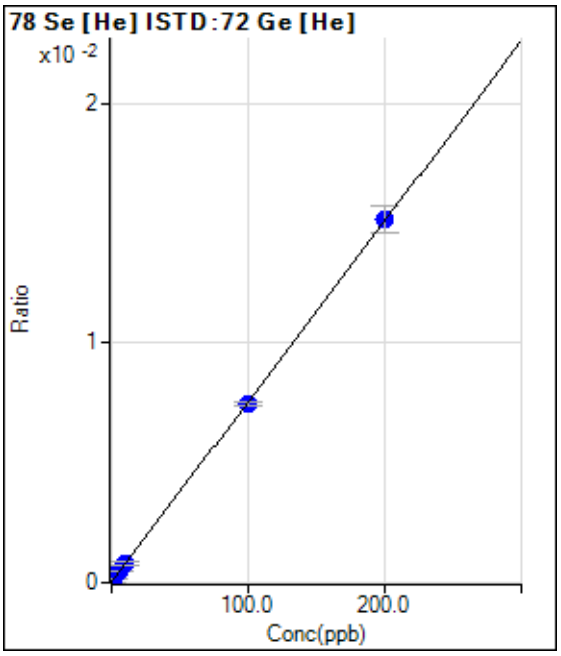
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	81994.69	0.0554	P	4.3
2	☐	2.000	18.700	83403.96	0.0583	P	5.0
3	☐	5.000	50.609	92188.89	0.0633	P	5.5
4	☐	10.000	82.446	97821.63	0.0683	P	6.0
5	☐	100.000	42.566	93666.15	0.0621	P	1.7
6	☐	200.000	223.787	126267.90	0.0903	P	6.0
7	☐	1.000					

y = 1.5583E-004 * x + 0.0554
R = 0.8517
DL = 46.01
BEC = 355.7

Weight: <None>
Min Conc: <None>

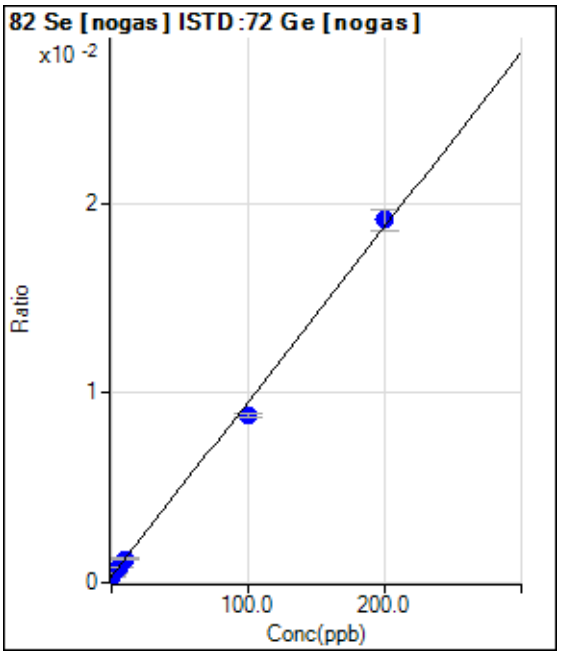


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.118	2.67	0.0000	P	44.6
2	☐	2.000	1.500	18.00	0.0001	P	12.2
3	☐	5.000	6.156	63.33	0.0005	P	6.6
4	☐	10.000	10.226	105.33	0.0008	P	27.9
5	☐	100.000	98.544	962.70	0.0074	P	2.1
6	☐	200.000	200.693	1876.77	0.0151	P	7.3
7	☐	1.000					

y = 7.5291E-005 * x + 3.0022E-005
R = 0.9999
DL = 0.3755
BEC = 0.3987

Weight: <None>
Min Conc: <None>

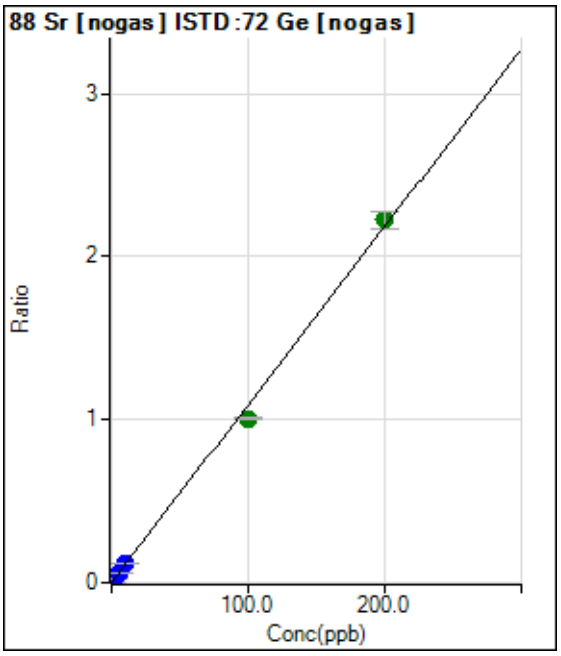
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	500.02	0.0003	P	12.4
2	☐	2.000	1.652	700.03	0.0005	P	8.7
3	☐	5.000	4.656	1116.72	0.0008	P	1.4
4	☐	10.000	9.863	1786.79	0.0012	P	5.2
5	☐	100.000	91.926	13288.41	0.0088	P	2.7
6	☐	200.000	204.056	26750.17	0.0191	P	6.1
7	☐	1.000					

y = 9.2118E-005 * x + 3.3761E-004
R = 0.9989
DL = 1.362
BEC = 3.665

Weight: <None>
Min Conc: <None>

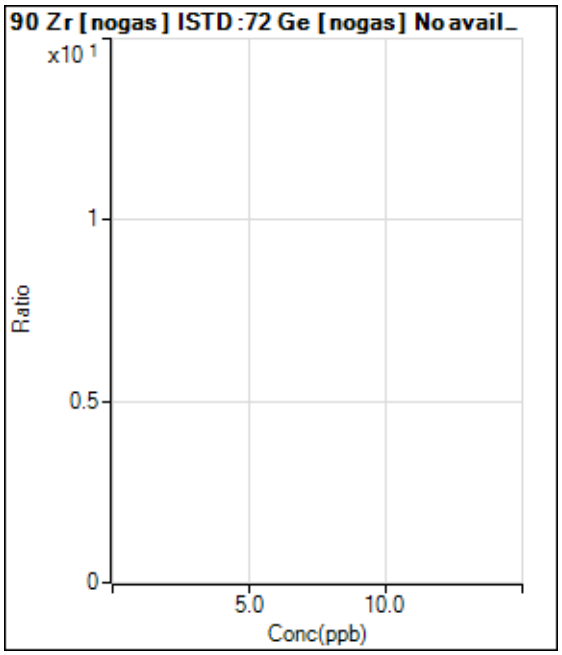


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2206.84	0.0015	P	1.1
2	☐	2.000	2.038	33882.32	0.0237	P	1.0
3	☐	5.000	5.087	82888.34	0.0569	P	4.1
4	☐	10.000	10.760	170185.45	0.1187	P	2.6
5	☐	100.000	92.016	1515555.65	1.0042	A	1.5
6	☐	200.000	203.951	3110234.43	2.2241	A	4.8
7	☐	1.000					

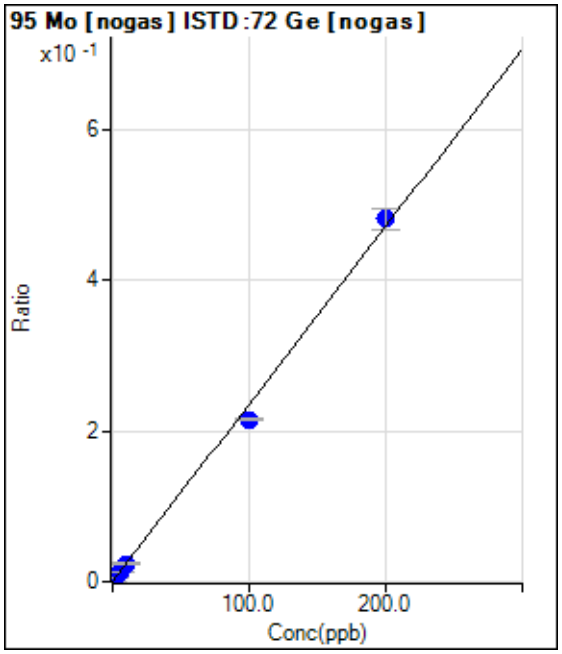
y = 0.0109 * x + 0.0015
R = 0.9989
DL = 0.004575
BEC = 0.1369

Weight: <None>
Min Conc: <None>

Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

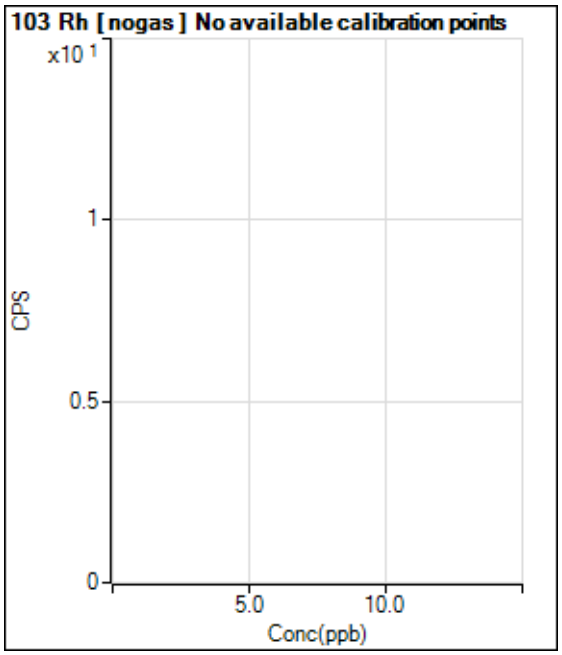


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	290.01	0.0002	P	28.8
2	☐	2.000	1.957	6874.80	0.0048	P	5.6
3	☐	5.000	4.921	17178.56	0.0118	P	4.4
4	☐	10.000	10.212	34794.37	0.0243	P	0.8
5	☐	100.000	91.193	324784.56	0.2152	P	0.7
6	☐	200.000	204.395	674068.87	0.4821	P	5.8
7	☐	1.000					

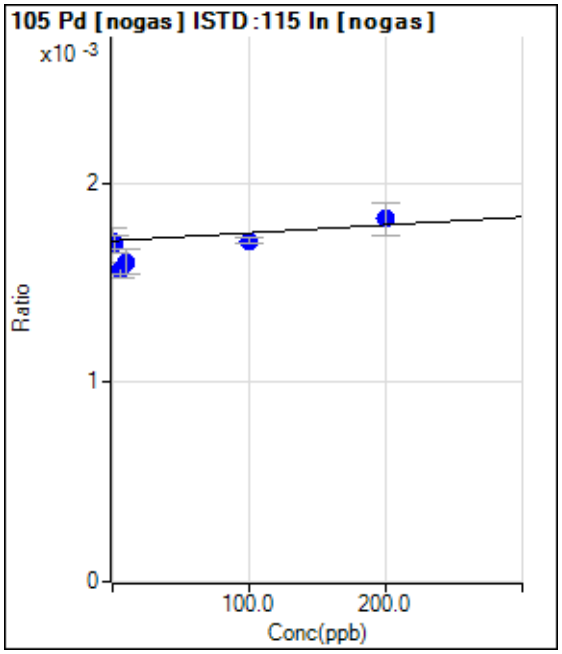
y = 0.0024 * x + 1.9563E-004
R = 0.9986
DL = 0.07173
BEC = 0.08297

Weight: <None>
Min Conc: <None>

Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			143.33		P	8.1
2	☐			233.34		P	32.2
3	☐			240.01		P	47.0
4	☐			150.00		P	13.3
5	☐			270.01		P	25.7
6	☐			373.35		P	12.4
7	☐						

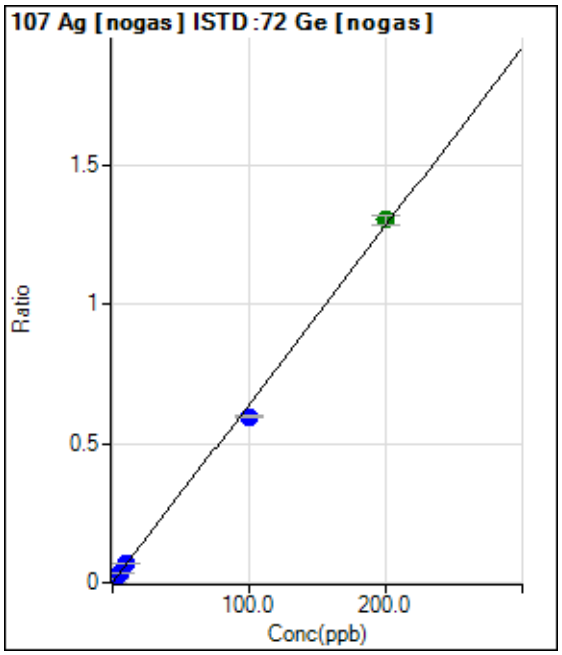


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2636.92	0.0017	P	7.3
2	☐	2.000	-39.915	2586.89	0.0017	P	5.5
3	☐	5.000	-360.880	2456.88	0.0016	P	4.8
4	☐	10.000	-265.791	2513.56	0.0016	P	8.0
5	☐	100.000	-2.042	2646.91	0.0017	P	1.6
6	☐	200.000	274.377	2723.59	0.0018	P	8.8
7	☐	1.000					

y = 4.0021E-007 * x + 0.0017
R = 0.7739
DL = 936.6
BEC = 4279

Weight: <None>
Min Conc: <None>

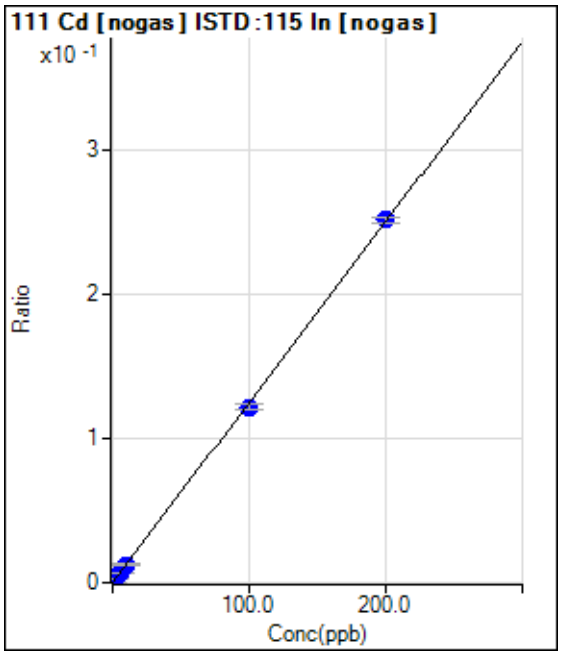
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	516.68	0.0003	P	12.3
2	☐	2.000	1.983	18640.17	0.0130	P	1.1
3	☐	5.000	5.056	47634.76	0.0327	P	3.0
4	☐	10.000	10.905	100552.76	0.0702	P	1.9
5	☐	100.000	93.197	900779.00	0.5969	P	2.0
6	☐	200.000	203.355	1821791.38	1.3020	A	2.7
7	☐	1.000					

y = 0.0064 * x + 3.4957E-004
R = 0.9992
DL = 0.02013
BEC = 0.05461

Weight: <None>
Min Conc: <None>

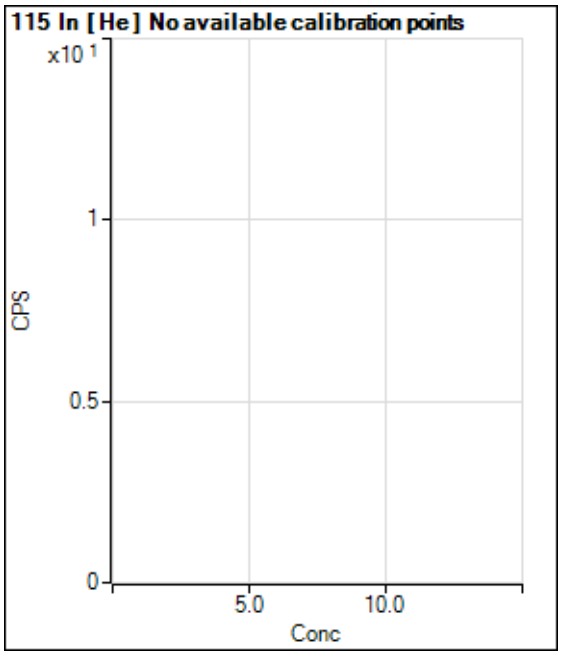


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	30.00	0.0000	P	86.1
2	☐	2.000	2.035	3897.17	0.0026	P	4.5
3	☐	5.000	5.109	10016.38	0.0064	P	4.4
4	☐	10.000	10.032	19601.16	0.0125	P	3.3
5	☐	100.000	97.501	188143.71	0.1217	P	2.8
6	☐	200.000	201.245	374775.72	0.2511	P	1.9
7	☐	1.000					

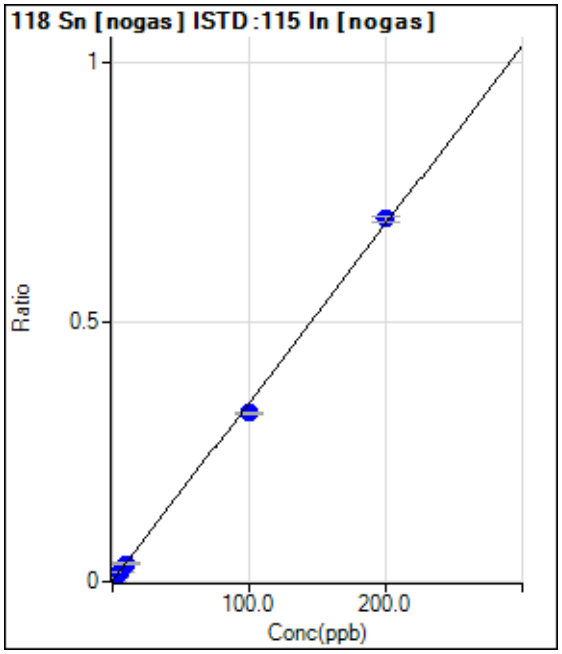
y = 0.0012 * x + 1.9197E-005
R = 0.9999
DL = 0.03974
BEC = 0.01539

Weight: <None>
Min Conc: <None>

Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			153576.24		P	2.5
2	☐			156425.82		P	2.9
3	☐			159903.73		P	1.1
4	☐			154991.54		P	1.3
5	☐			153733.98		P	1.7
6	☐			152010.34		P	1.0
7	☐						

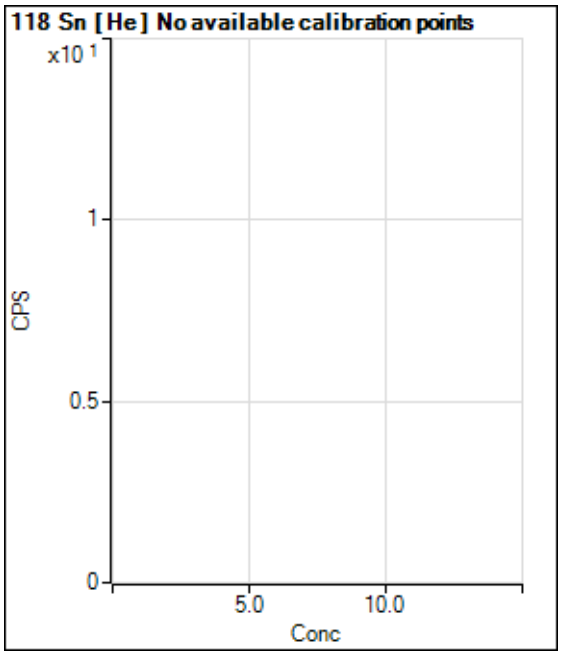


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1683.44	0.0011	P	19.0
2	☐	2.000	1.962	11954.31	0.0078	P	3.3
3	☐	5.000	4.800	27605.61	0.0176	P	1.4
4	☐	10.000	9.889	54930.13	0.0351	P	3.1
5	☐	100.000	94.045	502090.06	0.3247	P	1.7
6	☐	200.000	202.988	1044403.87	0.6996	P	1.7
7	☐	1.000					

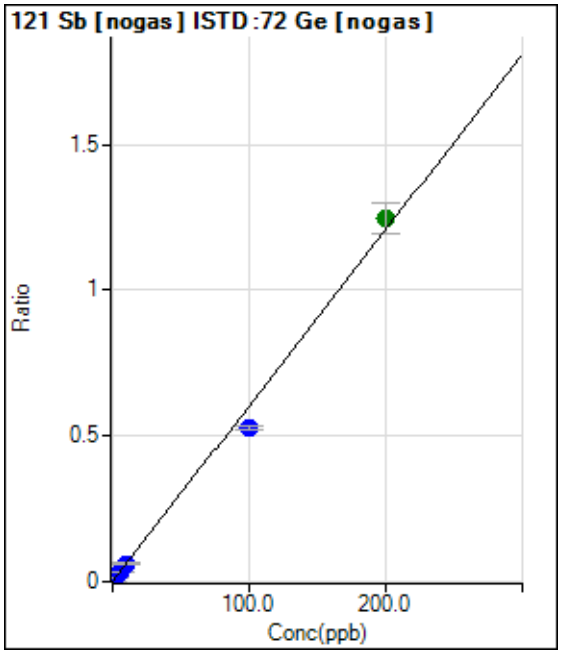
y = 0.0034 * x + 0.0011
R = 0.9994
DL = 0.1814
BEC = 0.319

Weight: <None>
Min Conc: <None>

Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			253.34		P	31.9
2	☐			1583.44		P	13.9
3	☐			3850.49		P	2.9
4	☐			7815.20		P	3.1
5	☐			72607.41		P	1.8
6	☐			144210.44		P	1.4
7	☐						

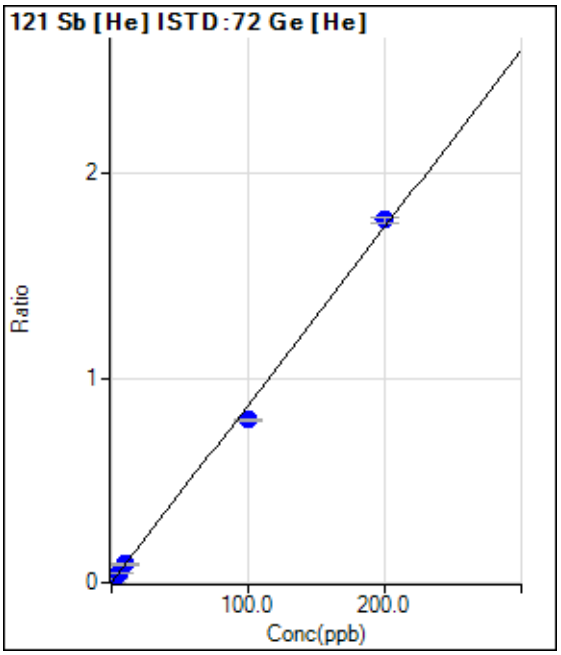


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1096.72	0.0007	P	6.3
2	☐	2.000	1.980	18123.03	0.0127	P	0.6
3	☐	5.000	5.034	45275.86	0.0311	P	2.4
4	☐	10.000	10.256	89673.29	0.0626	P	3.0
5	☐	100.000	87.320	795473.35	0.5271	P	2.3
6	☐	200.000	206.327	1739208.88	1.2445	A	8.6
7	☐	1.000					

y = 0.0060 * x + 7.4231E-004
R = 0.9972
DL = 0.02326
BEC = 0.1231

Weight: <None>
Min Conc: <None>

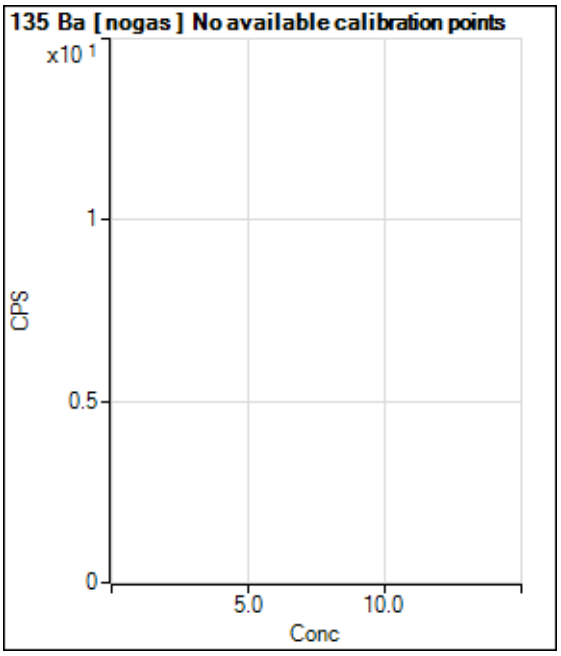
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	120.00	0.0009	P	23.3
2	☐	2.000	1.980	2283.52	0.0181	P	6.8
3	☐	5.000	4.985	5674.35	0.0442	P	3.3
4	☐	10.000	10.320	11890.96	0.0905	P	5.2
5	☐	100.000	91.460	102619.95	0.7942	P	1.4
6	☐	200.000	204.254	219647.95	1.7725	P	1.9
7	☐	1.000					

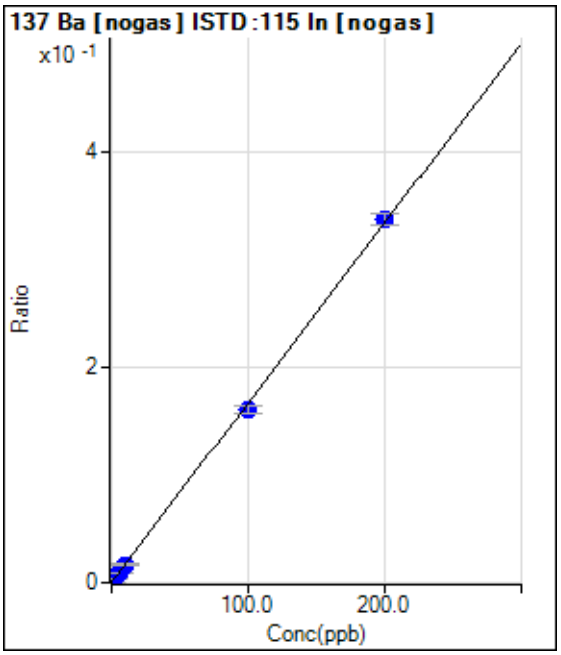
y = 0.0087 * x + 9.4875E-004
R = 0.9987
DL = 0.0764
BEC = 0.1094

Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			226.67		P	17.8
2	☐			3233.69		P	3.3
3	☐			7615.17		P	7.2
4	☐			15437.14		P	1.6
5	☐			139306.57		P	2.2
6	☐			287725.10		P	2.7
7	☐						

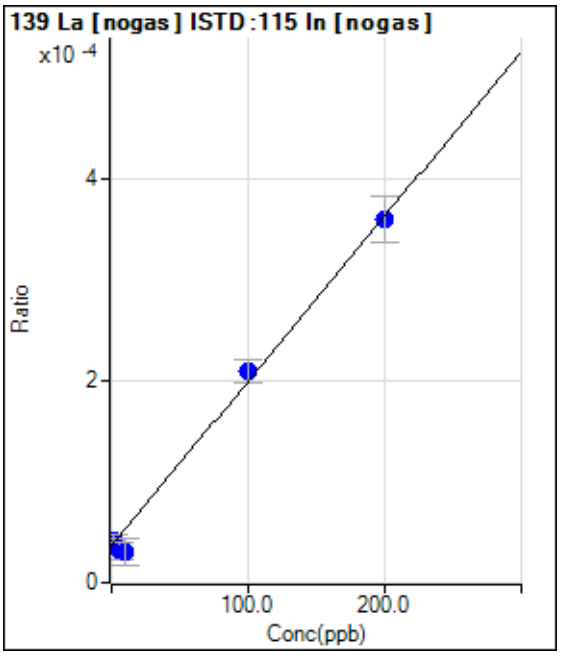
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	490.01	0.0003	P	17.4
2	☐	2.000	1.917	5354.26	0.0035	P	7.7
3	☐	5.000	4.999	13568.93	0.0087	P	1.6
4	☐	10.000	9.953	26460.64	0.0169	P	5.5
5	☐	100.000	96.396	248985.35	0.1611	P	4.7
6	☐	200.000	201.805	502785.60	0.3370	P	3.1
7	☐	1.000					

y = 0.0017 * x + 3.1813E-004
R = 0.9998
DL = 0.09982
BEC = 0.1907

Weight: <None>
Min Conc: <None>

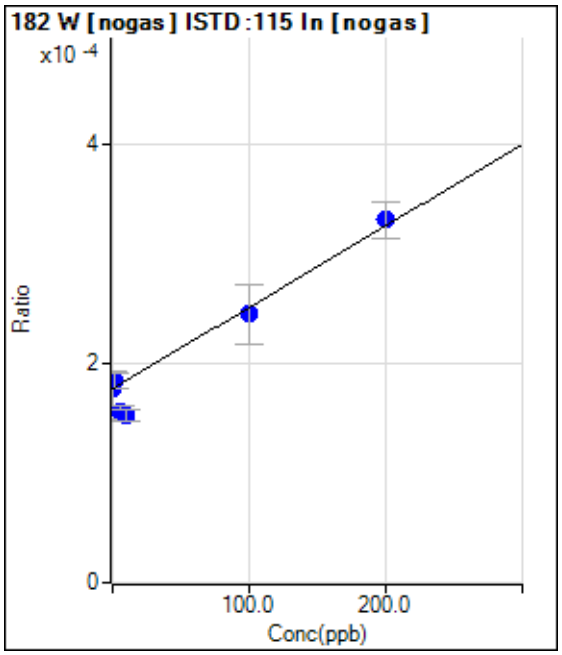


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.67	0.0000	P	34.0
2	☐	2.000	3.080	63.33	0.0000	P	24.6
3	☐	5.000	-2.916	50.00	0.0000	P	52.4
4	☐	10.000	-3.988	46.67	0.0000	P	87.7
5	☐	100.000	106.036	323.34	0.0002	P	11.4
6	☐	200.000	197.869	536.69	0.0004	P	12.9
7	☐	100.000					

y = 1.6292E-006 * x + 3.6590E-005
R = 0.9968
DL = 22.9
BEC = 22.46

Weight: <None>
Min Conc: <None>

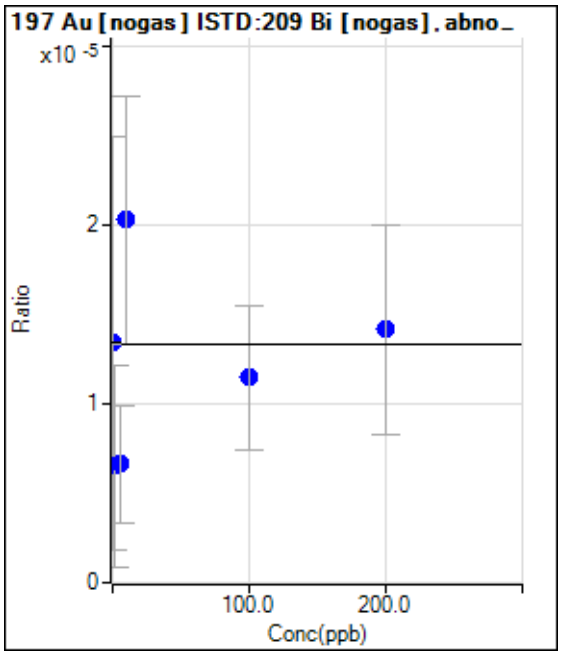
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	273.34	0.0002	P	18.7
2	☐	2.000	9.182	280.01	0.0002	P	7.9
3	☐	5.000	-29.206	243.34	0.0002	P	8.8
4	☐	10.000	-31.697	240.01	0.0002	P	7.0
5	☐	100.000	91.441	380.01	0.0002	P	22.1
6	☐	200.000	207.148	493.35	0.0003	P	9.8
7	☐	1.000					

y = 7.4350E-007 * x + 1.7701E-004
R = 0.9782
DL = 133.6
BEC = 238.1

Weight: <None>
Min Conc: <None>

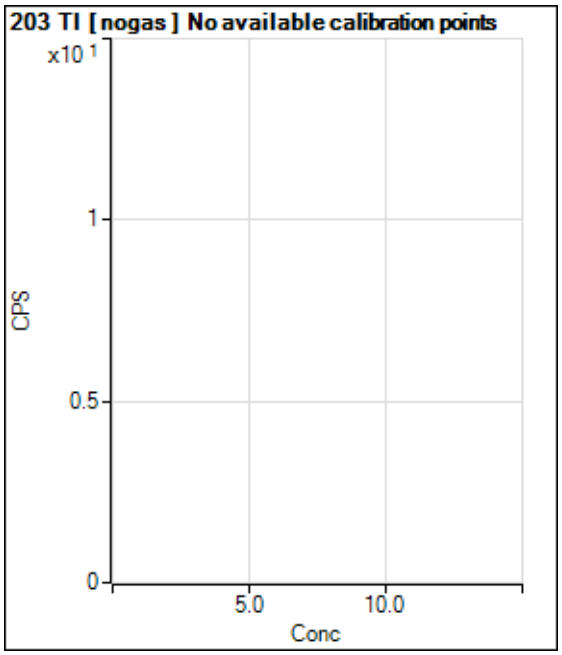


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20.00	0.0000	P	173.
2	☐	2.000	19219.943	10.00	0.0000	P	173.
3	☐	5.000	18951.654	10.00	0.0000	P	100.
4	☐	10.000	-19341.19	30.00	0.0000	P	68.2
5	☐	100.000	5416.054	16.67	0.0000	P	71.0
6	☐	200.000	-2156.313	20.00	0.0000	P	82.8
7	☐	100.000					

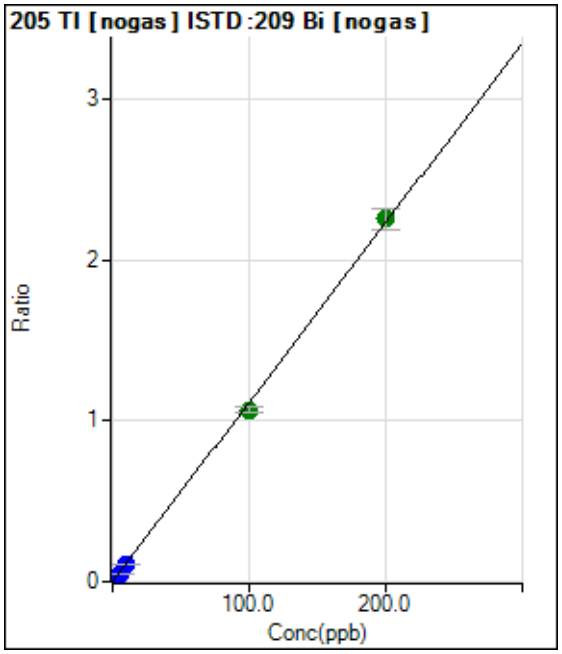
y = -3.5676E-010 * x + 1.3395E-005
R = 0.1882
DL = -1.951E+05
BEC = -3.755E+04

Weight: <None>
Min Conc: <None>

Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			96.67		P	26.0
2	☐			13092.13		P	1.7
3	☐			32623.07		P	5.3
4	☐			69514.39		P	1.1
5	☐			652263.84		P	2.1
6	☐			1329251.07		A	1.3
7	☐						

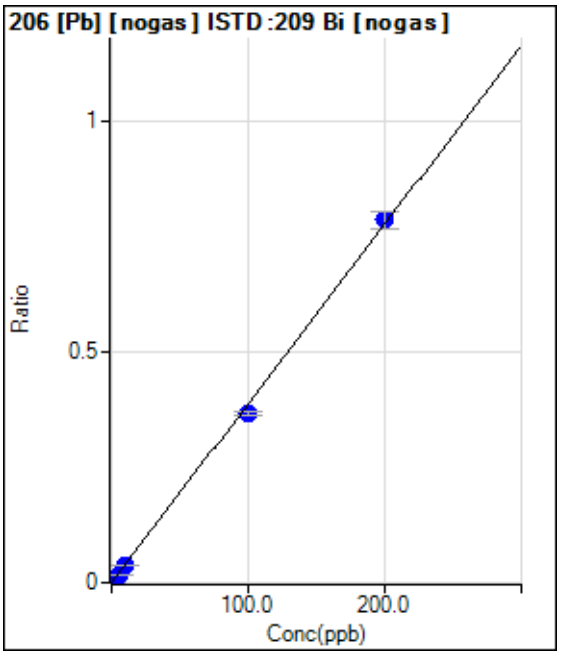


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	170.00	0.0001	P	20.9
2	☐	2.000	1.911	32692.96	0.0215	P	3.5
3	☐	5.000	4.656	79407.82	0.0521	P	4.5
4	☐	10.000	9.973	166180.09	0.1115	P	3.0
5	☐	100.000	95.584	1562775.86	1.0674	A	3.2
6	☐	200.000	202.219	3118203.81	2.2580	A	5.9
7	☐	1.000					

y = 0.0112 * x + 1.1097E-004
R = 0.9997
DL = 0.006238
BEC = 0.009938

Weight: <None>
Min Conc: <None>

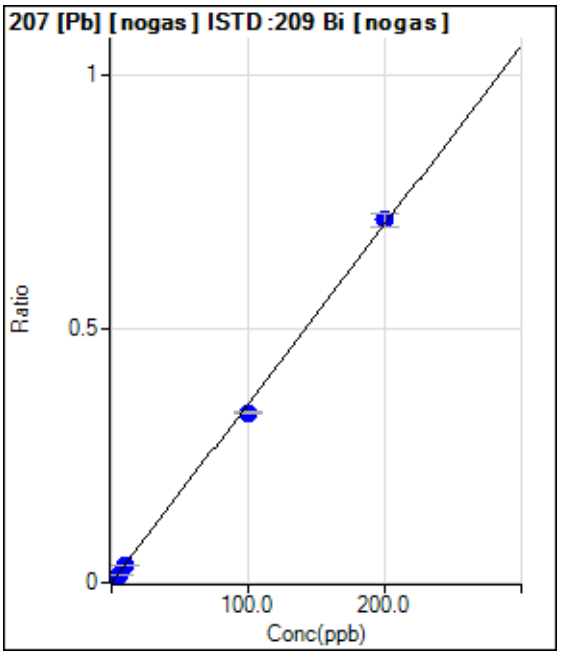
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	180.00	0.0001	P	30.7
2	☐	2.000	1.865	11197.41	0.0073	P	2.1
3	☐	5.000	4.683	27844.18	0.0183	P	2.7
4	☐	10.000	9.779	56679.14	0.0380	P	1.3
5	☐	100.000	94.779	537976.32	0.3674	P	1.8
6	☐	200.000	202.631	1084879.80	0.7853	P	4.7
7	☐	1.000					

y = 0.0039 * x + 1.1752E-004
R = 0.9995
DL = 0.02789
BEC = 0.03033

Weight: <None>
Min Conc: <None>

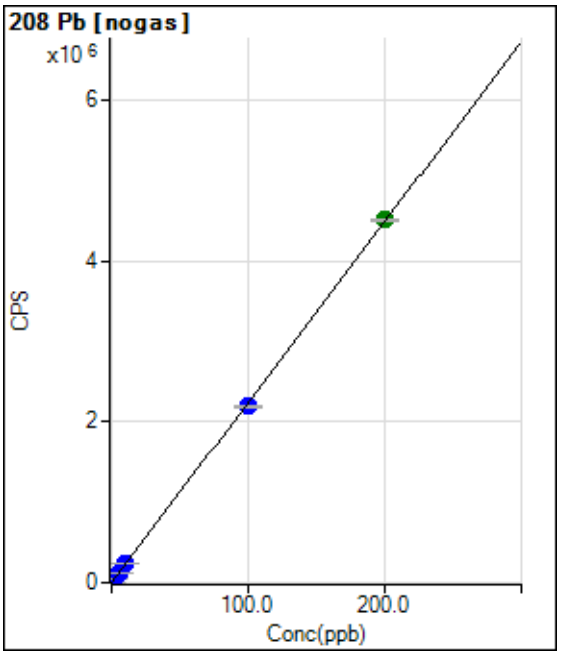


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	156.67	0.0001	P	11.4
2	☐	2.000	1.911	10436.86	0.0068	P	2.1
3	☐	5.000	4.661	25253.42	0.0166	P	1.6
4	☐	10.000	10.022	52902.67	0.0355	P	1.9
5	☐	100.000	94.696	489718.80	0.3344	P	1.2
6	☐	200.000	202.660	988690.25	0.7155	P	3.9
7	☐	1.000					

y = 0.0035 * x + 1.0238E-004
R = 0.9995
DL = 0.009903
BEC = 0.029

Weight: <None>
Min Conc: <None>

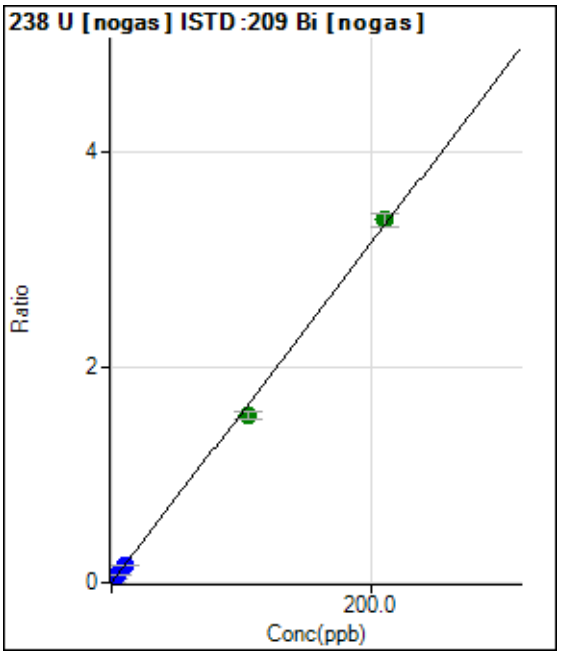
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	580.01		P	9.1
2	☐	2.000	2.003	45488.88		P	1.9
3	☐	5.000	5.093	114768.36		P	1.7
4	☐	10.000	10.505	236098.35		P	0.2
5	☐	100.000	97.825	2193726.06		P	0.7
6	☐	200.000	201.060	4508172.04		A	0.9
7	☐	1.000					

y = 22419.1377 * x + 580.0067
R = 0.9999
DL = 0.007081
BEC = 0.02587

Weight: <None>
Min Conc: <None>

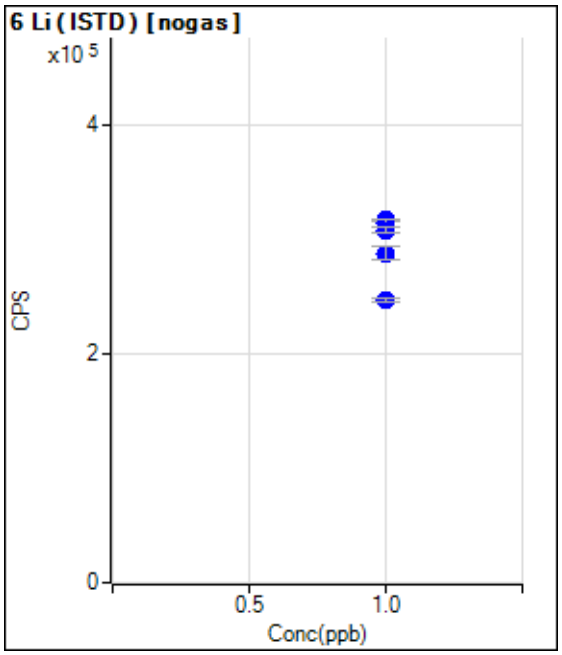


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	240.01	0.0002	P	31.3
2	☐	2.000	1.881	45525.76	0.0299	P	3.6
3	☐	5.000	4.895	118165.53	0.0775	P	2.5
4	☐	10.000	10.268	242068.86	0.1624	P	4.0
5	☐	105.000	98.184	2271662.83	1.5515	A	4.8
6	☐	210.000	213.399	4660473.68	3.3718	A	3.5
7	☐	1.000					

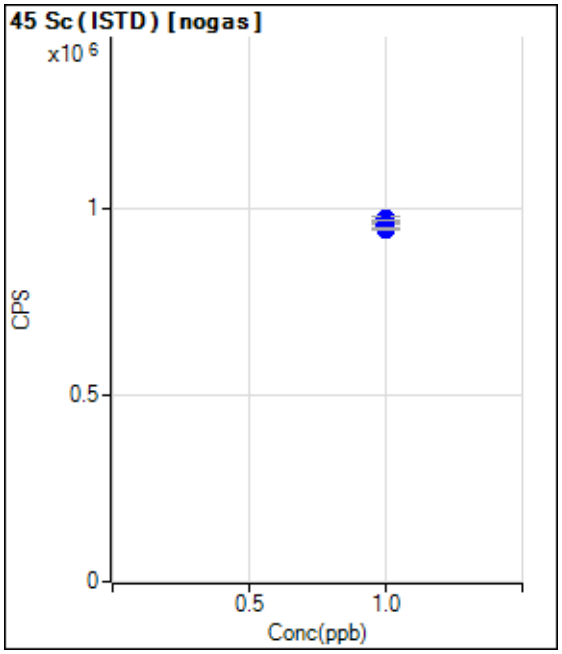
y = 0.0158 * x + 1.5737E-004
R = 0.9993
DL = 0.009366
BEC = 0.00996

Weight: <None>
Min Conc: <None>

Calibration for 011_ICV.d

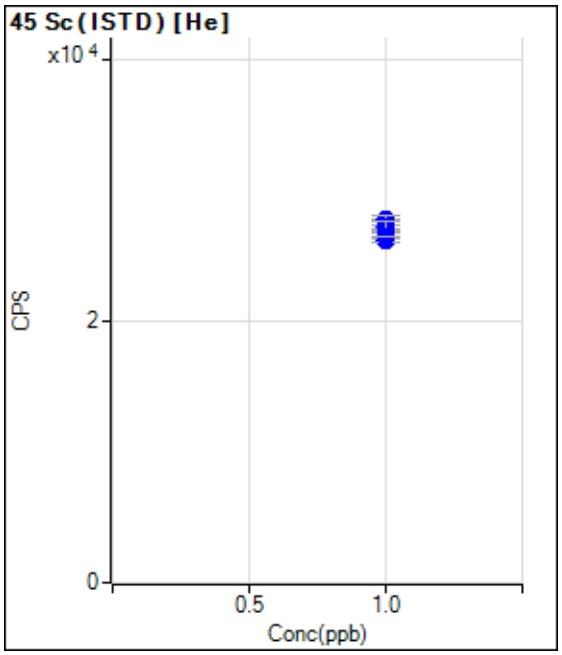


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		317621.49		P	0.8
2	☐	1.000		314356.37		P	1.6
3	☐	1.000		314702.33		P	1.8
4	☐	1.000		308453.56		P	1.7
5	☐	1.000		288107.72		P	4.0
6	☐	1.000		247473.02		P	1.7
7	☐	1.000					

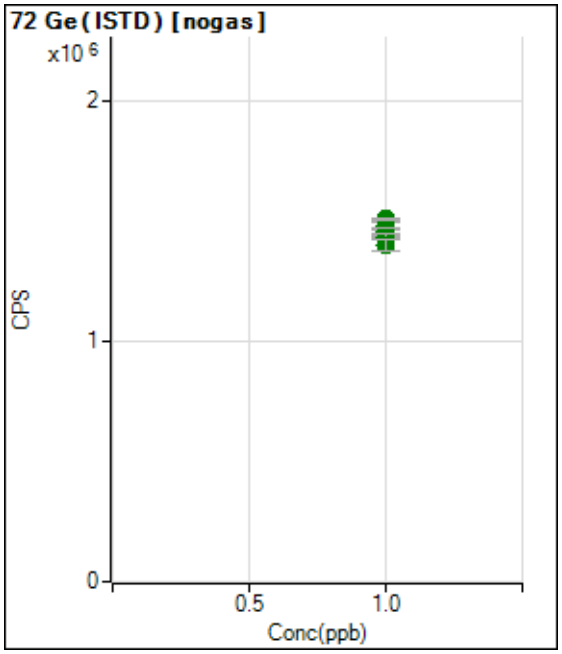


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		954047.98		P	0.9
2	☐	1.000		963740.38		P	0.7
3	☐	1.000		972947.88		P	1.1
4	☐	1.000		971871.76		P	1.8
5	☐	1.000		960312.36		P	2.4
6	☐	1.000		946081.18		P	0.9
7	☐	1.000					

Calibration for 011_ICV.d

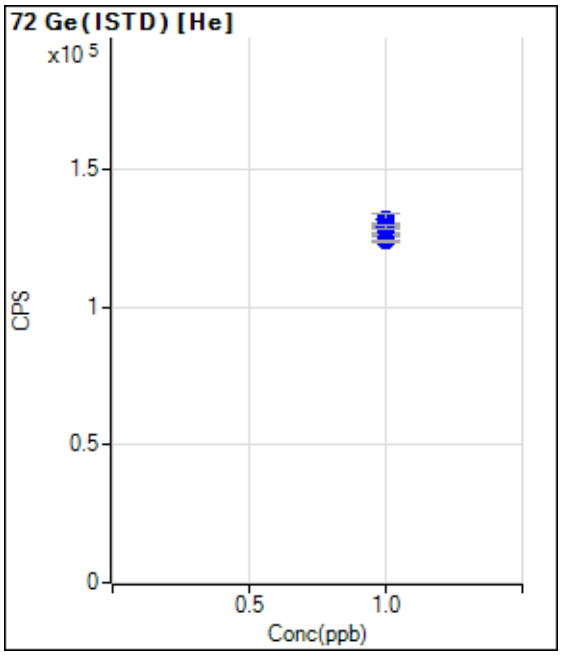


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		27307.27		P	3.1
2	☐	1.000		27600.95		P	4.0
3	☐	1.000		27744.54		P	2.4
4	☐	1.000		27263.60		P	3.3
5	☐	1.000		26122.07		P	1.2
6	☐	1.000		26519.34		P	0.1
7	☐	1.000					

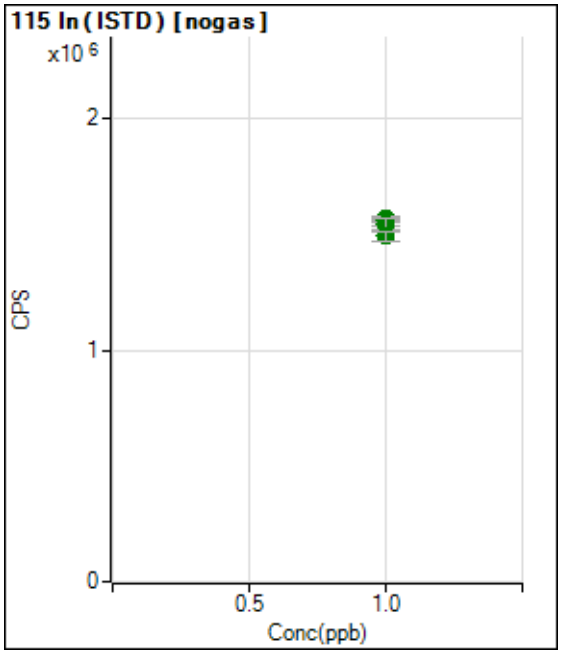


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1478633.15		A	2.0
2	☐	1.000		1429390.03		A	0.1
3	☐	1.000		1456756.85		A	1.9
4	☐	1.000		1433648.21		A	1.9
5	☐	1.000		1509165.97		A	0.5
6	☐	1.000		1400016.64		A	3.6
7	☐	1.000					

Calibration for 011_ICV.d

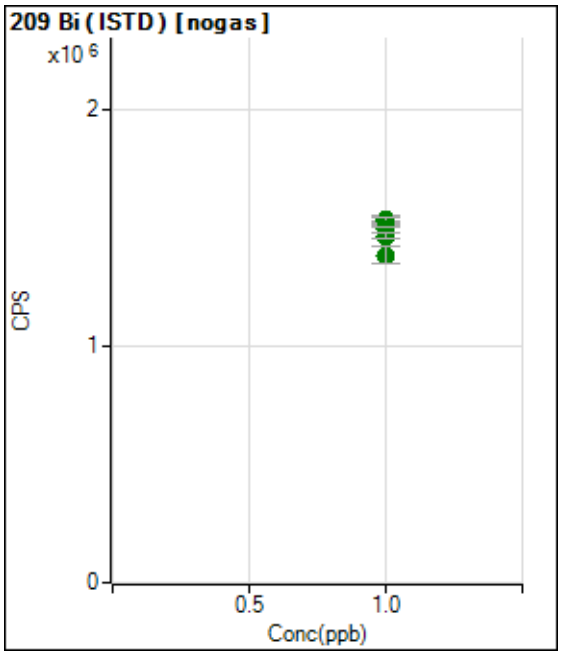


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		126743.37		P	2.1
2	☐	1.000		126042.98		P	1.4
3	☐	1.000		128375.41		P	2.9
4	☐	1.000		131571.64		P	3.9
5	☐	1.000		129226.77		P	1.1
6	☐	1.000		123924.60		P	0.6
7	☐	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1539302.61		A	2.9
2	☐	1.000		1523831.73		A	1.5
3	☐	1.000		1567266.78		A	1.5
4	☐	1.000		1564079.97		A	1.5
5	☐	1.000		1546520.71		A	3.1
6	☐	1.000		1492961.03		A	2.7
7	☐	1.000					

Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1532164.72		A	2.2
2	☐	1.000		1524242.37		A	0.7
3	☐	1.000		1525030.76		A	2.0
4	☐	1.000		1491384.35		A	2.0
5	☐	1.000		1464628.88		A	1.6
6	☐	1.000		1383536.23		A	4.9
7	☐	1.000					

Wet Chemistry Raw Data

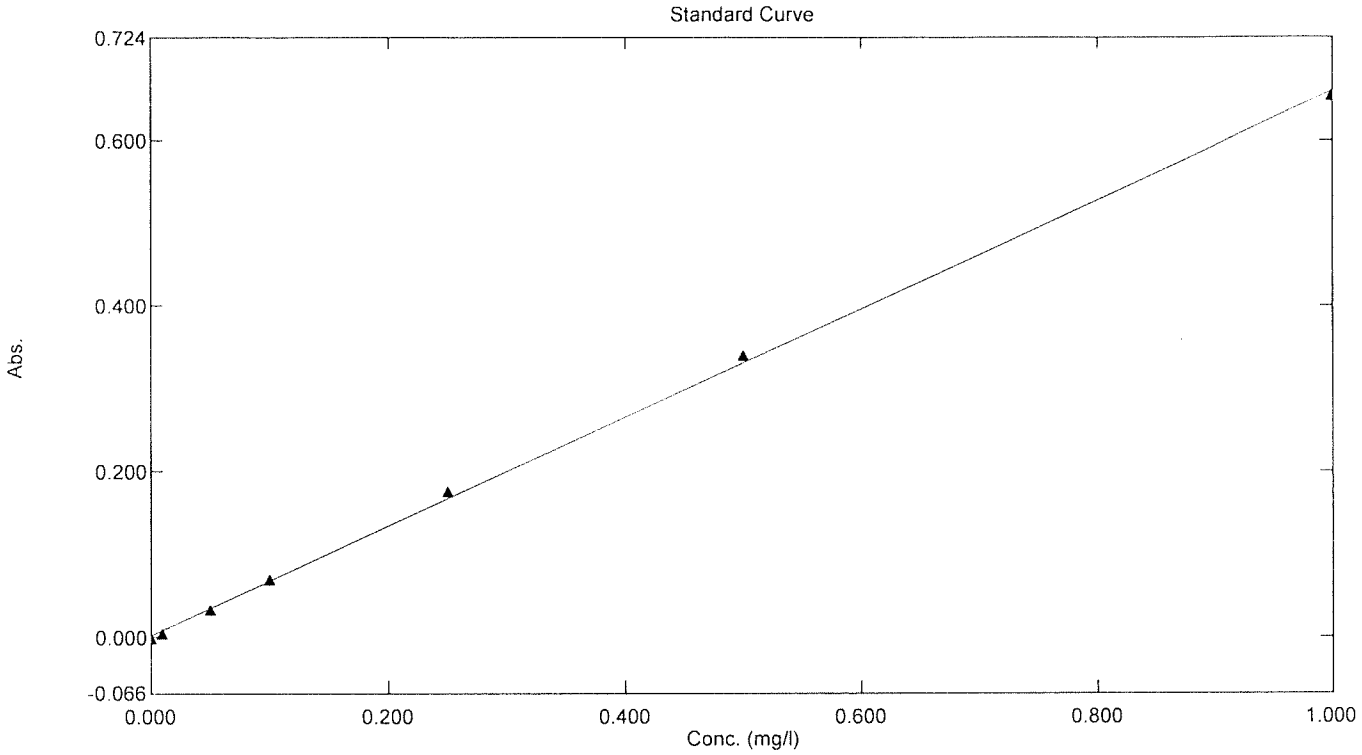
Bhate Environmental Associates, Inc.
Project: GROUNDWATER TREATMENT PLANT
MONTHLY EFFLUENT SAMPLES
ALS WO# HS17120365

HS1712036S

Standard Table Report

12/27/2017 04:02:53 PM

File Name: Q:\UVProbe\CR6+_UNKNOWN\171207_CR6_W.pho



Correlation Coefficient r2 = 0.99935

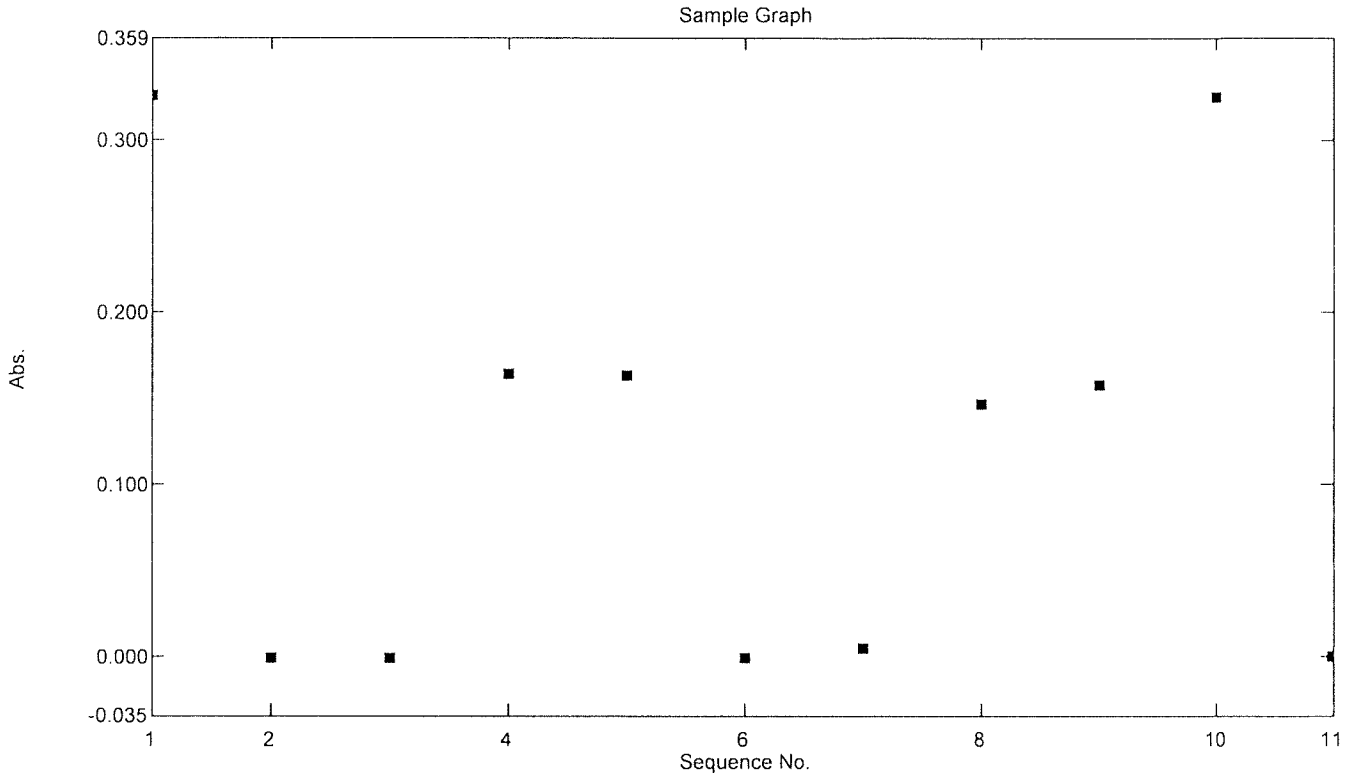
Standard Table

	Sample ID	Type	Ex	Conc	WL540.0	Wgt.Factor	Comments
1	STD1	Standard		0.000	-0.000	1.000	
2	STD2	Standard		0.010	0.005	1.000	
3	STD3	Standard		0.050	0.033	1.000	
4	STD4	Standard		0.100	0.069	1.000	
5	STD5	Standard		0.250	0.174	1.000	
6	STD6	Standard		0.500	0.340	1.000	
7	STD7	Standard		1.000	0.652	1.000	
8							

Sample Table Report

12/27/2017 04:02:51 PM

File Name: Q:\UVProbe\CR6+_UNKNOWN\171207_CR6_W.pho



Sample Table

	Sample ID	Type	Ex	Conc	WL540.0	Comments
1	CCV	Unknown		0.494	0.327	
2	CCB	Unknown		-0.007	-0.002	
3	MBLK	Unknown		-0.007	-0.002	
4	LCS	Unknown		0.246	0.164	
5	LCSD	Unknown		0.244	0.163	
6	17120365.01	Unknown		-0.007	-0.001	01:26PM
7	17120366.01	Unknown		0.002	0.005	
8	17120366.01MS	Unknown		0.219	0.147	
9	17120366.01MSD	Unknown		0.235	0.157	
10	CCV2	Unknown		0.492	0.326	
11	CCB2	Unknown		-0.005	-0.000	
12						

Sub Contract Data

Bhate Environmental Associates, Inc.
Project: GROUNDWATER TREATMENT PLANT
MONTHLY EFFLUENT SAMPLES
ALS WO# HS17120365

Case Narrative

Method: 6850
Analysis: Perchlorate
Analysis SOP: LC-MS-CLO4
ALS WO ID(s): 1734272; 1734273; 1734274; 1734528

Client: ALS Laboratories (Houston, TX)
Matrix: Water
ELMS Batch (HBN): 2013 (205263)

General Set Information: There were fifteen 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: These field samples were analyzed and reported at the following dilutions. The reporting limits have been adjusted accordingly.

Sample #	Dilution
1732473001	1,000
1734528004	10,000
1734528005	10
1734528010	100

Method QC data: The method blank (LMB 579516) was less than 1/2 the CRDL. The recovery for the LCS (579517) was within acceptable parameters.

MS/MSD Analysis: The matrix spike and matrix spike duplicate (MS/MSD) was performed on sample 1734272001 (Client ID: LH18/24-SP650_120617). 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 18DECP03/09/15/19.

Thomas Bosch December 21, 2017
Date

ANALYTICAL REPORT

Report Date: December 22, 2017

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

Phone: (281) 530-5656

E-mail: Sonia.West@alsglobal.com

Workorder: **34-1734274**
Project ID: HS17120365 120617
Purchase Order: HS17120365
Project Manager Kevin W. Griffiths

Client Sample ID	Lab ID	Collect Date	Receive Date	Sampling Site
LH18/24-SP650_120617	1734274001	12/06/17	12/08/17	

ANALYTICAL REPORT

Workorder: 34-1734274
Client: ALS Environmental (Houston)
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **LH18/24-SP650_120617** | Sampling Site: NA | Collected: 12/06/2017
Lab ID: 1734274001 | Media: 125 mL Nalgene | Received: 12/08/2017
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/2013 (HBN: 205263) | **Percent Solid:** NA
Analyzed: 12/18/2017 12:15 | **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

Comments

Quality Control: EPA 6850, DoD QSM - (HBN: 205263)

These field samples were analyzed and reported at the following dilutions.

1732473001 – 1:1,000.

1734528004 – 1:10,000.

1734528005 – 1:10.

1734528010 – 1:100.

The reporting limits have been adjusted accordingly.

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

Method	Analyst	Peer Review
EPA 6850, DoD QSM	/S/ Thomas Bosch 12/20/2017 14:31	/S/ Stephen Brose 12/22/2017 09:13

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: 34-1734274
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: 34-1734274
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: 1734274

Limits:	Client SOW/Contract Specified	**Preparation:**	NA	**Analysis:**	EPA 6850
Basis:	DoD QSM	**Batch:**	NA	**Batch:**	ELMS/2013 (HBN: 205263)
		Prepared By:	NA	**Analyzed By:**	Thomas Bosch

Blank

LMB: 579516
Analyzed: 12/18/2017 09:59
Units: ug/L

Analyte	Result	MDL	RL
Perchlorate	ND	1	2.00

Laboratory Control Sample

LCS: 579517
Analyzed: 12/18/2017 10:18
Dilution: 1
Units: ug/L

Analyte	Result	Target	% Rec	QC Limits	
Perchlorate	4.94	5.00	98.8	78.8	123.8

Matrix Spike - Matrix Spike Duplicate

Sample:	1734272001	**MS:**	579518			**MSD:**	579519				
Analyzed:	12/18/2017 10:39	**Analyzed:**	12/18/2017 11:56			**Analyzed:**	12/18/2017 11:17				
Dilution:	1	**Dilution:**	1			**Dilution:**	1				
Units:	ug/L	**Units:**	ug/L			**Units:**	ug/L				

Analyte	Result	Result	Target	% Rec	QC Limits		Result	% Rec	RPD	QC Limits	
Perchlorate	ND	5.3	5	106	78.8	123.8	5.32	106	0.341	0.0	20.0

Continuing Calibration Verification

CCV:	579513			**CCV:**	579520			**CCV:**	579522		
Analyzed:	12/18/2017 08:58			**Analyzed:**	12/18/2017 14:10			**Analyzed:**	12/18/2017 19:35		
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	22.6	25.0	90.5	24.0	25.0	96.0	25.7	25.0	103

CCV:	580015			**CCV:**	580016				
Analyzed:	12/20/2017 09:14			**Analyzed:**	12/20/2017 10:40				
Units:	ug/L			**Units:**	ug/L				
Criteria:	± 15%			**Criteria:**	± 15%				

Analyte	Result	Target	% Rec.	Result	Target	% Rec.
Perchlorate	27.4	25.0	110	27.1	25.0	109

Interference Check Sample

ICSA: 579515
Analyzed: 12/18/2017 09:39
Units: ug/L
Criteria: ± 30%

Analyte	Result	Target	% Rec.
Perchlorate	0.866	1.00	86.6

Quality Control Sample Batch Report

Analysis Information

Workorder: 1734274

Limits:	Client SOW/Contract Specified	**Preparation:**	NA	**Analysis:**	EPA 6850
Basis:	DoD QSM	**Batch:**	NA	**Batch:**	ELMS/2013 (HBN: 205263)
		Prepared By:	NA	**Analyzed By:**	Thomas Bosch

Limit of Detection Verification

	LODV: 579514 Analyzed: 12/18/2017 09:19 Units: ug/L Criteria: ± 50%			LODV: 579521 Analyzed: 12/18/2017 16:02 Units: ug/L Criteria: ± 50%			LODV: 579523 Analyzed: 12/18/2017 19:54 Units: ug/L Criteria: ± 50%		
Analyte	**Result**	**Target**	**% Rec.**	**Result**	**Target**	**% Rec.**	**Result**	**Target**	**% Rec.**
Perchlorate	0.858	1.00	85.8	0.883	1.00	88.3	1.05	1.00	105

Comments

These field samples were analyzed and reported at the following dilutions.

1732473001 – 1:1,000.

1734528004 – 1:10,000.

1734528005 – 1:10.

1734528010 – 1:100.

The reporting limits have been adjusted accordingly.

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

Analyst	Peer Review
/S/ Thomas Bosch	/S/ Stephen Brose
12/20/2017 14:31	12/22/2017 09:13

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

W 1734274

ract Chain of Custody

COC ID: 8174

1734274

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:	HS17120365
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS17120365-01**	**LH18/24-SP650_120617**	**Water**	**06 Dec 2017 14:00**
	SUB_Perch-6850			14 Dec 2017

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

DOD IV

QC Level: DOD IV (DoD Data Package)

Relinquished By: J. Mawum Date/Time: 12/7/17 18:00

Received By: [signature] Date/Time: 12/8/17 935

Cooler ID(s): 873 Temperature(s): 2°

ALS Environmental
CHAIN-OF-CUSTODY

Project / Job / Task: HS17120365	*Split:*	**Workorder ID:** 1734274	Level: ENV_LVL4	**Requested Analysis**	
Client: ALS Environmental (Houston)		**Account:** 8101	Type: 125Poly		
Comments:			**Preservatives**		
			COOL		

Item	Collect Date/Time	Sample ID	Lab ID	QC	Matrix	Containers ID(s)	Count	EPA 6850, DoD QSM
1	12/06/2017 14:00	LH18/24-SP650_120617	1734274001		Water	A	1	A
2								
3								
4								
5								
6								
7								
8								
9								
10								

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ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Reason for Transfer / Storage Location
Wafath, Julie	12/08/2017 09:35	ALS Sample Receiving	Sample Login
Julie Wafath 12/8/17 1600		4B	Storage
R-331	12.18.17/09:20	T. Burd	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

00878506

ALS - Salt Lake City-Related Information Report (CRIR)

Cooler or Container Information Checklist (Fill In or Circle)

Client Name: ALS Houston — Project/Task/Site: 1734274

Date/Time of Receipt: 12/8/2017 1105 — Number of Coolers Received: 1

Condition of Coolers:	Acceptable/Unacceptable	Temperature Control:	Present/Not Included
Cooler Custody Seals:	Present/Absent/NA Intact/Broken/NA	Location Temp Taken:	Control/Between Samples
Container Custody Seals:	Present/Absent/NA Intact/Broken/NA	Are all temperatures within project specific guidelines?	Yes/No/NA
Ice Present:	Yes/No/NA Frozen/Melted/NA	VOA Headspace Present?	Yes/No/NA

pH Check Performed:							
	Metals	Yes/No/NA	Total Phenolics	Yes/No/NA	NO3/NO2	Yes/No/NA
	Cyanide	Yes/No/NA	TPH – 418.1	Yes/No/NA	Oil & Grease	Yes/No/NA
	Sulfide	Yes/No/NA	COD	Yes/No/NA	Total Phosphorous	Yes/No/NA
	Ammonia	Yes/No/NA	TKN	Yes/No/NA	TOC Preserved	Yes/No/NA

Cooler Received	ALS Cooler No.	Temp.	Cooler Received	ALS Cooler No.	Temp.	Cooler Received	ALSL Cooler No.	Temp.
1	C17- 873	2 °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: _____ (Signature) _____ (Printed Name) 12/8/17 (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 ☐

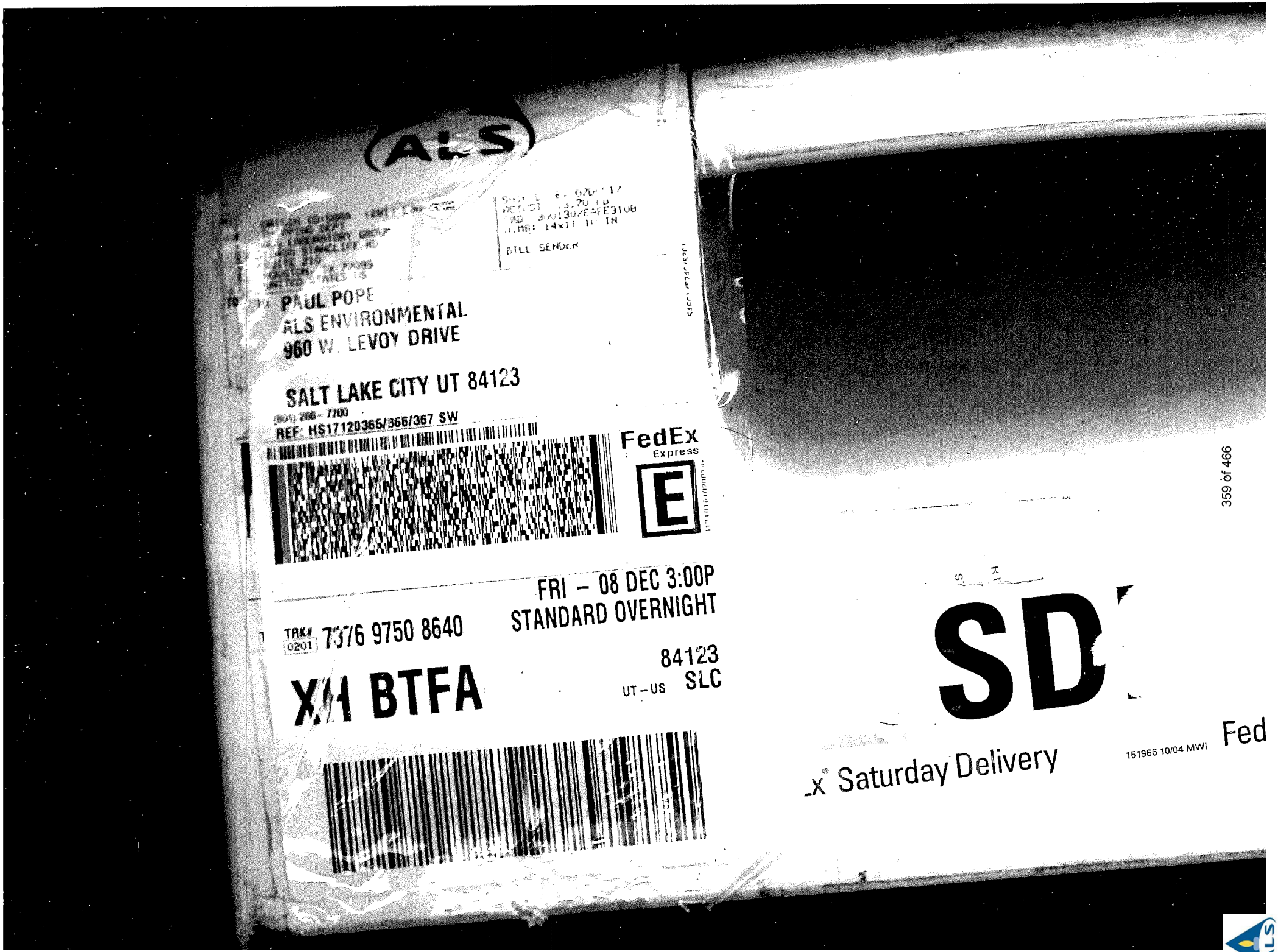
Response Required Within 24 Hours

Project Management

Project Manager Comments:

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

CRIR.dot — Revised 1/1/15


ALS
PAUL POPE
ALS ENVIRONMENTAL
960 W. LEVOY DRIVE
SALT LAKE CITY UT 84123
REF: HS17120365/366/367 SW
FedEx
Express
FRI – 08 DEC 3:00P
STANDARD OVERNIGHT
TRK# 0201 7976 9750 8640
X1 BTFA
84123
UT – US SLC
359 of 466
SD
Saturday Delivery
151966 10/04 MWI
Fed

Batch Worklist

Batch: ELMS/ 2013 **Created:** 12/18/2017 08:45 **Instrument:** HBN: 205263

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

Workorder: 1734272 [ENV_LVL4]
Workorder: 1734273 [ENV_LVL4]
Workorder: 1734274 [ENV_LVL4]
Workorder: 1734528 [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	579513	CCV for HBN 205263 [ELMS/2013]				CCV	3		E685041C3Q	5311		12/22/2017	
2	579514	LODV for HBN 205263 [ELMS/2013				LODV	3		E6850..D3Q	5311		12/22/2017	
3	579515	ICS for HBN 205263 [ELMS/2013]				ICS	3		E6850..D3Q	5311		12/22/2017	
4	579516	LMB for HBN 205263 [ELMS/2013]				LMB	3		E6850Q413Q	5311		12/22/2017	
5	579517	LCS for HBN 205263 [ELMS/2013]				LCS	3		E6850Q413Q	5311		12/22/2017	
6	1734272001	LH18/24-SP650_120617				SAMPLE	3	1734272001-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
7	579518	LH18/24-SP650...(1734272001MS)				MS	3		E6850Q413Q	5311		12/22/2017	
8	579519	LH18/24-SP65...(1734272001MSD)				MSD	3		E6850Q413Q	5311		12/22/2017	
9	1734273001	LH18/24-SP140_120617				SAMPLE	3	1734273001-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
10	1734274001	LH18/24-SP650_120617				SAMPLE	3	1734274001-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
11	1734528001	C09_120517				SAMPLE	3	1734528001-A	E6850Q41.3	5480	1/2/2018	12/22/2017	
12	1734528002	126_120517				SAMPLE	3	1734528002-A	E6850Q41.3	5480	1/2/2018	12/22/2017	
13	1734528003	C08_120517				SAMPLE	3	1734528003-A	E6850Q41.3	5480	1/2/2018	12/22/2017	
14	1734528004	18WW17_120517				SAMPLE	3	1734528004-A	E6850Q41.3	5480	1/2/2018	12/22/2017	
15	1734528005	C03_120517				SAMPLE	3	1734528005-A	E6850Q41.3	5480	1/2/2018	12/22/2017	
16	579520	CCV for HBN 205263 [ELMS/2013]				CCV	3		E685041C3Q	5311		12/22/2017	
17	579521	LODV for HBN 205263 [ELMS/2013				LODV	3		E6850..D3Q	5311		12/22/2017	
18	1734528006	18CPTMW18_120517				SAMPLE	3	1734528006-A	E6850Q41.3	5480	1/2/2018	12/22/2017	
19	1734528007	18WW22_120617				SAMPLE	3	1734528007-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
20	1734528008	18CPTMW19_120617				SAMPLE	3	1734528008-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
21	1734528009	18CPTMW19_120617_a				SAMPLE	3	1734528009-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
22	1734528010	18WW08_120617				SAMPLE	3	1734528010-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
23	1734528011	18CPTMW15_120617				SAMPLE	3	1734528011-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
24	1734528012	18CPTMW07_120617				SAMPLE	3	1734528012-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
25	579522	CCV for HBN 205263 [ELMS/2013]				CCV	3		E685041C3Q	5311		12/22/2017	
26	579523	LODV for HBN 205263 [ELMS/2013				LODV	3		E6850..D3Q	5311		12/22/2017	

Batch Worklist

Pos	Lab ID	Sample ID	Prep Initial	Prep Final	Dust Weight	Type	Mx	Container	Procedure	Mgr	Expire Date	Due Date	Run Date
27	580015	CCV for HBN 205263 [ELMS/2013]				CCV	3		E685041C3Q	5311		12/22/2017	
28	580016	CCV for HBN 205263 [ELMS/2013]				CCV	3		E685041C3Q	5311		12/22/2017	

00878510

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Analytical Documentation

Sequence: C:\HPCHEM\1\SEQUENCE\CLO4\2017\DEC\18DEC17P.S

Sequence Table:

Method and Injection Info Part:

Line	Location	SampleName		Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	579513	CCV@25	CLO4-DOD	1	Ctrl Samp		
2	Vial 72	579514	LODV@1.	CLO4-DOD	1	Ctrl Samp		
3	Vial 73	579515	ICS@1.	CLO4-DOD	1	Ctrl Samp		
4	Vial 74	579516	LMB	CLO4-DOD	1	Ctrl Samp		
5	Vial 75	579517	LCS@5.	CLO4-DOD	1	Ctrl Samp		
6	Vial 76	1734272001		CLO4-DOD	1	Sample		
7	Vial 77	579518	342721S	CLO4-DOD	1	Sample		
8	Vial 78	579519	342721D	CLO4-DOD	1	Sample		
9	Vial 79	1734273001		CLO4-DOD	1	Sample		
10	Vial 77	579518	342721S	CLO4-DOD	1	Sample		
11	Vial 80	1734274001		CLO4-DOD	1	Sample		
12	Vial 81	1734528001		CLO4-DOD	1	Sample		
13	Vial 82	1734528002		CLO4-DOD	1	Sample		
14	Vial 83	1734528003		CLO4-DOD	1	Sample		
15	Vial 84	1734528004		CLO4-DOD	1	Sample		
16	Vial 85	1734528005		CLO4-DOD	1	Sample		
17	Vial 71	579520	CCV@25	CLO4-DOD	1	Ctrl Samp		
18	Vial 72	579521	LODV@1.	CLO4-DOD	1	Ctrl Samp		
19	Vial 72	579521	LODV@1.	CLO4-DOD	1	Ctrl Samp		
20	Vial 86	1734528006		CLO4-DOD	1	Sample		
21	Vial 87	1734528007		CLO4-DOD	1	Sample		
22	Vial 88	1734528008		CLO4-DOD	1	Sample		
23	Vial 89	1734528009		CLO4-DOD	1	Sample		
24	Vial 90	1734528010		CLO4-DOD	1	Sample		
25	Vial 91	1734528011		CLO4-DOD	1	Sample		
26	Vial 92	1734528012		CLO4-DOD	1	Sample		
27	Vial 93	1734273001	1K	CLO4-DOD	1	Sample		
28	Vial 94	1734528004	1K	CLO4-DOD	1	Sample		
29	Vial 95	1734528005	10X	CLO4-DOD	1	Sample		
30	Vial 71	579522	CCV@25	CLO4-DOD	1	Ctrl Samp		
31	Vial 72	579523	LODV@1.	CLO4-DOD	1	Ctrl Samp		

ALS Work Order #'s & Sample #( )'s: 1734272 (001); 1734273 (001); 1734274 (001); 1734528 (001-12)
ELMS Batch/HBN ID: 2013 (205263)
Prep Date: 12/18/2017 Analysis Date: 12/18;20/2017 Analyst: T. Bosch
Analyte: **Perchlorate** Matrix: **Water** Method: **6850**
Sequence:\\HPCHEM\1\SEQUENCE\CLO4\2017\DEC\18DEC17P.s & 20DEC17P.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 579517; Target = 5.0µg/L. ASTM type II water was used for LMB 579516.

MS/MSD: MS/MSD was performed on sample 1734272001 (Client ID: LH18/24-SP650_120617). 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. These field samples were analyzed and reported at the following dilutions. The reporting limits have been adjusted accordingly.

Sample #	Dilution
1732473001	1,000
1734528004	10,000
1734528005	10
1734528010	100

2) All QC, Blank, CCV, and MS/MSD results were within method parameters.
3) Sample data can be viewed at two directories within the ALS system: \\ALSLTWS013\LCMS\LCMS04\2017\DEC\HBN# or through NuGenesis\Tree\PrintData\LCMS\DefaultView.
4) Due to limitations of the Chemstation Software, many of the chromatographic peaks require manual integration. Manual Integrations were performed for some of the Initial Calibration analyses (datafiles: 28NOVP01,02) along with datafiles 18DECP03/09/15/19.
5) Notebook: \\alsltws013\ORGANIC\BOSCH\LCMS\Perchlorates\Waters\2017\CLO4-205263-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
MFG: ALS/SLC
MFG Lot: TNB: 05/11/2017
Part ID:

Created By: T. Bosch
Create Date: 05/11/2017
Lab Lot: CLO4 QC INT 10.ug/mL

Amount: 10 mL
Expires: 05/11/2018
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	10 ug/mL

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
109	ASTM H2O	ASTM Type II Water	LAB 109	9.9 mL	11/07/2025
36748	CLO4 QCSTOCK	6850 QC Stock STD 1,000ug/mL	CLO4 QC STOCK	0.1 mL	03/31/2020

STANDARD REPORT

Constituent

Solvent Standard - ASTM H2O

ASTM H2O		Description - ASTM Type II Water
Standard: 109	Created By: ALS Support (Lims)	Amount: 1000 L
MFG: DCL In House	Create Date: 10/6/2005	Expires: 11/7/2025
MFG Lot:	Lab Lot: LAB 109	Usable: Yes
Part ID:		

Pos.	Analyte	Name	Concentration
Solvent - Analyte(s) not applicable			

STANDARD REPORT

Constituent

Stock Standard - CLO4 QCSTOCK

CLO4 QCSTOCK Description - 6850 QC Stock STD 1,000ug/mL

Standard: 36748
MFG: Ultra Scientific
MFG Lot: CP-0860
Part ID: ICC-013

Created By: T. Bosch
Create Date: 5/11/2017
Lab Lot: CLO4 QC STOCK

Amount: 100 mL
Expires: 3/31/2020
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	1000 ug/mL

STANDARD REPORT

Working Standard - CLO4ISTDWRK

CLO4ISTDWRK		Description - Perchlorate ISTD Wrk 1,000ug/L
Standard: 38780	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 9001 ISO GUIDE ISO 17025

ISO Guide 34 Reference Material

Product Number: ICC-013
Lot Number: CP-0860

Lot Issue Date: 29-Feb 2016
Expiration Date: 31-Mar 2020

Product Name: Perchlorate IC Standard

Description:
This Reference Material (RM) was gravimetrically prepared in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered quality system. The neat materials used for this product have been verified by ULTRA's ISO 17025 laboratory and under ULTRA's ISO Guide 34 accreditation. The analyte concentrations were verified by ULTRA's ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported below.

Analyte	Starting Material	Lot Number	Purity (%)	Calculated Value	True Value	Traceability & Method
perchlorate	potassium perchlorate	RM07987	100	1001 ± 5 µg/mL	976 ± 6 µg/mL	NIST SRM 3141A; ICP-OES

Solvent: water (low TOC, < 50 ppb)

Storage: Store at Room Temperature (15° to 30°C).

Traceability:
Traceability has been established through an unbroken chain of comparisons, each having stated uncertainties. Comparisons are based on appropriate physical or chemical measurements, including gravimetric or volumetric dilution, where the mass or volume of a solution before and after dilution is measured. The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1, ISO 9001, ISO 17025, and ISO Guide 34. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 819.

Estimation of Uncertainties:
The true value is reported, with its uncertainty value calculated at the 95% confidence level.

Homogeneity:
This RM was formulated and unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods and continuing calibration verification.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening and should be processed without delay for the true value to be valid within the stated uncertainties. Do not pipet from the bottle. Do not return any material removed for pipetting to the bottle. Tightly cap the bottle after removing any material and store according to the instructions noted above.

Hazards:
Refer to the Safety Data Sheet for information regarding this RM.

Expiration of Certification:
The certification of this RM is valid, within the measurement uncertainty specified, until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER
ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ALS

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

ISO Guide 34 Reference Material

Product Number: ICC-013
Lot Number: CP-0860

Lot Issue Date: 29-Feb 2016
Expiration Date: 31-Mar 2020

Maintenance of Certification:
The real-time, long term stability of the RM may be monitored over the lifetime of the certification. If substantive changes occur that affect the certification before the expiration of this certificate, ULTRA Scientific will notify the purchaser.

Peter A. King, Ph.D.
VP, Technical Operations

Daniel J. Lamendola
Director of QA/RA

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

AccuTrace™ Reference Standard

Catalog No: IC-PER-10X-1
Description: Perchlorate Standard
Element: Perchlorate (ClO_4)
SRM: Ind. Std.
Lot: 216095148
Matrix: Water
Hazards: *Refer to SDS for complete safety information*

Signal Word: Warning

Date Certified: Oct 4, 2016
Expiration: Oct 4, 2018
Sample Size: 100 mL
Components: 1
Storage Condition: Ambient (>5 °C)
Included on ISO/IEC 17025 Scope of Accreditation: Yes
Included on ISO Guide 34 Scope of Accreditation: Yes

Component		SRM #	Prepared Concentration (µg/mL)
ClO_4	Perchlorate	Ind. Std.	1000

The gravimetric uncertainty for this product is ±0.2%. See reverse side for details.
The final solution was checked against an independent standard to verify its concentration.
We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as ASTM Type I 18 megohm deionized water.
All solutions are filtered through a 0.2 µm filter prior to being bottled.
All glassware used in preparation is Class A and calibrated regularly.
All weights are traceable through NIST, Test No. 822-275872-11
All bottles are triple rinsed with deionized water prior to use.
Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware.
We certify the accuracy of this standard to be ±0.5% of the stated value until its expiration date provided it is kept tightly capped and stored under the conditions stated above.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

OR-ORG/IND-001
Rev. 5/16

Cambridge Isotope Laboratories, Inc.

Certificate of Analysis

Quality Standards:
ISO Guide 34 • ISO/IEC 17025 • ISO 13485 • cGMP

23118

Product Name: (Isotopic Label & Enrichment Specification)	PERCHLORIC ACID, SODIUM SALT (18O4, 90%+) 100 UG/ML IN WATER
Lot Number:	SDDG-013
Catalog Number:	OLM-7310-S

Product Information

Chemical Purity Specification:	≥98%
Labeled CAS Number:	NA
Unlabeled CAS Number:	7601-89-0
MW*:	130.4
Chemical Formula:	NaCl*O4
Storage:	Store at room temperature away from light and moisture.
Stability:	See storage and expiration date.

Certification

Cambridge Isotope Laboratories, Inc. guarantees that this material meets or exceeds the specifications stated. Absolute identity as well as chemical and isotopic purities are assured by the use of unambiguous synthetic routes and multiple chemical analyses whenever possible. Results are representative of QC testing at time of release from Quality Control unless otherwise stated.

Volumetric measurements were made with Class A glassware. Gravimetry is traceable to the NIST through calibrated balances and certified, calibrated, standard weights. The calibrations are traceable to the NIST under Test No. 822/270236-04. The calibrations also meet specifications outlined in ISO 9001, ISO/IEC 17025, ANSI/NSCL Z540-1-1994, NCR Document 10CFR50 Appendix B, and applicable subdocuments.

This COA references the bulk catalog number before packaging. The COA also applies to the CIL finished good catalog number. Some possible packaging sizes and their corresponding suffix are -1.2, -1, -0.5, -10, or -0.1.

* *For isotopically labeled compounds, MW listed is for the fully enriched product.*

Approved by: T. J. Eckersley

Timothy J. Eckersley, Ph.D., Quality Assurance

Quality Control Tests and Results

QC Release Date	2/27/2014
Expiration Date	2/27/2024
Concentration Based on Gravimetry	102 µg/mL
Chemical Purity of Neat Material(s)	98%
LC/MS for Concentration	109.4 ± 2.8 µg/mL (k=2)



ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Raw Data

Batch Report: C:\HPCHEM\1\DATA\18DEC17P\18DEC17P.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
#	*	579513	CCV@25	Vial 71	1	Control	1	8.19513e5	12.270	22.61557
#	*	579514	LODV@1.	Vial 72	1	Control	2	2.99723e4	12.414	8.57599e-1
#	*	579515	ICS@1.	Vial 73	1	Control	3	2.28938e4	12.202	8.65794e-1
#		579516	LMB	Vial 74	1	Control	4	0.00000	0.000	0.00000
#	*	579517	LCS@5.	Vial 75	1	Control	5	1.72923e5	12.304	4.94133
#		1734272001		Vial 76	1	Sample	6	0.00000	0.000	0.00000
#	*	579519	342721D	Vial 78	1	Sample	8	1.70836e5	12.497	5.32002
#		1734273001		Vial 79	1	Sample	9	3.34489e8	10.358	1644.58694 D:1/5
#	*	579518	342721S	Vial 77	1	Sample	10	1.71421e5	12.597	5.30192
#		1734274001		Vial 80	1	Sample	11	0.00000	0.000	0.00000
#		1734528001		Vial 81	1	Sample	12	0.00000	0.000	0.00000
#		1734528002		Vial 82	1	Sample	13	0.00000	0.000	0.00000
#		1734528003		Vial 83	1	Sample	14	0.00000	0.000	0.00000
#		1734528004		Vial 84	1	Sample	15	0.00000	0.000	0.00000 D:1/5
#		1734528005		Vial 85	1	Sample	16	6.13484e6	12.265	137.24631 D:1/5
#	*	579520	CCV@25	Vial 71	1	Control	17	7.71231e5	12.572	23.99556
#	*	579521	LODV@1.	Vial 72	1	Control	18	6.02035e4	12.741	1.93940 N.R.
#	*	579521	LODV@1.	Vial 72	1	Control	19	3.19782e4	12.758	8.83370e-1
#		1734528006		Vial 86	1	Sample	20	5.11133e4	12.122	2.04849
#		1734528007		Vial 87	1	Sample	21	0.00000	0.000	0.00000
#		1734528008		Vial 88	1	Sample	22	1.40651e6	12.759	35.44352
#		1734528009		Vial 89	1	Sample	23	1.50139e6	12.641	35.94367
#		1734528010		Vial 90	1	Sample	24	1.03788e8	11.575	783.79545 D:1/5
#		1734528011		Vial 91	1	Sample	25	5.36376e4	12.428	1.85996
#		1734528012		Vial 92	1	Sample	26	0.00000	0.000	0.00000
#	*	1734273001	1K	Vial 93	1	Sample	27	2.96423e5	12.816	7998.96138
#	*	1734528004	1K	Vial 94	1	Sample	28	4.10797e6	12.777	7.71227e4 D:1/5
#	*	1734528005	10X	Vial 95	1	Sample	29	7.03474e5	12.664	171.80316
#	*	579522	CCV@25	Vial 71	1	Control	30	1.03284e6	12.662	25.66192
*		579523	LODV@1.	Vial 72	1	Control	31	4.11635e4	12.811	1.05307

N.R. - NOT REPORTED, RERUN

#	*	Sample	Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
#	*	579513	CCV@25	Vial 71	1	Control	1	2.73170e5	12.287	23.70026
#	*	579514	LODV@1.	Vial 72	1	Control	2	1.37695e4	12.427	9.84936e-1
#	*	579515	ICS@1.	Vial 73	1	Control	3	8384.95508	12.231	7.53800e-1
#		579516	LMB	Vial 74	1	Control	4	0.00000	0.000	0.00000
#	*	579517	LCS@5.	Vial 75	1	Control	5	6.35733e4	12.316	5.43577
#		1734272001		Vial 76	1	Sample	6	0.00000	0.000	0.00000
#	*	579519	342721D	Vial 78	1	Sample	8	5.96372e4	12.512	5.57190
#		1734273001		Vial 79	1	Sample	9	1.21188e8	10.368	1980.88358
#	*	579518	342721S	Vial 77	1	Sample	10	6.02931e4	12.608	5.59454
#		1734274001		Vial 80	1	Sample	11	0.00000	0.000	0.00000
#		1734528001		Vial 81	1	Sample	12	0.00000	0.000	0.00000
#		1734528002		Vial 82	1	Sample	13	0.00000	0.000	0.00000
#		1734528003		Vial 83	1	Sample	14	0.00000	0.000	0.00000
#		1734528004		Vial 84	1	Sample	15	0.00000	12.225	0.00000
#		1734528005		Vial 85	1	Sample	16	2.00064e6	12.279	149.19548
#	*	579520	CCV@25	Vial 71	1	Control	17	2.66561e5	12.598	26.03933
#	*	579521	LODV@1.	Vial 72	1	Control	18	2.41168e4	12.726	2.18233
#	*	579521	LODV@1.	Vial 72	1	Control	19	1.26778e4	12.762	8.54268e-1
#		1734528006		Vial 86	1	Sample	20	2.10850e4	12.132	2.39278
#		1734528007		Vial 87	1	Sample	21	0.00000	0.000	0.00000
#		1734528008		Vial 88	1	Sample	22	4.55259e5	12.783	36.62958
#		1734528009		Vial 89	1	Sample	23	4.76179e5	12.662	36.49676
#		1734528010		Vial 90	1	Sample	24	3.64636e7	11.594	924.32429
#		1734528011		Vial 91	1	Sample	25	2.03285e4	12.422	1.96094
#		1734528012		Vial 92	1	Sample	26	0.00000	0.000	0.00000
#	*	1734273001	1K	Vial 93	1	Sample	27	1.02865e5	12.825	8462.65308
#	*	1734528004	1K	Vial 94	1	Sample	28	1.28486e6	12.793	7.95428e4

Batch Report: C:\HPCHEM\1\DATA\18DEC17P\18DEC17P.B

#*	Sample	Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
#*	1734528005	10X	Vial 95	1	Sample	29	2.33472e5	12.682	177.99797
#*	579522	CCV@25	Vial 71	1	Control	30	3.36885e5	12.677	26.45174
*	579523	LODV@1.	Vial 72	1	Control	31	1.50817e4	12.805	9.67895e-1

#*	Sample	Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
#*	579513	CCV@25	Vial 71	1	Control	1	1.50222e5	12.291	5.00000
#*	579514	LODV@1.	Vial 72	1	Control	2	1.66184e5	12.442	5.00000
#*	579515	ICS@1.	Vial 73	1	Control	3	1.25695e5	12.227	5.00000
#*	579516	LMB	Vial 74	1	Control	4	1.78027e5	12.525	5.00000
#*	579517	LCS@5.	Vial 75	1	Control	5	1.59033e5	12.328	5.00000
#*	1734272001		Vial 76	1	Sample	6	1.28204e5	12.458	5.00000
#*	579519	342721D	Vial 78	1	Sample	8	1.45591e5	12.522	5.00000
#*	1734273001		Vial 79	1	Sample	9	9.64717e4	10.331	5.00000
#*	579518	342721S	Vial 77	1	Sample	10	1.46605e5	12.617	5.00000
#*	1734274001		Vial 80	1	Sample	11	1.32893e5	12.657	5.00000
#*	1734528001		Vial 81	1	Sample	12	1.12509e5	12.134	5.00000
#*	1734528002		Vial 82	1	Sample	13	8.14045e4	12.135	5.00000
#*	1734528003		Vial 83	1	Sample	14	7.98631e4	12.223	5.00000
#*	1734528004		Vial 84	1	Sample	15	0.00000	0.000	0.00000
#*	1734528005		Vial 85	1	Sample	16	1.19726e5	12.288	5.00000
#*	579520	CCV@25	Vial 71	1	Control	17	1.32362e5	12.602	5.00000
#*	579521	LODV@1.	Vial 72	1	Control	18	1.44412e5	12.735	5.00000
#*	579521	LODV@1.	Vial 72	1	Control	19	1.71963e5	12.778	5.00000
#*	1734528006		Vial 86	1	Sample	20	1.15933e5	12.136	5.00000
#*	1734528007		Vial 87	1	Sample	21	1.30647e5	12.655	5.00000
#*	1734528008		Vial 88	1	Sample	22	1.54970e5	12.775	5.00000
#*	1734528009		Vial 89	1	Sample	23	1.62755e5	12.662	5.00000
#*	1734528010		Vial 90	1	Sample	24	1.18491e5	11.602	5.00000
#*	1734528011		Vial 91	1	Sample	25	1.34288e5	12.447	5.00000
#*	1734528012		Vial 92	1	Sample	26	1.56764e5	12.490	5.00000
#*	1734273001	1K	Vial 93	1	Sample	27	1.65455e5	12.842	5000.00000
#*	1734528004	1K	Vial 94	1	Sample	28	1.75146e5	12.796	5000.00000
#*	1734528005	10X	Vial 95	1	Sample	29	1.74320e5	12.696	50.00000
#*	579522	CCV@25	Vial 71	1	Control	30	1.64442e5	12.683	5.00000
*	579523	LODV@1.	Vial 72	1	Control	31	1.84677e5	12.840	5.00000

*** End of Report ***

Batch Report: C:\HPCHEM\1\DATA\20DEC17P\20DEC17P.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
	*	580015	CCV@25	Vial 71	1	Control	1	1.01810e6	12.642	27.41290
	*	1734528010	10X	Vial 96	1	Sample	2	1.08442e7	12.531	1772.19164
	*	1734528004	10K	Vial 97	1	Sample	3	3.29576e5	12.818	9.35585e4
	*	1734528010	100	Vial 98	1	Sample	4	9.33493e5	12.776	2386.90132
	*	580016	CCV@25	Vial 71	1	Control	5	1.01357e6	12.639	27.14098

#	*	Sample	Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
	*	580015	CCV@25	Vial 71	1	Control	1	3.19294e5	12.650	27.31357
	*	1734528010	10X	Vial 96	1	Sample	2	3.38019e6	12.545	1881.86812
	*	1734528004	10K	Vial 97	1	Sample	3	1.09810e5	12.834	9.55831e4
	*	1734528010	100	Vial 98	1	Sample	4	2.95219e5	12.800	2386.21800
	*	580016	CCV@25	Vial 71	1	Control	5	3.16517e5	12.656	26.92819

#	*	Sample	Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
	*	580015	CCV@25	Vial 71	1	Control	1	1.50493e5	12.665	5.00000
	*	1734528010	10X	Vial 96	1	Sample	2	1.45913e5	12.542	50.00000
	*	1734528004	10K	Vial 97	1	Sample	3	1.56125e5	12.834	5.00000e4
	*	1734528010	100	Vial 98	1	Sample	4	1.61157e5	12.799	500.00000
	*	580016	CCV@25	Vial 71	1	Control	5	1.51519e5	12.664	5.00000

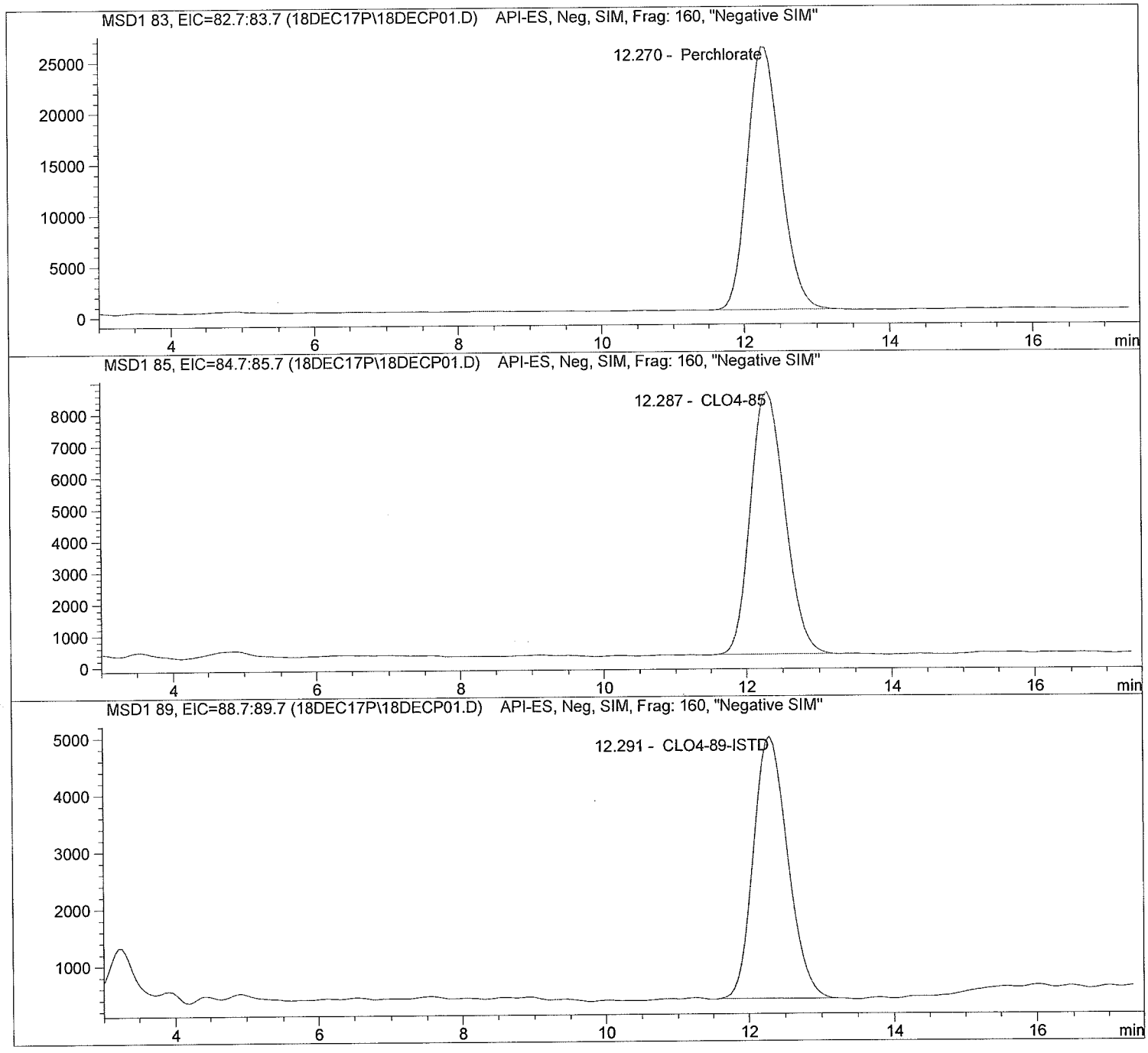
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP01.D Sample Name: 579513 CCV@25

Injection Date:	12/18/2017 08:58:15	Seq Line:	1
Sample Name:	579513 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\18DEC17P\18DECP01.D Sample Name: 579513 CCV@25

Injection Date:	12/18/2017 08:58:15	Seq Line:	1
Sample Name:	579513 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
12.270	BBA	819513.3	22.6156	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.287	PBA	273170.0	23.7003	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.291	PBA	150221.5	5.0000	CLO4-89-ISTD

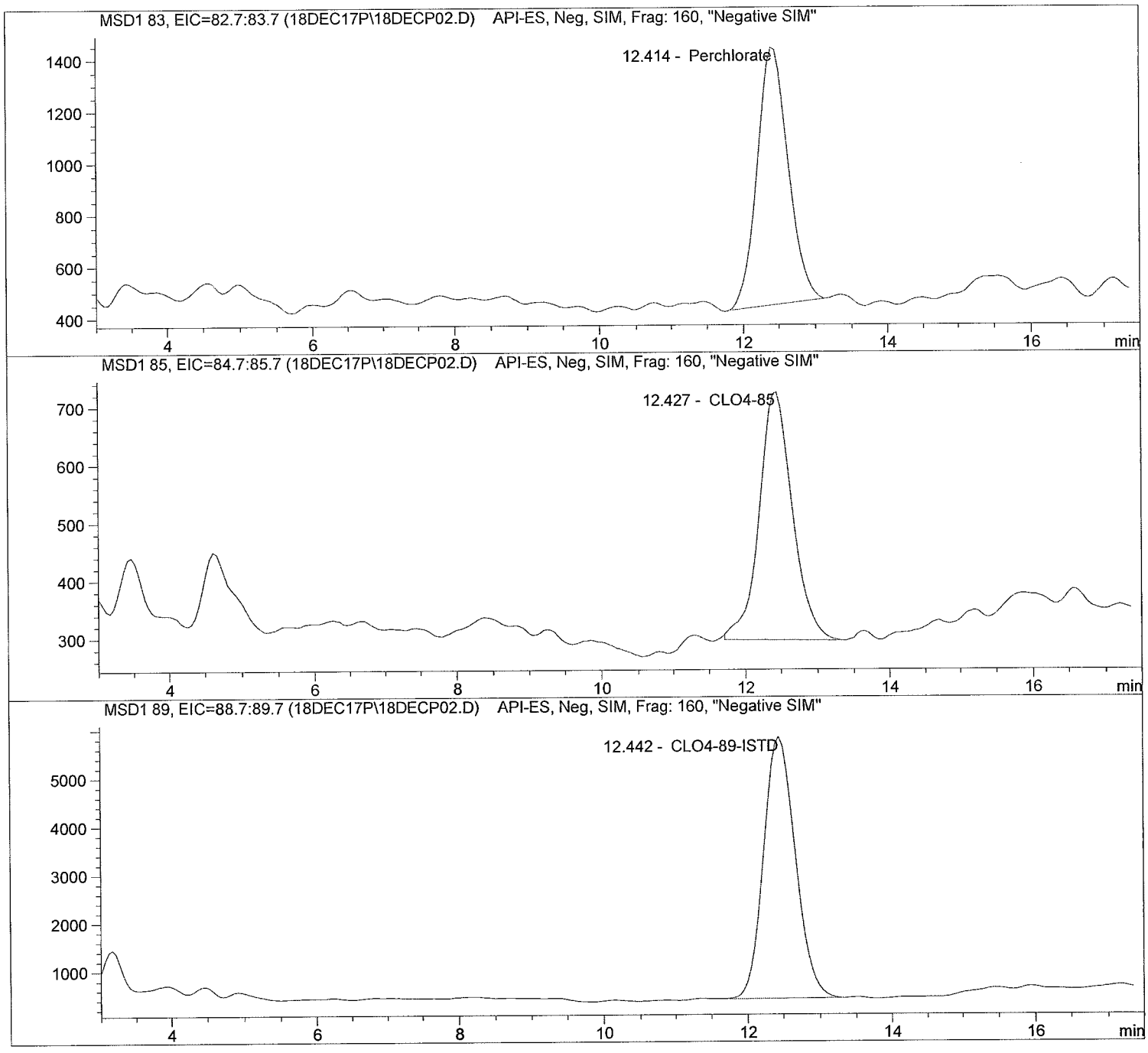
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP02.D Sample Name: 579514 LODV@1.

Injection Date:	12/18/2017 09:19:50	Seq Line:	2
Sample Name:	579514 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\18DEC17P\18DECP02.D Sample Name: 579514 LODV@1.

Injection Date:	12/18/2017 09:19:50	Seq Line:	2
Sample Name:	579514 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
12.414	PBA	29972.3	0.8576	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.427	BBA	13769.5	0.9849	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.442	BBA	166183.7	5.0000	CLO4-89-ISTD

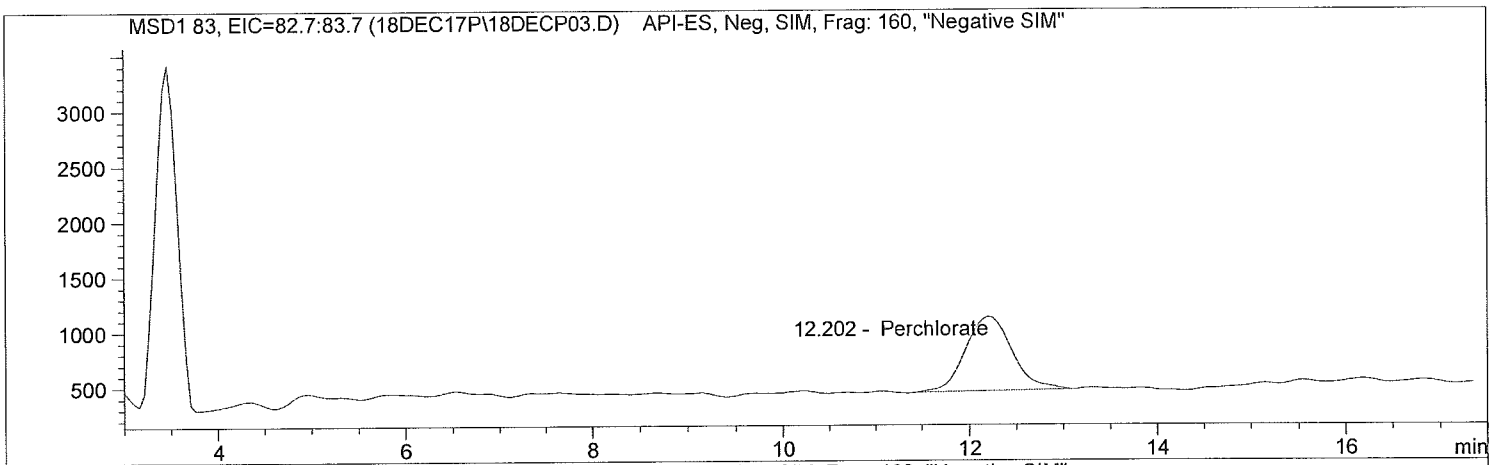
*** End of Report ***

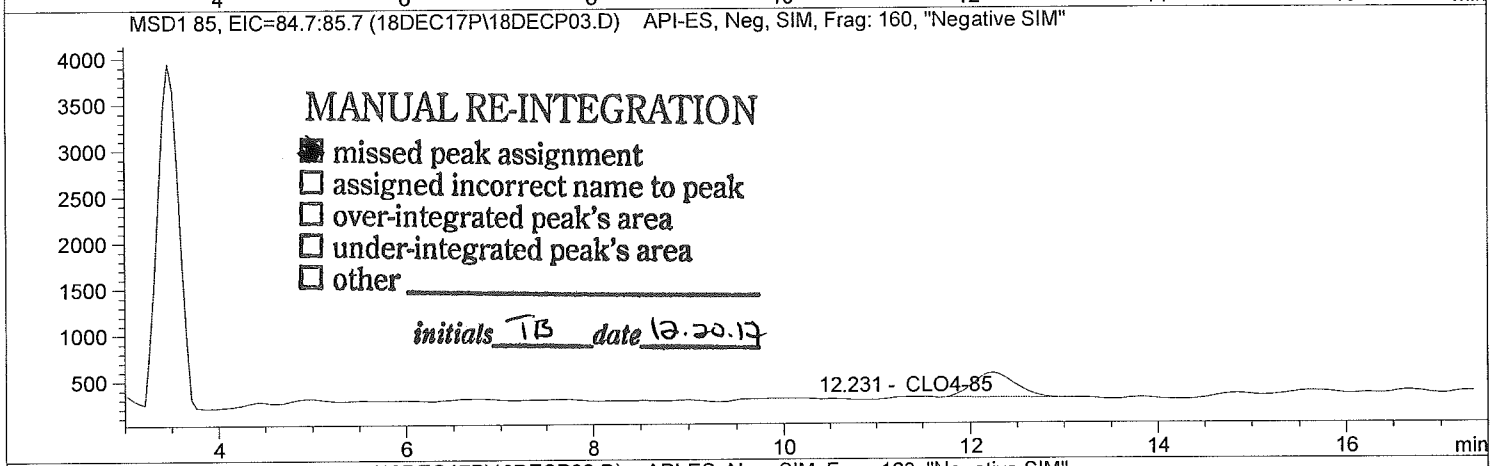
Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP03.D Sample Name: 579515 ICS@1.

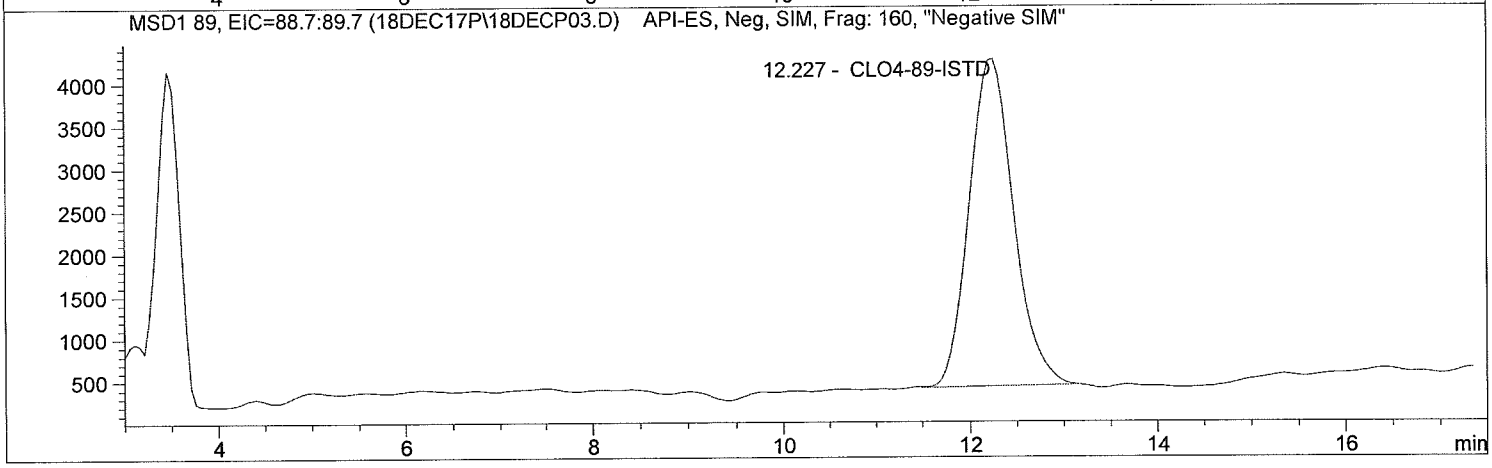
Injection Date:	12/18/2017 09:39:00	Seq Line:	3
Sample Name:	579515 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP03.D Sample Name: 579515 ICS@1.

Injection Date:	12/18/2017 09:39:00	Seq Line:	3
Sample Name:	579515 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
12.202	PBA	22893.8	0.8658	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.231	MM	8385.0	0.7538	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.227	BBA	125694.8	5.0000	CLO4-89-ISTD

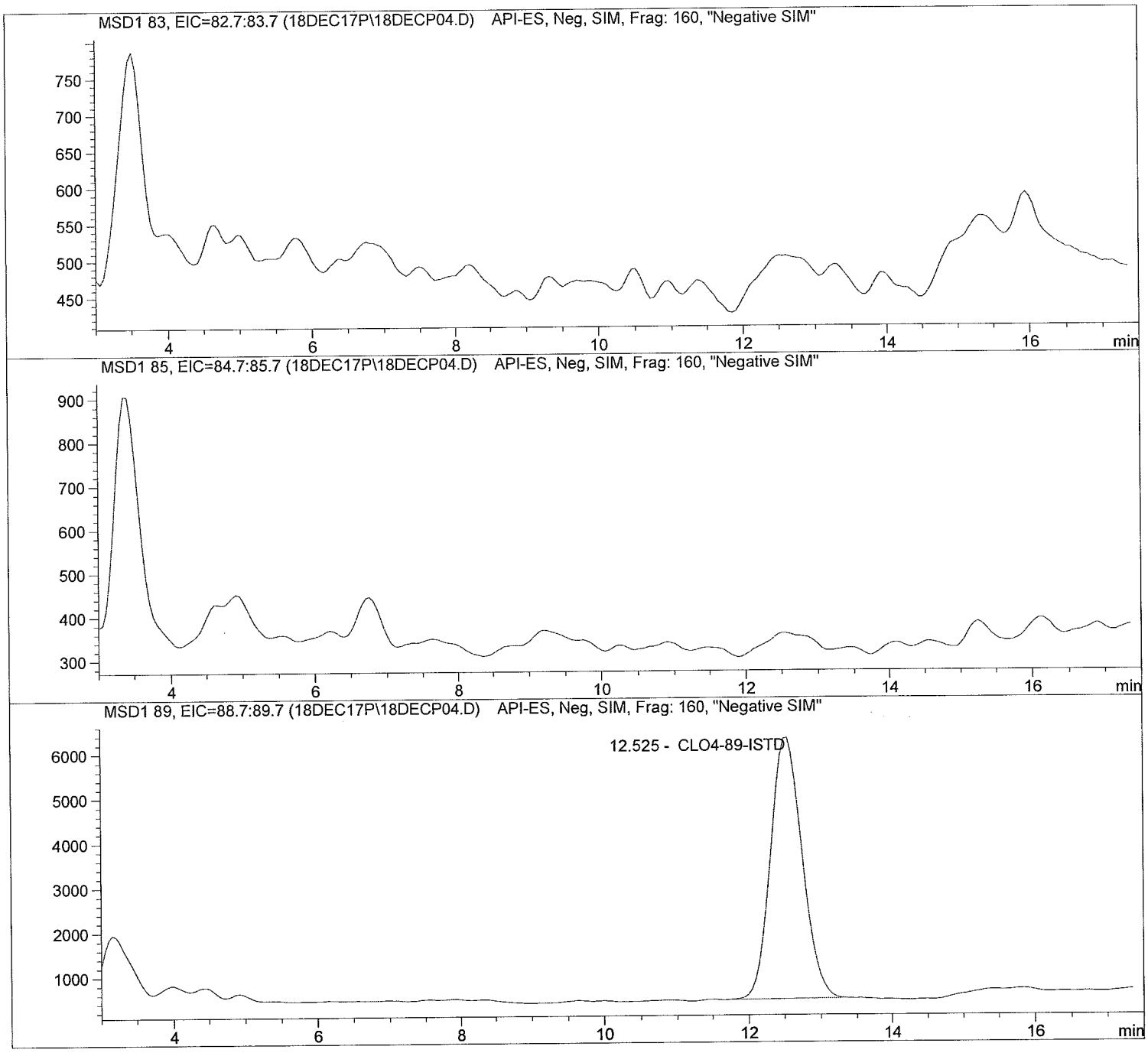
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP04.D Sample Name: 579516 LMB

Injection Date:	12/18/2017 09:59:19	Seq Line:	4
Sample Name:	579516 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\18DEC17P\18DECP04.D Sample Name: 579516 LMB

Injection Date:	12/18/2017 09:59:19	Seq Line:	4
Sample Name:	579516 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
12.525	BBA	178027.5	5.0000	CLO4-89-ISTD

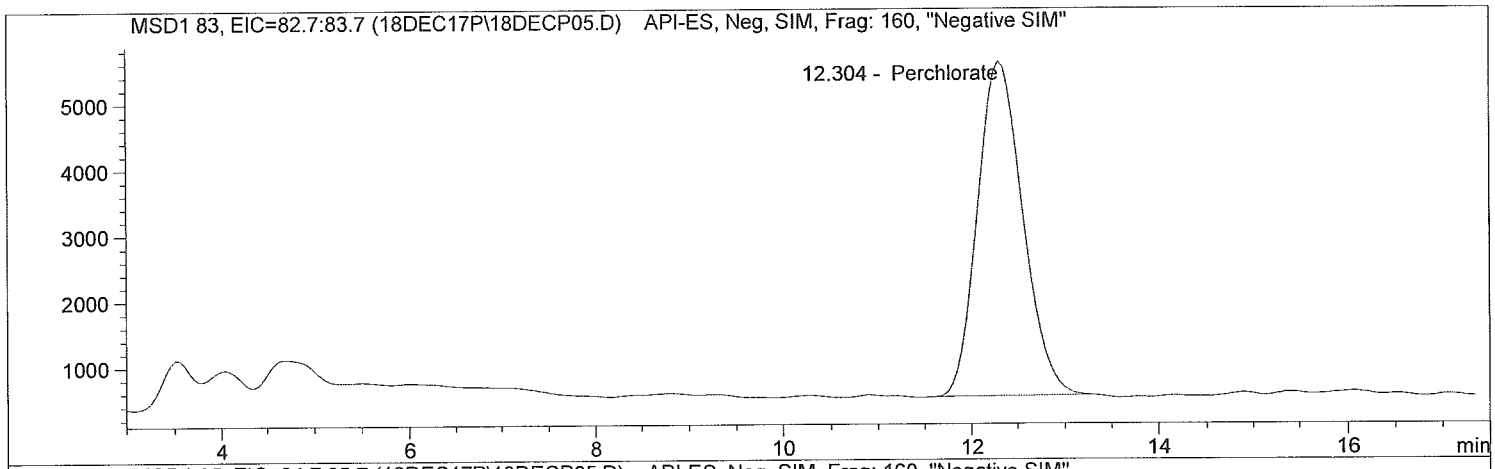
*** End of Report ***

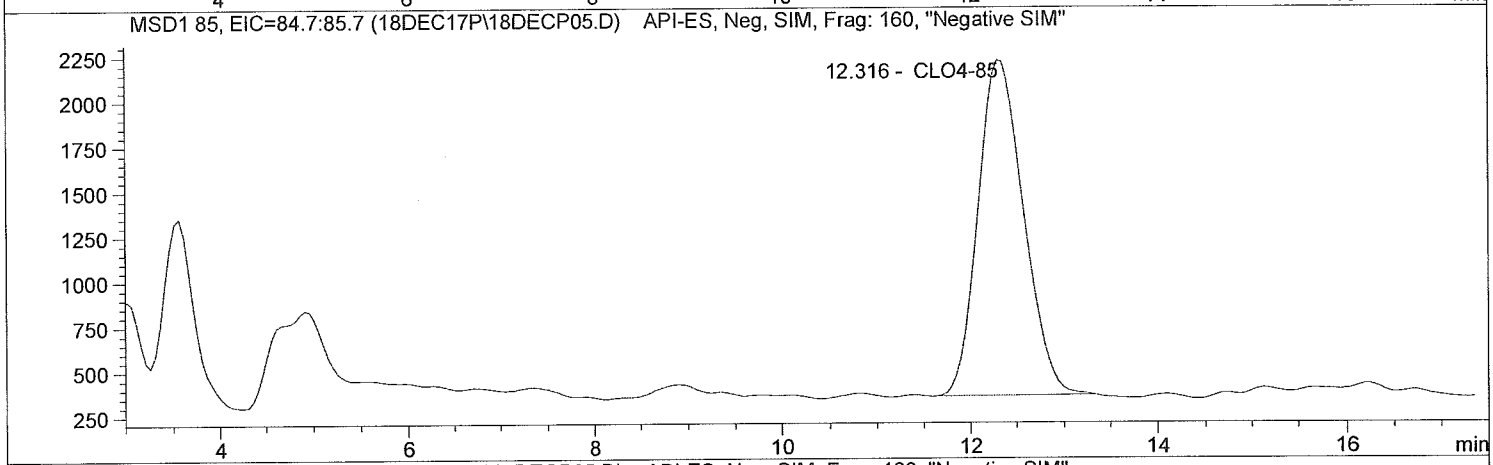
Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP05.D Sample Name: 579517 LCS@5.

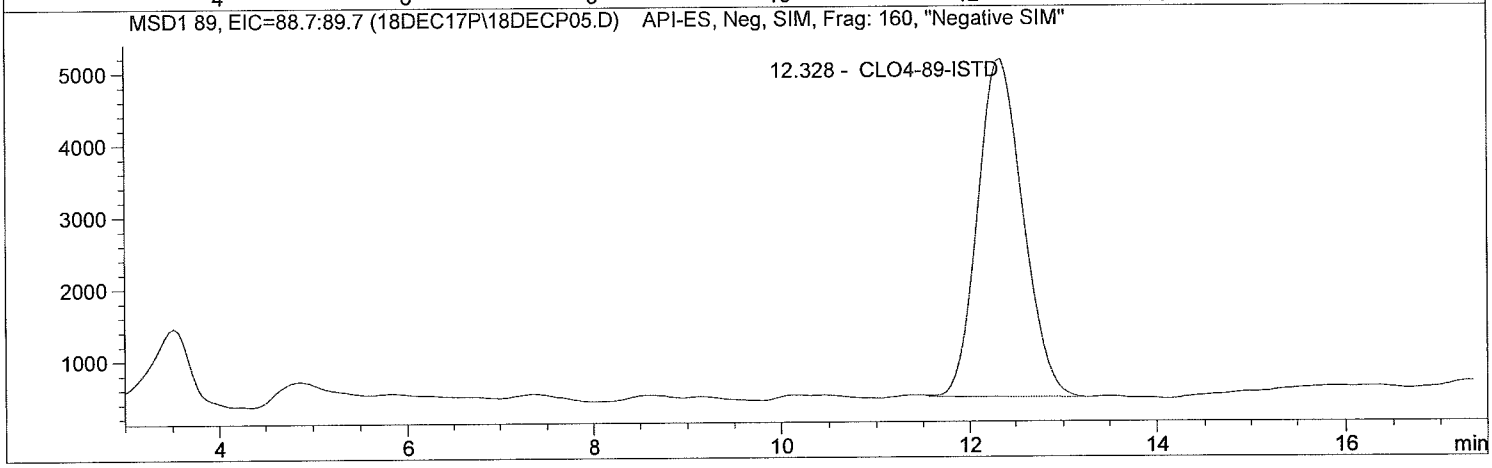
Injection Date:	12/18/2017 10:18:30	Seq Line:	5
Sample Name:	579517 LCS@5.	Location:	Vial 75
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP05.D Sample Name: 579517 LCS@5.

Injection Date:	12/18/2017 10:18:30	Seq Line:	5
Sample Name:	579517 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
12.304	PBA	172923.4	4.9413	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.316	PBA	63573.3	5.4358	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.328	BBA	159032.7	5.0000	CLO4-89-ISTD

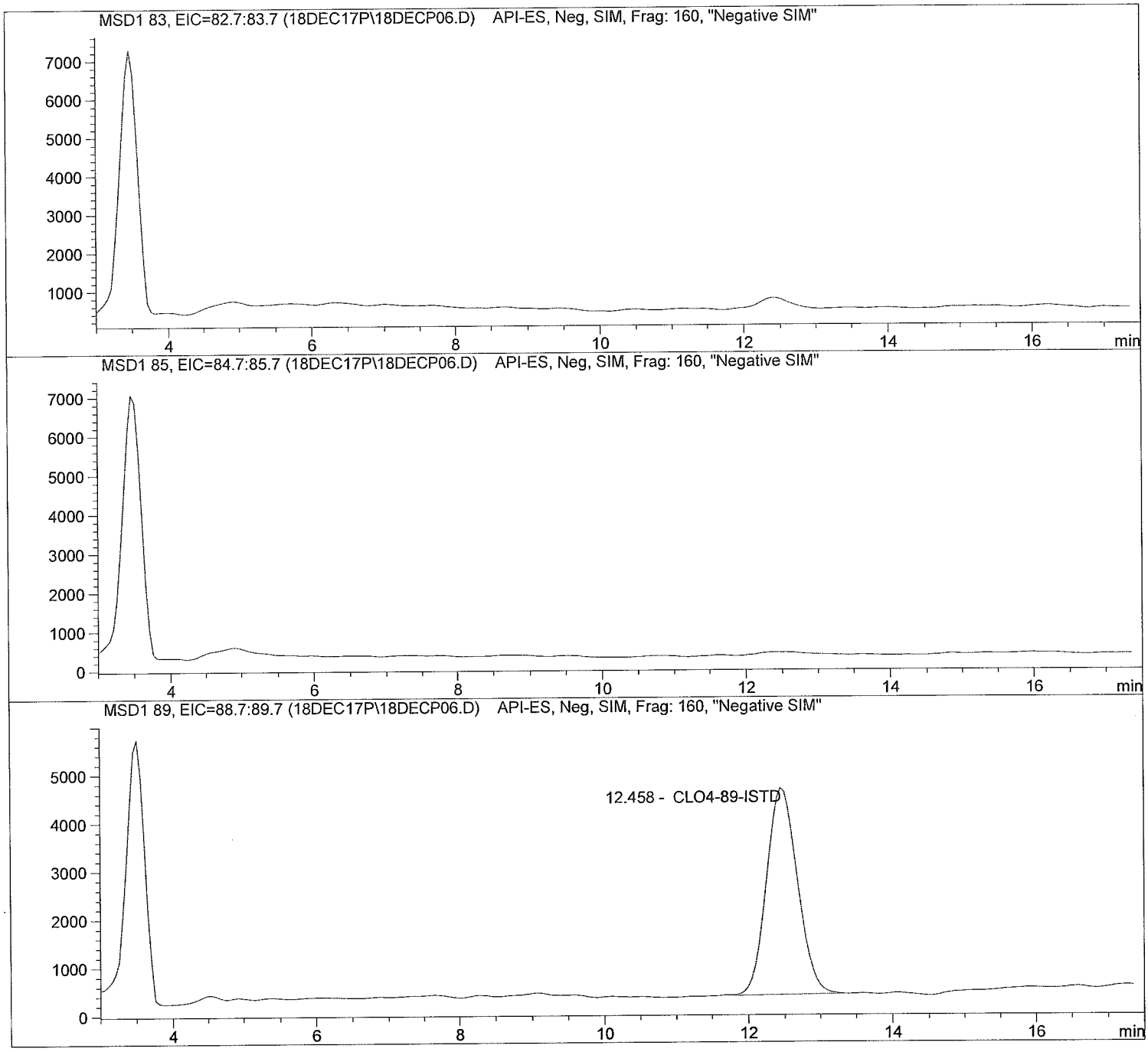
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP06.D Sample Name: 1734272001

Injection Date:	12/18/2017 10:39:17	Seq Line:	6
Sample Name:	1734272001	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\18DEC17P\18DECP06.D Sample Name: 1734272001

Injection Date:	12/18/2017 10:39:17	Seq Line:	6
Sample Name:	1734272001	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.458	BBA	128203.7	5.0000	CLO4-89-ISTD

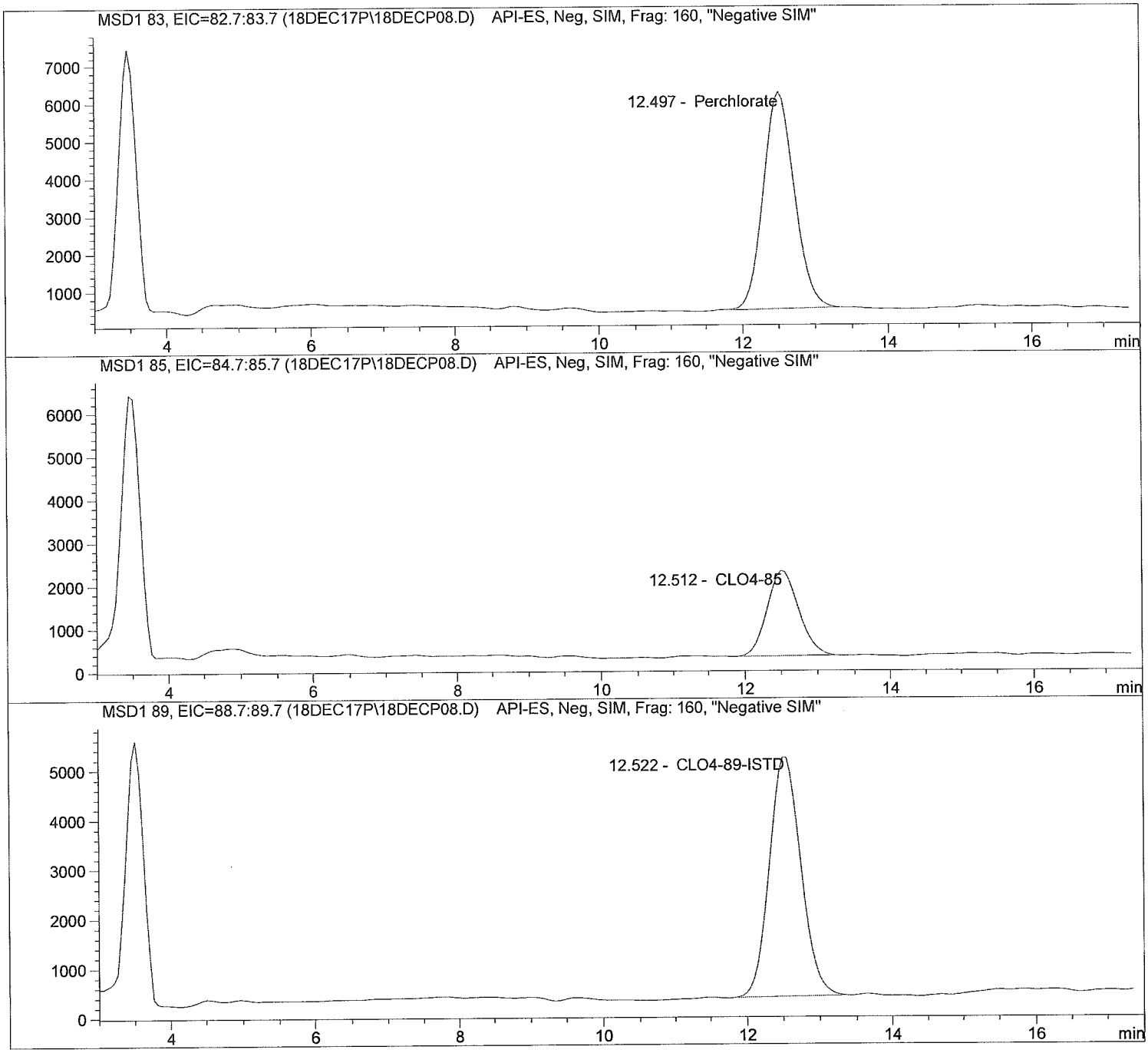
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP08.D Sample Name: 579519 342721D

Injection Date:	12/18/2017 11:17:39	Seq Line:	8
Sample Name:	579519 342721D	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\18DEC17P\18DECP08.D Sample Name: 579519 342721D

Injection Date:	12/18/2017 11:17:39	Seq Line:	8
Sample Name:	579519 342721D	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
12.497	BBA	170836.3	5.3200	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.512	PBA	59637.2	5.5719	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.522	PBA	145591.5	5.0000	CLO4-89-ISTD

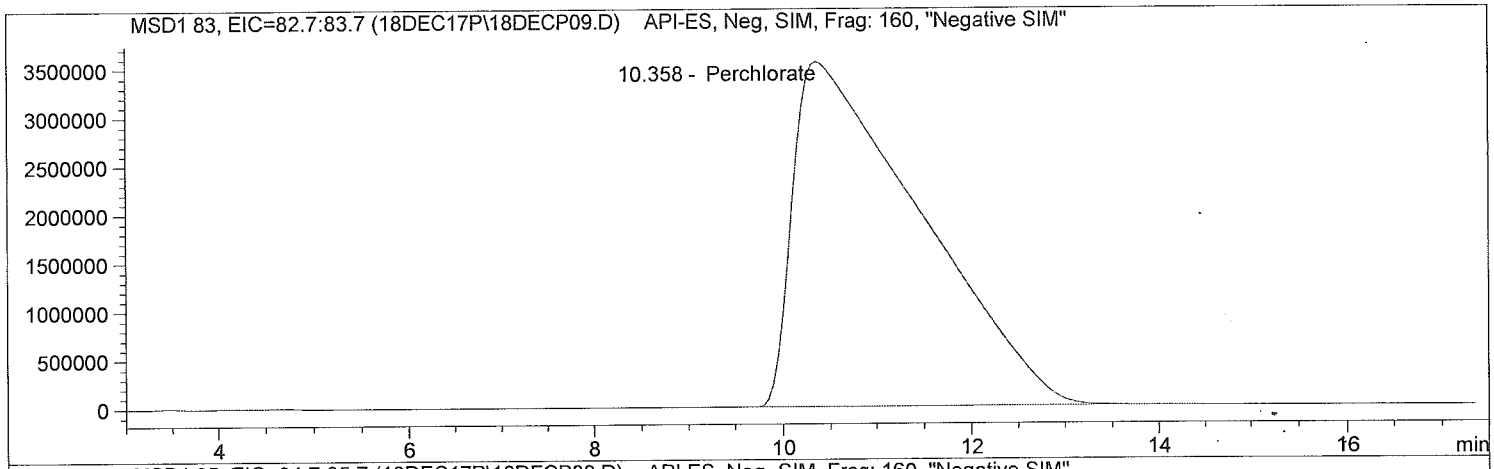
*** End of Report ***

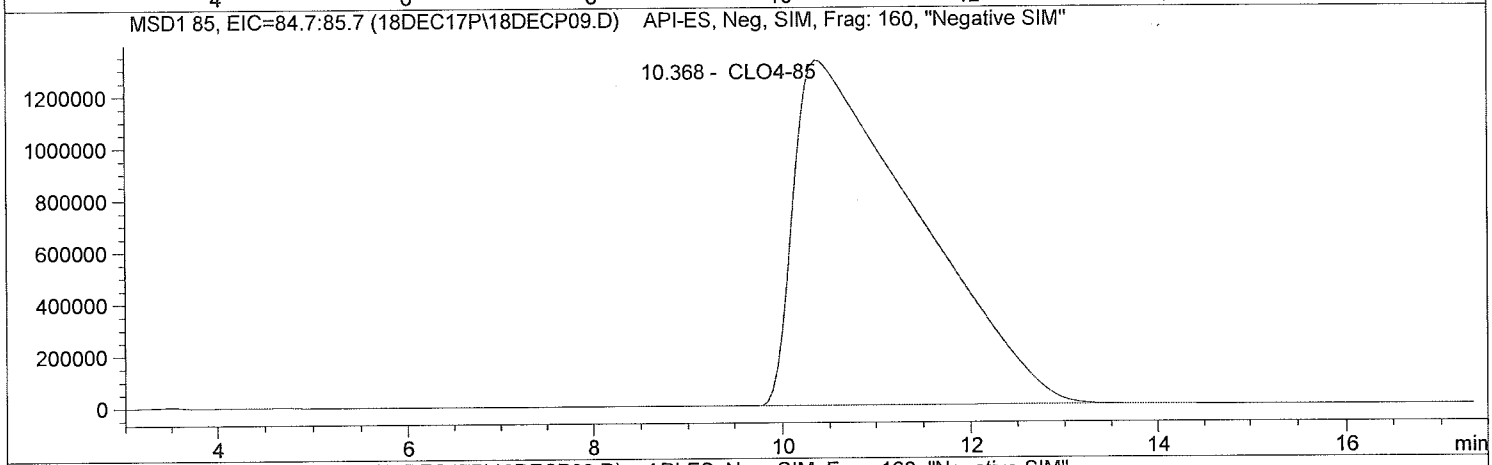
Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP09.D Sample Name: 1734273001

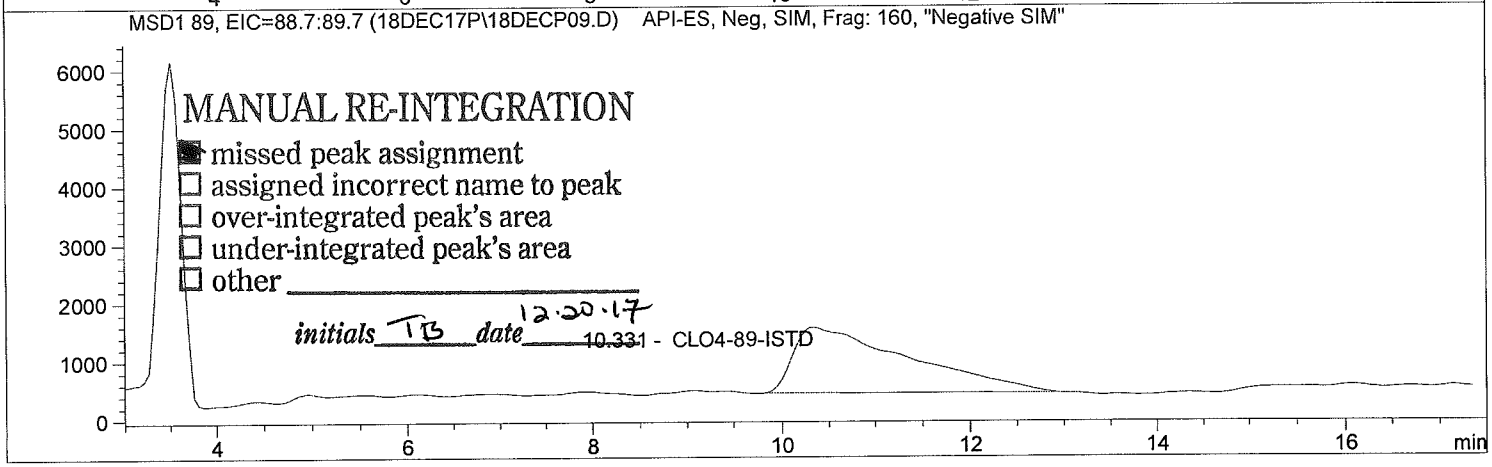
Injection Date:	12/18/2017 11:36:53	Seq Line:	9
Sample Name:	1734273001	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP09.D Sample Name: 1734273001

Injection Date:	12/18/2017 11:36:53	Seq Line:	9
Sample Name:	1734273001	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.358	PBA	334489216.0	1644.5869	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.368	PBA	121188464.0	1980.8836	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.331	MM	96471.7	5.0000	CLO4-89-ISTD

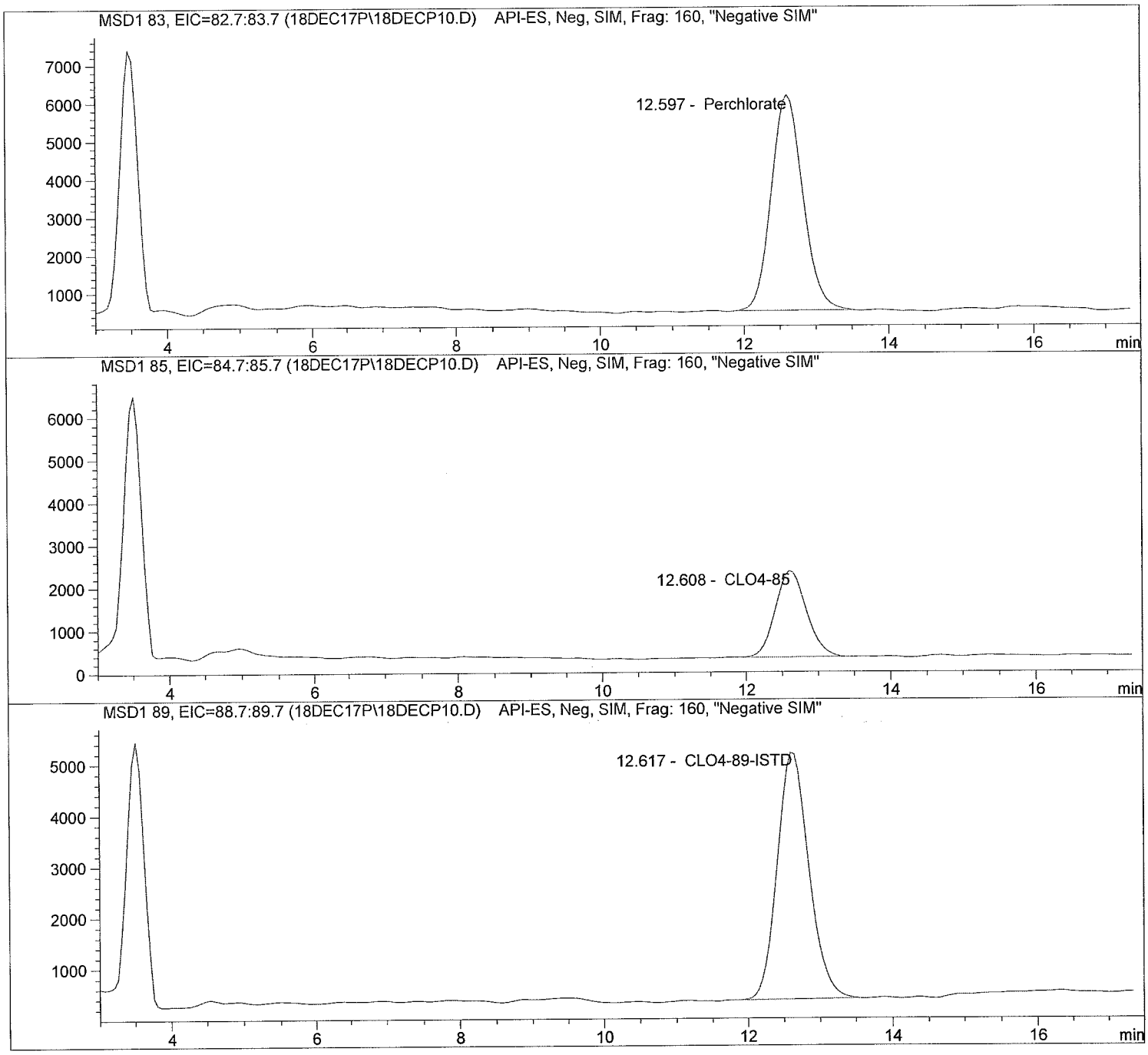
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP10.D Sample Name: 579518 342721S

Injection Date:	12/18/2017 11:56:04	Seq Line:	10
Sample Name:	579518 342721S	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\18DEC17P\18DECP10.D Sample Name: 579518 342721S

Injection Date:	12/18/2017 11:56:04	Seq Line:	10
Sample Name:	579518 342721S	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
12.597	BBA	171421.4	5.3019	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.608	BBA	60293.1	5.5945	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.617	BBA	146604.7	5.0000	CLO4-89-ISTD

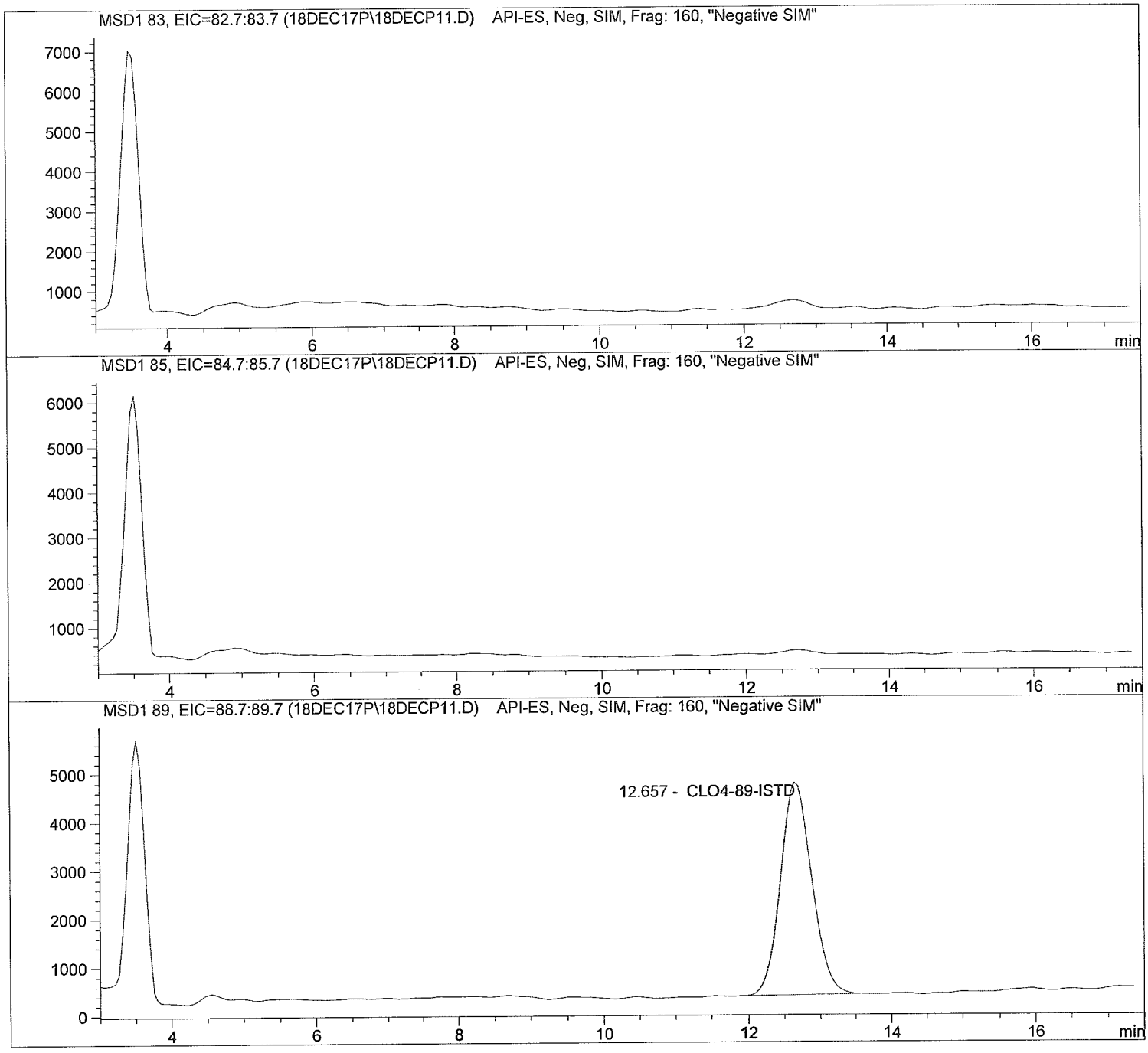
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP11.D Sample Name: 1734274001

Injection Date:	12/18/2017 12:15:14	Seq Line:	11
Sample Name:	1734274001	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\18DEC17P\18DECP11.D Sample Name: 1734274001

Injection Date:	12/18/2017 12:15:14	Seq Line:	11
Sample Name:	1734274001	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.657	BBA	132893.4	5.0000	CLO4-89-ISTD

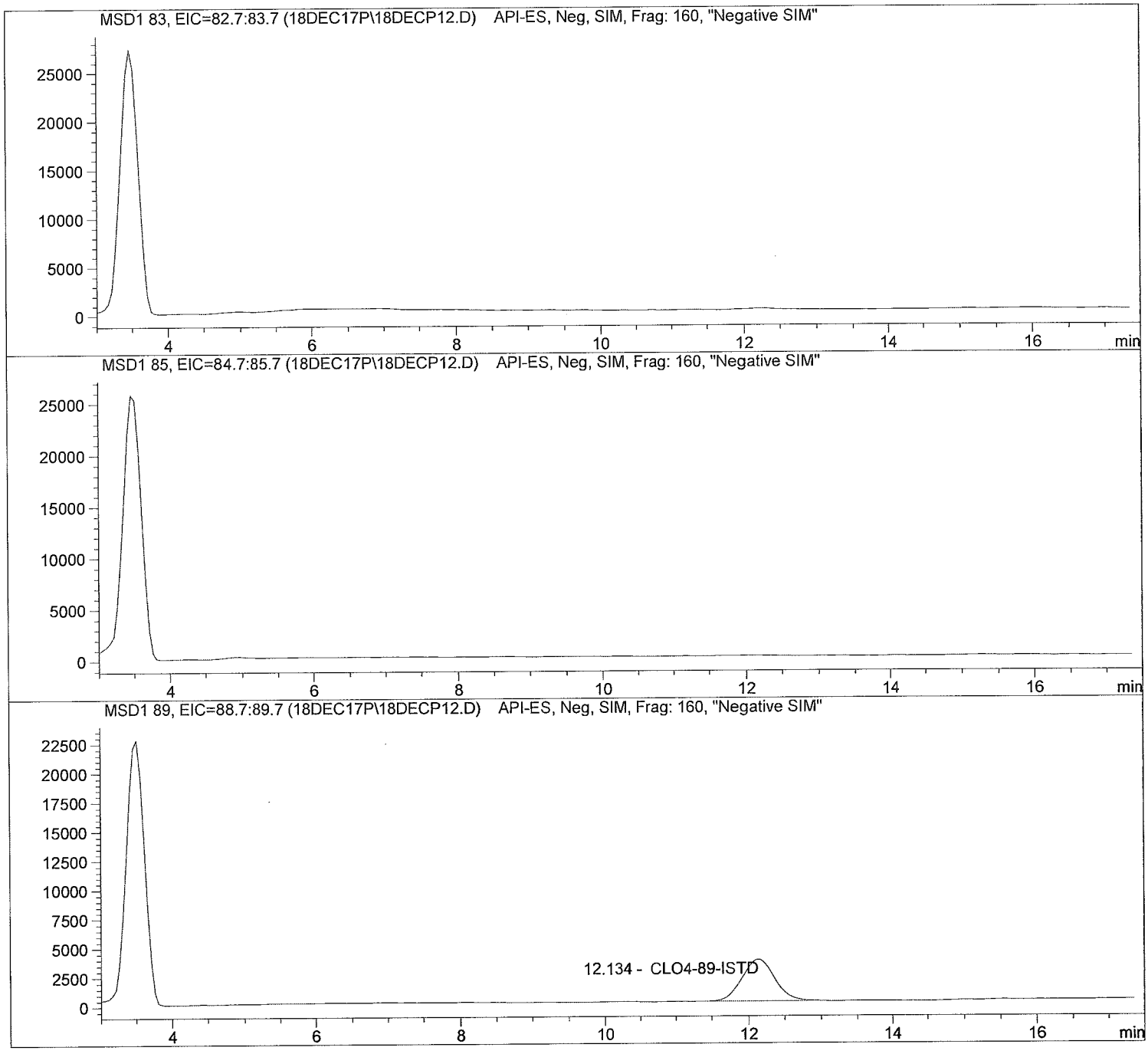
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP12.D Sample Name: 1734528001

Injection Date:	12/18/2017 12:34:23	Seq Line:	12
Sample Name:	1734528001	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\18DEC17P\18DECP12.D Sample Name: 1734528001

Injection Date:	12/18/2017 12:34:23	Seq Line:	12
Sample Name:	1734528001	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
12.134	BBA	112508.5	5.0000	CLO4-89-ISTD

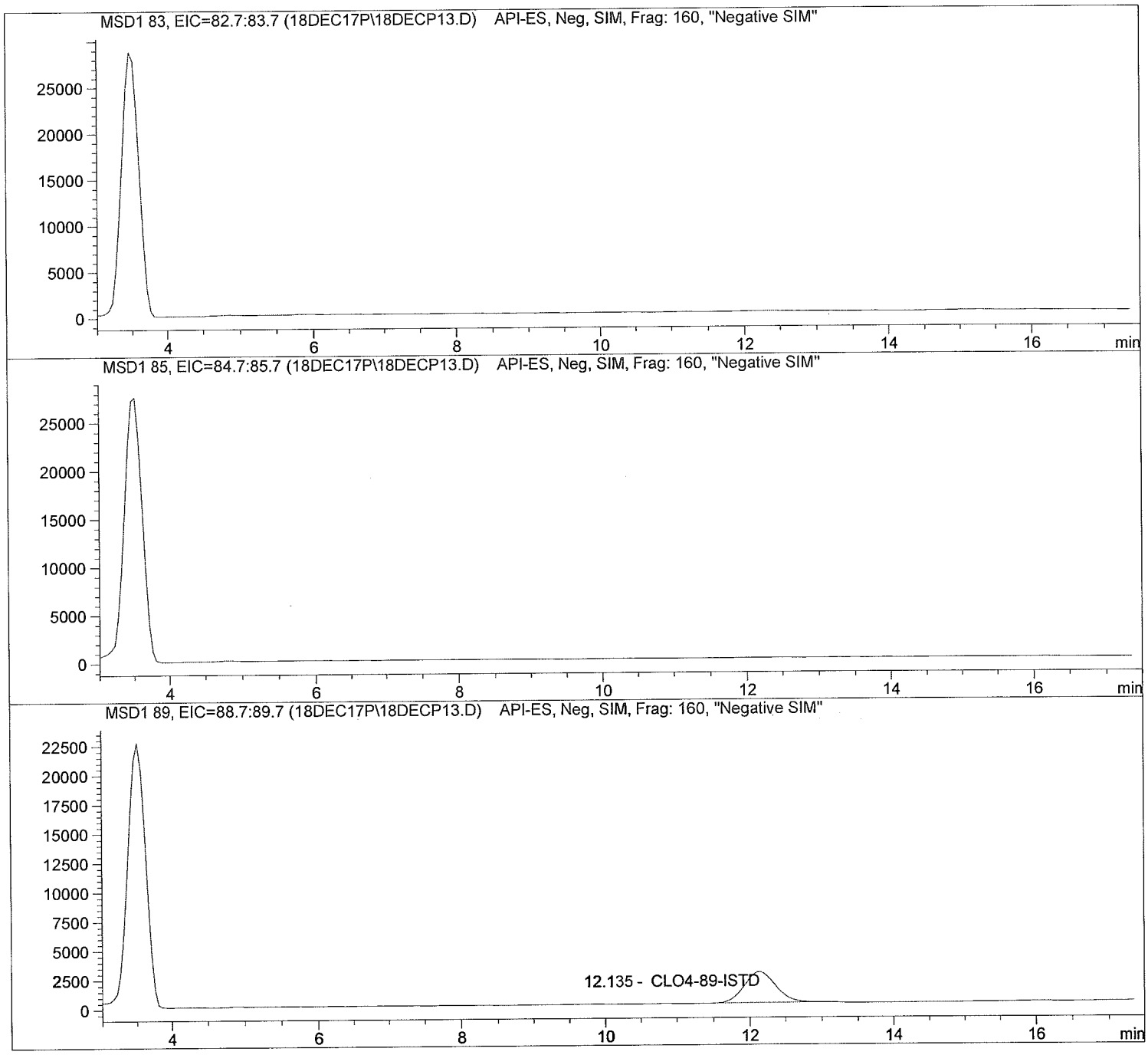
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP13.D Sample Name: 1734528002

Injection Date:	12/18/2017 12:53:32	Seq Line:	13
Sample Name:	1734528002	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\18DEC17P\18DECP13.D Sample Name: 1734528002

Injection Date:	12/18/2017 12:53:32	Seq Line:	13
Sample Name:	1734528002	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
12.135	PBA	81404.5	5.0000	CLO4-89-ISTD

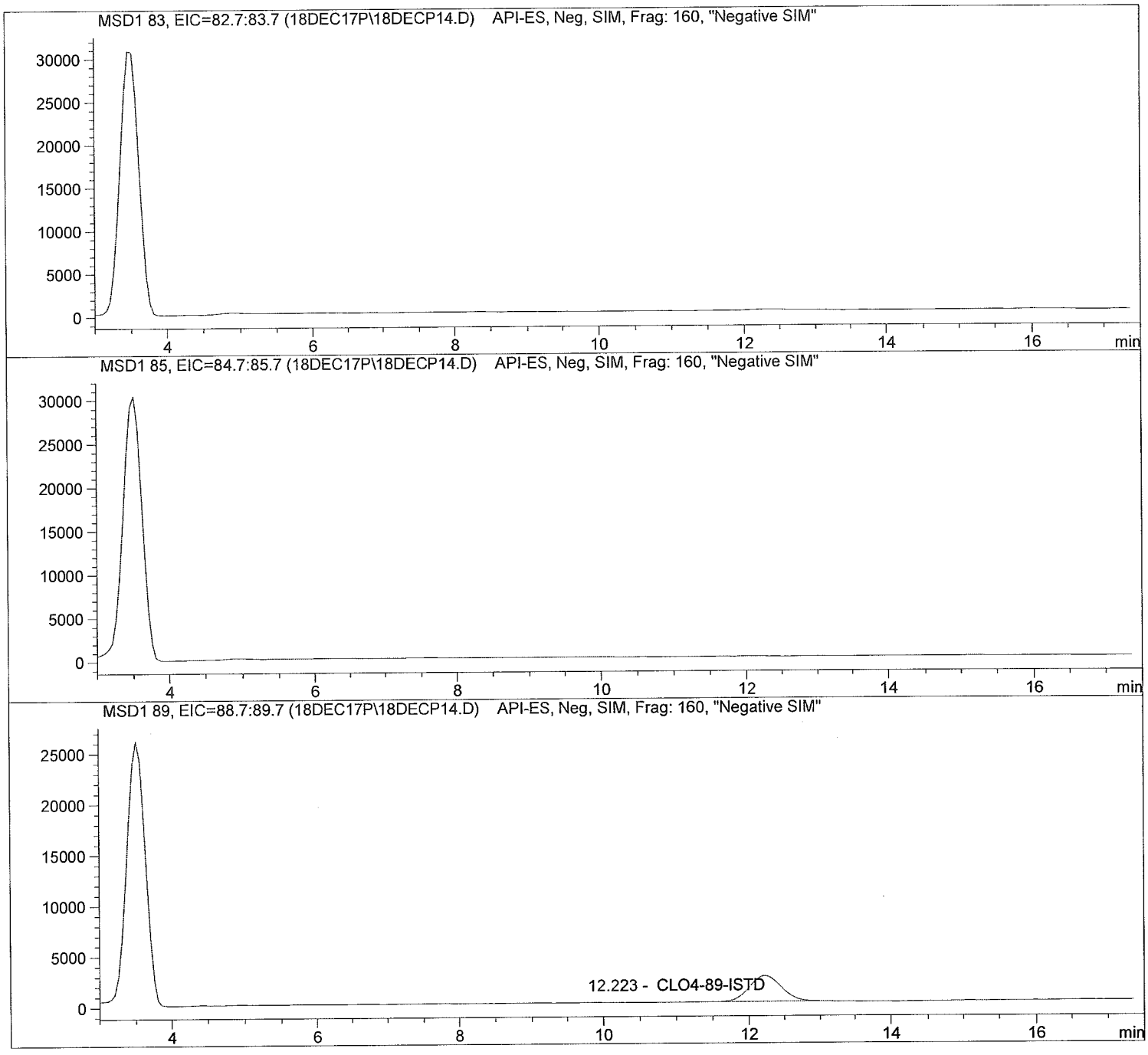
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP14.D Sample Name: 1734528003

Injection Date:	12/18/2017 13:12:40	Seq Line:	14
Sample Name:	1734528003	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\18DEC17P\18DECP14.D Sample Name: 1734528003

Injection Date:	12/18/2017 13:12:40	Seq Line:	14
Sample Name:	1734528003	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
12.223	BBA	79863.1	5.0000	CLO4-89-ISTD

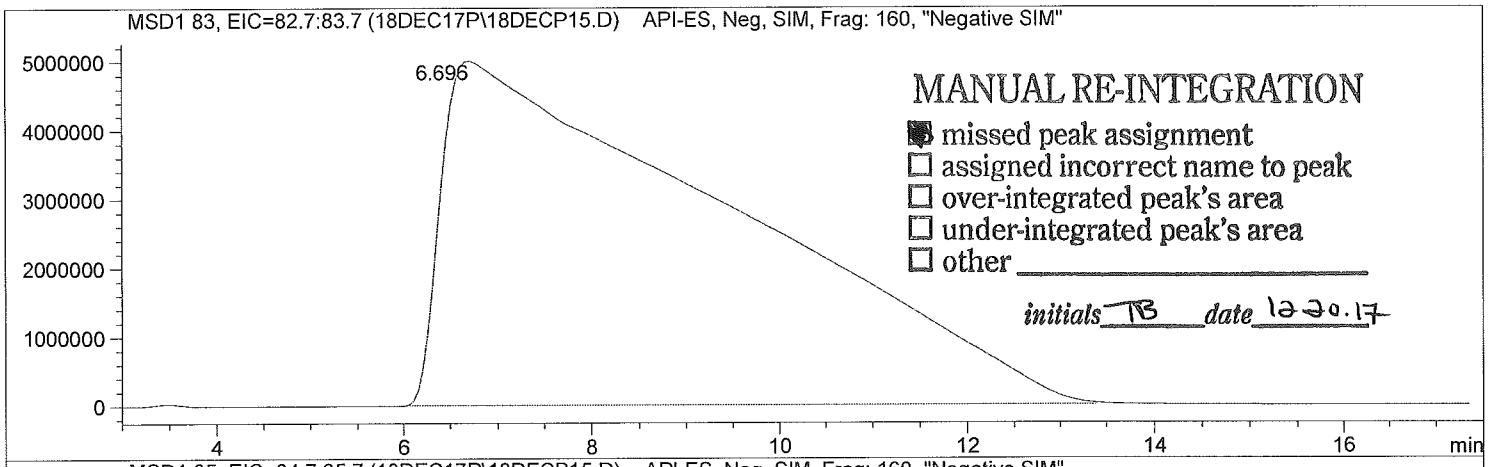
*** End of Report ***

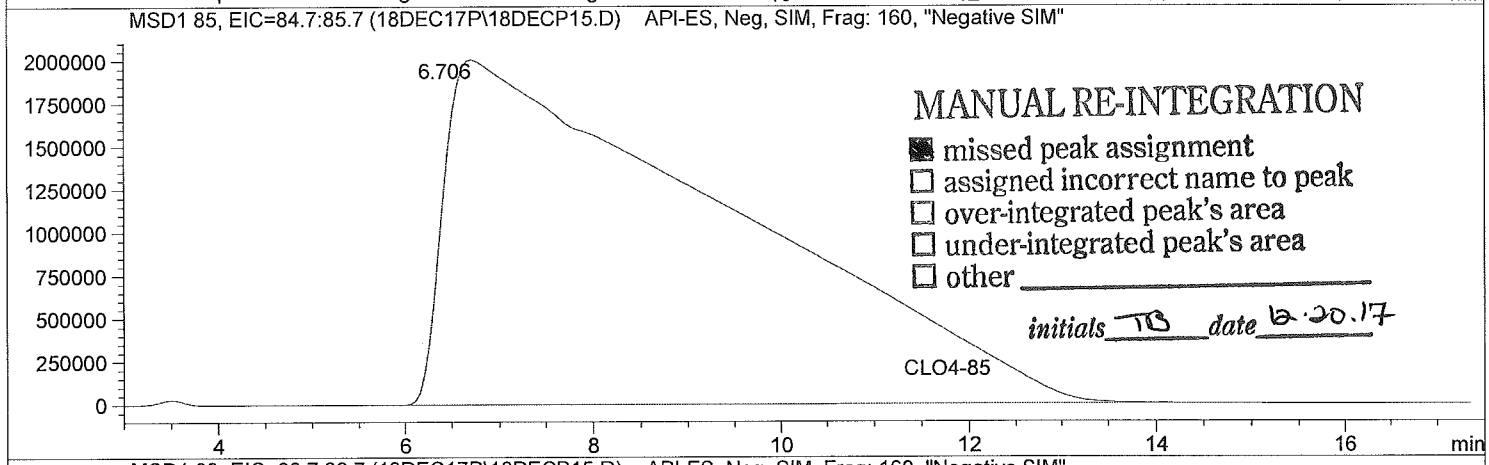
Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP15.D Sample Name: 1734528004

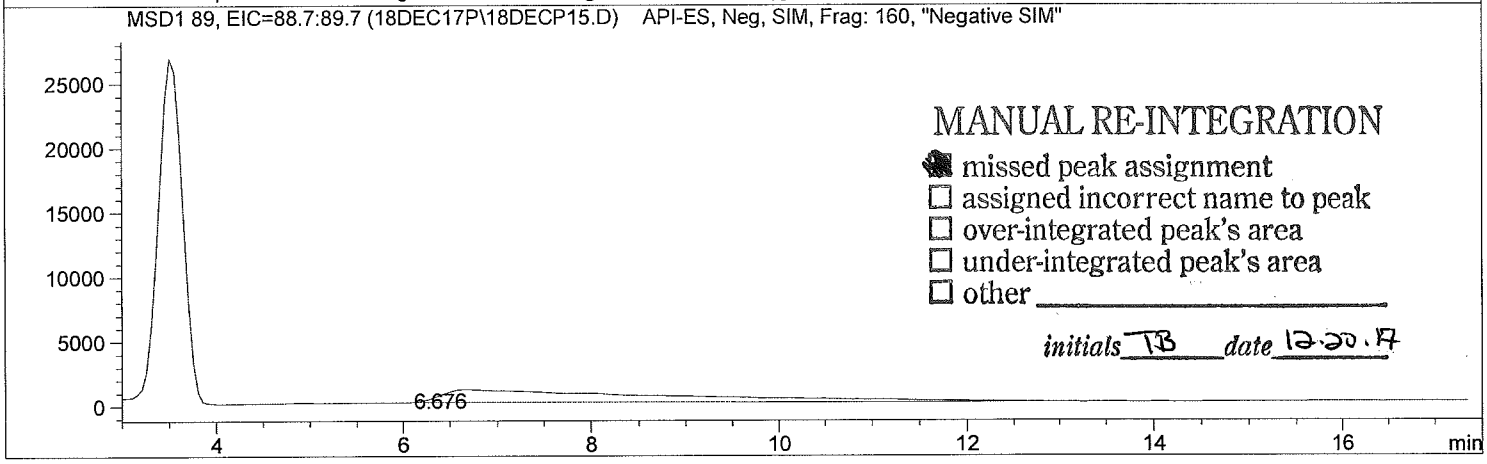
Injection Date:	12/18/2017 13:31:48	Seq Line:	15
Sample Name:	1734528004	Location:	Vial 84
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP15.D Sample Name: 1734528004

Injection Date:	12/18/2017 13:31:48	Seq Line:	15
Sample Name:	1734528004	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
6.696	MM	1071827904.0	0.0000	
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
6.706	MM	423853856.0	0.0000	
7.356	Rsho	0.0	0.0000	
7.872	Rsho	0.0	0.0000	
8.804	Rsho	0.0	0.0000	
9.803	Rsho	0.0	0.0000	
10.409	Rsho	0.0	0.0000	
10.779	Rsho	0.0	0.0000	
11.176	Rsho	0.0	0.0000	
11.684	Rsho	0.0	0.0000	
12.225	Rsho	0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
6.676	MM	168329.7	0.0000	
0.000		0.0	0.0000	CLO4-89-ISTD

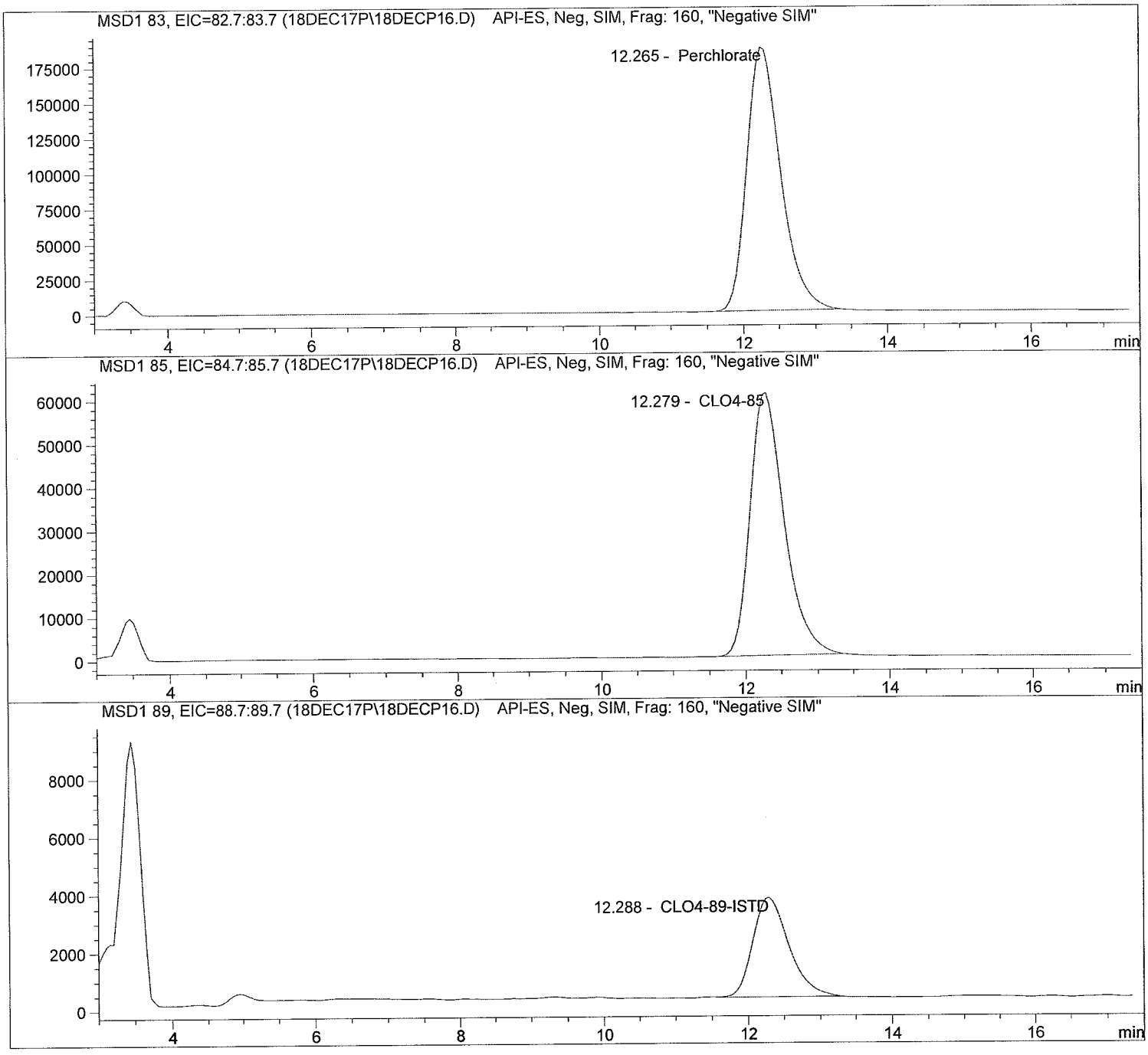
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP16.D Sample Name: 1734528005

Injection Date:	12/18/2017 13:50:58	Seq Line:	16
Sample Name:	1734528005	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\18DEC17P\18DECP16.D Sample Name: 1734528005

Injection Date:	12/18/2017 13:50:58	Seq Line:	16
Sample Name:	1734528005	Location:	Vial 85
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.265	PBA	6134840.0	137.2463	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.279	PBA	2000638.1	149.1955	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.288	BBA	119725.5	5.0000	CLO4-89-ISTD

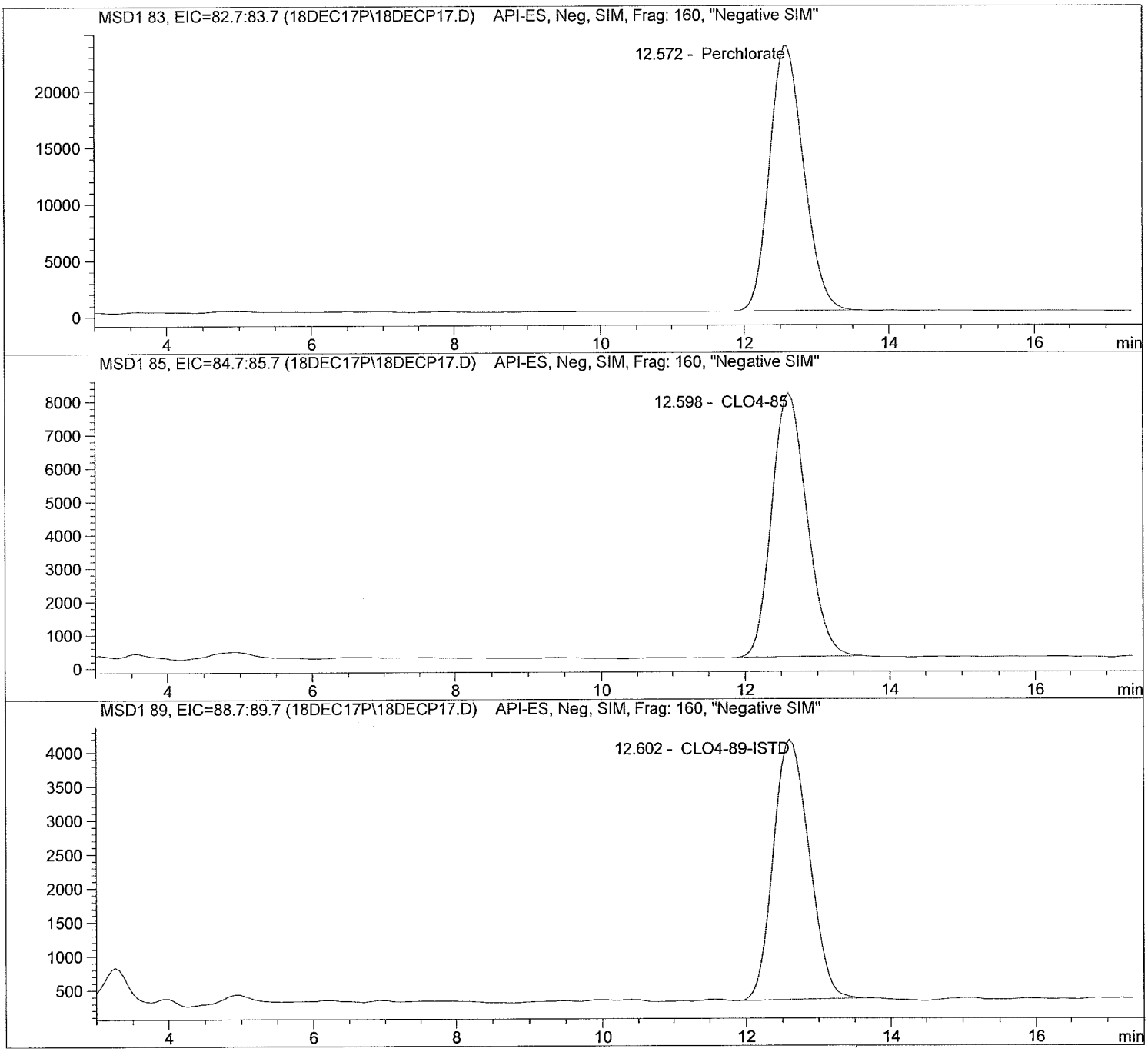
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP17.D Sample Name: 579520 CCV@25

Injection Date:	12/18/2017 14:10:07	Seq Line:	17
Sample Name:	579520 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\18DEC17P\18DECP17.D Sample Name: 579520 CCV@25

Injection Date:	12/18/2017 14:10:07	Seq Line:	17
Sample Name:	579520 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
12.572	PBA	771230.9	23.9956	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.598	PBA	266560.7	26.0393	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.602	PBA	132362.0	5.0000	CLO4-89-ISTD

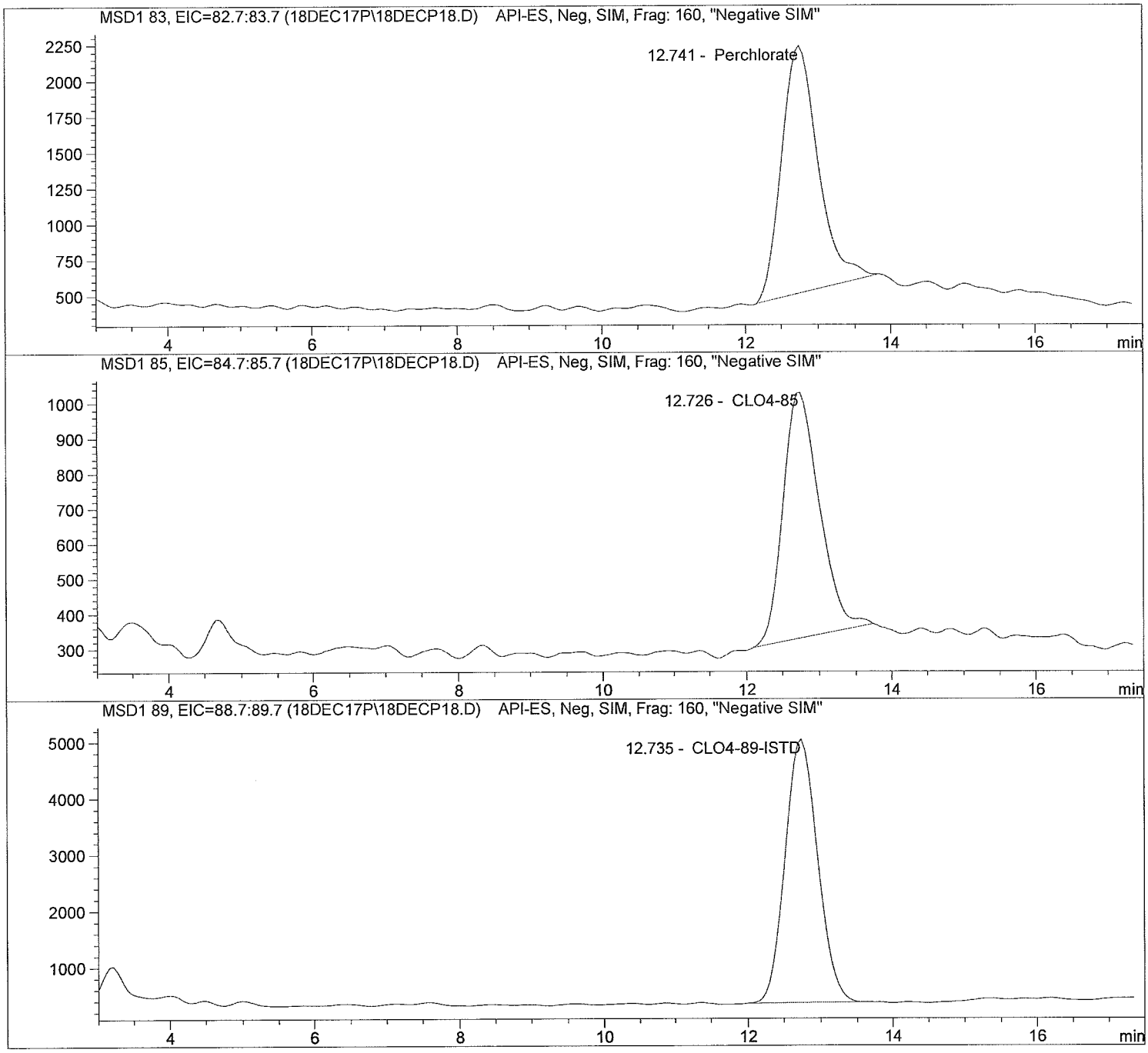
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP18.D Sample Name: 579521 LODV@1.

Injection Date:	12/18/2017 14:29:17	Seq Line:	18
Sample Name:	579521 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\18DEC17P\18DECP18.D Sample Name: 579521 LODV@1.

Injection Date:	12/18/2017 14:29:17	Seq Line:	18
Sample Name:	579521 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
12.741	PBA	60203.5	1.9394	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.726	BBA	24116.8	2.1823	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.735	PBA	144412.5	5.0000	CLO4-89-ISTD

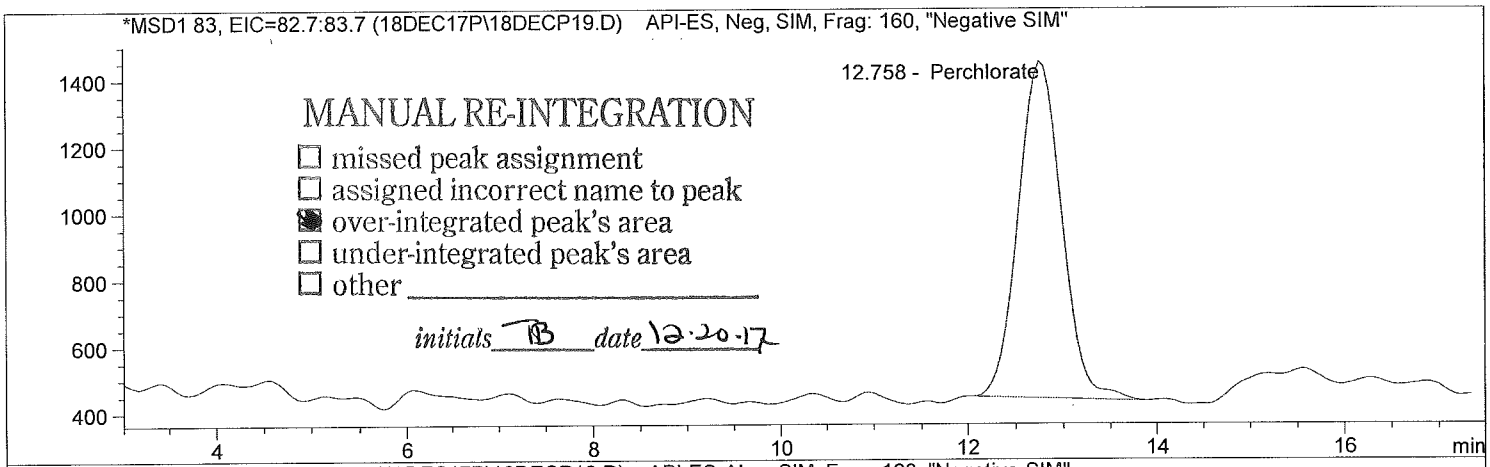
*** End of Report ***

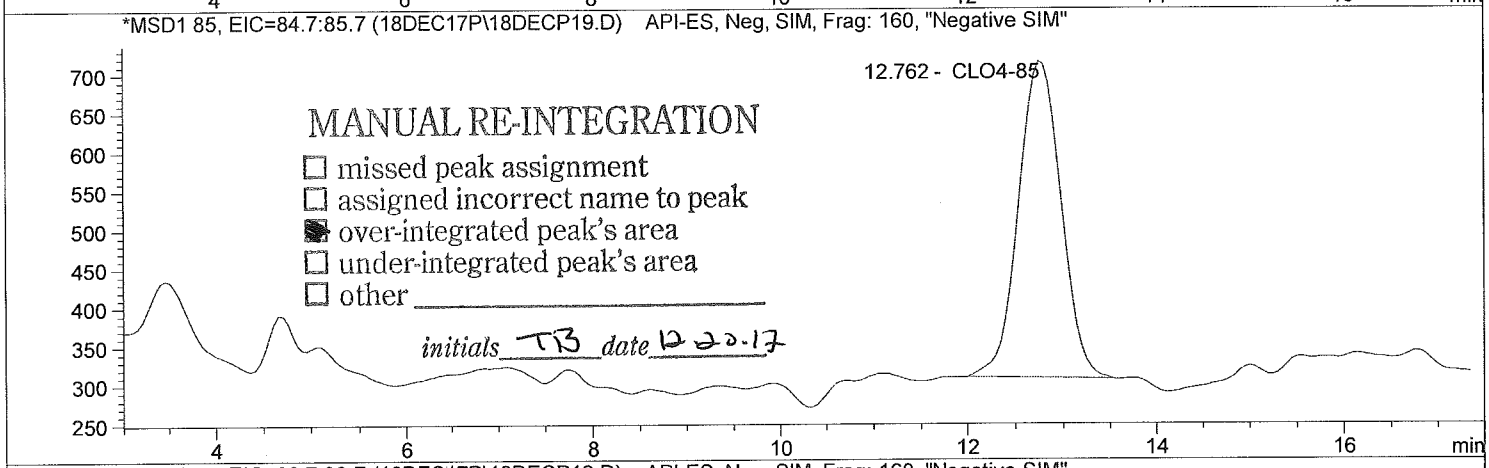
Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP19.D Sample Name: 579521 LODV@1.

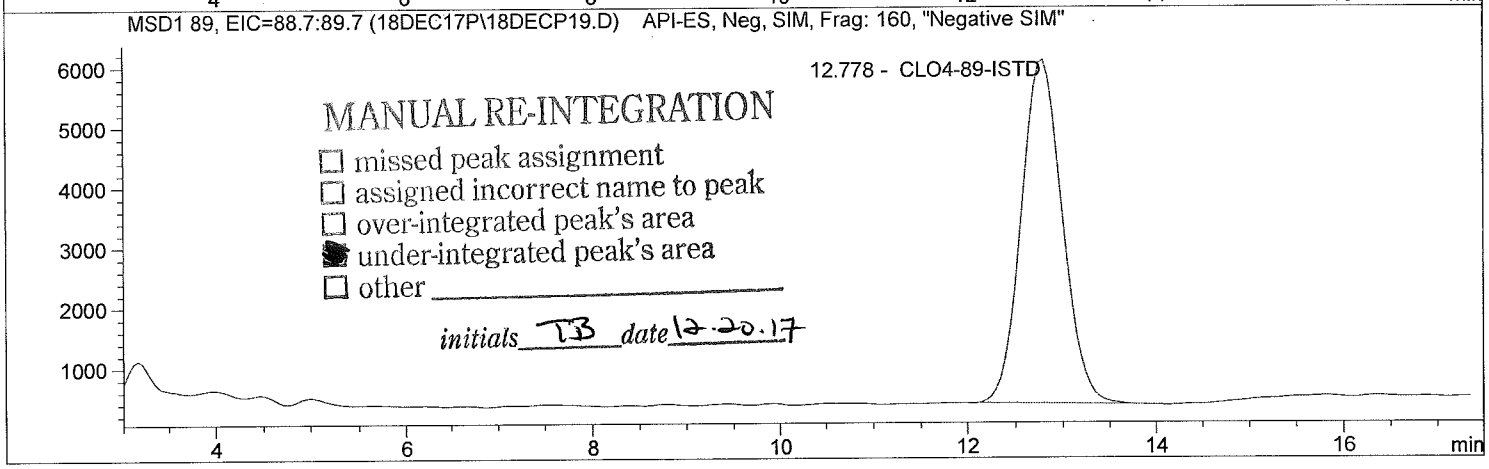
Injection Date:	12/18/2017 16:02:52	Seq Line:	19
Sample Name:	579521 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP19.D Sample Name: 579521 LODV@1.

Injection Date:	12/18/2017 16:02:52	Seq Line:	19
Sample Name:	579521 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
12.758	MM	31978.2	0.8834	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.762	MM	12677.8	0.8543	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.778	MM	171963.0	5.0000	CLO4-89-ISTD

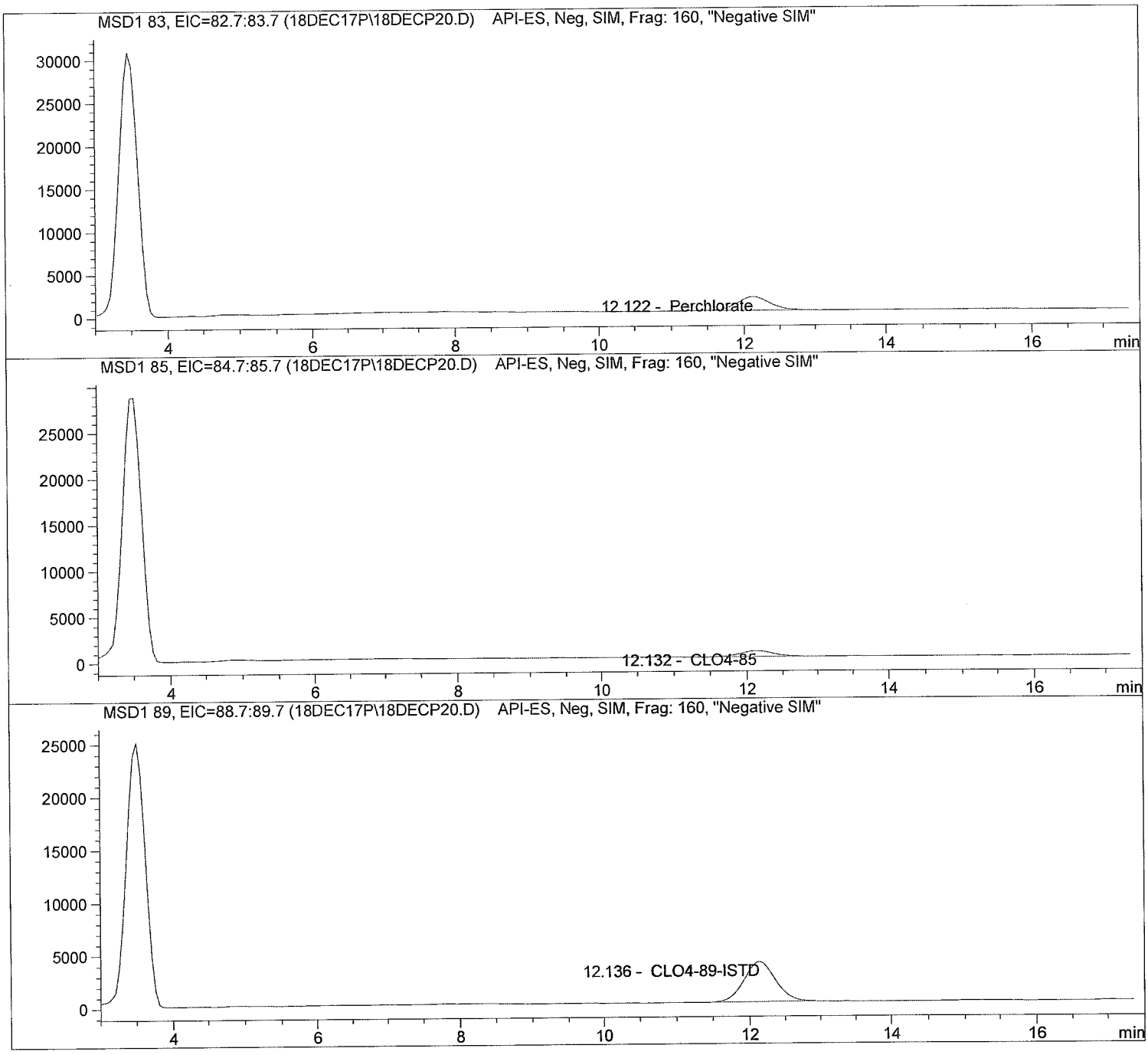
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP20.D Sample Name: 1734528006

Injection Date:	12/18/2017 16:23:47	Seq Line:	20
Sample Name:	1734528006	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\18DEC17P\18DECP20.D Sample Name: 1734528006

Injection Date:	12/18/2017 16:23:47	Seq Line:	20
Sample Name:	1734528006	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
12.122	BBA	51113.3	2.0485	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.132	PBA	21085.0	2.3928	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.136	BBA	115933.3	5.0000	CLO4-89-ISTD

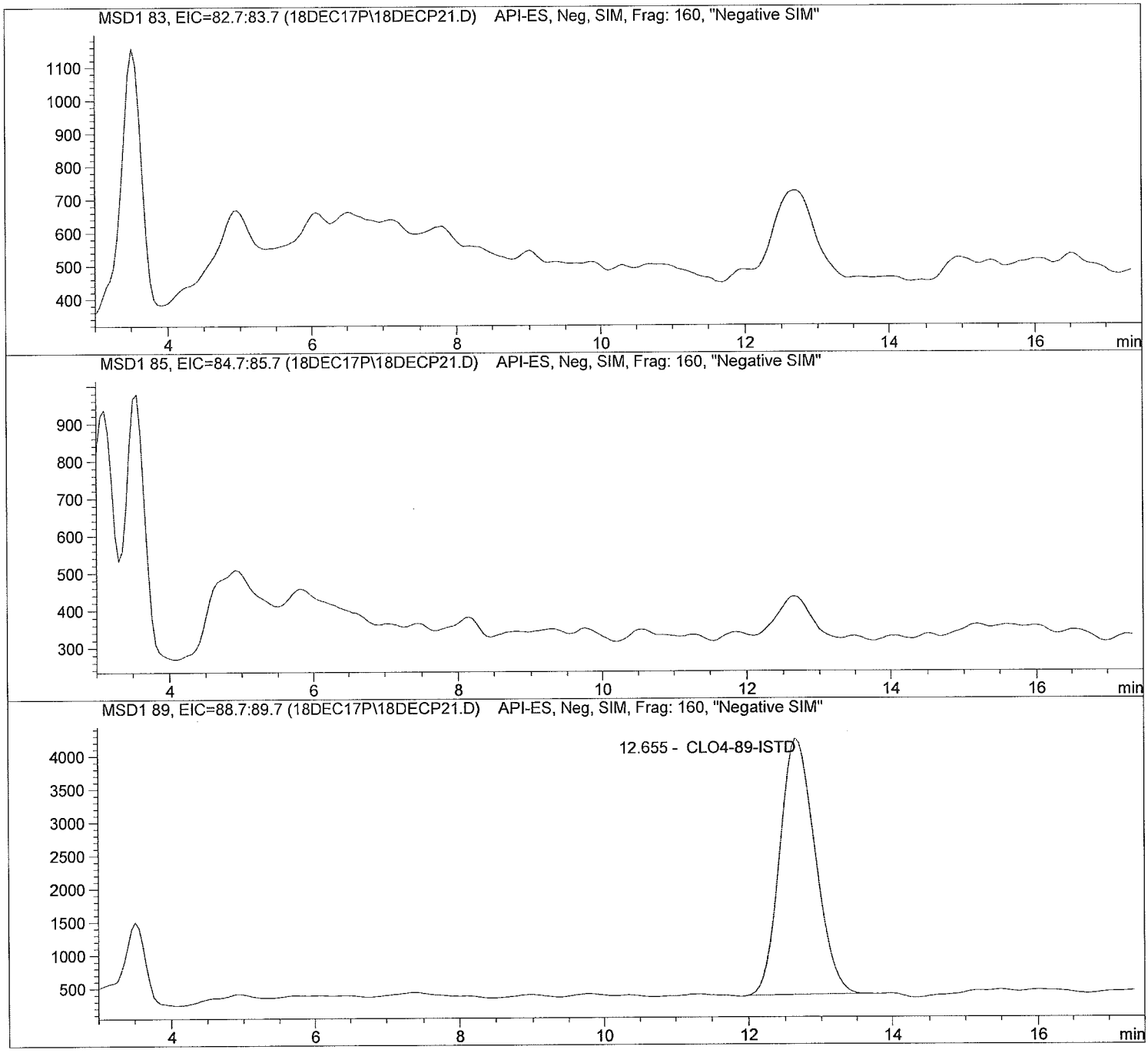
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP21.D Sample Name: 1734528007

Injection Date:	12/18/2017 16:42:56	Seq Line:	21
Sample Name:	1734528007	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\18DEC17P\18DECP21.D Sample Name: 1734528007

Injection Date:	12/18/2017 16:42:56	Seq Line:	21
Sample Name:	1734528007	Location:	Vial 87
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.655	PBA	130647.1	5.0000	CLO4-89-ISTD

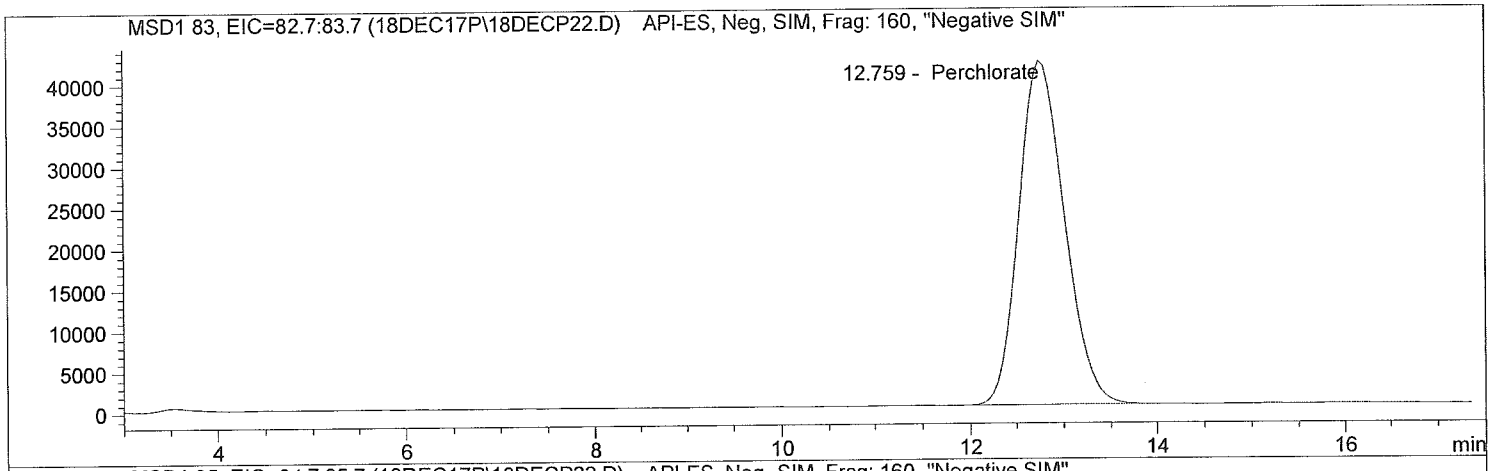
*** End of Report ***

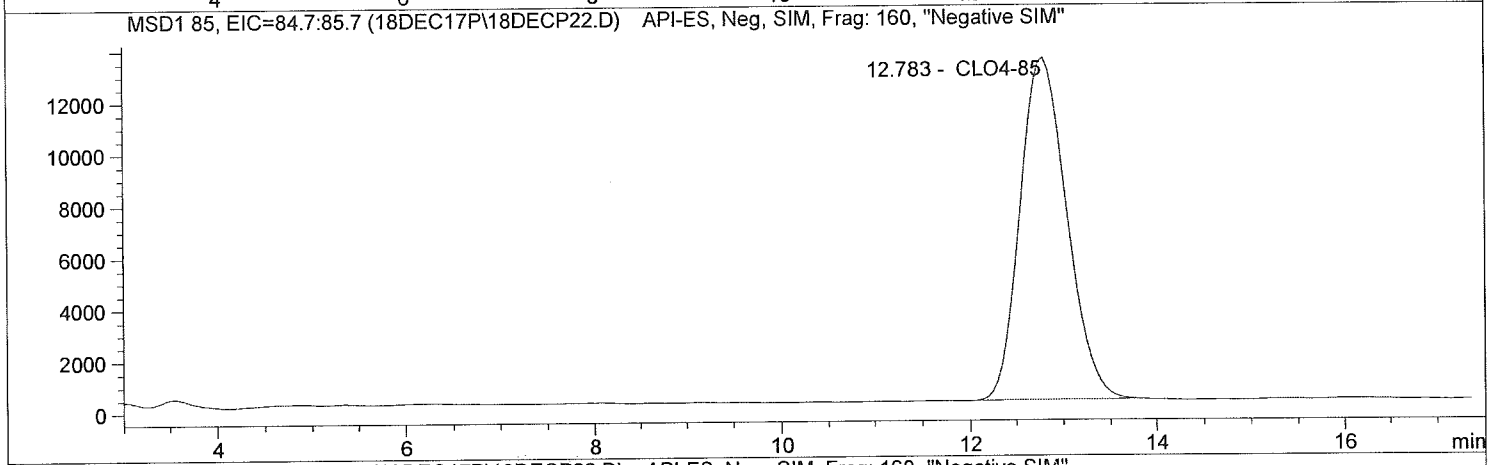
Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP22.D Sample Name: 1734528008

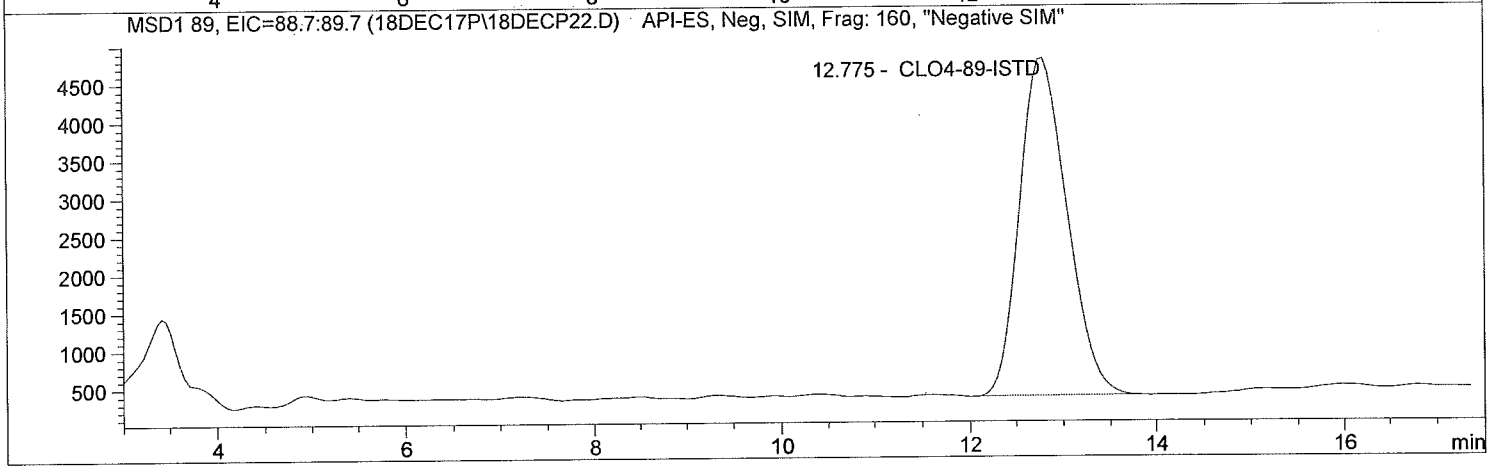
Injection Date:	12/18/2017 17:02:04	Seq Line:	22
Sample Name:	1734528008	Location:	Vial 88
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP22.D Sample Name: 1734528008

Injection Date:	12/18/2017 17:02:04	Seq Line:	22
Sample Name:	1734528008	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
12.759	BBA	1406507.4	35.4435	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.783	PBA	455258.8	36.6296	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.775	PBA	154969.8	5.0000	CLO4-89-ISTD

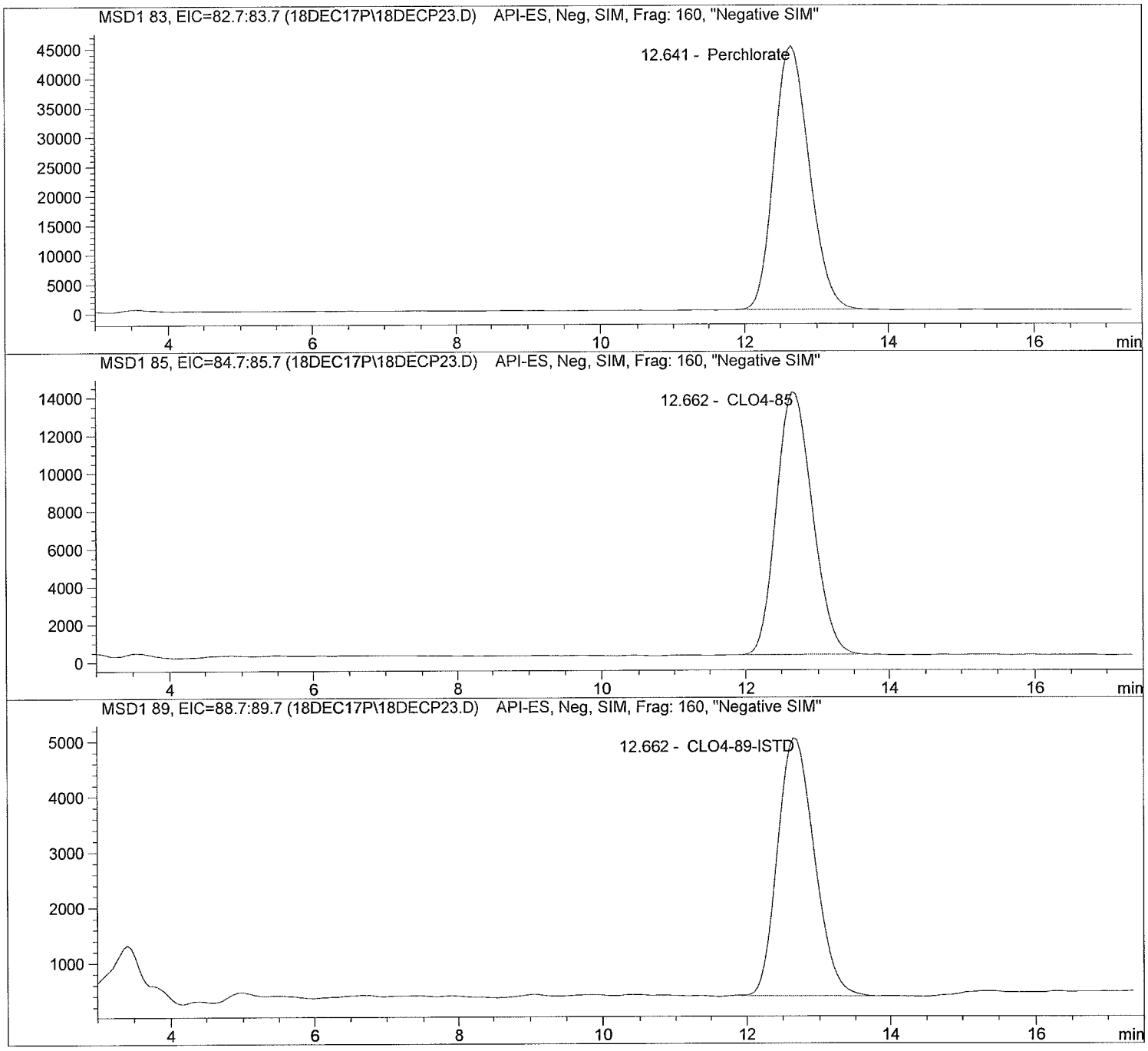
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP23.D Sample Name: 1734528009

Injection Date:	12/18/2017 17:21:17	Seq Line:	23
Sample Name:	1734528009	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\18DEC17P\18DECP23.D Sample Name: 1734528009

Injection Date:	12/18/2017 17:21:17	Seq Line:	23
Sample Name:	1734528009	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
12.641	BBA	1501387.5	35.9437	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.662	BBA	476178.7	36.4968	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.662	BBA	162754.7	5.0000	CLO4-89-ISTD

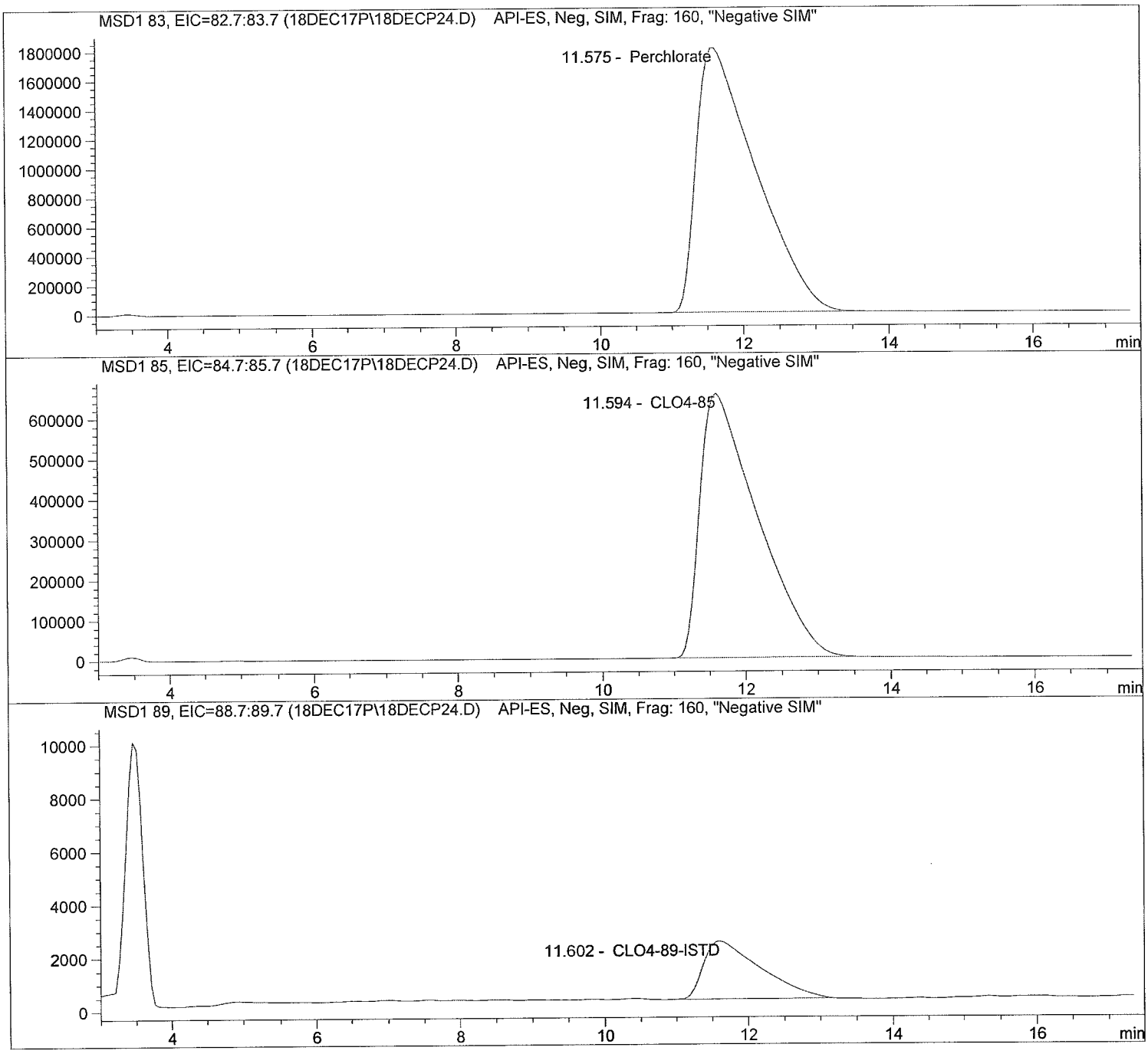
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP24.D Sample Name: 1734528010

Injection Date:	12/18/2017 17:40:29	Seq Line:	24
Sample Name:	1734528010	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\18DEC17P\18DECP24.D Sample Name: 1734528010

Injection Date:	12/18/2017 17:40:29	Seq Line:	24
Sample Name:	1734528010	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
11.575	PBA	103788384.0	783.7955	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.594	PBA	36463644.0	924.3243	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.602	PBA	118491.4	5.0000	CLO4-89-ISTD

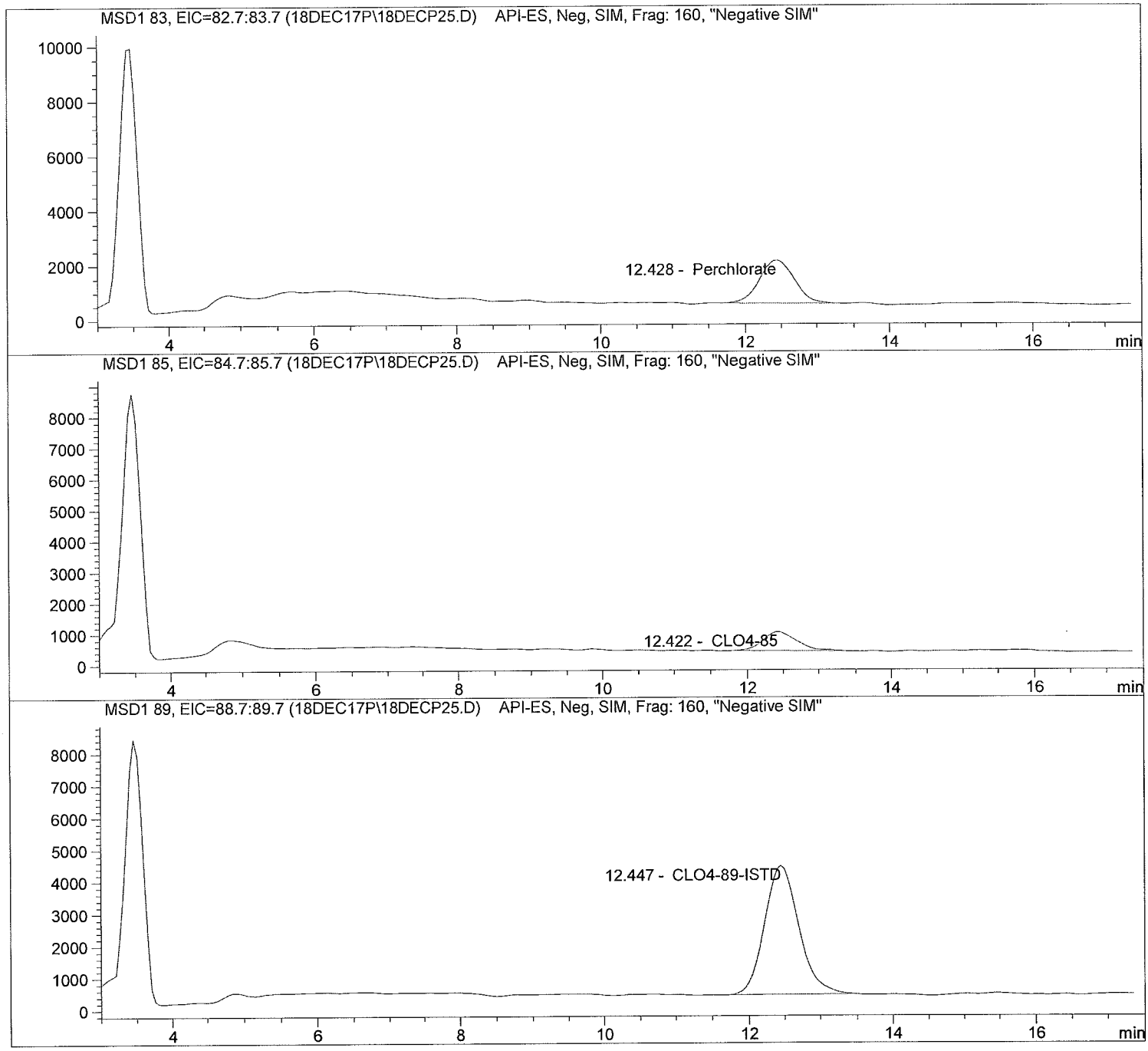
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP25.D Sample Name: 1734528011

Injection Date:	12/18/2017 17:59:42	Seq Line:	25
Sample Name:	1734528011	Location:	Vial 91
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP25.D Sample Name: 1734528011

Injection Date:	12/18/2017 17:59:42	Seq Line:	25
Sample Name:	1734528011	Location:	Vial 91
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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
12.428	BBA	53637.6	1.8600	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.422	PBA	20328.5	1.9609	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.447	PBA	134287.7	5.0000	CLO4-89-ISTD

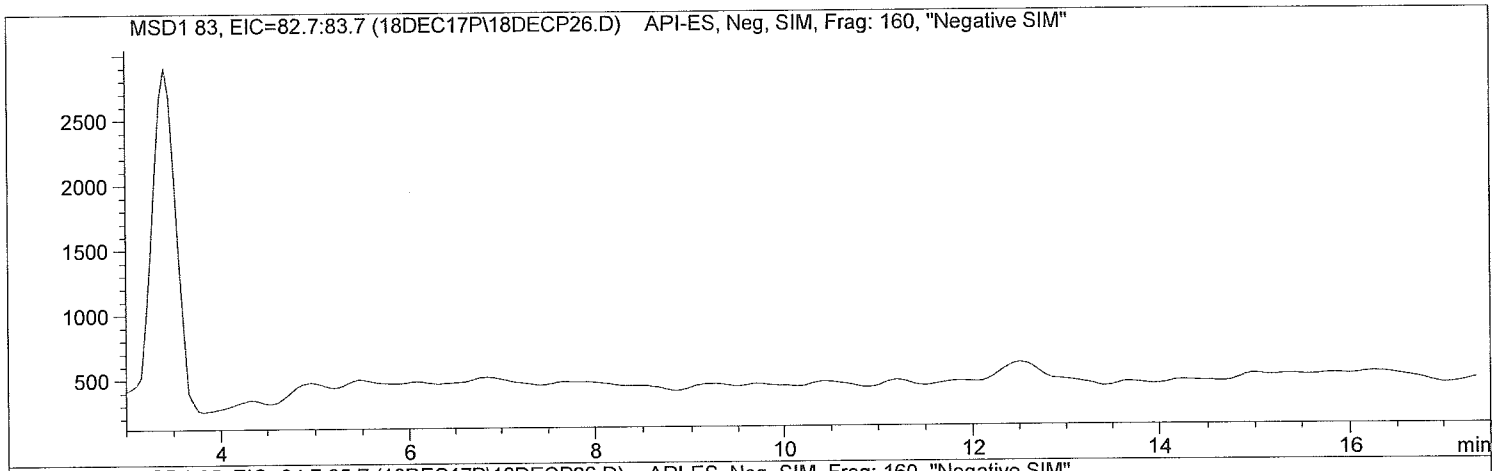
*** End of Report ***

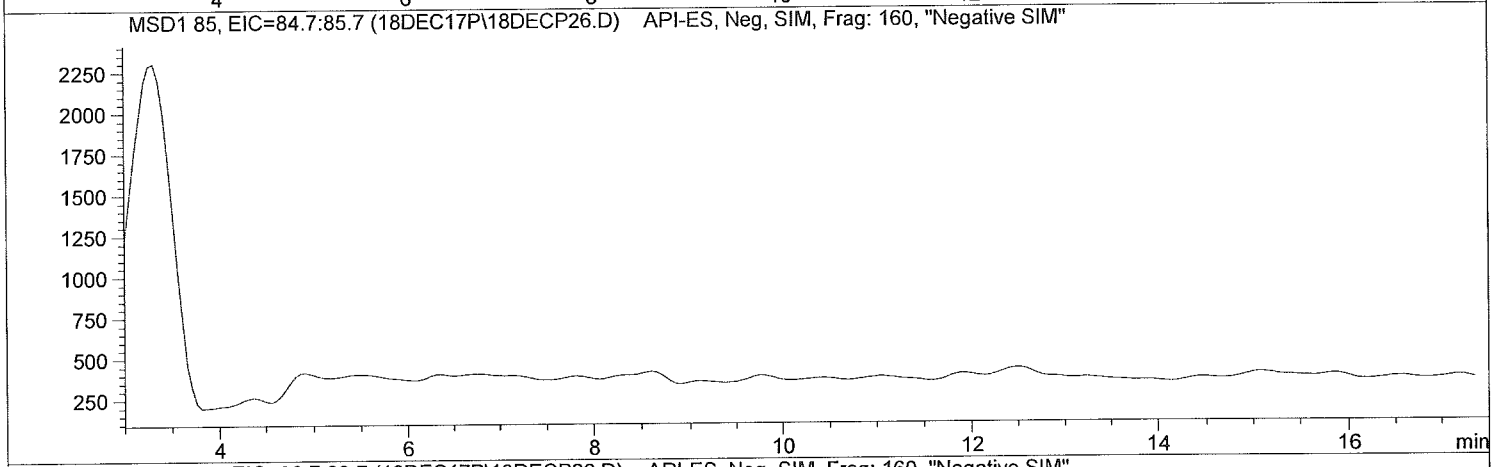
Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP26.D Sample Name: 1734528012

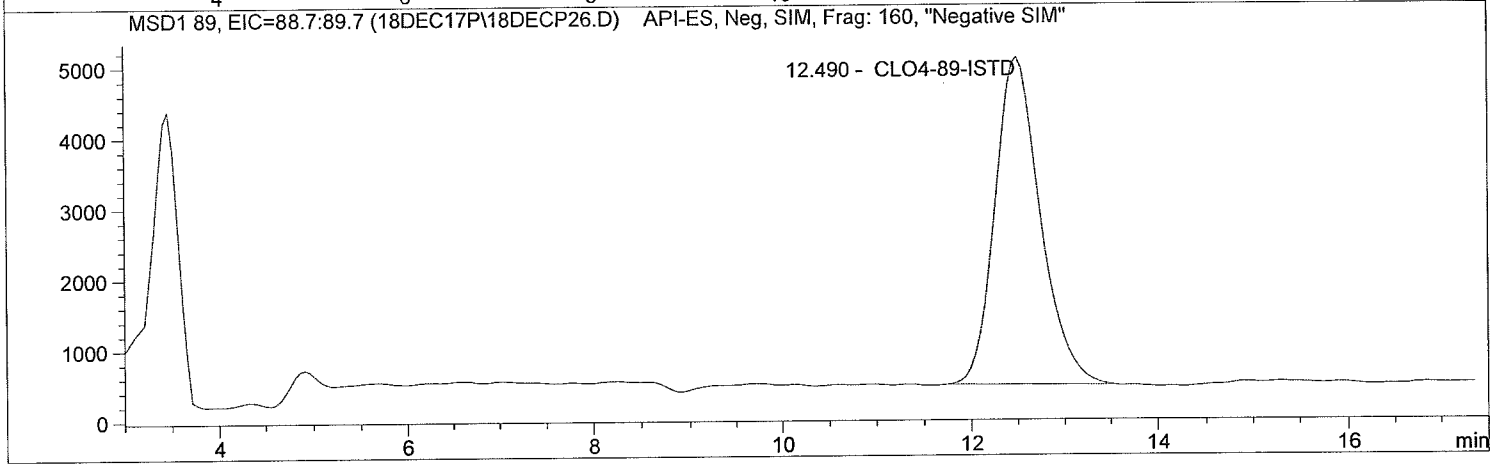
Injection Date:	12/18/2017 18:18:50	Seq Line:	26
Sample Name:	1734528012	Location:	Vial 92
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP26.D Sample Name: 1734528012

Injection Date:	12/18/2017 18:18:50	Seq Line:	26
Sample Name:	1734528012	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
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
12.490	BBA	156763.8	5.0000	CLO4-89-ISTD

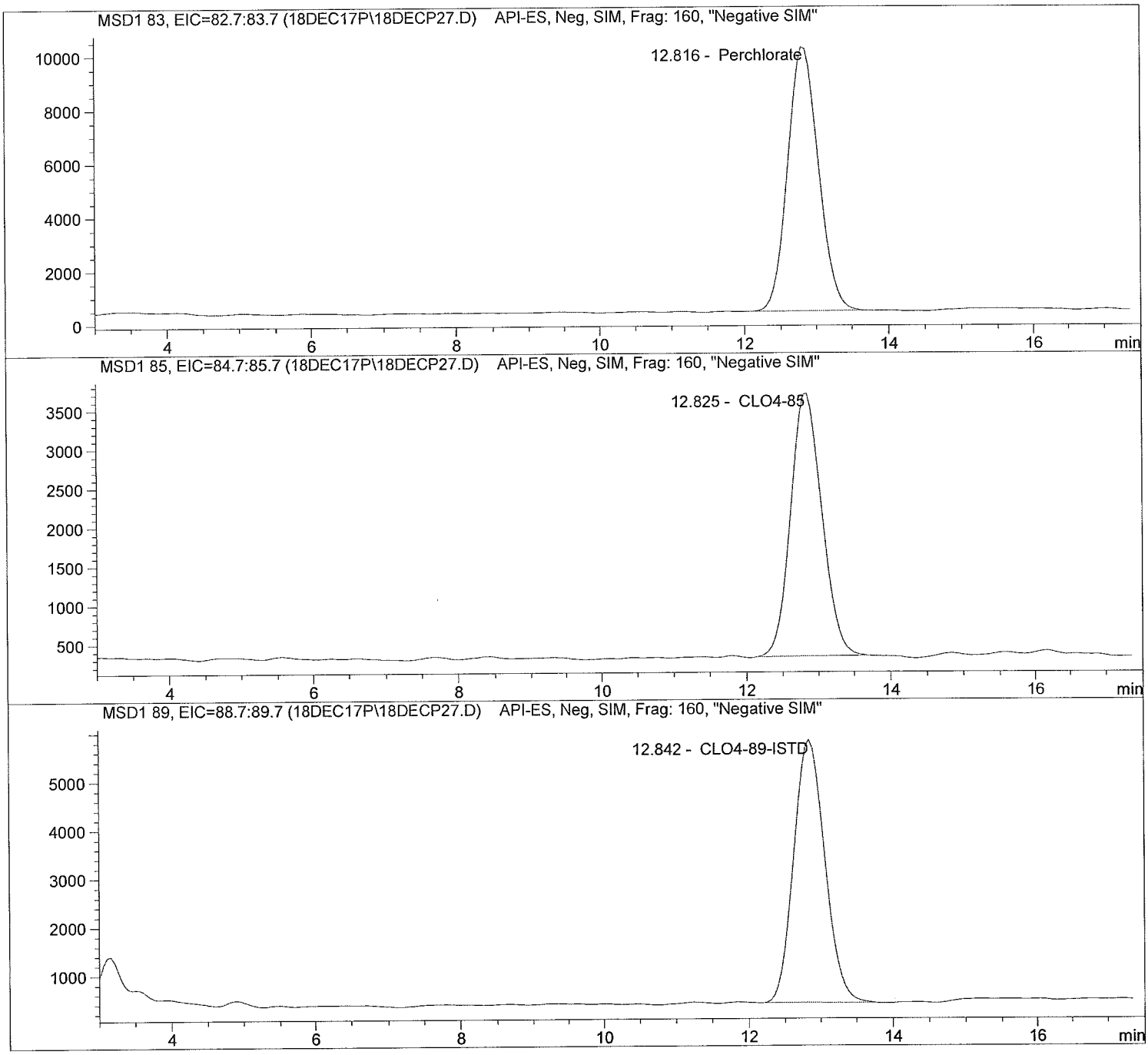
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP27.D Sample Name: 1734273001 1K

Injection Date:	12/18/2017 18:38:01	Seq Line:	27
Sample Name:	1734273001 1K	Location:	Vial 93
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP27.D Sample Name: 1734273001 1K

Injection Date:	12/18/2017 18:38:01	Seq Line:	27
Sample Name:	1734273001 1K	Location:	Vial 93
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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
12.816	BBA	296423.4	7998.9614	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.825	PBA	102865.2	8462.6531	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.842	PBA	165454.5	5000.0000	CLO4-89-ISTD

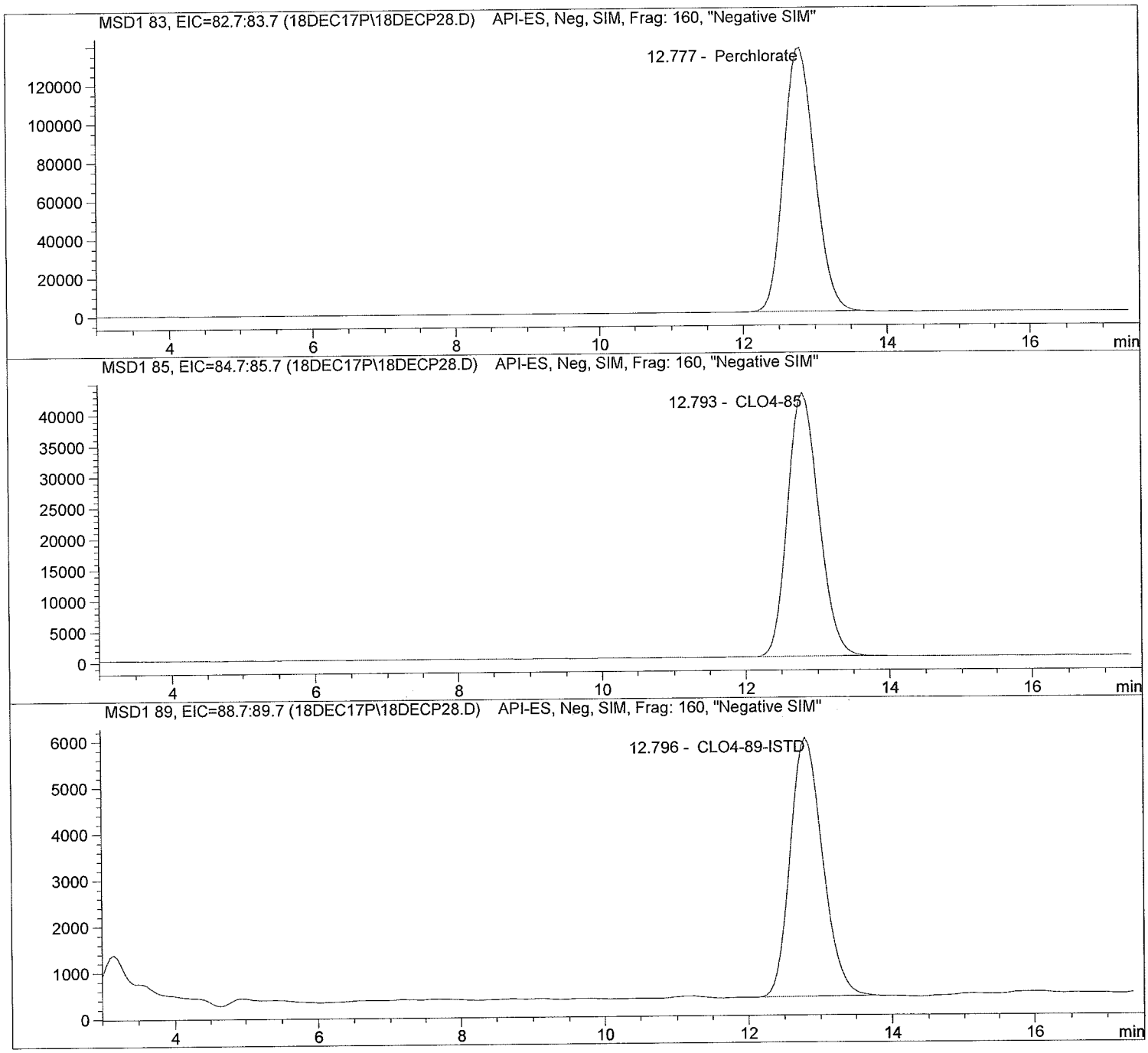
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP28.D Sample Name: 1734528004 1K

Injection Date:	12/18/2017 18:57:10	Seq Line:	28
Sample Name:	1734528004 1K	Location:	Vial 94
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP28.D Sample Name: 1734528004 1K

Injection Date:	12/18/2017 18:57:10	Seq Line:	28
Sample Name:	1734528004 1K	Location:	Vial 94
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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
12.777	BBA	4107968.5	77122.6692	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.793	PBA	1284860.0	79542.8295	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.796	PBA	175145.7	5000.0000	CLO4-89-ISTD

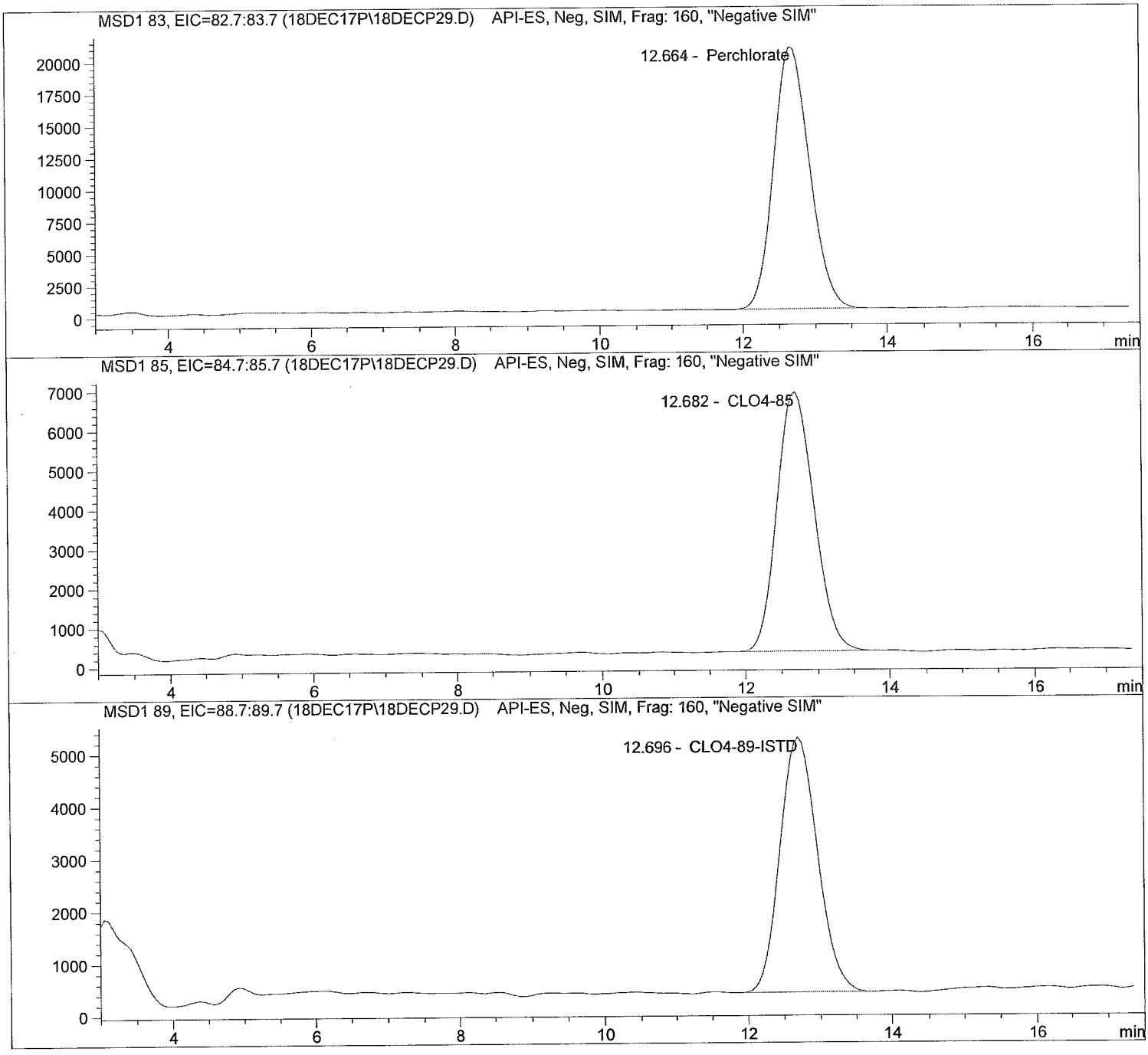
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP29.D Sample Name: 1734528005 10X

Injection Date:	12/18/2017 19:16:19	Seq Line:	29
Sample Name:	1734528005 10X	Location:	Vial 95
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP29.D Sample Name: 1734528005 10X

Injection Date:	12/18/2017 19:16:19	Seq Line:	29
Sample Name:	1734528005 10X	Location:	Vial 95
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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
12.664	PBA	703473.7	171.8032	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.682	BBA	233471.7	177.9980	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.696	PBA	174320.1	50.0000	CLO4-89-ISTD

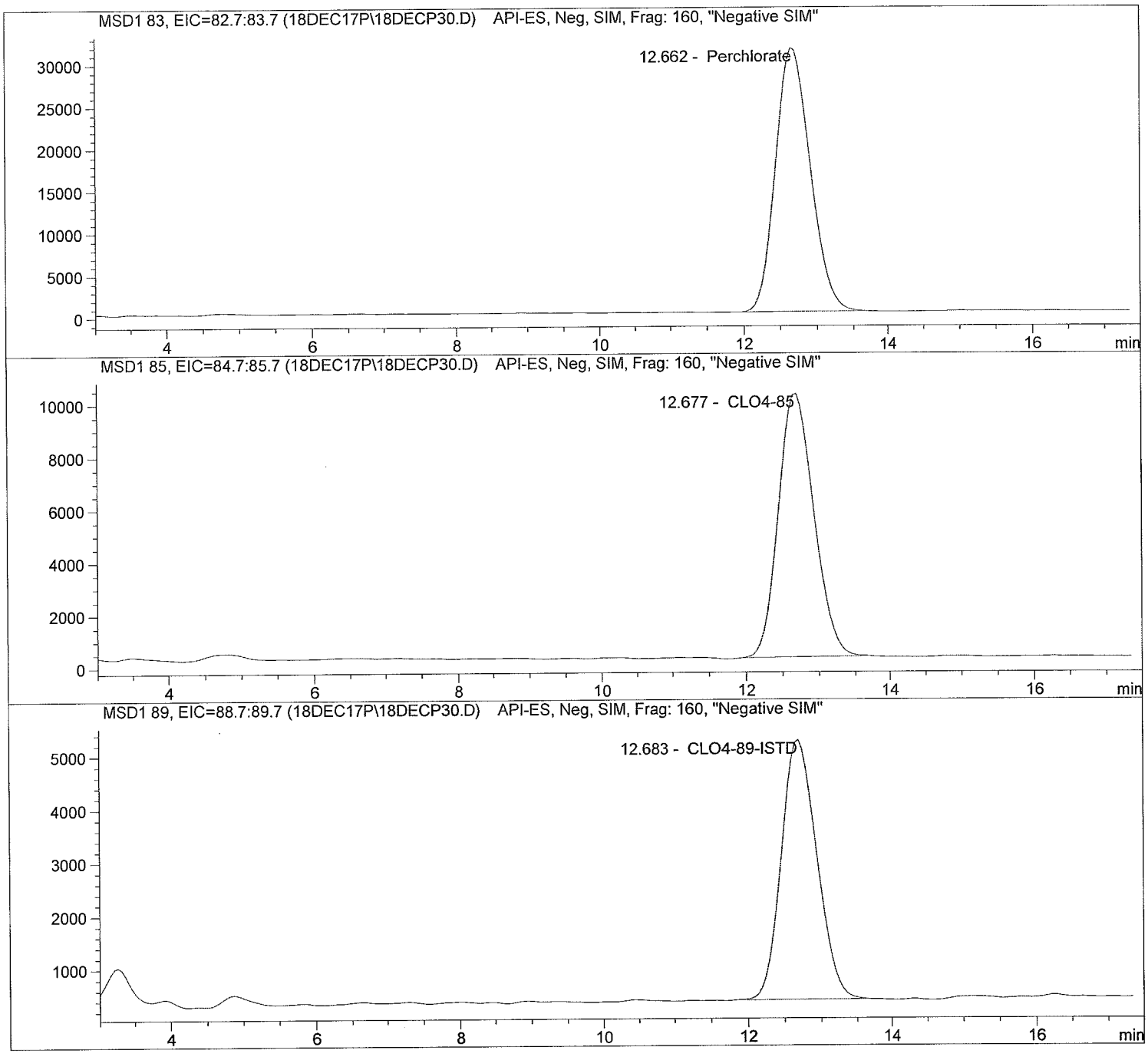
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP30.D Sample Name: 579522 CCV@25

Injection Date:	12/18/2017 19:35:27	Seq Line:	30
Sample Name:	579522 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\18DEC17P\18DECP30.D Sample Name: 579522 CCV@25

Injection Date:	12/18/2017 19:35:27	Seq Line:	30
Sample Name:	579522 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
12.662	PBA	1032842.7	25.6619	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.677	PBA	336885.3	26.4517	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.683	BBA	164442.1	5.0000	CLO4-89-ISTD

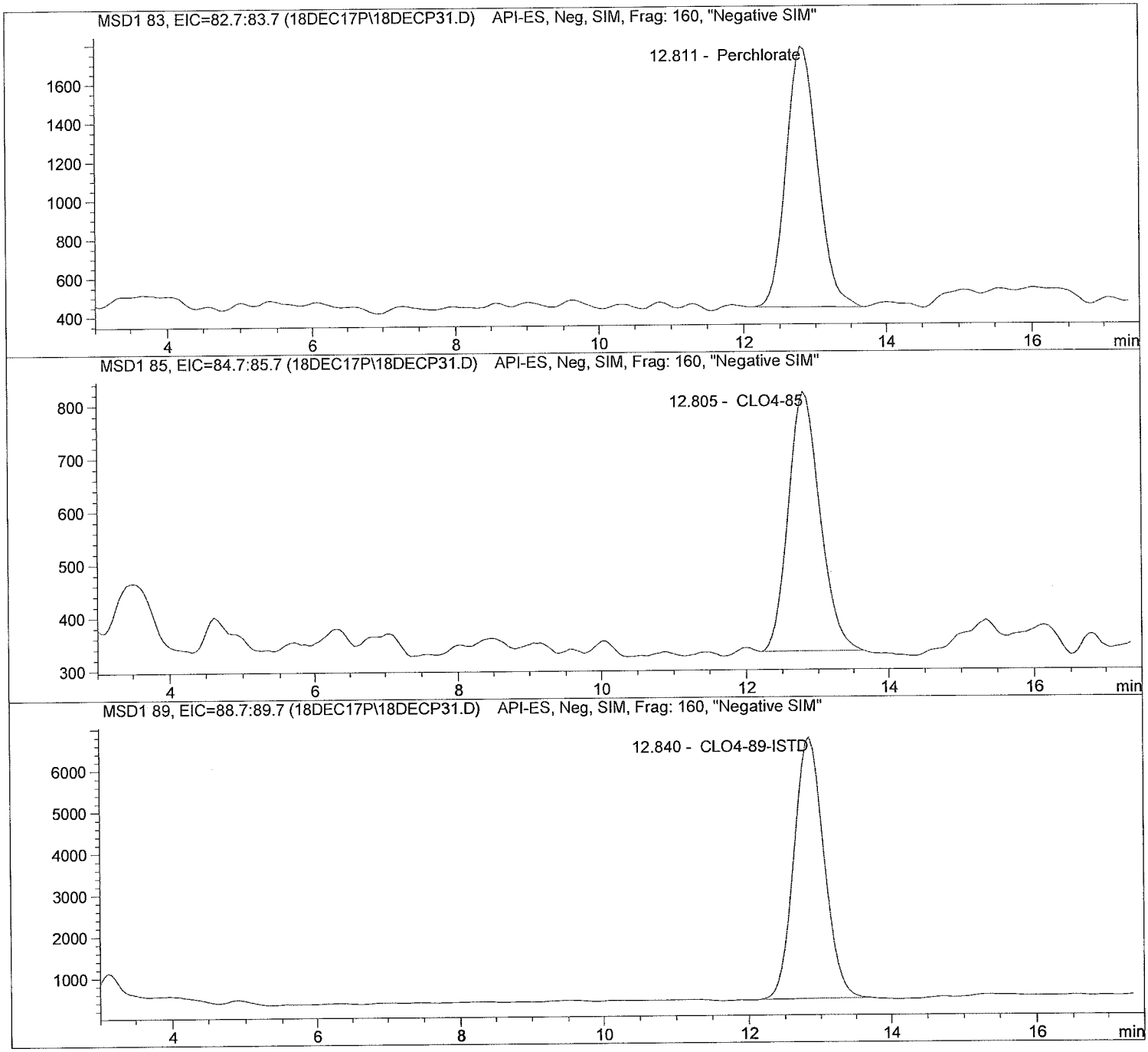
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP31.D Sample Name: 579523 LODV@1.

Injection Date:	12/18/2017 19:54:35	Seq Line:	31
Sample Name:	579523 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\18DEC17P\18DECP31.D Sample Name: 579523 LODV@1.

Injection Date:	12/18/2017 19:54:35	Seq Line:	31
Sample Name:	579523 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
12.811	BBA	41163.5	1.0531	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.805	BBA	15081.7	0.9679	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.840	PBA	184676.8	5.0000	CLO4-89-ISTD

*** End of Report ***

Sequence: C:\HPCHEM\1\SEQUENCE\CLO4\2017\DEC\20DEC17P.S

Sequence Table:

Method and Injection Info Part:

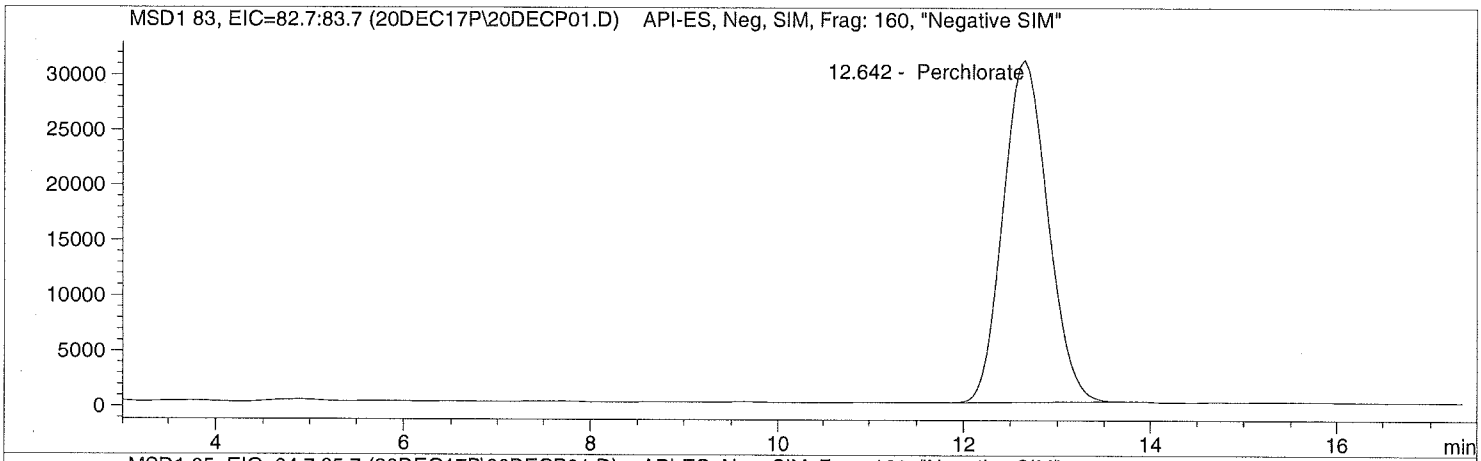
Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	580015 CCV@25	CLO4-DOD	1	Ctrl Samp		
2	Vial 96	1734528010 10X	CLO4-DOD	1	Sample		
3	Vial 97	1734528004 10K	CLO4-DOD	1	Sample		
4	Vial 98	1734528010 100	CLO4-DOD	1	Sample		
5	Vial 71	580016 CCV@25	CLO4-DOD	1	Ctrl Samp		

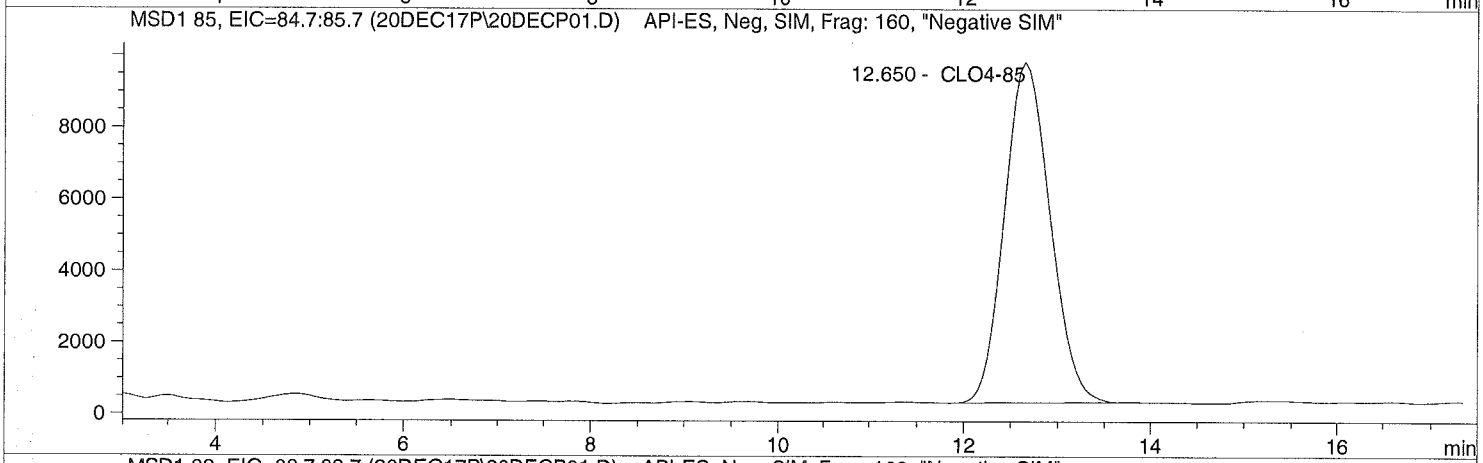
Data file: C:\HPCHEM\1\DATA\20DEC17P\20DECP01.D Sample Name: 580015 CCV@25

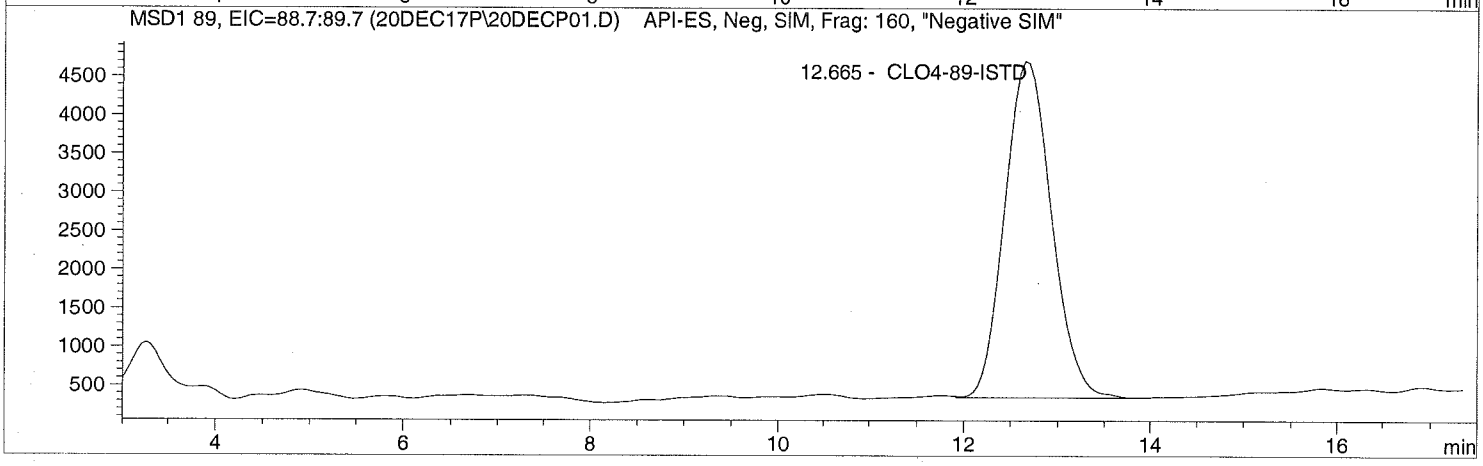
Injection Date:	12/20/2017 09:14:54	Seq Line:	1
Sample Name:	580015 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\20DEC17P\20DECP01.D Sample Name: 580015 CCV@25

Injection Date:	12/20/2017 09:14:54	Seq Line:	1
Sample Name:	580015 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
12.642	PBA	1018095.5	27.4129	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.650	PBA	319294.4	27.3136	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.665	BBA	150493.3	5.0000	CLO4-89-ISTD

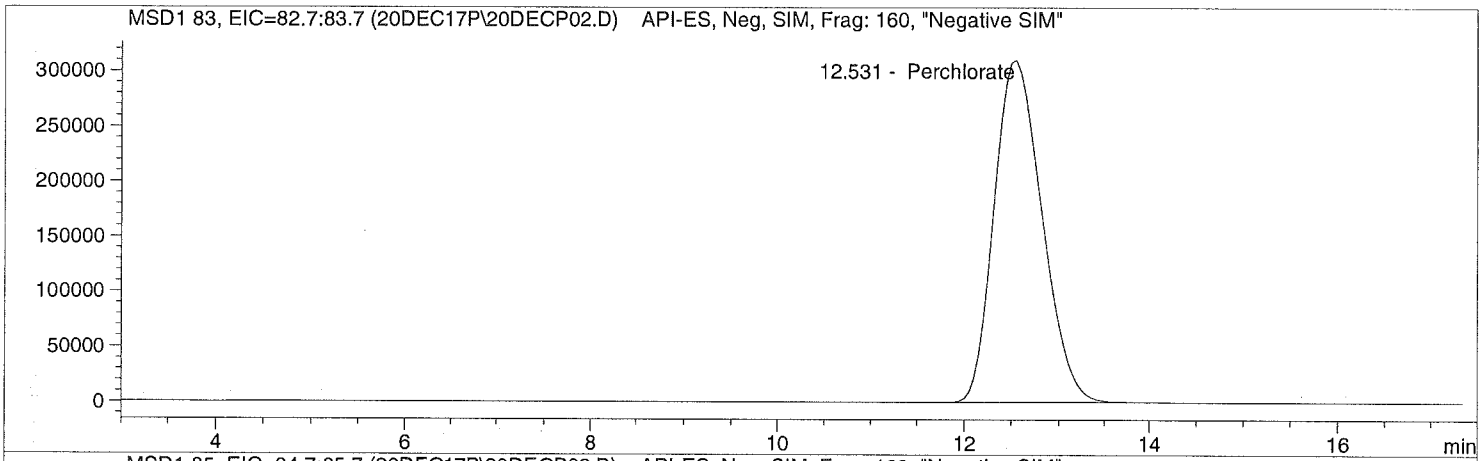
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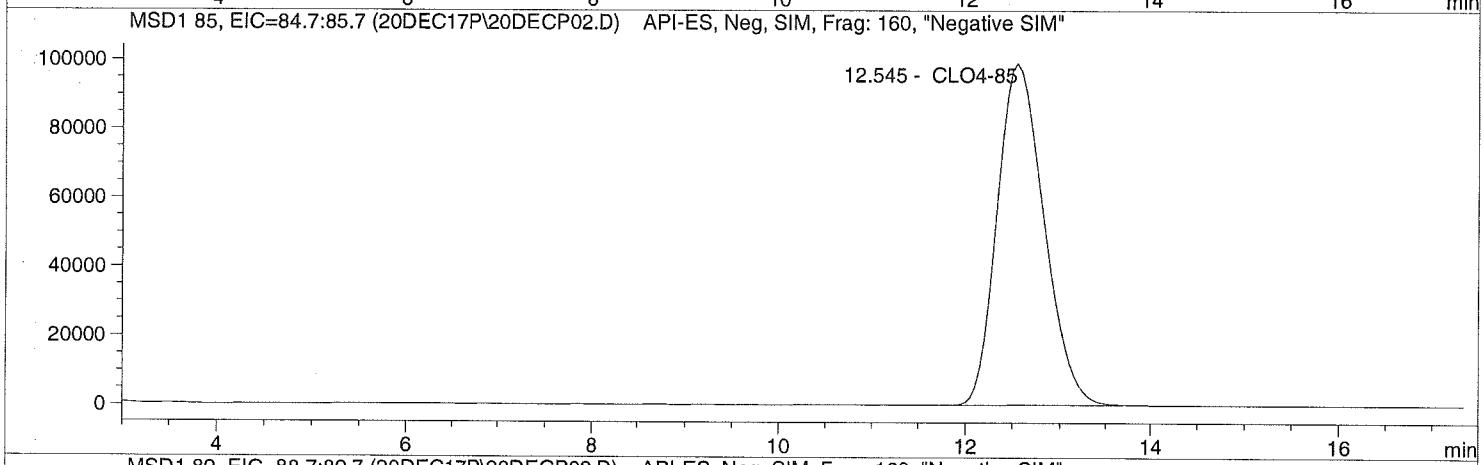
Data file: C:\HPCHEM\1\DATA\20DEC17P\20DECP02.D Sample Name: 1734528010 10X

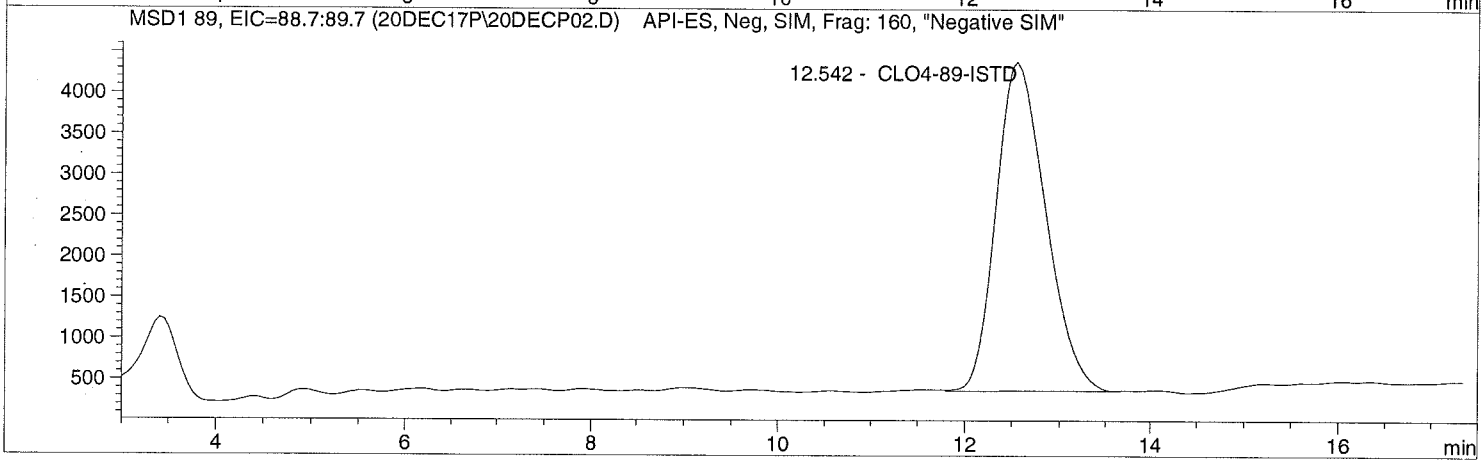
Injection Date:	12/20/2017 09:35:33	Seq Line:	2
Sample Name:	1734528010 10X	Location:	Vial 96
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\20DEC17P\20DECP02.D Sample Name: 1734528010 10X

Injection Date:	12/20/2017 09:35:33	Seq Line:	2
Sample Name:	1734528010 10X	Location:	Vial 96
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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
12.531	PBA	10844225.0	1772.1916	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.545	PBA	3380188.5	1881.8681	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.542	BBA	145913.5	50.0000	CLO4-89-ISTD

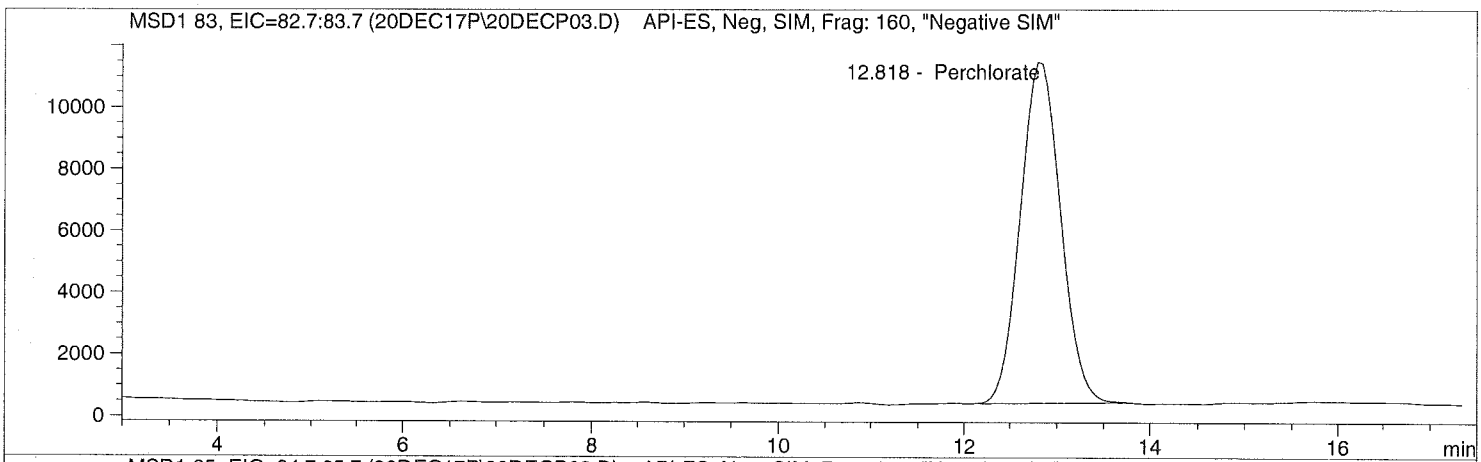
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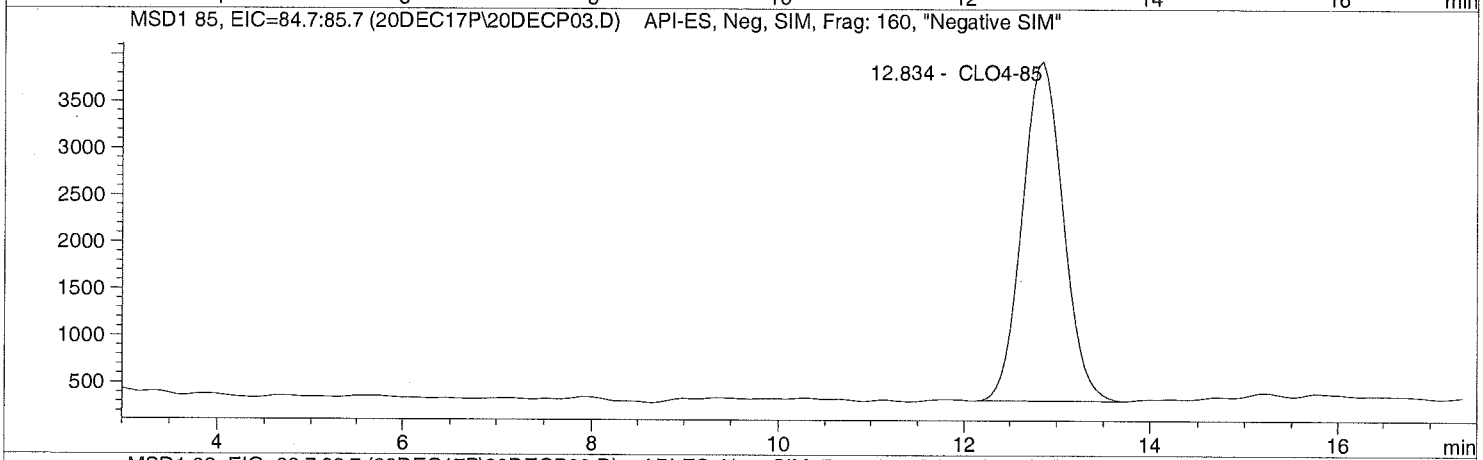
Data file: C:\HPCHEM\1\DATA\20DEC17P\20DECP03.D Sample Name: 1734528004 10K

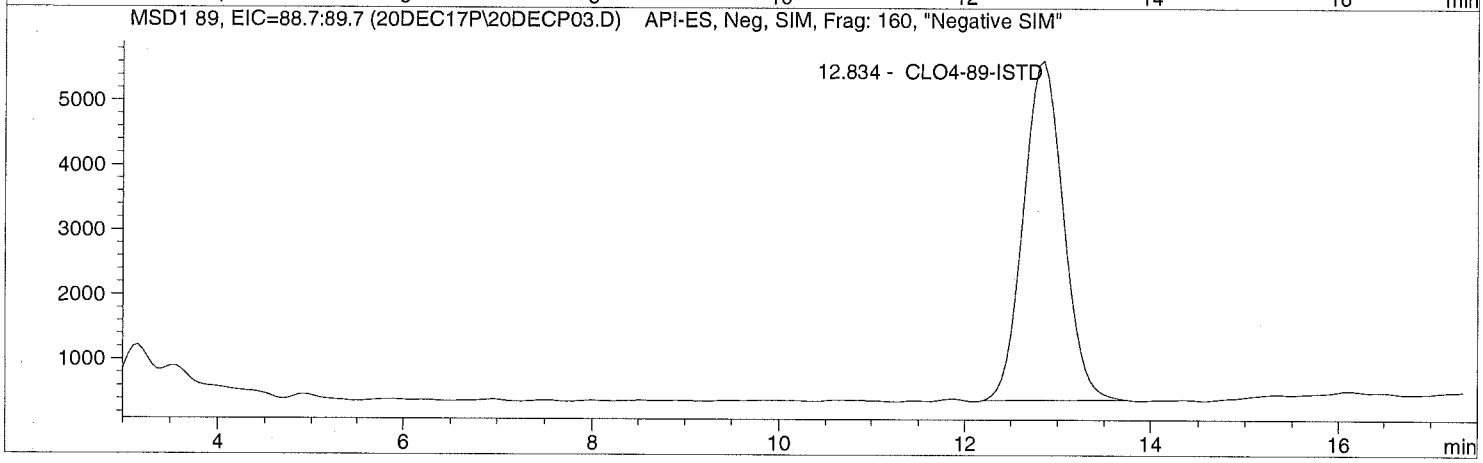
Injection Date:	12/20/2017 09:54:43	Seq Line:	3
Sample Name:	1734528004 10K	Location:	Vial 97
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\20DEC17P\20DECP03.D Sample Name: 1734528004 10K

Injection Date:	12/20/2017 09:54:43	Seq Line:	3
Sample Name:	1734528004 10K	Location:	Vial 97
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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
12.818	BBA	329575.6	93558.4549	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.834	PBA	109809.7	95583.1366	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.834	BBA	156124.6	50000.0000	CLO4-89-ISTD

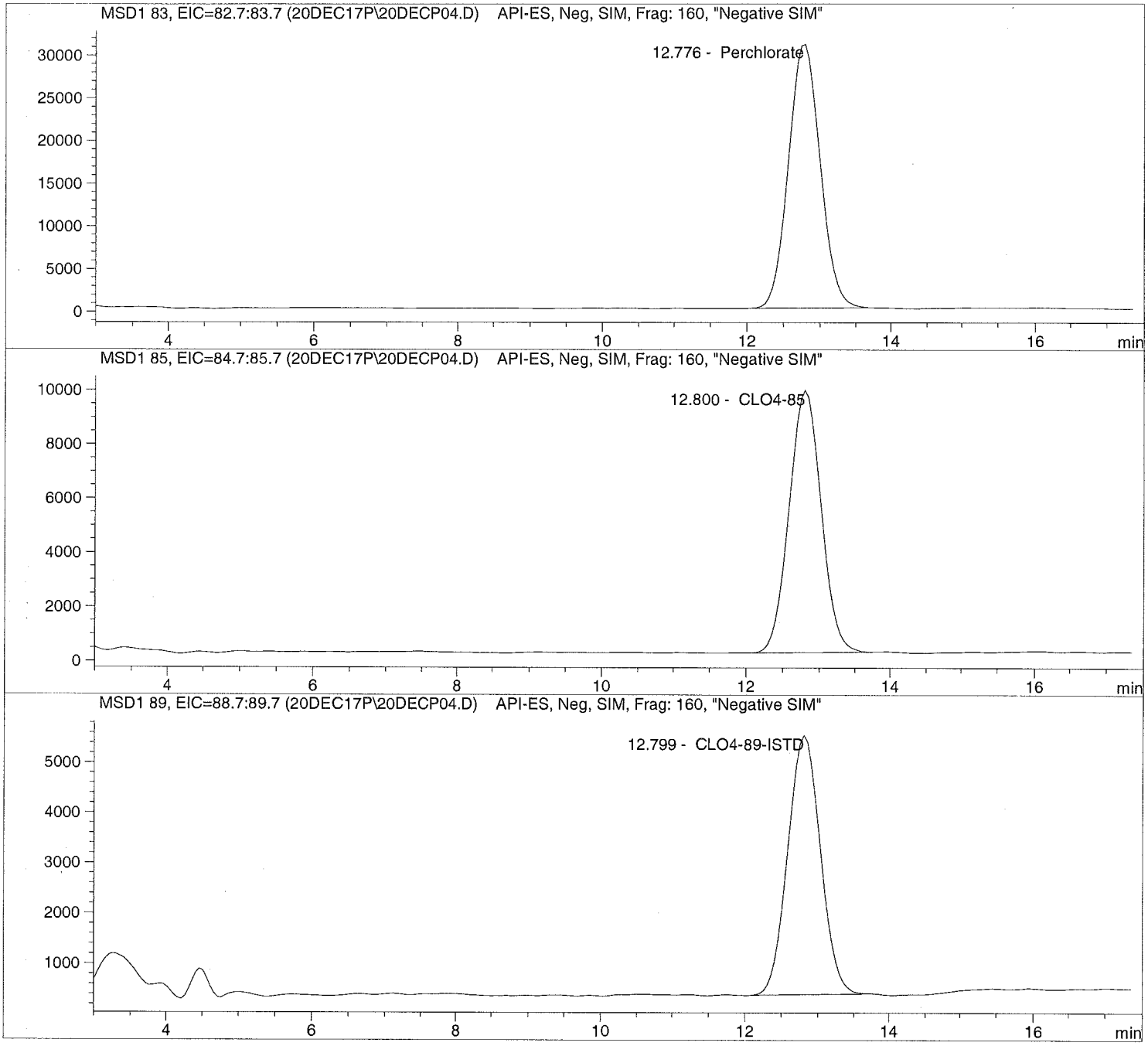
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Data file: C:\HPCHEM\1\DATA\20DEC17P\20DECP04.D Sample Name: 1734528010 100

Injection Date:	12/20/2017 10:13:52	Seq Line:	4
Sample Name:	1734528010 100	Location:	Vial 98
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\20DEC17P\20DECP04.D Sample Name: 1734528010 100

Injection Date:	12/20/2017 10:13:52	Seq Line:	4
Sample Name:	1734528010 100	Location:	Vial 98
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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
12.776	BBA	933493.1	2386.9013	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.800	PBA	295219.5	2386.2180	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.799	PBA	161157.0	500.0000	CLO4-89-ISTD

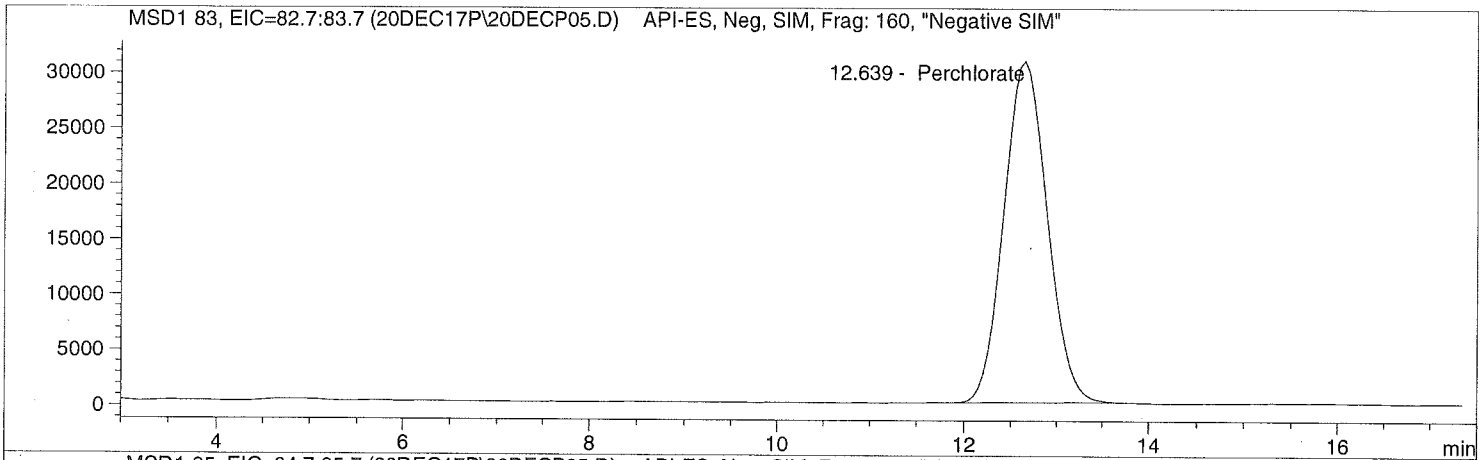
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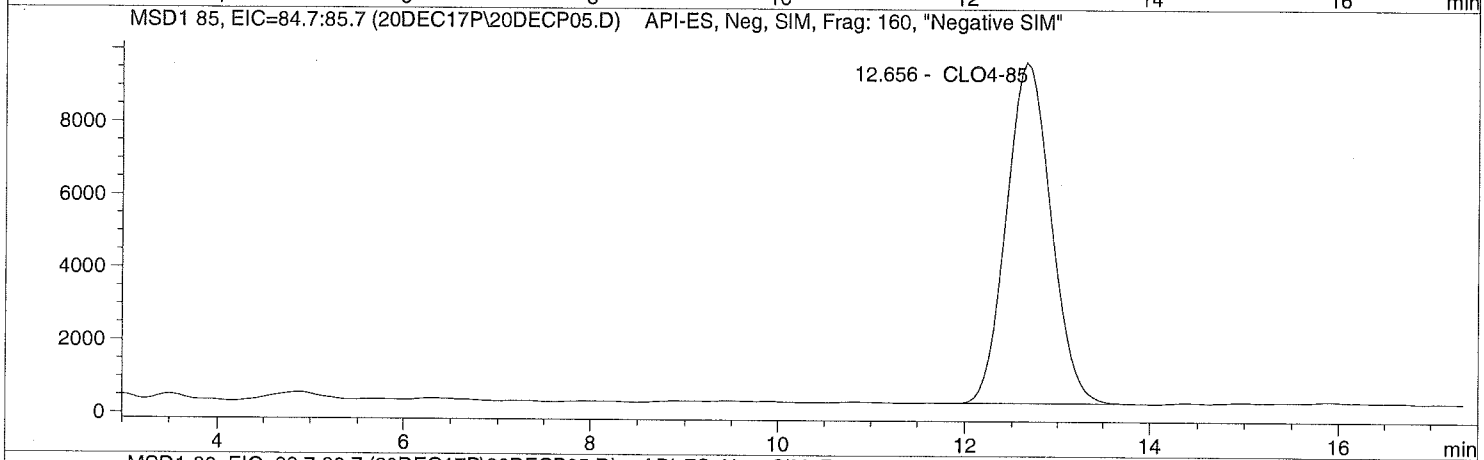
Data file: C:\HPCHEM\1\DATA\20DEC17P\20DECP05.D Sample Name: 580016 CCV@25

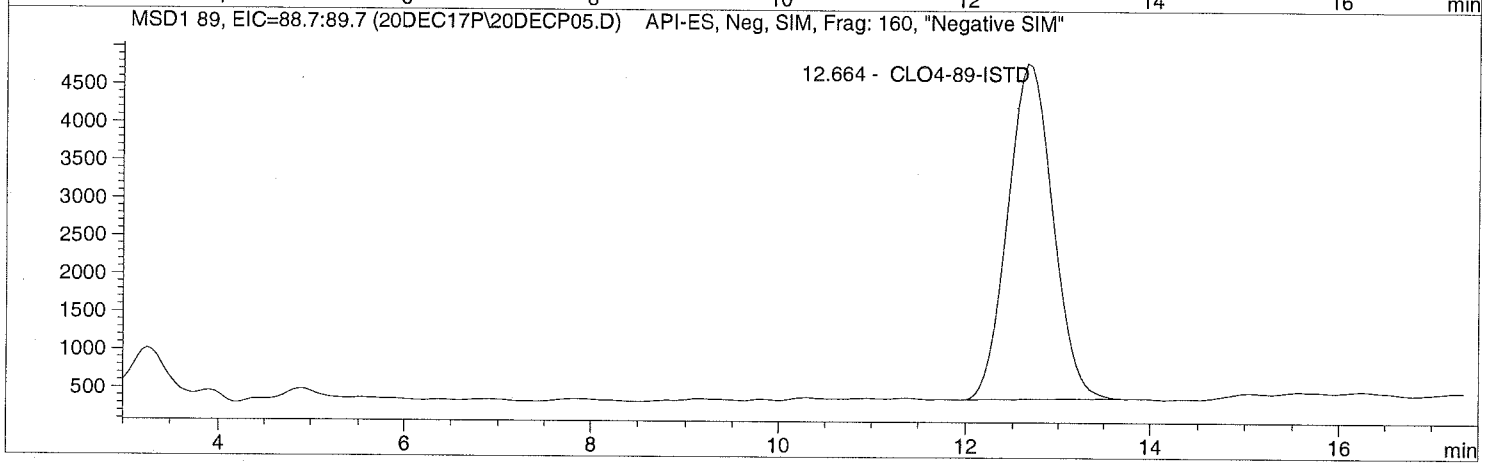
Injection Date:	12/20/2017 10:40:30	Seq Line:	5
Sample Name:	580016 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\20DEC17P\20DECP05.D Sample Name: 580016 CCV@25

Injection Date:	12/20/2017 10:40:30	Seq Line:	5
Sample Name:	580016 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
12.639	BBA	1013571.4	27.1410	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.656	PBA	316516.8	26.9282	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.664	PBA	151519.0	5.0000	CLO4-89-ISTD

*** End of Report ***

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Raw Data

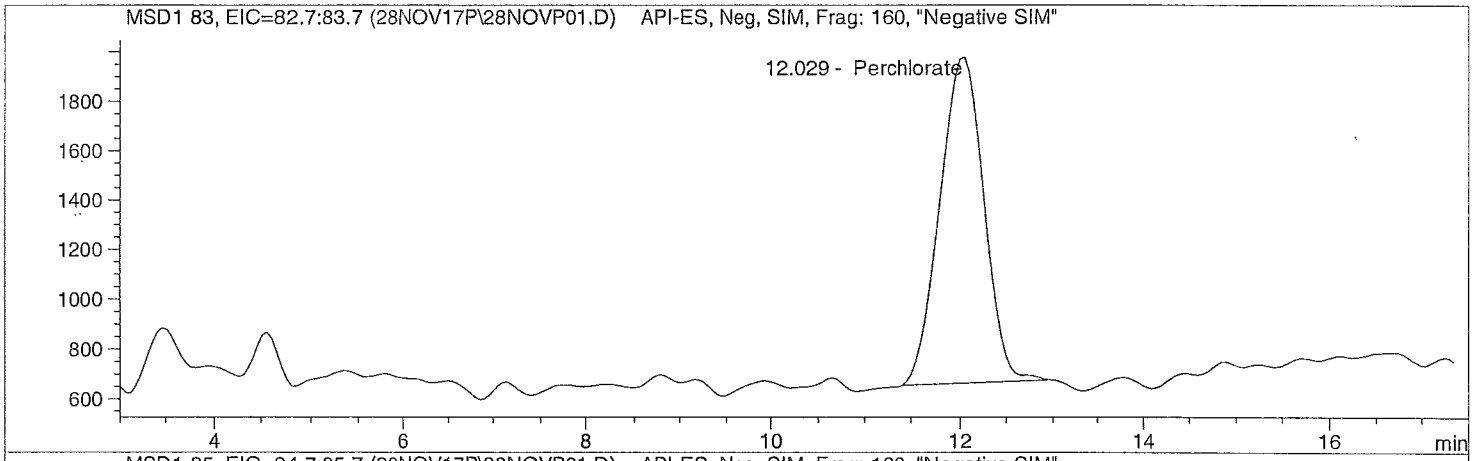
Unmodified

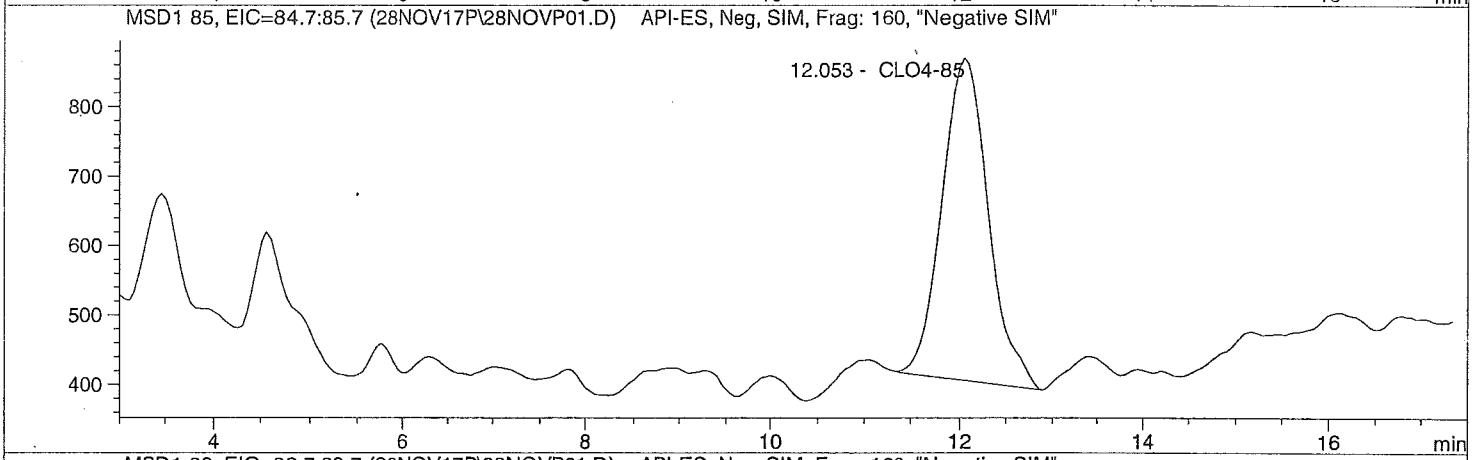
Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP01.D Sample Name: ICAL1@ 1.0ug/L

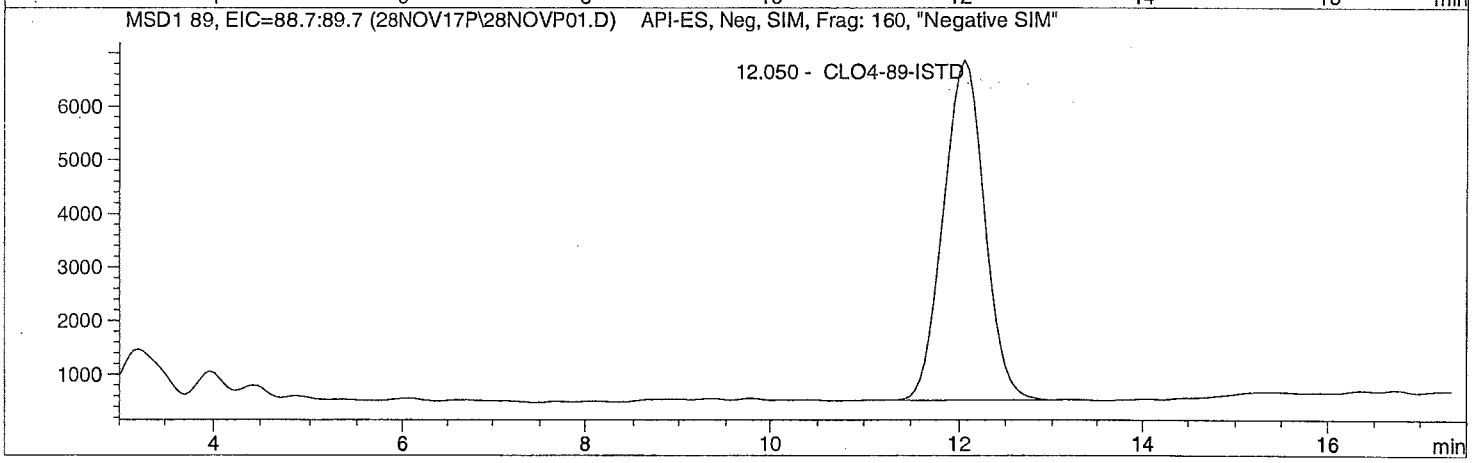
Injection Date:	11/28/2017 09:08:10	Seq Line:	1
Sample Name:	ICAL1@ 1.0ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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

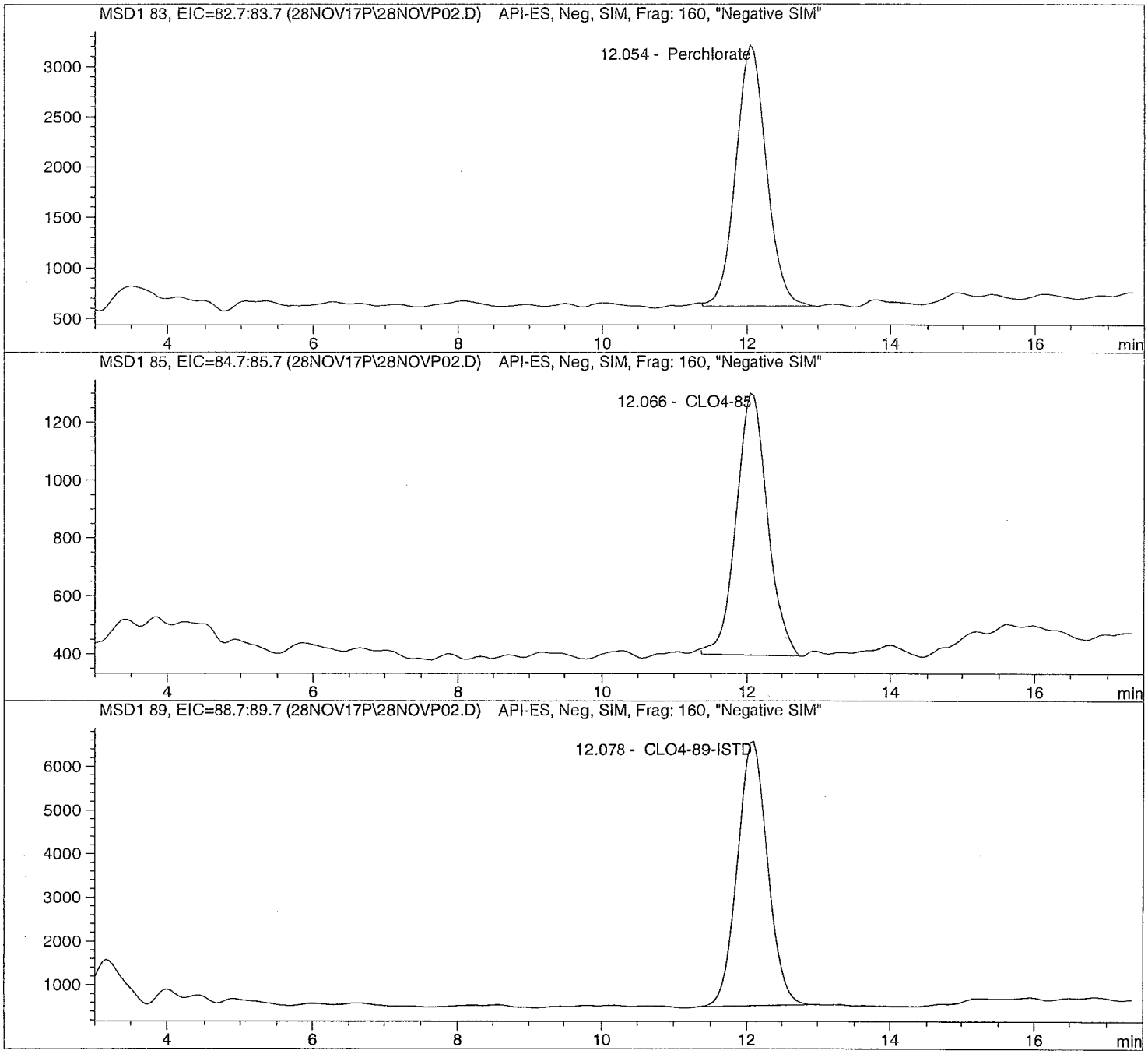
*** End of Report ***

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

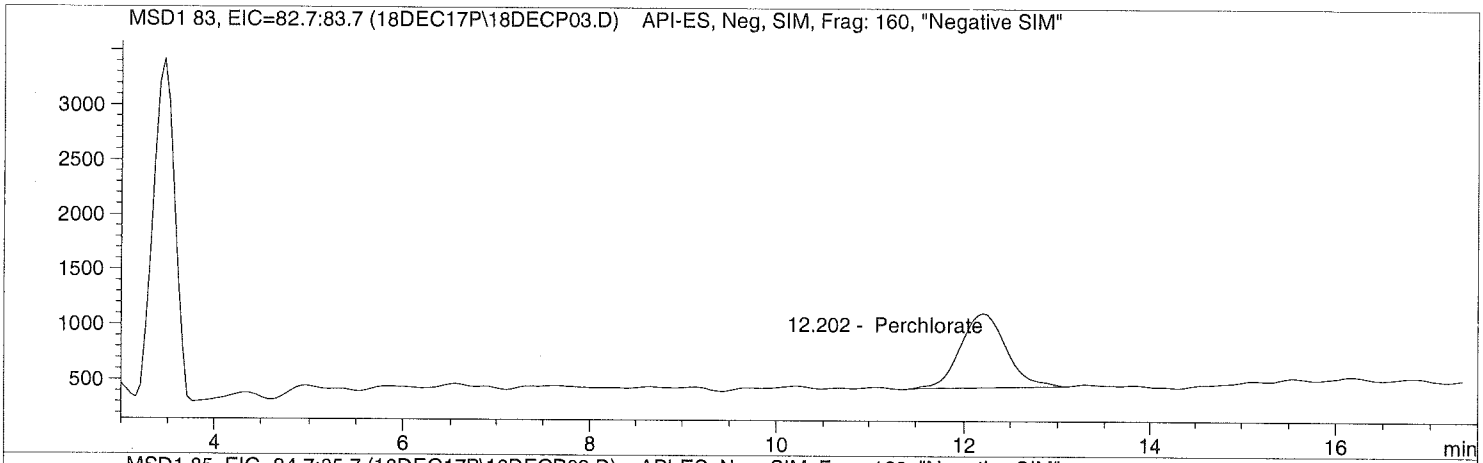
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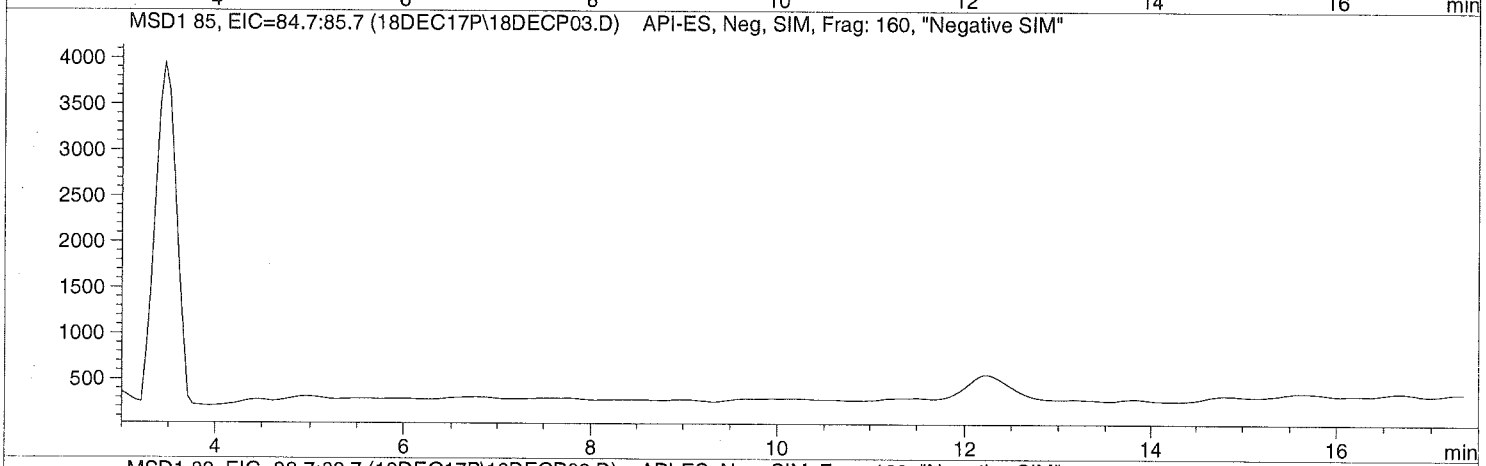
Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP03.D Sample Name: 579515 ICS@1.

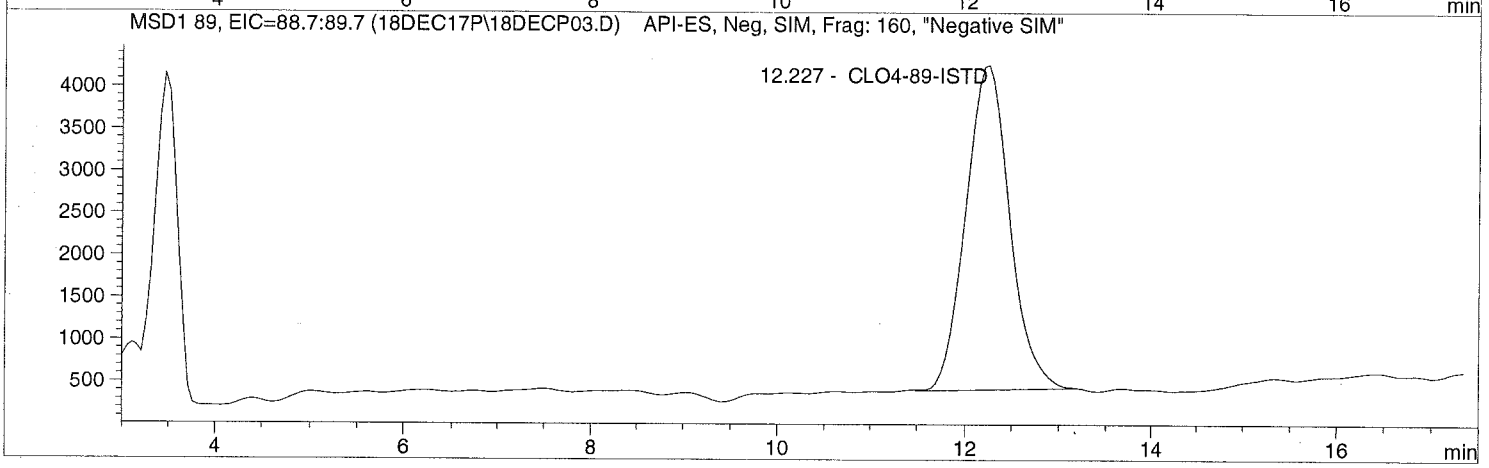
Injection Date:	12/18/2017 09:39:00	Seq Line:	3
Sample Name:	579515 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP03.D Sample Name: 579515 ICS@1.

Injection Date:	12/18/2017 09:39:00	Seq Line:	3
Sample Name:	579515 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
12.202	PBA	22893.8	0.8658	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
12.227	BBA	125694.8	5.0000	CLO4-89-ISTD

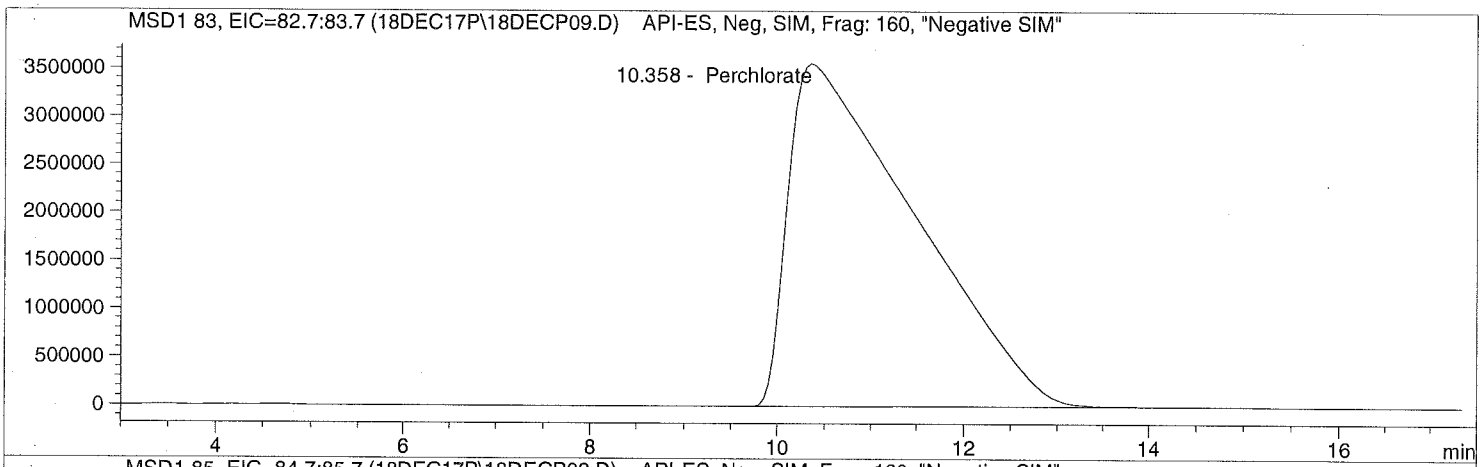
*** End of Report ***

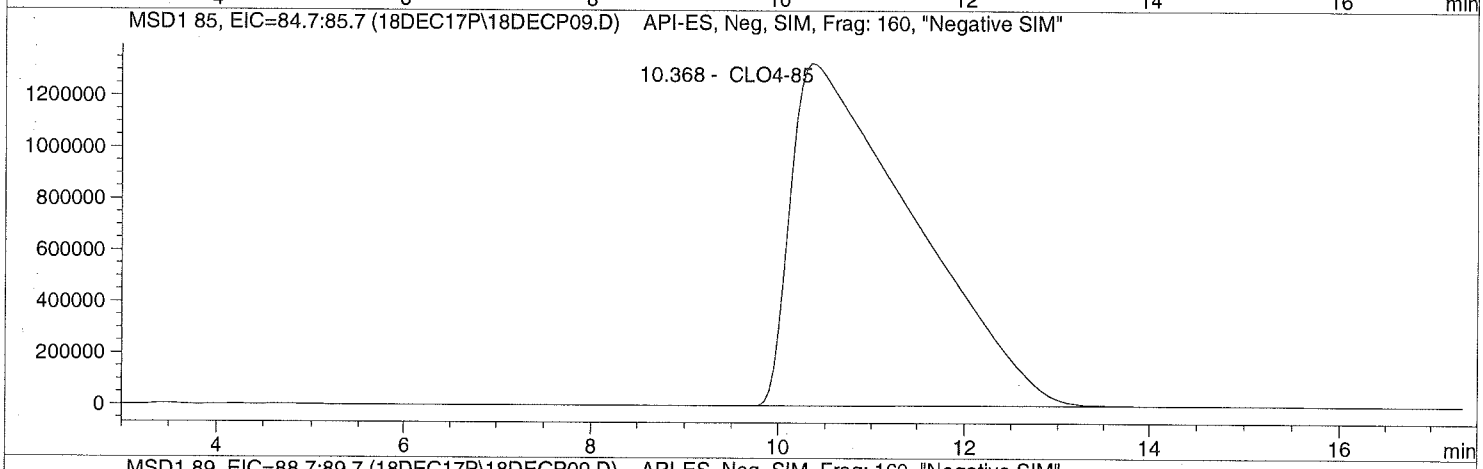
Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP09.D Sample Name: 1734273001

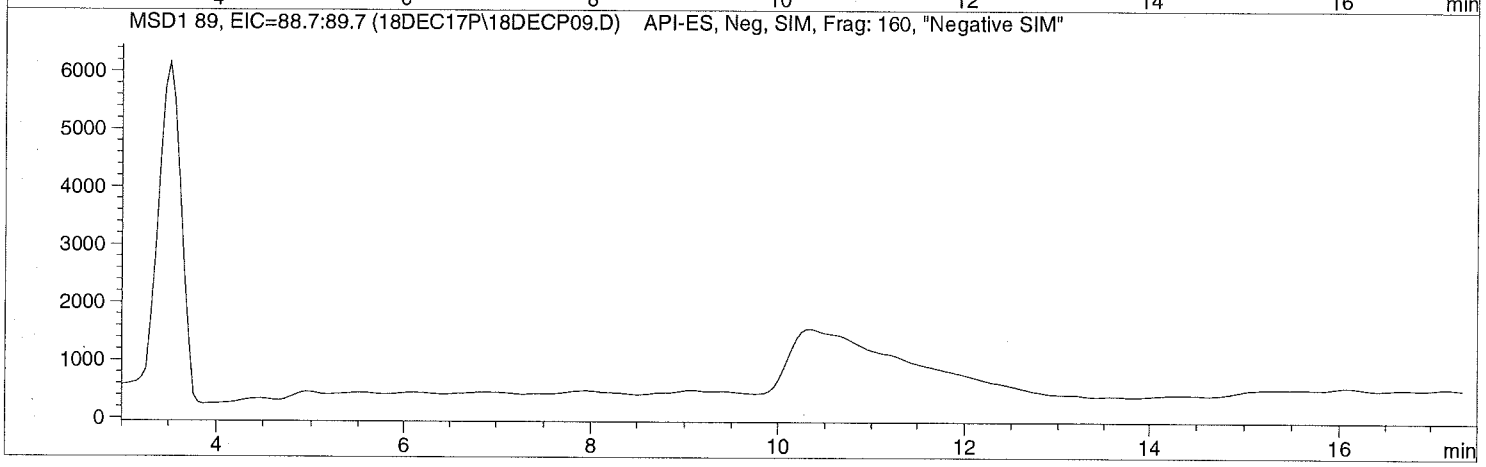
Injection Date:	12/18/2017 11:36:53	Seq Line:	9
Sample Name:	1734273001	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP09.D Sample Name: 1734273001

Injection Date:	12/18/2017 11:36:53	Seq Line:	9
Sample Name:	1734273001	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.358	PBA	334489216.0	0.0243	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.368	PBA	121188464.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-89-ISTD

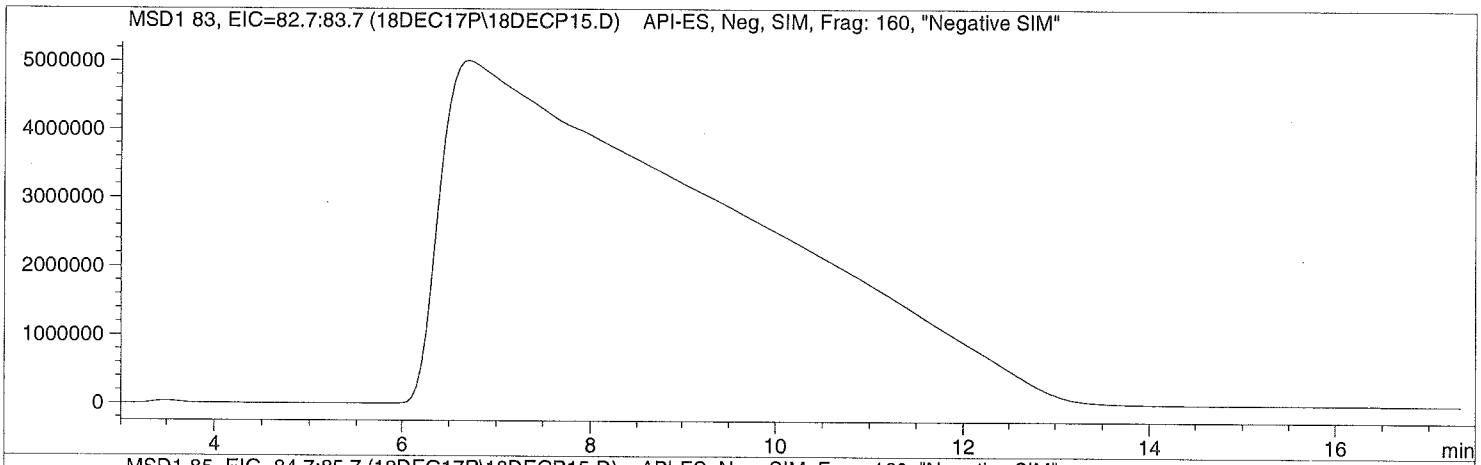
*** End of Report ***

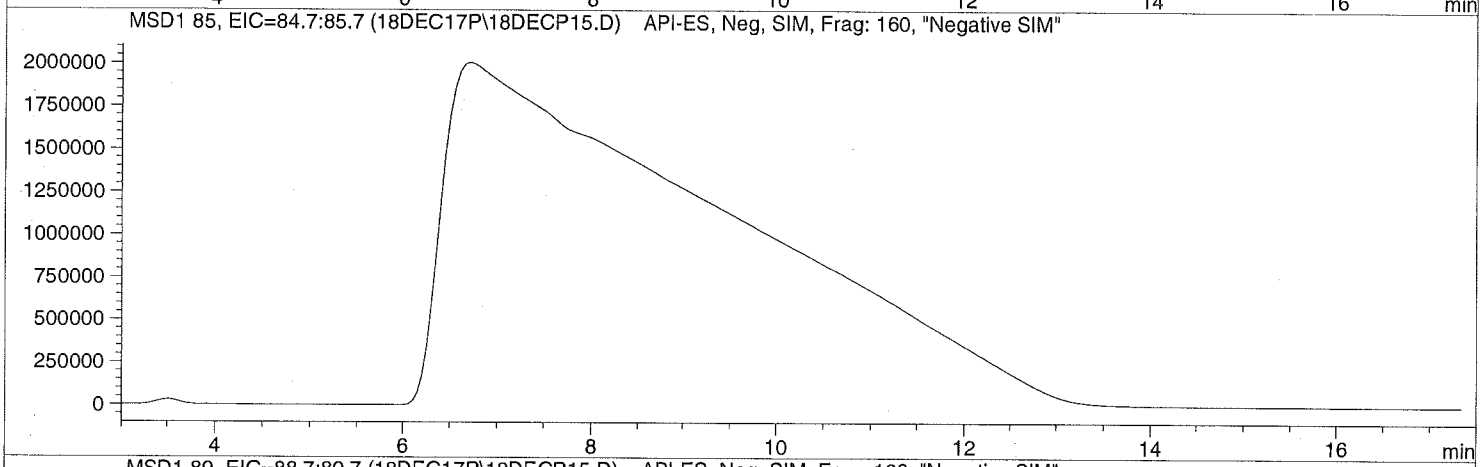
Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP15.D Sample Name: 1734528004

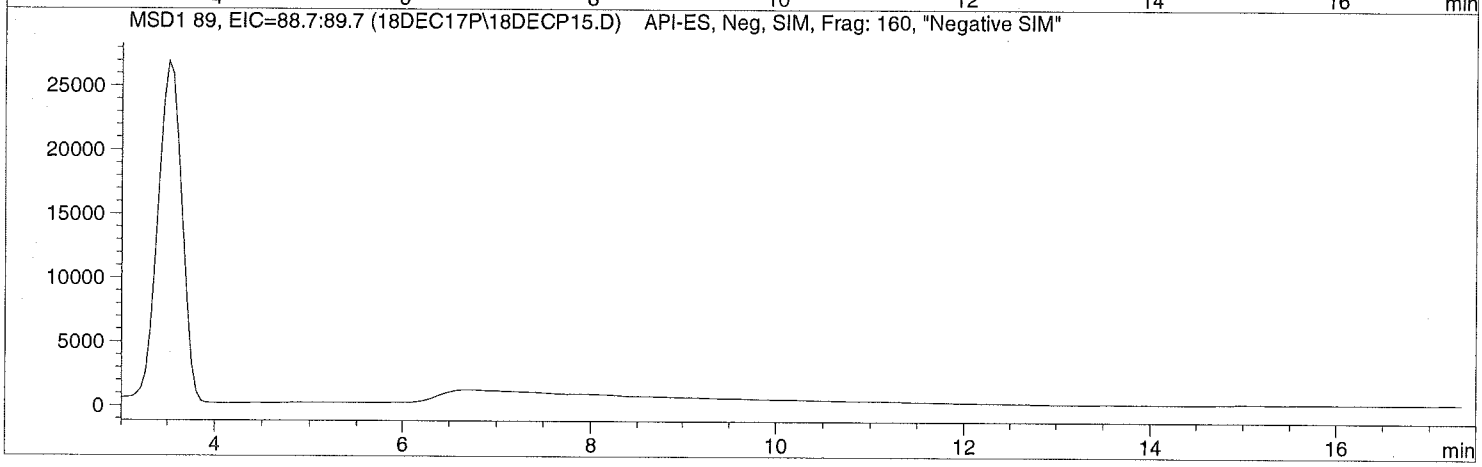
Injection Date:	12/18/2017 13:31:48	Seq Line:	15
Sample Name:	1734528004	Location:	Vial 84
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP15.D Sample Name: 1734528004

Injection Date:	12/18/2017 13:31:48	Seq Line:	15
Sample Name:	1734528004	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
0.000		0.0	0.0000	CLO4-89-ISTD

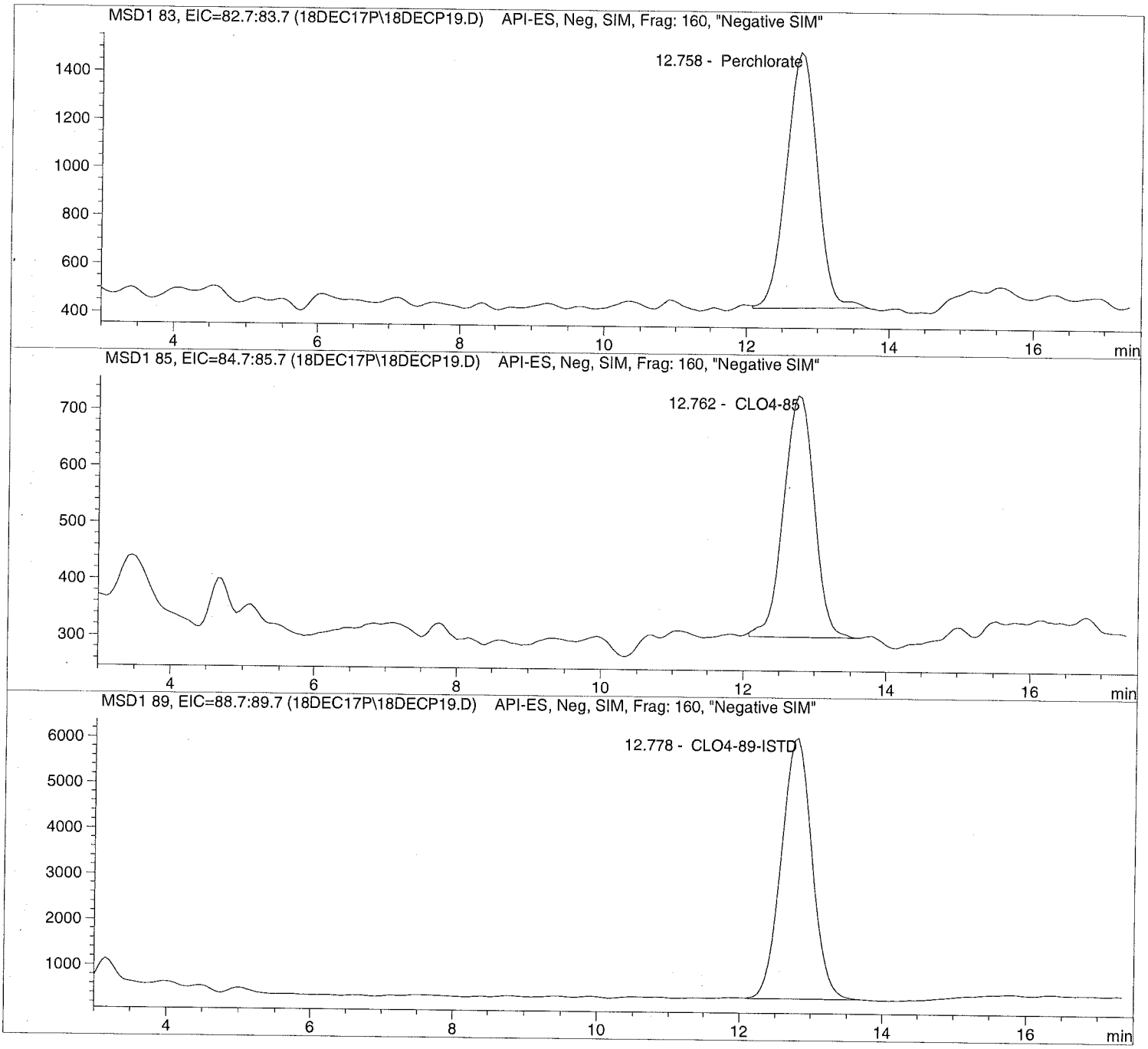
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP19.D Sample Name: 579521 LODV@1.

Injection Date:	12/18/2017 16:02:52	Seq Line:	19
Sample Name:	579521 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\18DEC17P\18DECP19.D Sample Name: 579521 LODV@1.

Injection Date:	12/18/2017 16:02:52	Seq Line:	19
Sample Name:	579521 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
12.758	BBA	32129.8	0.8893	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.762	BBA	12832.9	0.8695	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.778	BBA	171597.3	5.0000	CLO4-89-ISTD

*** End of Report ***

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

WorkOrder: HS17120366

Groundwater Treatment Plant Monthly Influent Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

28-Dec-2017

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

December 28, 2017

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

Work Order: **HS17120366**

Laboratory Results for: **Groundwater Treatment Plant Monthly Influent Samples**

Dear Marcia,

ALS Environmental received 1 sample(s) on Dec 07, 2017 for the analysis presented in the following report.

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

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

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

Sincerely,

Sonia West

Generated By: Jumoke.Lawal
Sonia West
Project Manager

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Influent Samples
Work Order: HS17120366

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS17120366-01	LH18/24-SP140_120617	Water		06-Dec-2017 14:00	07-Dec-2017 08:50	☐

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

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Groundwater Treatment Plant Monthly Influent Samples
Work Order: HS17120366

Work Order Comments

- The analysis for Perchlorate was subcontracted to ALS Environmental in Salt Lake City, UT. Final Report attached

Metals by Method SW6020

Batch ID: 123278

Sample ID: HS17120435-01MS

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

WetChemistry by Method SW7196

Batch ID: R306743

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

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

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Groundwater Treatment Plant Monthly Influent Samples
WorkOrder:HS17120366
Sample ID: LH18/24-SP140_120617
Lab ID:HS17120366-01
Collection Date: 06-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 / 13-Dec-2017		Analyst: RPM
Selenium	0.00100	U	0.00110	0.00100	0.00200	mg/L	1	14-Dec-2017 14:06
Silver	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	14-Dec-2017 14:06
HEXAVALENT CHROMIUM BY SW7196A		**Method:SW7196**				Prep:SW7196		Analyst: JHD
Chromium, Hexavalent	0.00500	U	0.00600	0.00500	0.0100	mg/L	1	07-Dec-2017 13:26
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	28-Dec-2017 10:59

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

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

WEIGHT LOG

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Influent Samples
WorkOrder: HS17120366

Batch ID: 123278 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS17120366-01	1	10	10 (mL)	1

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Influent Samples
WorkOrder: HS17120366

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 123278	**Test Name :** ICP-MS METALS BY SW6020A			**Matrix:** Water		
HS17120366-01	LH18/24-SP140_120617	06 Dec 2017 14:00		13 Dec 2017 11:45	14 Dec 2017 14:06	1
Batch ID R306743	**Test Name :** HEXAVALENT CHROMIUM BY SW7196A			**Matrix:** Water		
HS17120366-01	LH18/24-SP140_120617	06 Dec 2017 14:00			07 Dec 2017 13:26	1
Batch ID R308041	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)			**Matrix:** Water		
HS17120366-01	LH18/24-SP140_120617	06 Dec 2017 14:00			28 Dec 2017 10:59	1

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Influent Samples
WorkOrder: HS17120366

QC BATCH REPORT

Batch ID: 123278 **Instrument: ICPMS05** **Method: SW6020**

MBLK Sample ID: **MBLK-123278** Units: **mg/L** Analysis Date: **14-Dec-2017 14:00**
Client ID: Run ID: **ICPMS05_307200** SeqNo: **4351736** PrepDate: **13-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.00200	0.00200								U
Silver	0.00100	0.00200								U

LCS Sample ID: **LCS-123278** Units: **mg/L** Analysis Date: **14-Dec-2017 14:02**
Client ID: Run ID: **ICPMS05_307200** SeqNo: **4351737** PrepDate: **13-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.04267	0.00200	0.05	0	85.3	80 - 120				
Silver	0.0448	0.00200	0.05	0	89.6	80 - 120				

MS Sample ID: **HS17120435-01MS** Units: **mg/L** Analysis Date: **14-Dec-2017 14:12**
Client ID: Run ID: **ICPMS05_307200** SeqNo: **4351742** PrepDate: **13-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.04524	0.00200	0.05	0.000147	90.2	80 - 120				
Silver	0.04174	0.00200	0.05	0.000001	83.5	80 - 120				

MSD Sample ID: **HS17120435-01MSD** Units: **mg/L** Analysis Date: **14-Dec-2017 14:14**
Client ID: Run ID: **ICPMS05_307200** SeqNo: **4351743** PrepDate: **13-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.04406	0.00200	0.05	0.000147	87.8	80 - 120	0.04524	2.66	20	
Silver	0.04186	0.00200	0.05	0.000001	83.7	80 - 120	0.04174	0.287	20	

PDS Sample ID: **HS17120435-01PDS** Units: **mg/L** Analysis Date: **14-Dec-2017 14:16**
Client ID: Run ID: **ICPMS05_307200** SeqNo: **4351744** PrepDate: **13-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.09018	0.00200	0.1	0.000147	90.0	75 - 125				
Silver	0.07849	0.00200	0.1	0.000001	78.5	75 - 125				

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

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Influent Samples
WorkOrder: HS17120366

QC BATCH REPORT

Batch ID: 123278 **Instrument: ICPMS05** **Method: SW6020**

SD Sample ID: **HS17120435-01SD** Units: **mg/L** Analysis Date: **14-Dec-2017 14:10**
Client ID: Run ID: **ICPMS05_307200** SeqNo: **4351741** PrepDate: **13-Dec-2017** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Selenium	0.00500	0.0100					0.000147	0	10	U
Silver	0.00500	0.0100					0.000001	0	10	U

The following samples were analyzed in this batch: HS17120366-01

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

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Influent Samples
WorkOrder: HS17120366

QC BATCH REPORT

Batch ID: R306743 **Instrument: UV-2450** **Method: SW7196**

MBLK Sample ID: **MBLK-306743** Units: **mg/L** Analysis Date: **07-Dec-2017 13:26**
Client ID: Run ID: **UV-2450_306743** SeqNo: **4340766** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.00500	0.0100								U

LCS Sample ID: **LCS-306743** Units: **mg/L** Analysis Date: **07-Dec-2017 13:26**
Client ID: Run ID: **UV-2450_306743** SeqNo: **4340767** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.246	0.0100	0.25	0	98.4	80 - 120				

LCSD Sample ID: **LCSD-306743** Units: **mg/L** Analysis Date: **07-Dec-2017 13:26**
Client ID: Run ID: **UV-2450_306743** SeqNo: **4340768** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.244	0.0100	0.25	0	97.6	80 - 120	0.246	0.816	20	

MS Sample ID: **HS17120366-01MS** Units: **mg/L** Analysis Date: **07-Dec-2017 13:26**
Client ID: **LH18/24-SP140_120617** Run ID: **UV-2450_306743** SeqNo: **4340770** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.219	0.0100	0.25	0.002	86.8	75 - 125				

MSD Sample ID: **HS17120366-01MSD** Units: **mg/L** Analysis Date: **07-Dec-2017 13:26**
Client ID: **LH18/24-SP140_120617** Run ID: **UV-2450_306743** SeqNo: **4340771** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.235	0.0100	0.25	0.002	93.2	75 - 125	0.219	7.05	20	

The following samples were analyzed in this batch: HS17120366-01

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

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Influent Samples
WorkOrder: **HS17120366**

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 Carolina	624-2017	31-Dec-2017
North Dakota	R193 2017-2017	30-Apr-2018
Oklahoma	2017-088	31-Aug-2018
Texas	T104704231-17-19	30-Apr-2018

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Influent Samples
Work Order: HS17120366

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS17120366-01	LH18/24-SP140_120617	Login	12/7/2017 11:22:47 AM	CL	EXT034
HS17120366-01	LH18/24-SP140_120617	Login	12/7/2017 11:22:47 AM	CL	MET017
HS17120366-01	LH18/24-SP140_120617	Login	12/7/2017 11:22:47 AM	CL	WET114
HS17120366-01	LH18/24-SP140_120617	Login	12/7/2017 11:22:47 AM	CL	Sub
HS17120366-01	LH18/24-SP140_120617	Login	12/7/2017 11:22:47 AM	CL	VOA066

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

Sample Receipt Checklist

Client Name: Bhate Environmental
Work Order: HS17120366
Date/Time Received: **07-Dec-2017 08:50**
Received by: **JRM**

Checklist completed by: *Cesar A. Lira* eSignature 7-Dec-2017 Date
Reviewed by: *Sonia West* eSignature 8-Dec-2017 Date

Matrices: **WATER**
Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	0.8C/0.5C UC/C	IR30	
Cooler(s)/Kit(s):	43448		
Date/Time sample(s) sent to storage:	12/7/2017 1200		
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 MONTHLY INFLUENT SAMPLES

Prepared By: Scott Beesinger

P.O. Number

HS17120366
Bhate Environmental Associates, Inc.
Groundwater Treatment Plant Monthly Influent Samples

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: SILVER & SELENIUM	HEXAVALENT CHROMIUM	PERCHLORATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP140_120617	Water	12/06/17 / 14:00		1	X			HNO3	
LH18/24-SP140_120617	Water	12/06/17 / 14:00		2		X	X	NONE	

Additional Remarks: **STANDARD TURN AROUND TIME**

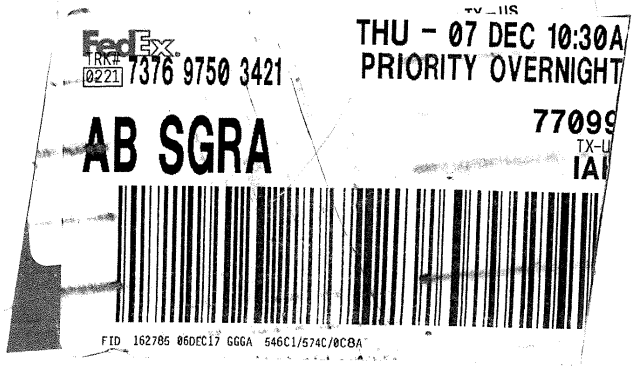
Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	12/06/17	14:30									

For Lab Use Only

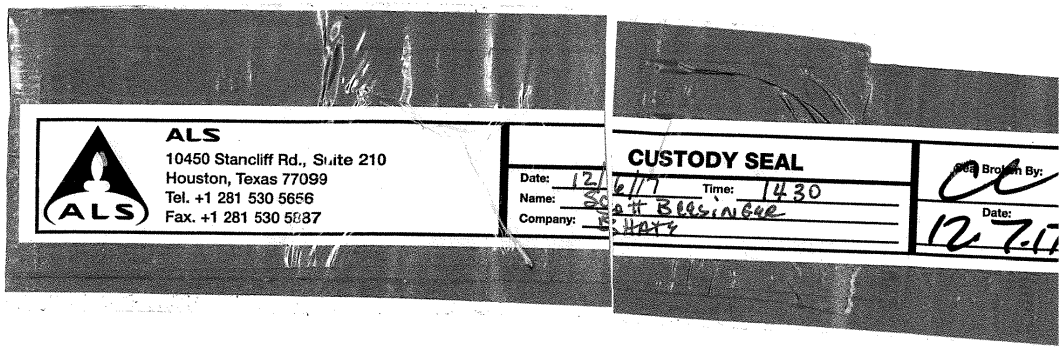
Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
JM	12/7/17	0850		CL	0.8°				

Remarks:
IR# 30
COC-03

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


FedEx
TRK# 7376 9750 3421
0221
THU - 07 DEC 10:30A
PRIORITY OVERNIGHT
AB SGRA
77099
TX-U
IA
FID 162705 06DEC17 GGGA 546C1/574C/0C8A

43448


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
Date: 12/
Name:
Company:
CUSTODY SEAL
Time: 1430
Date:
12-7-1

Metals Raw Data

Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Influent Samples
ALS WO# HS17120366

ALS Group USA, Corp

Date: 21-Dec-17

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Influent Samples
WorkOrder: HS17120366

Run ID: ICPMS05_307200
Instrument: ICPMS05
Method: SW6020

ICV	Date: 14-Dec-2017 09:38		Seq: 4350726	ICV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	98.782	99	90-110	
Silver	100	95.671	96	90-110	

CCV1	Date: 14-Dec-2017 10:00		Seq: 4350765	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	96.098	96	90-110	
Silver	100	95.359	95	90-110	

CCV2	Date: 14-Dec-2017 10:25		Seq: 4351296	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	100.282	100	90-110	
Silver	100	94.415	94	90-110	

CCV3	Date: 14-Dec-2017 10:55		Seq: 4351311	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	98.054	98	90-110	
Silver	100	93.212	93	90-110	

CCV4	Date: 14-Dec-2017 11:56		Seq: 4351321	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	95.932	96	90-110	
Silver	100	91.801	92	90-110	

CCV5	Date: 14-Dec-2017 12:20		Seq: 4351488	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	100.672	101	90-110	
Silver	100	92.53	93	90-110	

CCV6	Date: 14-Dec-2017 12:44		Seq: 4351522	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	100.75	101	90-110	
Silver	100	94.544	95	90-110	

CCV7	Date: 14-Dec-2017 13:08		Seq: 4351572	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	96.491	97	90-110	
Silver	100	93.76	94	90-110	

CCV8	Date: 14-Dec-2017 13:32		Seq: 4351685	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	102.624	103	90-110	
Silver	100	91.033	91	90-110	

CCV9	Date: 14-Dec-2017 13:56		Seq: 4351734	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	99.388	99	90-110	
Silver	100	93.058	93	90-110	

CCV10	Date: 14-Dec-2017 14:20		Seq: 4351765	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	98.204	98	90-110	
Silver	100	93.381	93	90-110	

CCV11	Date: 14-Dec-2017 14:45		Seq: 4351947	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	94.161	94	90-110	
Silver	100	92.949	93	90-110	

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Influent Samples
WorkOrder: HS17120366

Run ID: ICPMS05_307200
Instrument: ICPMS05
Method: SW6020

CCV12	Date: 14-Dec-2017 15:09		Seq: 4352185	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	96.797	97	90-110	
Silver	100	93.008	93	90-110	

CCV13	Date: 14-Dec-2017 15:33		Seq: 4352197	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	95.79	96	90-110	
Silver	100	91.826	92	90-110	

CCV14	Date: 14-Dec-2017 15:57		Seq: 4352748	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	100.05	100	90-110	
Silver	100	95.022	95	90-110	

CCV15	Date: 14-Dec-2017 16:21		Seq: 4352760	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	94.858	95	90-110	
Silver	100	94.84	95	90-110	

CCV16	Date: 14-Dec-2017 16:45		Seq: 4352772	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	92.988	93	90-110	
Silver	100	91.352	91	90-110	

CCV17	Date: 14-Dec-2017 17:09		Seq: 4352784	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	96.037	96	90-110	
Silver	100	93.699	94	90-110	

CCV18	Date: 14-Dec-2017 17:33		Seq: 4352796	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	98.376	98	90-110	
Silver	100	93.919	94	90-110	

CCV19	Date: 14-Dec-2017 17:45		Seq: 4352802	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	100.781	101	90-110	
Silver	100	95.156	95	90-110	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Influent Samples
WorkOrder: HS17120366

Run ID: ICPMS05_307200
Instrument: ICPMS05
Method: SW6020

ICB	Date: 14-Dec-2017 09:44		Seq: 4350729	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB1	Date: 14-Dec-2017 10:02		Seq: 4350766	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB2	Date: 14-Dec-2017 10:27		Seq: 4351297	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB3	Date: 14-Dec-2017 10:51		Seq: 4351309	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB4	Date: 14-Dec-2017 11:58		Seq: 4351322	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB5	Date: 14-Dec-2017 12:22		Seq: 4351489	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB6	Date: 14-Dec-2017 12:46		Seq: 4351523	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB7	Date: 14-Dec-2017 13:10		Seq: 4351573	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB8	Date: 14-Dec-2017 13:34		Seq: 4351686	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB9	Date: 14-Dec-2017 13:58		Seq: 4351735	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
MBLK-123278	Date: 14-Dec-2017 14:00		Seq: 4351736	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB10	Date: 14-Dec-2017 14:22		Seq: 4351766	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Influent Samples
WorkOrder: HS17120366

Run ID: ICPMS05_307200
Instrument: ICPMS05
Method: SW6020

CCB11	Date: 14-Dec-2017 14:47		Seq: 4351948	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB12	Date: 14-Dec-2017 15:11		Seq: 4352186	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB13	Date: 14-Dec-2017 15:35		Seq: 4352198	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB14	Date: 14-Dec-2017 15:59		Seq: 4352749	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB15	Date: 14-Dec-2017 16:23		Seq: 4352761	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB16	Date: 14-Dec-2017 16:47		Seq: 4352773	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB17	Date: 14-Dec-2017 17:11		Seq: 4352785	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB18	Date: 14-Dec-2017 17:35		Seq: 4352797	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB19	Date: 14-Dec-2017 17:47		Seq: 4352803	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

ALS Group USA, Corp Date: 21-Dec-17

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc. Run ID:ICPMS05_307200

Project: Groundwater Treatment Plant Monthly Influent Samples Instrument:ICPMS05

WorkOrder: HS17120366 Method:SW6020

ICSA	Date: 14-Dec-2017 09:46	Seq: 4350730	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Selenium		-0.22	0	
Silver		0.019	0	
ICSAB	Date: 14-Dec-2017 09:48	Seq: 4350731	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Selenium	100	89.35	89.3	
Silver	100	80.95	81.0	
ICSA	Date: 14-Dec-2017 17:52	Seq: 4352806	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Selenium		0.41	0	
Silver		0.016	0	
ICSAB	Date: 14-Dec-2017 17:55	Seq: 4352807	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Selenium	100	86.1	86.1	
Silver	100	80.56	80.6	

ALS Group USA, Corp Date: 21-Dec-17

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Influent Samples
WorkOrder: HS17120366

Date Analyzed: 14-Dec-2017 14:14
Date Extracted: 13-Dec-2017 11:45
Units: ug/L

Matrix Spike: HS17120435-01MS
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Selenium	2.000	45.24	50.00	90.2	44.06	50.00	87.8	80-120	2.66	20
Silver	2.000	41.74	50.00	83.5	41.86	50.00	83.7	80-120	0.287	20

ALS Group USA, Corp Date: 21-Dec-17

Form 5B - Post Digest Sample Recovery

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Influent Samples
WorkOrder: HS17120366

Date Analyzed: 14-Dec-2017 14:16
Date Extracted: 13-Dec-2017 11:45
Units: ug/L

Lab Sample ID: HS17120435-01PDS
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	PDS Result	Spike Amount	% Rec	% Rec Limits
Selenium	0	90.18	100	90	75-125
Silver	0	78.49	100	79	75-125

ALS Group USA, Corp Date: 21-Dec-17

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Influent Samples
WorkOrder: HS17120366

Date Analyzed: 14-Dec-2017 14:02
Date Extracted: 13-Dec-2017 11:45
Units: ug/L

Lab Sample ID: LCS-123278 Analysis Method: SW6020

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Selenium	50	42.67	85	80-120
Silver	50	44.8	90	80-120

ALS Group USA, Corp Date: 21-Dec-17

Form 8 - ICP Serial Dilutions

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Influent Samples
WorkOrder: HS17120366

Date Analyzed: 14-Dec-2017 14:10
Date Extracted: 13-Dec-2017 11:45
Units: ug/L

Lab Sample ID: HS17120435-01SD
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	C	SD Result	C	RPD	Q
Selenium	0	U	0	U	0	
Silver	0	U	0	U	0	

ALS Group USA, Corp

Date: 21-Dec-17

Form 11 - INTERNAL STANDARD ASSOCIATION

Client: Bhate Environmental Associates, Inc.

Instrument:ICPMS05

Project: Groundwater Treatment Plant Monthly Influent Samples

WorkOrder: HS17120366

Mass	Analyte	Assoc Int Standard 1	Assoc Int Standard 2	Mode
9	Beryllium	Lithium		Ar
11	Boron	Lithium		Ar
23	Sodium	Germanium		Ar
24	Magnesium	Germanium		Ar
27	Aluminum	Germanium		Ar
39	Potassium	Germanium		Ar
44	Calcium	Germanium		Ar
47	Titanium	Germanium		Ar
51	Vanadium	Germanium		ArHe
52	Chromium	Germanium		ArHe
55	Manganese	Germanium		ArHe
56	Iron	Germanium		ArHe
59	Cobalt	Germanium		ArHe
60	Nickel	Germanium		ArHe
63	Copper	Germanium		ArHe
66	Zinc	Germanium		ArHe
75	Arsenic	Germanium		ArHe
78	Selenium	Germanium		ArHe
88	Strontium	Germanium		Ar
95	Molybdenum	Germanium		Ar
105	Palladium	Germanium		Ar
107	Silver	Germanium		Ar
114	Cadmium	Indium		Ar
118	Tin	Germanium		Ar
121	Antimony	Germanium		ArHe
137	Barium	Indium		Ar
205	Thallium	Bismuth		Ar
208	Lead	Bismuth		Ar

ALS Group USA, Corp Date: 21-Dec-17

FORM 12 - PREPARATION LOG

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Influent Samples
WorkOrder: HS17120366
Start Date: 13-Dec-2017 11:45 End Date: 13-Dec-2017 15:30

Batch ID: 123278
Prep Code: 3010A
Method: SW3010A
Technician:

SampID	ClientID	Matrix	Init Wt	Init Vol	FinalVol (mL)	PrepFac
HS17120366-01	LH18/24-SP140_120617	Water		10	10	1
HS17120435-01MS				10	10	1
HS17120435-01MSD				10	10	1
HS17120435-01PDS				10	10	1
HS17120435-01SD				10	10	1
LCS-123278				10	10	1
MBLK-123278				10	10	1

ALS Group USA, Corp Date: 21-Dec-17

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Influent Samples
WorkOrder: HS17120366
Start Date: 14-Dec-2017 End Date: 14-Dec-2017

Run ID:ICPMS05_307200
Instrument:ICPMS05
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS05_307200_Tune	1	14-Dec-2017 00:00	ICPMS05_307200_Tune_1	
CAL BLK	1	14-Dec-2017 09:25	004CALB.d_4350719	AG SE
2/10/200	1	14-Dec-2017 09:27	005CALS.d_4350720	AG SE
5/25/500	1	14-Dec-2017 09:29	006CALS.d_4350721	AG SE
10/50/1000	1	14-Dec-2017 09:31	007CALS.d_4350722	AG SE
100/500/10K	1	14-Dec-2017 09:33	008CALS.d_4350723	AG SE
200/1000/20K	1	14-Dec-2017 09:34	009CALS.d_4350724	AG SE
ICV	1	14-Dec-2017 09:38	011_ICV.d_4350726	AG SE
LLICV2	1	14-Dec-2017 09:40	012SMPL.d_4350727	AG SE
LLICV5	1	14-Dec-2017 09:42	013LICV.d_4350728	AG SE
ICB	1	14-Dec-2017 09:44	014_ICB.d_4350729	AG SE
ICSA	1	14-Dec-2017 09:46	015ICSA.d_4350730	AG SE
ICSAB	1	14-Dec-2017 09:48	016ICSB.d_4350731	AG SE
CCV 1	1	14-Dec-2017 10:00	022_CCV.d_4350765	AG SE
CCB 1	1	14-Dec-2017 10:02	023_CCB.d_4350766	AG SE
CCV 2	1	14-Dec-2017 10:25	034_CCV.d_4351296	AG SE
CCB 2	1	14-Dec-2017 10:27	035_CCB.d_4351297	AG SE
CCB 3	1	14-Dec-2017 10:51	047_CCB.d_4351309	AG SE
CCV 3	1	14-Dec-2017 10:55	049_CCV.d_4351311	AG SE
CCV 4	1	14-Dec-2017 11:56	062_CCV.d_4351321	AG SE
CCB 4	1	14-Dec-2017 11:58	063_CCB.d_4351322	AG SE
CCV 5	1	14-Dec-2017 12:20	074_CCV.d_4351488	AG SE
CCB 5	1	14-Dec-2017 12:22	075_CCB.d_4351489	AG SE
CCV 6	1	14-Dec-2017 12:44	086_CCV.d_4351522	AG SE
CCB 6	1	14-Dec-2017 12:46	087_CCB.d_4351523	AG SE
CCV 7	1	14-Dec-2017 13:08	098_CCV.d_4351572	AG SE
CCB 7	1	14-Dec-2017 13:10	099_CCB.d_4351573	AG SE
CCV 8	1	14-Dec-2017 13:32	110_CCV.d_4351685	AG SE
CCB 8	1	14-Dec-2017 13:34	111_CCB.d_4351686	AG SE
CCV 9	1	14-Dec-2017 13:56	122_CCV.d_4351734	AG SE
CCB 9	1	14-Dec-2017 13:58	123_CCB.d_4351735	AG SE
MBLK-123278	1	14-Dec-2017 14:00	124SMPL.d_4351736	AG SE
LCS-123278	1	14-Dec-2017 14:02	125SMPL.d_4351737	AG SE
LH18/24-SP140_120617	1	14-Dec-2017 14:06	127SMPL.d_4351739	AG SE
ZZZZZZSD	5	14-Dec-2017 14:10	129SMPL.d_4351741	AG SE
ZZZZZZMS	1	14-Dec-2017 14:12	130SMPL.d_4351742	AG SE
ZZZZZZMSD	1	14-Dec-2017 14:14	131SMPL.d_4351743	AG SE
ZZZZZZPDS	1	14-Dec-2017 14:16	132SMPL.d_4351744	AG SE
CCV 10	1	14-Dec-2017 14:20	134_CCV.d_4351765	AG SE
CCB 10	1	14-Dec-2017 14:22	135_CCB.d_4351766	AG SE
CCV 11	1	14-Dec-2017 14:45	146_CCV.d_4351947	AG SE
CCB 11	1	14-Dec-2017 14:47	147_CCB.d_4351948	AG SE
CCV 12	1	14-Dec-2017 15:09	158_CCV.d_4352185	AG SE
CCB 12	1	14-Dec-2017 15:11	159_CCB.d_4352186	AG SE
CCV 13	1	14-Dec-2017 15:33	170_CCV.d_4352197	AG SE
CCB 13	1	14-Dec-2017 15:35	171_CCB.d_4352198	AG SE
CCV 14	1	14-Dec-2017 15:57	182_CCV.d_4352748	AG SE
CCB 14	1	14-Dec-2017 15:59	183_CCB.d_4352749	AG SE
CCV 15	1	14-Dec-2017 16:21	194_CCV.d_4352760	AG SE
CCB 15	1	14-Dec-2017 16:23	195_CCB.d_4352761	AG SE
CCV 16	1	14-Dec-2017 16:45	206_CCV.d_4352772	AG SE
CCB 16	1	14-Dec-2017 16:47	207_CCB.d_4352773	AG SE
CCV 17	1	14-Dec-2017 17:09	218_CCV.d_4352784	AG SE
17	1	14-Dec-2017 17:11	219_CCB.d_4352785	AG SE

ALS Group USA, Corp Date: 21-Dec-17

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Influent Samples
WorkOrder: HS17120366
Start Date: 14-Dec-2017 End Date: 14-Dec-2017

Run ID:ICPMS05_307200
Instrument:ICPMS05
Method:

Sample No.	D/F	Time	FileID	Analytes
CCV 18	1	14-Dec-2017 17:33	230_CCV.d_4352796	AG SE
CCB 18	1	14-Dec-2017 17:35	231_CCB.d_4352797	AG SE
CCV 19	1	14-Dec-2017 17:45	236_CCV.d_4352802	AG SE
CCB 19	1	14-Dec-2017 17:47	237_CCB.d_4352803	AG SE
LLCCV5	1	14-Dec-2017 17:48	238LICV.d_4352804	AG SE
LLCCV2	1	14-Dec-2017 17:50	239SMPL.d_4352805	AG SE
ICSA	1	14-Dec-2017 17:52	240ICSA.d_4352806	AG SE
ICSAB	1	14-Dec-2017 17:55	241ICSB.d_4352807	AG SE

Tune Report

Batch Folder C:\Agilent\ICPMH\1\DATA\121417A.b
Report Comment
Instrument Name G3281A JP11080910

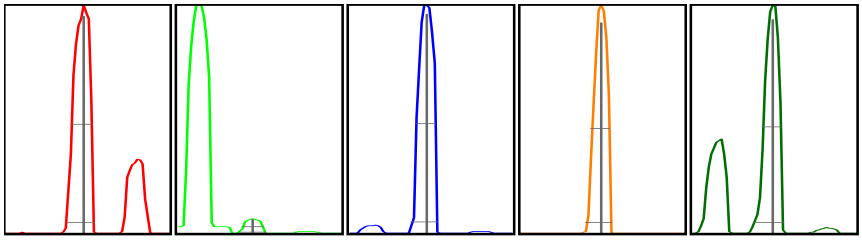
[nogas]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
9		8145				NaN	-	
24		28754				NaN	-	
59		41338				NaN	-	
115		53605				NaN	-	
208		35877				NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
9	1.23	5.00				
24	1.24	5.00				
59	1.28	5.00				
115	1.72	5.00				
208	0.79	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	8256	8240	8047	8132	8051
24	28736	28440	28788	29331	28476
59	41922	41820	41131	40655	41161
115	54944	53932	53334	52422	53392
208	36234	35829	36101	35585	35636

Integration Time [sec] 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
9	2143.21	8.95	8.9 - 9.1		0.39	0.492	0.750	
24	7708.53	23.90	23.9 - 24.1		0.37	0.488	0.750	
59	11601.69	58.95	58.9 - 59.1		0.37	0.461	0.750	
115	15962.57	115.00	114.9 - 115.1		0.33	0.468	0.750	
208	10231.30	208.00	207.9 - 208.1		0.34	0.526	0.750	

X = 5 **Integration Time [sec]** 0.1 **Acquisition Time [sec]** 168.5 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1600 W	Carrier Gas	0.35 L/min	S/C Temp	2 ℃
RF Matching	1.70 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.50 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	8.0 V	Deflect	15.6 V
Extract 2	-200.0 V	Cell Entrance	-38 V	Plate Bias	-50 V
Omega Bias	-100 V	Cell Exit	-58 V		

Cell Parameters

OctP Bias	-8.0 V	He Flow	0.0 mL/min	Energy Discrimination	5.0 V
OctP RF	190 V	H2 Flow	0.0 mL/min		
Use Gas	true	3rd Gas Flow	0 %		

[He]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
9		74				NaN	-	
24		600				NaN	-	
59		11332				NaN	-	

Tune Report

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
9	11.38	5.00	[F]			
24	1.99	5.00				
59	2.36	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	75	62	84	72	80
24	602	608	580	600	611
59	11036	11087	11382	11485	11668

Integration Time [sec] 0.1

Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
9	20.16	8.90	8.9 - 9.1		0.37	0.494	0.750	
24	165.05	23.90	23.9 - 24.1		0.38	0.481	0.750	
59	3326.34	58.95	58.9 - 59.1		0.34	0.443	0.750	

X = 5 **Integration Time [sec]** 0.1 **Acquisition Time [sec]** 100.6 **Y Axis** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.35 L/min	S/C Temp	2 ℃
RF Matching	1.70 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.50 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	8.0 V	Deflect	2.0 V
Extract 2	-200.0 V	Cell Entrance	-32 V	Plate Bias	-60 V
Omega Bias	-100 V	Cell Exit	-70 V		

Cell Parameters

OctP Bias	-18.0 V	He Flow	5.5 mL/min	Energy Discrimination	5.0 V
OctP RF	190 V	H2 Flow	0.0 mL/min		
Use Gas	true	3rd Gas Flow	0 %		

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	004CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T09:25:04-06:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	27	532.40
Na	23	1	nogas	1681525	0.00
Mg	24	1	nogas	7603	0.28
Al	27	1	nogas	16297	0.04
K	39	1	nogas	4653435	0.00
Ti	47	1	nogas	343	9.07
V	51	1	nogas	1661966	0.00
Cr	52	1	nogas	43184	0.01
Mn	55	1	nogas	11067	0.04
Co	59	1	nogas	513	3.61
Ni	60	1	nogas	2143	0.40
Cu	63	1	nogas	4697	0.06
Zn	66	1	nogas	1200	0.62
As	75	1	nogas	245399	0.00
Sr	88	1	nogas	2207	0.13
Ag	107	1	nogas	517	2.29
Cd	111	1	nogas	30	293.97
Sb	121	1	nogas	1097	0.41
Tl	205	1	nogas	170	12.48
Pb	208	1	nogas	580	1.57
[Pb]	206	1	nogas	180	17.19
[Pb]	207	1	nogas	157	6.22
Na	23	2	He	49936	0.01
Mg	24	2	He	373	9.14
Al	27	2	He	63	28.79
K	39	2	He	12561	0.04
Ca	43	2	He	13	859.23
Ca	44	2	He	167	21.70
V	51	2	He	1145	0.60
Cr	52	2	He	1697	0.27
Mn	55	2	He	283	8.01
Fe	56	2	He	13612	0.03
Co	59	2	He	60	121.08
Ni	60	2	He	343	5.65
Cu	63	2	He	883	1.54
Zn	66	2	He	137	12.36
As	75	2	He	50	26.68
Se	78	2	He	3	1623.80
B	11	1	nogas	35871	0.00
Si	28	1	nogas	875903	0.00
Ca	43	1	nogas	637	2.59
Ca	44	1	nogas	170807	0.00

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	1044651	0.00
Se	77	1	nogas	81995	0.01
Se	82	1	nogas	500	2.88
Mo	95	1	nogas	290	10.30
Sn	118	1	nogas	1683	0.95
Ba	137	1	nogas	490	3.70
Sb	121	2	He	120	18.37
Li	7	1	nogas	28819	0.02
P	31	1	nogas	58086	0.00
La	139	1	nogas	57	64.83

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	6	1	nogas	317621	0.77
Ge	72	1	nogas	1478633	1.97
In	115	1	nogas	1539303	2.92
Bi	209	1	nogas	1532165	2.24
Ge	72	2	He	126743	2.07

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	005CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T09:27:03-06:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	5568	0.07
Na	23	1	nogas	3788459	0.00
Mg	24	1	nogas	1562348	0.00
Al	27	1	nogas	32246	0.01
K	39	1	nogas	6407989	0.00
Ti	47	1	nogas	2064	0.41
V	51	1	nogas	1768997	0.00
Cr	52	1	nogas	66336	0.01
Mn	55	1	nogas	39012	0.01
Co	59	1	nogas	26570	0.01
Ni	60	1	nogas	7952	0.01
Cu	63	1	nogas	18633	0.01
Zn	66	1	nogas	6208	0.04
As	75	1	nogas	256295	0.00
Sr	88	1	nogas	33882	0.00
Ag	107	1	nogas	18640	0.01
Cd	111	1	nogas	3897	0.10
Sb	121	1	nogas	18123	0.00
Tl	205	1	nogas	32693	0.01
Pb	208	1	nogas	45489	0.00
[Pb]	206	1	nogas	11197	0.02
[Pb]	207	1	nogas	10437	0.02
Na	23	2	He	96667	0.00
Mg	24	2	He	23575	0.02
Al	27	2	He	117	29.69
K	39	2	He	24997	0.01
Ca	43	2	He	70	35.35
Ca	44	2	He	913	0.91
V	51	2	He	3797	0.08
Cr	52	2	He	5044	0.06
Mn	55	2	He	1537	0.37
Fe	56	2	He	274672	0.00
Co	59	2	He	6181	0.10
Ni	60	2	He	1963	0.31
Cu	63	2	He	5741	0.07
Zn	66	2	He	800	2.11
As	75	2	He	473	2.58
Se	78	2	He	18	61.73
B	11	1	nogas	50775	0.00
Si	28	1	nogas	1444928	0.00

Calibration Standard Report

Ca	43	1	nogas	4354	0.02
Ca	44	1	nogas	224818	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	3788244	0.00
Se	77	1	nogas	83404	0.01
Se	82	1	nogas	700	1.24
Mo	95	1	nogas	6875	0.08
Sn	118	1	nogas	11954	0.02
Ba	137	1	nogas	5354	0.12
Sb	121	2	He	2284	0.28
P	31	1	nogas	63182	0.00
La	139	1	nogas	63	38.08

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	314356	1.57	317621	98.97	70	125	
Ge	72	1	nogas	1429390	0.10	1478633	96.67	70	125	
In	115	1	nogas	1523832	1.49	1539303	98.99	70	125	
Bi	209	1	nogas	1524242	0.70	1532165	99.48	70	125	
Ge	72	2	He	126043	1.35	126743	99.45	70	125	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	006CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T09:29:02-06:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	12304	0.08
Na	23	1	nogas	7038279	0.00
Mg	24	1	nogas	3918088	0.00
Al	27	1	nogas	69308	0.00
K	39	1	nogas	8960287	0.00
Ti	47	1	nogas	4811	0.03
V	51	1	nogas	1981813	0.00
Cr	52	1	nogas	108983	0.00
Mn	55	1	nogas	86410	0.00
Co	59	1	nogas	65819	0.00
Ni	60	1	nogas	16798	0.02
Cu	63	1	nogas	40786	0.00
Zn	66	1	nogas	13225	0.01
As	75	1	nogas	287711	0.00
Sr	88	1	nogas	82888	0.00
Ag	107	1	nogas	47635	0.00
Cd	111	1	nogas	10016	0.03
Sb	121	1	nogas	45276	0.00
Tl	205	1	nogas	79408	0.00
Pb	208	1	nogas	114768	0.00
[Pb]	206	1	nogas	27844	0.00
[Pb]	207	1	nogas	25253	0.01
Na	23	2	He	170698	0.00
Mg	24	2	He	59313	0.00
Al	27	2	He	307	9.88
K	39	2	He	43153	0.01
Ca	43	2	He	113	11.89
Ca	44	2	He	2144	0.35
V	51	2	He	7922	0.03
Cr	52	2	He	10196	0.01
Mn	55	2	He	3844	0.14
Fe	56	2	He	683621	0.00
Co	59	2	He	15340	0.01
Ni	60	2	He	4564	0.13
Cu	63	2	He	12751	0.03
Zn	66	2	He	2000	0.42
As	75	2	He	1363	0.62
Se	78	2	He	63	10.38
B	11	1	nogas	72077	0.00
Si	28	1	nogas	2165356	0.00

Calibration Standard Report

Ca	43	1	nogas	9659	0.02
Ca	44	1	nogas	309879	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	7969533	0.00
Se	77	1	nogas	92189	0.00
Se	82	1	nogas	1117	0.26
Mo	95	1	nogas	17179	0.01
Sn	118	1	nogas	27606	0.00
Ba	137	1	nogas	13569	0.02
Sb	121	2	He	5674	0.10
P	31	1	nogas	74547	0.00
La	139	1	nogas	50	105.83

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	314702	1.81	317621	99.08	70	125	
Ge	72	1	nogas	1456757	1.87	1478633	98.52	70	125	
In	115	1	nogas	1567267	1.55	1539303	101.82	70	125	
Bi	209	1	nogas	1525031	2.04	1532165	99.53	70	125	
Ge	72	2	He	128375	2.90	126743	101.29	70	125	

Calibration Standard Report

Sample Table

Sample Name	10/50/1000
Data File Name	007CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T09:31:01-06:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	25698	0.02
Na	23	1	nogas	13100336	0.00
Mg	24	1	nogas	8124185	0.00
Al	27	1	nogas	133878	0.00
K	39	1	nogas	13450004	0.00
Ti	47	1	nogas	9696	0.03
V	51	1	nogas	2121200	0.00
Cr	52	1	nogas	169880	0.00
Mn	55	1	nogas	164307	0.00
Co	59	1	nogas	137138	0.00
Ni	60	1	nogas	32272	0.01
Cu	63	1	nogas	80269	0.00
Zn	66	1	nogas	24867	0.01
As	75	1	nogas	318098	0.00
Sr	88	1	nogas	170185	0.00
Ag	107	1	nogas	100553	0.00
Cd	111	1	nogas	19601	0.01
Sb	121	1	nogas	89673	0.00
Tl	205	1	nogas	166180	0.00
Pb	208	1	nogas	236098	0.00
[Pb]	206	1	nogas	56679	0.00
[Pb]	207	1	nogas	52903	0.00
Na	23	2	He	300081	0.00
Mg	24	2	He	122133	0.00
Al	27	2	He	473	2.20
K	39	2	He	77571	0.00
Ca	43	2	He	237	3.72
Ca	44	2	He	4187	0.08
V	51	2	He	14758	0.02
Cr	52	2	He	19831	0.02
Mn	55	2	He	7725	0.07
Fe	56	2	He	1486213	0.00
Co	59	2	He	31935	0.01
Ni	60	2	He	8716	0.04
Cu	63	2	He	25051	0.02
Zn	66	2	He	3967	0.21
As	75	2	He	2602	0.13
Se	78	2	He	105	26.57
B	11	1	nogas	112053	0.00
Si	28	1	nogas	3340532	0.00

Calibration Standard Report

Ca	43	1	nogas	19000	0.00
Ca	44	1	nogas	463147	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	15324405	0.00
Se	77	1	nogas	97822	0.00
Se	82	1	nogas	1787	0.32
Mo	95	1	nogas	34794	0.00
Sn	118	1	nogas	54930	0.00
Ba	137	1	nogas	26461	0.02
Sb	121	2	He	11891	0.03
P	31	1	nogas	93122	0.00
La	139	1	nogas	47	185.58

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	308454	1.72	317621	97.11	70	125	
Ge	72	1	nogas	1433648	1.92	1478633	96.96	70	125	
In	115	1	nogas	1564080	1.46	1539303	101.61	70	125	
Bi	209	1	nogas	1491384	2.00	1532165	97.34	70	125	
Ge	72	2	He	131572	3.87	126743	103.81	70	125	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	008CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T09:33:00-06:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	241385	0.00
Na	23	1	nogas	107708948	0.00
Mg	24	1	nogas	74627545	0.00
Al	27	1	nogas	938706	0.00
K	39	1	nogas	86160796	0.00
Ti	47	1	nogas	86837	0.00
V	51	1	nogas	2932660	0.00
Cr	52	1	nogas	1178599	0.00
Mn	55	1	nogas	1452202	0.00
Co	59	1	nogas	1236028	0.00
Ni	60	1	nogas	278608	0.00
Cu	63	1	nogas	687717	0.00
Zn	66	1	nogas	226176	0.00
As	75	1	nogas	493791	0.00
Sr	88	1	nogas	1515556	0.00
Ag	107	1	nogas	900779	0.00
Cd	111	1	nogas	188144	0.00
Sb	121	1	nogas	795473	0.00
Tl	205	1	nogas	1562776	0.00
Pb	208	1	nogas	2193726	0.00
[Pb]	206	1	nogas	537976	0.00
[Pb]	207	1	nogas	489719	0.00
Na	23	2	He	2334400	0.00
Mg	24	2	He	1132790	0.00
Al	27	2	He	3117	0.21
K	39	2	He	603596	0.00
Ca	43	2	He	2013	0.29
Ca	44	2	He	34218	0.00
V	51	2	He	128032	0.00
Cr	52	2	He	169465	0.00
Mn	55	2	He	68765	0.00
Fe	56	2	He	13196361	0.00
Co	59	2	He	286034	0.00
Ni	60	2	He	80869	0.00
Cu	63	2	He	226628	0.00
Zn	66	2	He	34386	0.00
As	75	2	He	24137	0.01
Se	78	2	He	963	0.26
B	11	1	nogas	804314	0.00
Si	28	1	nogas	22069426	0.00

Calibration Standard Report

Ca	43	1	nogas	167831	0.00
Ca	44	1	nogas	2869964	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	133382386	0.00
Se	77	1	nogas	93666	0.00
Se	82	1	nogas	13288	0.02
Mo	95	1	nogas	324785	0.00
Sn	118	1	nogas	502090	0.00
Ba	137	1	nogas	248985	0.00
Sb	121	2	He	102620	0.00
P	31	1	nogas	357240	0.00
La	139	1	nogas	323	3.07

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	288108	3.96	317621	90.71	70	125	
Ge	72	1	nogas	1509166	0.54	1478633	102.06	70	125	
In	115	1	nogas	1546521	3.05	1539303	100.47	70	125	
Bi	209	1	nogas	1464629	1.56	1532165	95.59	70	125	
Ge	72	2	He	129227	1.09	126743	101.96	70	125	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	009CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T09:34:57-06:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	495882	0.00
Na	23	1	nogas	222142805	0.00
Mg	24	1	nogas	152520591	0.00
Al	27	1	nogas	1946534	0.00
K	39	1	nogas	175299246	0.00
Ti	47	1	nogas	180845	0.00
V	51	1	nogas	4470534	0.00
Cr	52	1	nogas	2366920	0.00
Mn	55	1	nogas	2843023	0.00
Co	59	1	nogas	2578233	0.00
Ni	60	1	nogas	561996	0.00
Cu	63	1	nogas	1369562	0.00
Zn	66	1	nogas	441808	0.00
As	75	1	nogas	815251	0.00
Sr	88	1	nogas	3110234	0.00
Ag	107	1	nogas	1821791	0.00
Cd	111	1	nogas	374776	0.00
Sb	121	1	nogas	1739209	0.00
Tl	205	1	nogas	3118204	0.00
Pb	208	1	nogas	4508172	0.00
[Pb]	206	1	nogas	1084880	0.00
[Pb]	207	1	nogas	988690	0.00
Na	23	2	He	4642055	0.00
Mg	24	2	He	2233252	0.00
Al	27	2	He	6865	0.10
K	39	2	He	1205454	0.00
Ca	43	2	He	4021	0.06
Ca	44	2	He	72130	0.00
V	51	2	He	261168	0.00
Cr	52	2	He	337453	0.00
Mn	55	2	He	137388	0.00
Fe	56	2	He	27225255	0.00
Co	59	2	He	586439	0.00
Ni	60	2	He	164201	0.00
Cu	63	2	He	451593	0.00
Zn	66	2	He	69389	0.00
As	75	2	He	49204	0.00
Se	78	2	He	1877	0.42
B	11	1	nogas	1680374	0.00
Si	28	1	nogas	42718266	0.00

Calibration Standard Report

Ca	43	1	nogas	341699	0.00
Ca	44	1	nogas	5588725	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	269489864	0.00
Se	77	1	nogas	126268	0.00
Se	82	1	nogas	26750	0.01
Mo	95	1	nogas	674069	0.00
Sn	118	1	nogas	1044404	0.00
Ba	137	1	nogas	502786	0.00
Sb	121	2	He	219648	0.00
P	31	1	nogas	679234	0.00
La	139	1	nogas	537	2.70

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	247473	1.70	317621	77.91	70	125	
Ge	72	1	nogas	1400017	3.57	1478633	94.68	70	125	
In	115	1	nogas	1492961	2.66	1539303	96.99	70	125	
Bi	209	1	nogas	1383536	4.86	1532165	90.30	70	125	
Ge	72	2	He	123925	0.57	126743	97.78	70	125	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	011_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T09:38:56-06:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	98.504	2.524	237665	1.31	100	98.5	90	110	
Na	23	1	nogas	9330.443	3.960	106185654	1.44	10000	93.3	90	110	
Mg	24	1	nogas	9438.250	1.054	73389108	1.47	10000	94.4	90	110	
Al	27	1	nogas	92.147	2.159	924353	1.35	100	92.1	90	110	
K	39	1	nogas	9591.966	3.307	88153112	2.18	10000	95.9	90	110	
Ti	47	1	nogas	92.566	2.992	85596	2.46	100	92.6	90	110	
V	51	1	nogas	78.482	6.277	2787027	1.67	100	78.5	90	110	ICV Main CR1 Failed
Cr	52	1	nogas	92.400	5.476	1143583	4.37	100	92.4	90	110	
Mn	55	1	nogas	98.129	3.371	1445498	2.67	100	98.1	90	110	
Co	59	1	nogas	96.429	2.413	1268828	1.49	100	96.4	90	110	
Ni	60	1	nogas	97.683	1.704	282063	1.29	100	97.7	90	110	
Cu	63	1	nogas	98.945	2.115	699395	1.73	100	98.9	90	110	
Zn	66	1	nogas	98.263	1.738	224528	1.08	100	98.3	90	110	
As	75	1	nogas	76.512	9.186	474219	3.23	100	76.5	90	110	ICV Main CR1 Failed
Sr	88	1	nogas	98.631	2.181	1571491	1.53	100	98.6	90	110	
Ag	107	1	nogas	95.671	2.728	894568	1.81	100	95.7	90	110	
Cd	111	1	nogas	95.347	1.846	189117	1.91	100	95.3	90	110	
Sb	121	1	nogas	92.339	0.637	813855	0.56	100	92.3	90	110	
Tl	205	1	nogas	95.995	2.608	1568145	4.39	100	96.0	90	110	
Pb	208	1	nogas	98.075	1.112	2199335	1.11	100	98.1	90	110	
U	238	1	nogas	99.222	4.556	2291659	2.86	100	99.2	90	110	
[Pb]	206	1	nogas	94.207	1.474	534061	2.71	100	94.2	90	110	
[Pb]	207	1	nogas	93.852	0.916	484638	1.41	100	93.9	90	110	
Na	23	2	He	9960.471	1.233	2372013	0.43	10000	99.6	90	110	
Mg	24	2	He	9806.424	2.925	1115942	2.02	10000	98.1	90	110	
Al	27	2	He	98.424	5.521	3390	4.96	100	98.4	90	110	
K	39	2	He	9805.693	0.879	596474	0.86	10000	98.1	90	110	
Ca	43	2	He	10964.534	6.690	2247	7.92	10000	109.6	90	110	
Ca	44	2	He	9715.189	1.336	35327	1.53	10000	97.2	90	110	
V	51	2	He	96.558	2.110	127787	0.86	100	96.6	90	110	
Cr	52	2	He	97.493	2.888	167985	1.71	100	97.5	90	110	
Mn	55	2	He	97.512	2.062	68220	3.07	100	97.5	90	110	
Fe	56	2	He	9436.975	1.260	12982246	0.48	10000	94.4	90	110	
Co	59	2	He	95.884	1.855	284376	1.29	100	95.9	90	110	
Ni	60	2	He	97.802	1.063	81297	1.81	100	97.8	90	110	
Cu	63	2	He	100.166	1.780	230116	1.50	100	100.2	90	110	
Zn	66	2	He	99.132	1.336	34900	0.41	100	99.1	90	110	
As	75	2	He	96.805	0.950	24134	0.85	100	96.8	90	110	
Se	78	2	He	94.461	2.416	907	1.27	100	94.5	90	110	
B	11	1	nogas	507.728	2.318	816032	0.39	500	101.5	90	110	
Si	28	1	nogas	4899.042	1.342	22030686	0.48	5000	98.0	90	110	
Ca	43	1	nogas	9791.479	1.415	171782	1.15	10000	97.9	90	110	
Ca	44	1	nogas	9736.975	1.338	2883961	1.71	10000	97.4	90	110	
Fe	56	1	nogas	9561.991	5.075	132749974	4.24	10000	95.6	90	110	
Se	77	1	nogas	36.959	49.720	89328	3.74	100	37.0	90	110	ICV Main CR1 Failed
Se	82	1	nogas	98.782	2.502	13779	1.89	100	98.8	90	110	
Mo	95	1	nogas	95.577	0.948	329324	0.67	100	95.6	90	110	
Sn	118	1	nogas	95.100	1.590	521911	1.95	100	95.1	90	110	
Ba	137	1	nogas	92.829	1.654	246648	2.20	100	92.8	90	110	
Sb	121	2	He	95.253	0.980	105011	0.71	100	95.3	90	110	
Li	7	1	nogas	99.613	0.785	599533	2.03	100	99.6	90	110	
P	31	1	nogas	468.858	1.278	356038	0.32	500	93.8	90	110	
La	139	1	nogas	120.431	42.625	370	35.75	100	120.4	90	110	ICV Main CR1 Failed
Au	197	1	nogas	-13868.329	-291.695	27	78.06	100	-13868.3	90	110	ICV Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	287902	1.95	317621	90.64	70	125	
Ge	72	1	nogas	1460205	0.97	1478633	98.75	70	125	
In	115	1	nogas	1589525	1.40	1539303	103.26	70	125	
Bi	209	1	nogas	1462428	1.77	1532165	95.45	70	125	

Initial Calibration Verification (ICV) Report

Ge	72	2	He	126975	1.25	126743	100.18	70	125	

Sample Report

Sample Table

Sample Name	LLICV2
Data File Name	012SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T09:40:52-06:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	2.169	2.169	15.53	5594	0.04	2000	
Na	23	1	nogas	181.323	181.323	1.18	3766845	0.00	200000	
Mg	24	1	nogas	217.686	217.686	1.46	1710931	0.01	200000	
Al	27	1	nogas	2.606	2.606	1.40	42559	0.01	2000	
K	39	1	nogas	181.472	181.472	11.61	6289835	0.00	200000	
Ti	47	1	nogas	1.981	1.981	19.42	2200	0.09	2000	
V	51	1	nogas	0.597	0.597	451.19	1680305	0.00	2000	
Cr	52	1	nogas	1.945	1.945	2.14	67041	0.00	2000	
Mn	55	1	nogas	2.123	2.123	7.56	42726	0.00	2000	
Co	59	1	nogas	2.054	2.054	8.63	28008	0.01	2000	
Ni	60	1	nogas	2.752	2.752	8.04	8352	0.03	2000	
Cu	63	1	nogas	2.110	2.110	7.94	19804	0.01	2000	
Zn	66	1	nogas	2.596	2.596	8.42	6631	0.04	2000	
As	75	1	nogas	-4.213	-4.213	-64.80	251633	0.00	2000	
Sr	88	1	nogas	2.052	2.052	7.34	35449	0.01	2000	
Ag	107	1	nogas	2.099	2.099	3.90	20489	0.01	2000	
Cd	111	1	nogas	2.089	2.089	3.14	4217	0.05	2000	
Sb	121	1	nogas	3.611	3.611	16.75	33416	0.01	2000	
Tl	205	1	nogas	2.293	2.293	4.25	38774	0.01	2000	
Pb	208	1	nogas	2.310	2.310	4.64	52364	0.00	2000	
U	238	1	nogas	2.139	2.139	4.42	51189	0.00	2000	
[Pb]	206	1	nogas	2.178	2.178	1.62	12895	0.02	2000	
[Pb]	207	1	nogas	2.138	2.138	8.75	11538	0.02	2000	
Na	23	2	He	172.797	172.797	4.71	93615	0.18	200000	
Mg	24	2	He	199.370	199.370	3.60	23905	0.83	200000	
Al	27	2	He	4.673	4.673	50.27	207	2.26	2000	
K	39	2	He	192.637	192.637	4.65	24032	0.80	200000	
Ca	43	2	He	266.055	266.055	63.04	70	380.08	200000	
Ca	44	2	He	199.128	199.128	13.04	920	21.64	200000	
V	51	2	He	2.453	2.453	2.32	3694	0.07	2000	
Cr	52	2	He	1.874	1.874	4.43	5077	0.04	2000	
Mn	55	2	He	1.720	1.720	5.81	1537	0.11	2000	
Fe	56	2	He	187.199	187.199	3.83	280831	0.07	200000	
Co	59	2	He	1.988	1.988	8.31	6171	0.03	2000	
Ni	60	2	He	2.561	2.561	7.44	2013	0.13	2000	
Cu	63	2	He	2.246	2.246	13.36	5568	0.04	2000	
Zn	66	2	He	2.116	2.116	12.18	783	0.27	2000	
As	75	2	He	1.943	1.943	22.61	553	0.35	2000	
Se	78	2	He	2.020	2.020	45.22	24	8.42	2000	
B	11	1	nogas	20.564	20.564	17.17	68434	0.03	2000	
Si	28	1	nogas	154.627	154.627	12.66	1560647	0.01	2000	
Ca	43	1	nogas	212.807	212.807	3.76	4427	4.81	200000	
Ca	44	1	nogas	155.267	155.267	14.70	215850	0.07	200000	
Fe	56	1	nogas	206.574	206.574	6.69	3947604	0.01	200000	

Sample Report

Se	77	1	nogas	0.292	0.292	5964.85	82550	0.00	2000	
Se	82	1	nogas	2.049	2.049	29.26	783	0.26	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	2.200	2.200	9.87	7999	0.03	2000	
Sn	118	1	nogas	2.073	2.073	1.03	13222	0.02	2000	
Ba	137	1	nogas	2.010	2.010	7.81	5894	0.03	2000	
Sb	121	2	He	2.992	2.992	1.68	3540	0.08	2000	
La	139	1	nogas	14.411	14.411	63.51	97	14.91	2000	
Au	197	1	nogas	6937.817	6937.817	546.48	17	41626.90	2000	>LDR

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	306941	1.98	317621	96.64	70	125	
Ge	72	1	nogas	1487179	1.82	1478633	100.58	70	125	
In	115	1	nogas	1606228	1.65	1539303	104.35	70	125	
Bi	209	1	nogas	1507124	1.64	1532165	98.37	70	125	
Ge	72	2	He	131638	0.79	126743	103.86	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	LLICV5
Data File Name	013LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T09:42:51-06:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	4.759	4.528	12875	4.00	5	95.2	70	130	
Na	23	1	nogas	470.157	3.767	6960555	1.70	500	94.0	70	130	
Mg	24	1	nogas	504.696	4.272	3920962	3.50	500	100.9	70	130	
Al	27	1	nogas	5.249	5.054	69382	3.16	5	105.0	70	130	
K	39	1	nogas	471.914	2.232	8907206	1.33	500	94.4	70	130	
Ti	47	1	nogas	4.505	2.211	4591	2.78	5	90.1	70	130	
V	51	1	nogas	11.535	52.368	1850032	4.15	5	230.7	70	130	LLICV Main CR1 Failed
Cr	52	1	nogas	5.017	7.438	104756	3.62	5	100.3	70	130	
Mn	55	1	nogas	4.965	4.228	85419	2.98	5	99.3	70	130	
Co	59	1	nogas	4.891	4.512	66320	4.04	5	97.8	70	130	
Ni	60	1	nogas	5.604	2.640	16808	1.95	5	112.1	70	130	
Cu	63	1	nogas	5.002	2.592	40666	1.59	5	100.0	70	130	
Zn	66	1	nogas	5.474	2.748	13372	2.40	5	109.5	70	130	
As	75	1	nogas	6.612	82.579	283733	4.83	5	132.2	70	130	LLICV Main CR1 Failed
Sr	88	1	nogas	4.829	0.593	80819	0.37	5	96.6	70	130	
Ag	107	1	nogas	4.999	1.696	48307	1.06	5	100.0	70	130	
Cd	111	1	nogas	4.988	1.015	9943	1.16	5	99.8	70	130	
Sb	121	1	nogas	5.333	2.874	49130	3.55	5	106.7	70	130	
Tl	205	1	nogas	4.952	4.461	83178	3.09	5	99.0	70	130	
Pb	208	1	nogas	5.292	1.425	119229	1.42	5	105.8	70	130	
U	238	1	nogas	4.996	4.303	118737	2.12	5	99.9	70	130	
[Pb]	206	1	nogas	5.046	4.818	29527	2.62	5	100.9	70	130	
[Pb]	207	1	nogas	4.902	2.643	26138	0.57	5	98.0	70	130	
Na	23	2	He	469.115	1.650	163821	1.44	500	93.8	70	130	
Mg	24	2	He	507.449	2.412	59725	2.55	500	101.5	70	130	
Al	27	2	He	5.858	26.690	247	22.33	5	117.2	70	130	
K	39	2	He	514.690	5.389	43210	3.82	500	102.9	70	130	
Ca	43	2	He	493.407	59.500	117	52.37	500	98.7	70	130	
Ca	44	2	He	511.416	8.680	2073	8.16	500	102.3	70	130	
V	51	2	He	5.434	1.155	7707	0.80	5	108.7	70	130	
Cr	52	2	He	5.114	11.439	10713	9.22	5	102.3	70	130	
Mn	55	2	He	4.844	4.667	3760	4.28	5	96.9	70	130	
Fe	56	2	He	473.415	2.745	682685	2.45	500	94.7	70	130	
Co	59	2	He	5.112	2.604	15644	2.92	5	102.2	70	130	
Ni	60	2	He	5.427	5.594	4451	6.09	5	108.5	70	130	
Cu	63	2	He	5.445	4.206	13065	3.80	5	108.9	70	130	
Zn	66	2	He	5.784	3.253	2103	3.06	5	115.7	70	130	
As	75	2	He	4.657	0.377	1242	0.68	5	93.1	70	130	
Se	78	2	He	4.825	31.560	51	29.24	5	96.5	70	130	
B	11	1	nogas	25.196	6.383	79892	2.82	25	100.8	70	130	
Si	28	1	nogas	284.966	2.593	2144175	0.93	25	1139.9	70	130	LLICV Main CR1 Failed
Ca	43	1	nogas	505.886	4.173	9689	4.53	500	101.2	70	130	
Ca	44	1	nogas	441.637	1.976	298509	0.20	500	88.3	70	130	
Fe	56	1	nogas	484.531	4.085	7882735	2.82	500	96.9	70	130	
Se	77	1	nogas	37.170	70.495	91412	5.96	5	743.4	70	130	LLICV Main CR1 Failed
Se	82	1	nogas	4.866	14.899	1173	8.05	5	97.3	70	130	
Mo	95	1	nogas	4.910	2.970	17579	2.42	5	98.2	70	130	
Sn	118	1	nogas	4.830	4.738	28227	4.70	5	96.6	70	130	
Ba	137	1	nogas	4.738	6.872	13089	5.33	5	94.8	70	130	
Sb	121	2	He	5.174	6.162	5981	6.36	5	103.5	70	130	
Li	7	1	nogas	4.736	7.448	59722	2.84	5	94.7	70	130	
P	31	1	nogas	26.244	7.358	75772	0.98	25	105.0	70	130	
La	139	1	nogas	14.817	158.721	97	62.36	5	296.3	70	130	LLICV Main CR1 Failed
Au	197	1	nogas	12405.729	175.562	13	86.60	5	248114.6	70	130	LLICV Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	322153	1.04	317621	101.43	70	125	
Ge	72	1	nogas	1493512	0.75	1478633	101.01	70	125	
In	115	1	nogas	1593008	1.76	1539303	103.49	70	125	
Bi	209	1	nogas	1502063	2.24	1532165	98.04	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Ge	72	2	He	130499	0.33	126743	102.96	70	125	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	014_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T09:44:50-06:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.042	29.3	140	25.8	1	
Na	23	1	nogas	-23.329	-12.3	1472983	1.6	100	
Mg	24	1	nogas	1.650	24.4	20883	15.8	100	
Al	27	1	nogas	-0.183	-2.9	14439	2.0	5	
K	39	1	nogas	-8.195	-191.6	4567197	0.7	100	
Ti	47	1	nogas	-0.014	-675.4	327	24.7	2.5	
V	51	1	nogas	9.866	71.8	1800548	3.6	2.5	ICB Main CR1 Failed
Cr	52	1	nogas	0.328	51.2	46980	2.6	2.5	
Mn	55	1	nogas	-0.060	-61.8	10136	3.7	2.5	
Co	59	1	nogas	0.018	23.2	747	8.7	2.5	
Ni	60	1	nogas	0.498	14.5	1717	10.3	2.5	
Cu	63	1	nogas	-0.111	-15.3	3897	2.6	2.5	
Zn	66	1	nogas	0.383	16.5	1487	9.8	2.5	
As	75	1	nogas	4.470	141.2	273832	4.6	2.5	ICB Main CR1 Failed
Sr	88	1	nogas	0.028	31.5	2644	3.1	2.5	
Ag	107	1	nogas	-0.009	-65.7	433	13.9	2.5	
Cd	111	1	nogas	0.018	56.0	67	31.2	1	
Sb	121	1	nogas	0.137	16.8	2314	10.7	2.5	
Tl	205	1	nogas	0.067	26.1	1310	25.9	1	
Pb	208	1	nogas	0.033	28.2	1320	15.8	2.5	
U	238	1	nogas	0.008	95.3	440	46.4	2.5	
[Pb]	206	1	nogas	0.025	4.0	327	1.8	2.5	
[Pb]	207	1	nogas	0.031	49.3	323	28.6	2.5	
Na	23	2	He	-28.953	-4.1	44258	0.7	100	
Mg	24	2	He	0.161	358.2	400	17.5	100	
Al	27	2	He	1.589	39.4	97	21.5	5	
K	39	2	He	0.730	1545.6	12605	5.3	100	
Ca	43	2	He	-64.683	0.0	0	#DIV/0!	100	
Ca	44	2	He	-7.264	-295.6	143	56.0	100	
V	51	2	He	0.564	5.7	1093	3.1	2.5	
Cr	52	2	He	-0.107	-226.9	1553	27.1	2.5	
Mn	55	2	He	-0.138	-40.9	193	20.9	2.5	
Fe	56	2	He	-4.837	-6.3	7141	5.1	100	
Co	59	2	He	0.006	192.0	80	43.3	2.5	
Ni	60	2	He	0.567	5.1	287	8.8	2.5	
Cu	63	2	He	0.279	19.5	877	15.5	2.5	
Zn	66	2	He	0.552	25.8	210	25.2	2.5	
As	75	2	He	-0.013	-590.5	48	42.1	2.5	
Se	78	2	He	0.149	290.3	5	78.1	2.5	
B	11	1	nogas	1.833	23.7	39161	1.6	10	
Si	28	1	nogas	-4.452	-101.1	853932	0.3	5	
Ca	43	1	nogas	18.193	51.8	957	18.4	100	
Ca	44	1	nogas	-73.930	-23.4	149460	1.2	100	
Fe	56	1	nogas	-11.761	-5.8	878123	1.3	100	
Se	77	1	nogas	43.023	58.3	91529	4.2	2.5	ICB Main CR1 Failed
Se	82	1	nogas	-0.608	-117.5	417	25.9	2.5	

Initial Calibration Blank (ICB) Report

Mo	95	1	nogas	0.000	8127.0	290	42.4	2.5	
Sn	118	1	nogas	-0.068	-24.7	1377	7.6	5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Ba	137	1	nogas	-0.056	-40.3	357	17.8	2.5	
Sb	121	2	He	0.222	7.3	373	4.1	2.5	
P	31	1	nogas	4.094	26.9	60550	1.5	10	
La	139	1	nogas	-6.980	-112.7	40	50.0	2.5	
Au	197	1	nogas	-50254.224	-119.1	47	65.5	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	319112	3.44	317621	100.47	70	125	
Ge	72	1	nogas	1474394	2.35	1478633	99.71	70	125	
In	115	1	nogas	1591312	0.96	1539303	103.38	70	125	
Bi	209	1	nogas	1511310	3.18	1532165	98.64	70	125	
Ge	72	2	He	129871	0.92	126743	102.47	70	125	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	015ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T09:46:49-06:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.009	110.5	50	52.9	0	ICSA Main CR1 Failed
Na	23	1	nogas	103180.413	1.1	1107080925	0.6	0	
Mg	24	1	nogas	101233.561	5.0	752429833	3.3	0	
Al	27	1	nogas	87354.343	2.2	867469160	1.7	0	
K	39	1	nogas	94920.322	1.0	837790419	0.9	0	
Ti	47	1	nogas	1992.323	3.2	1849073	2.8	0	
V	51	1	nogas	-16.922	-3.8	1403743	1.0	0	ICSA Main CR1 Failed
Cr	52	1	nogas	0.355	11.6	47214	0.6	0	ICSA Main CR1 Failed
Mn	55	1	nogas	0.311	13.0	15597	3.4	0	ICSA Main CR1 Failed
Co	59	1	nogas	0.116	5.8	2040	3.9	0	ICSA Main CR1 Failed
Ni	60	1	nogas	1.253	7.0	3910	6.1	0	ICSA Main CR1 Failed
Cu	63	1	nogas	1.117	7.1	12578	4.2	0	ICSA Main CR1 Failed
Zn	66	1	nogas	1.960	3.5	5104	3.4	0	ICSA Main CR1 Failed
As	75	1	nogas	-4.590	-27.3	247754	1.3	0	ICSA Main CR1 Failed
Sr	88	1	nogas	0.906	3.3	16718	2.5	0	ICSA Main CR1 Failed
Ag	107	1	nogas	0.019	46.7	697	12.5	0	ICSA Main CR1 Failed
Cd	111	1	nogas	1.329	3.6	2530	3.2	0	ICSA Main CR1 Failed
Sb	121	1	nogas	0.184	7.8	2720	4.5	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.018	52.1	433	34.6	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.108	7.1	2990	5.7	0	ICSA Main CR1 Failed
[Pb]	206	1	nogas	0.115	16.0	770	11.3	0	ICSA Main CR1 Failed
[Pb]	207	1	nogas	0.101	16.6	627	11.8	0	ICSA Main CR1 Failed
Na	23	2	He	100030.685	1.1	22809644	2.2	0	
Mg	24	2	He	98693.584	1.5	10959205	1.9	0	
Al	27	2	He	88729.784	3.5	2948197	4.2	0	
K	39	2	He	98904.773	2.9	5902178	2.9	0	
Ca	43	2	He	96126.625	0.5	19113	1.6	0	
Ca	44	2	He	95571.378	2.1	337687	1.5	0	
V	51	2	He	0.389	10.7	818	5.4	0	ICSA Main CR1 Failed
Cr	52	2	He	0.198	68.2	1990	11.6	0	ICSA Main CR1 Failed
Mn	55	2	He	0.322	25.1	497	11.4	0	ICSA Main CR1 Failed
Fe	56	2	He	98351.884	1.8	131924591	2.0	0	
Co	59	2	He	0.017	68.9	107	30.1	0	ICSA Main CR1 Failed
Ni	60	2	He	0.759	10.9	430	16.3	0	ICSA Main CR1 Failed
Cu	63	2	He	0.867	8.2	2150	6.0	0	ICSA Main CR1 Failed
Zn	66	2	He	0.883	19.4	313	17.6	0	ICSA Main CR1 Failed
As	75	2	He	-0.055	-107.2	36	39.0	0	ICSA Main CR1 Failed
Se	78	2	He	0.390	86.2	7	41.7	0	ICSA Main CR1 Failed
B	11	1	nogas	4.343	20.7	41990	2.8	0	ICSA Main CR1 Failed
Si	28	1	nogas	115.352	2.1	1373756	0.6	0	
Ca	43	1	nogas	100470.841	0.6	1769989	0.9	0	
Ca	44	1	nogas	95475.219	1.6	26990435	1.3	0	
Fe	56	1	nogas	94833.320	1.0	1317439729	0.8	0	
Se	77	1	nogas	0.452	1183.8	81646	1.1	0	ICSA Main CR1 Failed
Se	82	1	nogas	-0.220	-309.2	467	19.4	0	ICSA Main CR1 Failed
Mo	95	1	nogas	1926.637	3.4	6682073	3.1	0	
Sn	118	1	nogas	-0.023	-59.8	1537	5.0	0	ICSA Main CR1 Failed
Ba	137	1	nogas	-0.013	-237.1	447	18.2	0	ICSA Main CR1 Failed
Sb	121	2	He	0.290	32.5	430	24.3	0	ICSA Main CR1 Failed

Interference Check Solution A (ICS-A) Report

P	31	1	nogas	92207.147	1.0	59236119	1.2	0	
La	139	1	nogas	57.587	16.4	197	11.7	0	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	308283	0.74	317621	97.06	70	125	
Ge	72	1	nogas	1471045	0.46	1478633	99.49	70	125	
In	115	1	nogas	1508178	0.64	1539303	97.98	70	125	
Bi	209	1	nogas	1371982	1.45	1532165	89.55	70	125	
Ge	72	2	He	123915	1.27	126743	97.77	70	125	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	016ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T09:48:52-06:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	92.655	3.735	219140	1.98	100	92.7	80	120	
Na	23	1	nogas	110348.778	4.390	1200995560	2.89	100	110348.8	80	120	ICSB Main CR1 Failed
Mg	24	1	nogas	110421.488	2.455	833537519	4.11	100	110421.5	80	120	
Al	27	1	nogas	89767.824	0.305	886298173	0.40	100	89767.8	80	120	ICSB Main CR1 Failed
K	39	1	nogas	105239.797	0.755	922995121	1.14	100	105239.8	80	120	
Ti	47	1	nogas	2134.265	0.955	1969421	0.94	100	2134.3	80	120	ICSB Main CR1 Failed
V	51	1	nogas	58.186	7.949	2494935	3.07	100	58.2	80	120	ICSB Main CR1 Failed
Cr	52	1	nogas	82.120	2.140	1023045	2.30	100	82.1	80	120	
Mn	55	1	nogas	84.669	2.714	1250955	3.03	100	84.7	80	120	
Co	59	1	nogas	84.184	3.373	1109747	3.75	100	84.2	80	120	
Ni	60	1	nogas	88.405	4.491	255744	4.86	100	88.4	80	120	
Cu	63	1	nogas	87.147	0.964	617553	0.96	100	87.1	80	120	
Zn	66	1	nogas	91.438	1.212	209312	0.83	100	91.4	80	120	
As	75	1	nogas	70.488	6.490	458124	3.20	100	70.5	80	120	ICSB Main CR1 Failed
Sr	88	1	nogas	88.444	1.252	1411739	1.10	100	88.4	80	120	
Ag	107	1	nogas	80.952	0.943	758312	0.76	100	81.0	80	120	
Cd	111	1	nogas	89.099	1.371	165258	0.91	100	89.1	80	120	
Sb	121	1	nogas	86.316	2.803	762104	3.18	100	86.3	80	120	
Tl	205	1	nogas	86.096	2.993	1343721	2.53	100	86.1	80	120	
Pb	208	1	nogas	87.321	0.773	1958247	0.77	100	87.3	80	120	
U	238	1	nogas	95.380	2.509	2106270	1.09	100	95.4	80	120	
[Pb]	206	1	nogas	86.826	1.673	470383	0.40	100	86.8	80	120	
[Pb]	207	1	nogas	88.363	2.009	436095	0.55	100	88.4	80	120	
Na	23	2	He	109717.477	1.470	25030690	1.76	100	109717.5	80	120	
Mg	24	2	He	108891.845	0.712	12100621	1.17	100	108891.8	80	120	
Al	27	2	He	88193.108	3.073	2932317	3.48	100	88193.1	80	120	ICSB Main CR1 Failed
K	39	2	He	108370.970	1.642	6465874	1.64	100	108371.0	80	120	
Ca	43	2	He	106412.205	3.585	21172	3.68	100	106412.2	80	120	
Ca	44	2	He	104272.076	0.343	368730	0.92	100	104272.1	80	120	
V	51	2	He	89.073	0.828	115166	0.84	100	89.1	80	120	
Cr	52	2	He	88.232	1.419	148672	2.04	100	88.2	80	120	
Mn	55	2	He	86.767	1.223	59306	1.40	100	86.8	80	120	
Fe	56	2	He	108082.584	0.292	145084965	0.93	100	108082.6	80	120	
Co	59	2	He	87.165	0.598	252507	1.19	100	87.2	80	120	
Ni	60	2	He	86.525	2.246	70222	2.80	100	86.5	80	120	
Cu	63	2	He	88.002	0.541	197489	1.20	100	88.0	80	120	
Zn	66	2	He	91.692	1.469	31531	1.90	100	91.7	80	120	
As	75	2	He	89.375	0.822	21765	1.17	100	89.4	80	120	
Se	78	2	He	98.863	4.158	927	3.96	100	98.9	80	120	
B	11	1	nogas	470.291	6.829	742598	2.08	100	470.3	80	120	
Si	28	1	nogas	4574.078	2.542	20659368	2.11	100	4574.1	80	120	ICSB Main CR1 Failed
Ca	43	1	nogas	111517.059	1.597	1953104	1.81	100	111517.1	80	120	
Ca	44	1	nogas	108424.471	2.537	30452061	2.77	100	108424.5	80	120	ICSB Main CR1 Failed
Fe	56	1	nogas	105968.747	2.267	1463508299	2.49	100	105968.7	80	120	
Se	77	1	nogas	39.705	27.940	90125	3.14	100	39.7	80	120	ICSB Main CR1 Failed
Se	82	1	nogas	89.348	2.429	12531	2.63	100	89.3	80	120	
Mo	95	1	nogas	2140.088	1.641	7379913	1.93	100	2140.1	80	120	ICSB Main CR1 Failed
Sn	118	1	nogas	91.294	2.925	468633	3.51	100	91.3	80	120	
Ba	137	1	nogas	90.953	1.865	225979	1.68	100	91.0	80	120	
Sb	121	2	He	87.979	1.620	94736	1.55	100	88.0	80	120	
La	139	1	nogas	300.884	3.774	783	5.16	100	300.9	80	120	ICSB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	282455	4.84	317621	88.93	70	125	
Ge	72	1	nogas	1462479	0.39	1478633	98.91	70	125	
In	115	1	nogas	1486540	1.99	1539303	96.57	70	125	
Bi	209	1	nogas	1397868	1.61	1532165	91.23	70	125	
Ge	72	2	He	124005	0.66	126743	97.84	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	022_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T10:00:57-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	100.020	1.654	247233	0.50	100	100.0	90	110	
Na	23	1	nogas	9421.709	2.991	113212786	2.74	10000	94.2	90	110	
Mg	24	1	nogas	9438.929	2.007	77463848	1.09	10000	94.4	90	110	
Al	27	1	nogas	90.296	2.719	959733	0.51	100	90.3	90	110	
K	39	1	nogas	9046.493	2.480	88352192	1.15	10000	90.5	90	110	
Ti	47	1	nogas	93.468	1.514	91560	1.03	100	93.5	90	110	
V	51	1	nogas	64.588	5.547	2737330	0.19	100	64.6	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	94.125	2.616	1233316	0.63	100	94.1	90	110	
Mn	55	1	nogas	95.279	5.395	1486502	3.55	100	95.3	90	110	
Co	59	1	nogas	90.831	2.528	1266095	1.62	100	90.8	90	110	
Ni	60	1	nogas	92.970	1.503	284402	1.24	100	93.0	90	110	
Cu	63	1	nogas	95.273	2.205	713561	1.72	100	95.3	90	110	
Zn	66	1	nogas	96.753	1.616	234202	0.78	100	96.8	90	110	
As	75	1	nogas	63.487	8.642	463454	1.48	100	63.5	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	94.357	2.391	1592699	1.81	100	94.4	90	110	
Ag	107	1	nogas	95.359	3.358	944370	1.21	100	95.4	90	110	
Cd	111	1	nogas	96.621	1.130	193147	3.25	100	96.6	90	110	
Sb	121	1	nogas	88.219	2.532	823553	0.61	100	88.2	90	110	CCV Main CR1-2 Failed
Tl	205	1	nogas	96.617	5.000	1618337	3.16	100	96.6	90	110	
Pb	208	1	nogas	102.062	2.656	2288719	2.66	100	102.1	90	110	
U	238	1	nogas	99.675	1.978	2363574	1.49	100	99.7	90	110	
[Pb]	206	1	nogas	95.144	3.714	553273	1.91	100	95.1	90	110	
[Pb]	207	1	nogas	97.122	4.657	514465	2.96	100	97.1	90	110	
Na	23	2	He	9833.876	3.038	2376039	3.48	10000	98.3	90	110	
Mg	24	2	He	9838.481	3.282	1135759	3.81	10000	98.4	90	110	
Al	27	2	He	95.689	11.965	3344	11.48	100	95.7	90	110	
K	39	2	He	10047.990	1.023	610902	1.00	10000	100.5	90	110	
Ca	43	2	He	9704.073	10.570	2017	10.32	10000	97.0	90	110	
Ca	44	2	He	9638.577	2.118	35545	1.78	10000	96.4	90	110	
V	51	2	He	96.269	1.536	129219	1.01	100	96.3	90	110	
Cr	52	2	He	98.164	1.450	171549	1.02	100	98.2	90	110	
Mn	55	2	He	98.298	1.961	69733	2.27	100	98.3	90	110	
Fe	56	2	He	9838.630	1.969	13727593	2.49	10000	98.4	90	110	
Co	59	2	He	96.771	0.446	291087	0.08	100	96.8	90	110	
Ni	60	2	He	95.990	1.090	80909	0.58	100	96.0	90	110	
Cu	63	2	He	97.198	1.567	226474	1.52	100	97.2	90	110	
Zn	66	2	He	96.398	1.507	34423	2.00	100	96.4	90	110	
As	75	2	He	97.373	1.351	24619	1.33	100	97.4	90	110	
Se	78	2	He	100.147	3.353	975	2.88	100	100.1	90	110	
B	11	1	nogas	515.891	1.452	848966	0.72	500	103.2	90	110	
Si	28	1	nogas	4717.893	2.965	22504101	0.76	5000	94.4	90	110	
Ca	43	1	nogas	9454.873	2.567	175714	1.22	10000	94.5	90	110	
Ca	44	1	nogas	9549.165	2.955	2998796	1.11	10000	95.5	90	110	
Fe	56	1	nogas	9258.553	3.086	136193353	0.89	10000	92.6	90	110	
Se	77	1	nogas	-25.154	-76.712	79637	4.23	100	-25.2	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.098	5.212	14209	3.66	100	96.1	90	110	
Mo	95	1	nogas	92.066	1.782	336037	0.86	100	92.1	90	110	
Sn	118	1	nogas	95.277	1.848	526775	1.35	100	95.3	90	110	
Ba	137	1	nogas	96.704	4.424	258776	3.36	100	96.7	90	110	
Sb	121	2	He	92.769	0.950	103730	1.32	100	92.8	90	110	
Li	7	1	nogas	101.481	1.933	625074	1.13	100	101.5	90	110	
P	31	1	nogas	440.208	4.518	357705	1.69	500	88.0	90	110	CCV Main CR1-2 Failed
La	139	1	nogas	110.217	13.388	347	13.01	100	110.2	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	25003.476	86.895	7	173.21	100	25003.5	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	294910	1.18	317621	92.85	70	125	
Ge	72	1	nogas	1547038	2.20	1478633	104.63	70	125	
In	115	1	nogas	1601716	2.32	1539303	104.05	70	125	
Bi	209	1	nogas	1500922	1.88	1532165	97.96	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	128768	0.53	126743	101.60	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	023_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T10:02:57-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.166	69.9	480	67.1	1	
Na	23	1	nogas	-5.657	-118.0	1700107	5.2	100	
Mg	24	1	nogas	17.822	60.5	151096	58.2	100	
Al	27	1	nogas	1.125	14.7	28335	6.3	5	
K	39	1	nogas	0.640	143.7	4795620	1.0	100	
Ti	47	1	nogas	0.067	55.0	417	9.1	2.5	
V	51	1	nogas	-25.035	-13.5	1328110	3.2	2.5	
Cr	52	1	nogas	-0.500	-14.6	38216	2.4	2.5	
Mn	55	1	nogas	0.550	16.4	19781	7.7	2.5	
Co	59	1	nogas	0.136	72.9	2400	57.4	2.5	
Ni	60	1	nogas	0.571	12.7	1997	11.4	2.5	
Cu	63	1	nogas	0.050	238.2	5208	17.4	2.5	
Zn	66	1	nogas	0.482	22.1	1770	15.0	2.5	
As	75	1	nogas	-25.146	-17.4	195868	5.8	2.5	
Sr	88	1	nogas	0.148	61.2	4737	32.5	2.5	
Ag	107	1	nogas	0.076	69.7	1273	41.1	2.5	
Cd	111	1	nogas	0.132	65.2	293	58.1	1	
Sb	121	1	nogas	1.362	22.2	13636	21.0	2.5	
Tl	205	1	nogas	0.356	52.4	6355	54.4	1	
Pb	208	1	nogas	0.194	49.4	4927	43.6	2.5	
U	238	1	nogas	0.165	64.1	4318	63.8	2.5	
[Pb]	206	1	nogas	0.175	51.8	1240	47.5	2.5	
[Pb]	207	1	nogas	0.161	52.6	1043	48.2	2.5	
Na	23	2	He	-16.062	-60.3	48663	2.7	100	
Mg	24	2	He	5.969	5.1	1107	4.5	100	
Al	27	2	He	5.139	13.8	227	11.1	5	CCB Main CR1 Failed
K	39	2	He	20.726	23.1	13795	2.1	100	
Ca	43	2	He	-48.708	-56.8	3	173.2	100	
Ca	44	2	He	2.138	606.9	183	28.0	100	
V	51	2	He	0.405	9.4	903	3.5	2.5	
Cr	52	2	He	-0.139	-89.5	1540	13.8	2.5	
Mn	55	2	He	0.418	20.5	607	12.5	2.5	
Fe	56	2	He	0.215	241.9	14646	3.2	100	
Co	59	2	He	0.051	47.5	223	31.8	2.5	
Ni	60	2	He	0.607	3.0	330	5.3	2.5	
Cu	63	2	He	0.326	18.0	1013	12.5	2.5	
Zn	66	2	He	0.536	22.7	210	21.8	2.5	
As	75	2	He	-0.035	-210.9	43	42.8	2.5	
Se	78	2	He	0.266	49.5	7	17.3	2.5	
B	11	1	nogas	8.658	13.9	51650	5.2	10	
Si	28	1	nogas	-8.132	-38.1	865025	2.3	5	
Ca	43	1	nogas	32.227	46.2	1243	22.6	100	
Ca	44	1	nogas	-124.592	-7.7	139606	2.8	100	
Fe	56	1	nogas	9.250	161.6	1209160	18.5	100	
Se	77	1	nogas	-80.531	-22.1	65227	5.7	2.5	
Se	82	1	nogas	-0.409	-144.7	457	18.9	2.5	
Mo	95	1	nogas	0.305	51.3	1393	40.9	2.5	
Sn	118	1	nogas	0.116	114.2	2390	29.7	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.062	129.2	673	31.2	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.988	13.9	1270	11.7	2.5	
P	31	1	nogas	-0.720	-231.2	59297	1.6	10	
La	139	1	nogas	-3.284	-14.4	50	0.0	2.5	
Au	197	1	nogas	-5526.128	-532.0	23	65.5	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	323998	1.23	317621	102.01	70	125	
Ge	72	1	nogas	1521518	0.93	1478633	102.90	70	125	
In	115	1	nogas	1601157	2.47	1539303	104.02	70	125	
Bi	209	1	nogas	1542487	3.60	1532165	100.67	70	125	
Ge	72	2	He	133613	2.28	126743	105.42	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	034_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T10:25:10-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	96.545	1.758	242399	1.02	100	96.5	90	110	
Na	23	1	nogas	9585.171	3.872	111144819	5.21	10000	95.9	90	110	
Mg	24	1	nogas	9598.386	1.556	76022866	2.91	10000	96.0	90	110	
Al	27	1	nogas	91.851	4.724	931724	1.00	100	91.9	90	110	
K	39	1	nogas	9373.233	5.289	87211864	1.43	10000	93.7	90	110	
Ti	47	1	nogas	94.809	5.420	88626	1.78	100	94.8	90	110	
V	51	1	nogas	73.175	16.777	2738878	3.63	100	73.2	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	94.875	6.797	1185908	3.12	100	94.9	90	110	
Mn	55	1	nogas	97.062	4.706	1445962	1.22	100	97.1	90	110	
Co	59	1	nogas	92.111	4.380	1225760	1.63	100	92.1	90	110	
Ni	60	1	nogas	94.508	2.936	276059	0.96	100	94.5	90	110	
Cu	63	1	nogas	97.370	2.782	696322	1.14	100	97.4	90	110	
Zn	66	1	nogas	98.462	1.741	227656	2.17	100	98.5	90	110	
As	75	1	nogas	66.881	11.352	452150	1.15	100	66.9	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	95.883	1.438	1546059	2.32	100	95.9	90	110	
Ag	107	1	nogas	94.415	4.942	892678	1.27	100	94.4	90	110	
Cd	111	1	nogas	95.423	3.662	186138	1.26	100	95.4	90	110	
Sb	121	1	nogas	89.365	3.395	796664	0.86	100	89.4	90	110	CCV Main CR1-2 Failed
Tl	205	1	nogas	98.802	3.746	1607559	3.65	100	98.8	90	110	
Pb	208	1	nogas	97.780	1.549	2192720	1.55	100	97.8	90	110	
U	238	1	nogas	98.925	4.644	2277066	3.71	100	98.9	90	110	
[Pb]	206	1	nogas	95.121	1.986	537174	0.88	100	95.1	90	110	
[Pb]	207	1	nogas	94.629	2.543	486846	1.90	100	94.6	90	110	
Na	23	2	He	9782.343	2.544	2321531	2.31	10000	97.8	90	110	
Mg	24	2	He	9610.631	1.509	1089598	1.33	10000	96.1	90	110	
Al	27	2	He	88.773	9.136	3050	8.84	100	88.8	90	110	CCV Main CR1-2 Failed
K	39	2	He	9672.216	1.614	588526	1.58	10000	96.7	90	110	
Ca	43	2	He	10044.666	5.938	2050	5.75	10000	100.4	90	110	
Ca	44	2	He	9443.695	3.328	34212	3.32	10000	94.4	90	110	
V	51	2	He	94.934	1.698	125171	1.57	100	94.9	90	110	
Cr	52	2	He	95.747	2.252	164396	2.05	100	95.7	90	110	
Mn	55	2	He	93.932	1.705	65460	1.58	100	93.9	90	110	
Fe	56	2	He	9515.201	1.320	13039807	1.27	10000	95.2	90	110	
Co	59	2	He	94.537	1.885	279315	1.81	100	94.5	90	110	
Ni	60	2	He	95.545	2.509	79104	2.49	100	95.5	90	110	
Cu	63	2	He	97.039	0.992	222090	1.15	100	97.0	90	110	
Zn	66	2	He	95.968	1.390	33658	1.30	100	96.0	90	110	
As	75	2	He	95.558	2.822	23731	2.64	100	95.6	90	110	
Se	78	2	He	100.282	6.279	959	6.11	100	100.3	90	110	
B	11	1	nogas	512.165	5.893	855904	3.98	500	102.4	90	110	
Si	28	1	nogas	4765.187	2.450	21704043	1.70	5000	95.3	90	110	
Ca	43	1	nogas	9607.253	5.206	170420	1.90	10000	96.1	90	110	
Ca	44	1	nogas	9566.389	5.954	2867055	1.95	10000	95.7	90	110	
Fe	56	1	nogas	9489.260	5.736	133213353	2.38	10000	94.9	90	110	
Se	77	1	nogas	-8.422	-308.661	79848	3.93	100	-8.4	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	95.151	4.871	13439	1.04	100	95.2	90	110	
Mo	95	1	nogas	93.208	4.465	324754	1.00	100	93.2	90	110	
Sn	118	1	nogas	93.641	2.446	505516	0.07	100	93.6	90	110	
Ba	137	1	nogas	95.145	2.642	248651	1.40	100	95.1	90	110	
Sb	121	2	He	91.505	1.655	100495	1.48	100	91.5	90	110	
Li	7	1	nogas	99.130	0.938	620902	1.59	100	99.1	90	110	
P	31	1	nogas	457.576	2.447	352953	1.62	500	91.5	90	110	
La	139	1	nogas	75.640	3.167	250	4.00	100	75.6	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	11836.337	188.156	13	86.60	100	11836.3	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	299566	1.83	317621	94.32	70	125	
Ge	72	1	nogas	1478002	3.63	1478633	99.96	70	125	
In	115	1	nogas	1564113	2.53	1539303	101.61	70	125	
Bi	209	1	nogas	1457153	1.20	1532165	95.10	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	126479	0.19	126743	99.79	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	035_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T10:27:10-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.135	60.3	410	59.6	1	
Na	23	1	nogas	36.918	13.3	2137964	4.4	100	
Mg	24	1	nogas	15.868	56.2	132977	55.9	100	
Al	27	1	nogas	0.611	7.2	22187	2.4	5	
K	39	1	nogas	22.407	51.7	4804149	1.5	100	
Ti	47	1	nogas	0.097	173.3	427	34.8	2.5	
V	51	1	nogas	-18.422	-11.4	1375029	2.2	2.5	
Cr	52	1	nogas	-0.572	-7.8	35912	1.1	2.5	
Mn	55	1	nogas	0.612	19.3	19934	8.7	2.5	
Co	59	1	nogas	0.163	65.6	2664	53.5	2.5	
Ni	60	1	nogas	0.688	3.4	2260	3.8	2.5	
Cu	63	1	nogas	0.197	52.3	6041	12.1	2.5	
Zn	66	1	nogas	0.562	33.2	1887	23.1	2.5	
As	75	1	nogas	-23.146	-14.8	194160	4.8	2.5	
Sr	88	1	nogas	0.152	62.2	4611	33.1	2.5	
Ag	107	1	nogas	0.083	52.3	1287	31.9	2.5	
Cd	111	1	nogas	0.112	71.0	257	63.3	1	
Sb	121	1	nogas	1.343	24.6	12939	22.6	2.5	
Tl	205	1	nogas	0.357	59.9	6042	57.6	1	
Pb	208	1	nogas	0.177	54.0	4544	47.1	2.5	
U	238	1	nogas	0.175	73.0	4304	68.2	2.5	
[Pb]	206	1	nogas	0.173	55.2	1157	46.2	2.5	
[Pb]	207	1	nogas	0.167	61.0	1020	51.3	2.5	
Na	23	2	He	30.059	35.4	57434	0.6	100	
Mg	24	2	He	4.401	33.6	877	16.2	100	
Al	27	2	He	2.513	46.8	127	29.9	5	
K	39	2	He	18.821	23.6	13682	1.9	100	
Ca	43	2	He	30.585	303.7	20	100.0	100	
Ca	44	2	He	-1.100	-696.3	163	15.4	100	
V	51	2	He	0.440	5.3	913	3.8	2.5	
Cr	52	2	He	-0.204	-29.8	1367	10.5	2.5	
Mn	55	2	He	0.335	10.9	523	8.6	2.5	
Fe	56	2	He	-1.031	-90.1	12281	6.4	100	
Co	59	2	He	0.055	7.1	227	9.2	2.5	
Ni	60	2	He	0.589	15.3	300	23.3	2.5	
Cu	63	2	He	0.445	14.6	1243	8.3	2.5	
Zn	66	2	He	0.515	15.6	193	13.0	2.5	
As	75	2	He	-0.025	-358.3	44	49.9	2.5	
Se	78	2	He	0.228	248.0	6	88.2	2.5	
B	11	1	nogas	25.092	10.3	82371	6.0	10	CCB Main CR1 Failed
Si	28	1	nogas	-7.146	-61.1	836509	2.0	5	
Ca	43	1	nogas	32.587	58.8	1203	28.7	100	
Ca	44	1	nogas	-179.810	-5.6	118868	1.7	100	
Fe	56	1	nogas	18.377	71.6	1288880	14.5	100	
Se	77	1	nogas	-69.304	-26.3	65348	6.5	2.5	
Se	82	1	nogas	-0.421	-229.2	437	29.1	2.5	
Mo	95	1	nogas	0.249	52.1	1147	39.5	2.5	
Sn	118	1	nogas	0.104	118.0	2344	29.0	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.072	160.9	707	44.8	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.861	19.6	1073	14.3	2.5	
P	31	1	nogas	1.563	270.7	58497	3.4	10	
La	139	1	nogas	-7.440	-174.8	40	86.6	2.5	
Au	197	1	nogas	19253.638	164.6	10	173.2	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	332914	3.49	317621	104.81	70	125	
Ge	72	1	nogas	1464088	1.32	1478633	99.02	70	125	
In	115	1	nogas	1612824	2.37	1539303	104.78	70	125	
Bi	209	1	nogas	1474047	3.58	1532165	96.21	70	125	
Ge	72	2	He	128031	4.34	126743	101.02	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	047_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T10:51:12-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.172	45.1	503	43.8	1	
Na	23	1	nogas	77.111	3.8	2531663	2.0	100	
Mg	24	1	nogas	17.911	50.7	145636	50.7	100	
Al	27	1	nogas	0.997	2.9	25017	2.4	5	
K	39	1	nogas	70.741	12.6	5027836	0.1	100	
Ti	47	1	nogas	0.128	10.0	440	3.9	2.5	
V	51	1	nogas	-57.734	-5.9	768527	5.5	2.5	
Cr	52	1	nogas	-1.150	-4.6	27908	2.5	2.5	
Mn	55	1	nogas	0.715	11.7	20618	5.4	2.5	
Co	59	1	nogas	0.143	57.3	2307	45.6	2.5	
Ni	60	1	nogas	0.642	23.6	2043	20.6	2.5	
Cu	63	1	nogas	0.495	21.0	7828	9.4	2.5	
Zn	66	1	nogas	1.052	4.7	2890	2.6	2.5	
As	75	1	nogas	-39.730	-5.1	141717	2.9	2.5	
Sr	88	1	nogas	0.134	63.1	4161	31.6	2.5	
Ag	107	1	nogas	0.110	54.8	1483	37.2	2.5	
Cd	111	1	nogas	0.130	59.8	280	57.5	1	
Sb	121	1	nogas	1.414	23.8	13045	21.9	2.5	
Tl	205	1	nogas	0.457	57.6	7402	54.0	1	
Pb	208	1	nogas	0.341	27.7	8234	25.8	2.5	
U	238	1	nogas	0.172	71.1	4067	65.1	2.5	
[Pb]	206	1	nogas	0.317	40.0	1920	33.8	2.5	
[Pb]	207	1	nogas	0.355	25.8	1937	20.4	2.5	
Na	23	2	He	85.093	5.9	66225	0.9	100	
Mg	24	2	He	7.418	7.6	1153	5.8	100	
Al	27	2	He	2.111	59.0	107	37.9	5	
K	39	2	He	63.135	5.9	16321	1.4	100	
Ca	43	2	He	-12.581	-414.5	10	100.0	100	
Ca	44	2	He	46.272	85.9	317	43.1	100	
V	51	2	He	0.194	13.7	551	6.8	2.5	
Cr	52	2	He	-0.163	-79.4	1350	16.1	2.5	
Mn	55	2	He	0.460	17.9	573	8.8	2.5	
Fe	56	2	He	1.852	43.9	15343	7.8	100	
Co	59	2	He	0.065	6.4	240	4.2	2.5	
Ni	60	2	He	0.492	2.5	207	5.6	2.5	
Cu	63	2	He	0.686	7.3	1697	5.7	2.5	
Zn	66	2	He	1.008	4.0	347	4.4	2.5	
As	75	2	He	-0.037	-151.0	39	34.6	2.5	
Se	78	2	He	0.044	875.5	4	86.6	2.5	
B	11	1	nogas	383.010	2.4	711695	3.5	10	CCB Main CR1 Failed
Si	28	1	nogas	91.848	2.2	1217418	1.7	5	CCB Main CR1 Failed
Ca	43	1	nogas	61.575	24.6	1647	16.7	100	
Ca	44	1	nogas	-165.769	-6.0	118150	2.8	100	
Fe	56	1	nogas	16.225	95.8	1210398	16.8	100	
Se	77	1	nogas	-142.771	-5.0	46737	3.2	2.5	
Se	82	1	nogas	-0.296	-114.5	437	8.7	2.5	
Mo	95	1	nogas	0.285	58.3	1223	45.6	2.5	
Sn	118	1	nogas	0.119	83.0	2304	27.0	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.098	64.0	737	26.3	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.865	16.4	1017	14.4	2.5	
P	31	1	nogas	5.917	14.3	58969	0.6	10	
La	139	1	nogas	3.008	175.7	63	24.1	2.5	CCB Main CR1 Failed
Au	197	1	nogas	-46757.618	-87.0	43	48.0	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	328440	1.41	317621	103.41	70	125	
Ge	72	1	nogas	1408492	1.38	1478633	95.26	70	125	
In	115	1	nogas	1520949	4.69	1539303	98.81	70	125	
Bi	209	1	nogas	1437203	4.29	1532165	93.80	70	125	
Ge	72	2	He	120377	0.90	126743	94.98	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	049_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T10:55:14-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	89.583	0.912	241541	1.18	100	89.6	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	9673.925	1.936	110033686	1.01	10000	96.7	90	110	
Mg	24	1	nogas	9665.178	1.974	75128445	2.26	10000	96.7	90	110	
Al	27	1	nogas	91.335	2.853	921214	2.14	100	91.3	90	110	
K	39	1	nogas	9244.586	5.141	85587779	4.56	10000	92.4	90	110	
Ti	47	1	nogas	93.563	2.408	87025	4.42	100	93.6	90	110	
V	51	1	nogas	39.930	6.049	2236701	3.64	100	39.9	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	90.624	1.429	1129247	3.97	100	90.6	90	110	
Mn	55	1	nogas	98.059	5.874	1452850	6.65	100	98.1	90	110	
Co	59	1	nogas	93.510	6.313	1236624	5.17	100	93.5	90	110	
Ni	60	1	nogas	95.919	4.403	278339	2.39	100	95.9	90	110	
Cu	63	1	nogas	95.248	4.688	676624	1.64	100	95.2	90	110	
Zn	66	1	nogas	95.070	3.013	218369	1.32	100	95.1	90	110	
As	75	1	nogas	49.877	7.546	401462	2.87	100	49.9	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	92.255	2.463	1477957	2.25	100	92.3	90	110	
Ag	107	1	nogas	93.212	2.193	876399	2.51	100	93.2	90	110	
Cd	111	1	nogas	92.038	1.724	181348	4.95	100	92.0	90	110	
Sb	121	1	nogas	88.234	3.997	781515	1.49	100	88.2	90	110	CCV Main CR1-2 Failed
Tl	205	1	nogas	92.674	4.462	1519397	1.69	100	92.7	90	110	
Pb	208	1	nogas	94.887	2.138	2127862	2.14	100	94.9	90	110	
U	238	1	nogas	97.347	1.417	2260976	4.36	100	97.3	90	110	
[Pb]	206	1	nogas	90.547	3.236	515426	0.62	100	90.5	90	110	
[Pb]	207	1	nogas	90.749	1.560	470794	2.05	100	90.7	90	110	
Na	23	2	He	9764.259	1.014	2263818	0.77	10000	97.6	90	110	
Mg	24	2	He	9612.393	2.881	1064478	2.01	10000	96.1	90	110	
Al	27	2	He	90.979	1.449	3054	2.50	100	91.0	90	110	
K	39	2	He	9321.287	1.560	567628	1.53	10000	93.2	90	110	
Ca	43	2	He	9793.413	16.117	1950	14.44	10000	97.9	90	110	
Ca	44	2	He	9551.543	2.867	33798	2.33	10000	95.5	90	110	
V	51	2	He	94.906	1.644	122236	0.74	100	94.9	90	110	
Cr	52	2	He	94.544	1.990	158585	0.69	100	94.5	90	110	
Mn	55	2	He	92.392	1.921	62898	0.83	100	92.4	90	110	
Fe	56	2	He	9258.805	0.759	12395696	0.86	10000	92.6	90	110	
Co	59	2	He	94.746	1.106	273457	0.58	100	94.7	90	110	
Ni	60	2	He	96.588	0.664	78124	1.18	100	96.6	90	110	
Cu	63	2	He	96.981	2.568	216820	2.48	100	97.0	90	110	
Zn	66	2	He	97.898	2.793	33534	1.27	100	97.9	90	110	
As	75	2	He	95.231	1.180	23104	0.63	100	95.2	90	110	
Se	78	2	He	98.054	1.666	916	2.79	100	98.1	90	110	
B	11	1	nogas	798.049	2.207	1412447	1.38	500	159.6	90	110	CCV Main CR1-2 Failed
Si	28	1	nogas	4886.273	3.419	22092117	2.92	5000	97.7	90	110	
Ca	43	1	nogas	9210.915	4.909	162414	2.79	10000	92.1	90	110	
Ca	44	1	nogas	9185.999	3.645	2743733	0.85	10000	91.9	90	110	
Fe	56	1	nogas	9390.068	3.986	131087324	3.20	10000	93.9	90	110	
Se	77	1	nogas	-67.750	-24.553	65889	6.32	100	-67.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	95.631	6.144	13419	3.84	100	95.6	90	110	
Mo	95	1	nogas	89.456	4.468	309746	2.14	100	89.5	90	110	CCV Main CR1-2 Failed
Sn	118	1	nogas	91.200	2.341	496899	2.43	100	91.2	90	110	
Ba	137	1	nogas	92.083	6.470	242571	2.35	100	92.1	90	110	
Sb	121	2	He	91.008	2.398	97629	1.34	100	91.0	90	110	
Li	7	1	nogas	93.020	1.863	627474	2.69	100	93.0	90	110	
P	31	1	nogas	467.655	4.825	357088	2.92	500	93.5	90	110	
La	139	1	nogas	107.815	28.951	333	20.42	100	107.8	90	110	
Au	197	1	nogas	18748.357	98.297	10	100.00	100	18748.4	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	321646	0.96	317621	101.27	70	125	
Ge	72	1	nogas	1468394	3.04	1478633	99.31	70	125	
In	115	1	nogas	1578954	4.72	1539303	102.58	70	125	
Bi	209	1	nogas	1469517	3.17	1532165	95.91	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	123566	1.50	126743	97.49	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	062_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T11:56:14-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	97.004	3.796	247493	0.79	100	97.0	90	110	
Na	23	1	nogas	9372.806	1.709	107664048	1.29	10000	93.7	90	110	
Mg	24	1	nogas	9551.001	2.773	74966114	4.60	10000	95.5	90	110	
Al	27	1	nogas	90.640	1.106	923489	2.32	100	90.6	90	110	
K	39	1	nogas	9565.337	4.635	89237983	3.00	10000	95.7	90	110	
Ti	47	1	nogas	91.000	0.463	85447	1.91	100	91.0	90	110	
V	51	1	nogas	5.036	9.391	1740424	2.16	100	5.0	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	89.546	1.839	1126735	1.86	100	89.5	90	110	CCV Main CR1-2 Failed
Mn	55	1	nogas	95.995	2.301	1435696	0.65	100	96.0	90	110	
Co	59	1	nogas	91.532	5.221	1222190	3.44	100	91.5	90	110	
Ni	60	1	nogas	93.884	3.593	275138	1.79	100	93.9	90	110	
Cu	63	1	nogas	95.873	2.607	688001	1.11	100	95.9	90	110	
Zn	66	1	nogas	98.384	1.936	228298	3.67	100	98.4	90	110	
As	75	1	nogas	31.450	5.419	352781	3.14	100	31.4	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	92.226	7.103	1491054	5.66	100	92.2	90	110	
Ag	107	1	nogas	91.801	1.582	871735	3.05	100	91.8	90	110	
Cd	111	1	nogas	93.938	1.799	181250	1.12	100	93.9	90	110	
Sb	121	1	nogas	92.280	3.439	825413	1.63	100	92.3	90	110	
Tl	205	1	nogas	91.416	0.624	1541205	1.15	100	91.4	90	110	
Pb	208	1	nogas	96.462	3.236	2163184	3.24	100	96.5	90	110	
U	238	1	nogas	92.600	0.873	2209227	1.74	100	92.6	90	110	
[Pb]	206	1	nogas	90.325	0.968	528621	1.84	100	90.3	90	110	
[Pb]	207	1	nogas	90.845	4.485	484432	5.21	100	90.8	90	110	
Na	23	2	He	9388.414	3.546	2254610	2.12	10000	93.9	90	110	
Mg	24	2	He	9149.581	3.063	1048764	1.45	10000	91.5	90	110	
Al	27	2	He	93.335	3.796	3240	2.16	100	93.3	90	110	
K	39	2	He	9406.728	2.391	572716	2.34	10000	94.1	90	110	
Ca	43	2	He	9524.821	18.533	1967	18.59	10000	95.2	90	110	
Ca	44	2	He	9153.055	4.564	33537	4.66	10000	91.5	90	110	
V	51	2	He	90.559	2.720	120738	1.22	100	90.6	90	110	
Cr	52	2	He	90.643	2.689	157447	1.34	100	90.6	90	110	
Mn	55	2	He	91.163	1.250	64253	1.11	100	91.2	90	110	
Fe	56	2	He	9010.569	2.451	12485687	1.01	10000	90.1	90	110	
Co	59	2	He	92.329	4.397	275761	2.89	100	92.3	90	110	
Ni	60	2	He	92.459	1.688	77401	1.50	100	92.5	90	110	
Cu	63	2	He	94.080	2.019	217712	0.43	100	94.1	90	110	
Zn	66	2	He	95.232	1.953	33785	3.53	100	95.2	90	110	
As	75	2	He	94.144	2.314	23641	1.14	100	94.1	90	110	
Se	78	2	He	95.932	5.561	927	4.71	100	95.9	90	110	
B	11	1	nogas	650.199	5.870	1094967	2.61	500	130.0	90	110	CCV Main CR1-2 Failed
Si	28	1	nogas	4594.904	2.726	21034462	3.32	5000	91.9	90	110	
Ca	43	1	nogas	9669.321	1.358	172212	0.57	10000	96.7	90	110	
Ca	44	1	nogas	9357.850	1.079	2820382	1.68	10000	93.6	90	110	
Fe	56	1	nogas	9128.584	2.799	128710128	1.50	10000	91.3	90	110	
Se	77	1	nogas	-150.219	-6.267	47492	5.91	100	-150.2	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	88.946	6.241	12638	4.17	100	88.9	90	110	CCV Main CR1-2 Failed
Mo	95	1	nogas	93.221	2.881	326012	1.11	100	93.2	90	110	
Sn	118	1	nogas	94.794	2.498	506059	2.13	100	94.8	90	110	
Ba	137	1	nogas	95.408	2.348	246568	1.86	100	95.4	90	110	
Sb	121	2	He	92.320	1.972	102520	1.03	100	92.3	90	110	
Li	7	1	nogas	97.880	0.984	623654	2.42	100	97.9	90	110	
P	31	1	nogas	457.326	1.801	353977	1.12	500	91.5	90	110	
La	139	1	nogas	186.367	26.897	527	24.71	100	186.4	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	6696.607	315.887	17	69.28	100	6696.6	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	304613	3.37	317621	95.90	70	125	
Ge	72	1	nogas	1482443	1.77	1478633	100.26	70	125	
In	115	1	nogas	1546293	0.72	1539303	100.45	70	125	
Bi	209	1	nogas	1509750	0.87	1532165	98.54	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	127911	1.63	126743	100.92	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	063_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T11:58:10-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.085	21.1	277	21.2	1	
Na	23	1	nogas	8.115	24.8	1856550	0.6	100	
Mg	24	1	nogas	8.775	16.8	78178	14.8	100	
Al	27	1	nogas	1.025	10.1	27634	3.3	5	
K	39	1	nogas	21.325	26.1	5043254	1.1	100	
Ti	47	1	nogas	0.058	148.4	413	21.1	2.5	
V	51	1	nogas	-76.217	-2.7	555728	6.0	2.5	
Cr	52	1	nogas	-1.802	-1.6	22317	2.0	2.5	
Mn	55	1	nogas	0.449	7.3	18449	2.6	2.5	
Co	59	1	nogas	0.066	29.4	1450	17.9	2.5	
Ni	60	1	nogas	0.748	2.5	2557	3.0	2.5	
Cu	63	1	nogas	0.455	1.4	8265	1.3	2.5	
Zn	66	1	nogas	0.728	6.5	2380	4.0	2.5	
As	75	1	nogas	-51.183	-3.8	120972	5.1	2.5	
Sr	88	1	nogas	0.092	14.1	3834	4.9	2.5	
Ag	107	1	nogas	0.102	13.1	1540	7.9	2.5	
Cd	111	1	nogas	0.052	21.7	137	15.2	1	
Sb	121	1	nogas	0.932	13.5	9793	11.2	2.5	
Tl	205	1	nogas	0.222	29.3	3961	30.9	1	
Pb	208	1	nogas	0.139	18.4	3697	15.5	2.5	
U	238	1	nogas	0.076	19.1	2084	19.9	2.5	
[Pb]	206	1	nogas	0.144	26.0	1027	21.5	2.5	
[Pb]	207	1	nogas	0.102	7.6	707	8.5	2.5	
Na	23	2	He	-3.223	-130.5	51116	1.9	100	
Mg	24	2	He	6.290	16.4	1130	12.3	100	
Al	27	2	He	2.584	6.2	133	4.3	5	
K	39	2	He	37.757	27.1	14809	4.1	100	
Ca	43	2	He	-49.009	-55.4	3	173.2	100	
Ca	44	2	He	-14.268	-161.3	120	74.1	100	
V	51	2	He	0.072	2.2	436	2.6	2.5	
Cr	52	2	He	-0.314	-15.4	1210	9.1	2.5	
Mn	55	2	He	0.445	32.6	617	16.3	2.5	
Fe	56	2	He	-0.048	-1250.6	14076	6.2	100	
Co	59	2	He	0.046	42.7	207	31.5	2.5	
Ni	60	2	He	0.884	16.7	567	24.3	2.5	
Cu	63	2	He	0.850	3.4	2247	0.9	2.5	
Zn	66	2	He	0.945	14.5	357	15.4	2.5	
As	75	2	He	-0.081	-63.9	31	44.6	2.5	
Se	78	2	He	-0.060	-522.6	3	91.7	2.5	
B	11	1	nogas	133.853	6.2	288807	2.5	10	CCB Main CR1 Failed
Si	28	1	nogas	11.626	44.8	965276	1.7	5	CCB Main CR1 Failed
Ca	43	1	nogas	27.863	26.6	1177	12.1	100	
Ca	44	1	nogas	-302.684	-2.3	88900	2.3	100	
Fe	56	1	nogas	-9.278	-24.8	953131	2.7	100	
Se	77	1	nogas	-188.417	-4.5	40151	5.5	2.5	
Se	82	1	nogas	-0.846	-45.3	400	13.9	2.5	
Mo	95	1	nogas	0.175	31.7	937	20.7	2.5	
Sn	118	1	nogas	-0.007	-442.9	1747	8.5	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.019	141.8	570	13.9	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.769	5.1	1003	2.3	2.5	
P	31	1	nogas	3.696	26.6	62978	1.0	10	
La	139	1	nogas	23.948	37.2	123	20.4	2.5	CCB Main CR1 Failed
Au	197	1	nogas	-5192.943	-400.4	23	49.5	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	348077	3.05	317621	109.59	70	125	
Ge	72	1	nogas	1539816	0.79	1478633	104.14	70	125	
In	115	1	nogas	1628693	1.40	1539303	105.81	70	125	
Bi	209	1	nogas	1522617	2.82	1532165	99.38	70	125	
Ge	72	2	He	131748	2.13	126743	103.95	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	074_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T12:20:07-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	88.243	3.847	259098	2.69	100	88.2	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	10680.530	0.689	126525524	1.16	10000	106.8	90	110	
Mg	24	1	nogas	9987.285	3.099	80953437	2.64	10000	99.9	90	110	
Al	27	1	nogas	92.976	2.665	1009286	1.66	100	93.0	90	110	
K	39	1	nogas	9330.785	1.418	92981237	2.51	10000	93.3	90	110	
Ti	47	1	nogas	92.081	0.663	92173	0.86	100	92.1	90	110	
V	51	1	nogas	70.671	6.711	2893390	2.47	100	70.7	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	93.465	2.944	1251800	2.49	100	93.5	90	110	
Mn	55	1	nogas	97.739	0.871	1558634	1.16	100	97.7	90	110	
Co	59	1	nogas	93.709	3.233	1334647	2.75	100	93.7	90	110	
Ni	60	1	nogas	94.555	0.458	295564	1.54	100	94.6	90	110	
Cu	63	1	nogas	93.980	1.160	719288	0.96	100	94.0	90	110	
Zn	66	1	nogas	95.400	1.793	235951	0.46	100	95.4	90	110	
As	75	1	nogas	60.228	6.105	463685	0.97	100	60.2	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	92.973	3.182	1603319	2.09	100	93.0	90	110	
Ag	107	1	nogas	92.530	2.549	936444	1.07	100	92.5	90	110	
Cd	111	1	nogas	93.805	2.872	197123	0.50	100	93.8	90	110	
Sb	121	1	nogas	87.523	2.399	834876	0.96	100	87.5	90	110	CCV Main CR1-2 Failed
Tl	205	1	nogas	97.176	1.490	1627114	0.84	100	97.2	90	110	
Pb	208	1	nogas	99.744	1.067	2236760	1.07	100	99.7	90	110	
U	238	1	nogas	101.893	3.893	2413517	2.23	100	101.9	90	110	
[Pb]	206	1	nogas	94.649	2.900	549996	0.86	100	94.6	90	110	
[Pb]	207	1	nogas	94.784	2.610	501795	0.86	100	94.8	90	110	
Na	23	2	He	10032.238	3.985	2457593	2.83	10000	100.3	90	110	
Mg	24	2	He	9720.632	2.213	1138354	1.46	10000	97.2	90	110	
Al	27	2	He	93.315	1.826	3310	1.60	100	93.3	90	110	
K	39	2	He	10081.867	0.583	612920	0.57	10000	100.8	90	110	
Ca	43	2	He	9517.966	6.236	2007	5.11	10000	95.2	90	110	
Ca	44	2	He	9368.817	3.651	35080	5.38	10000	93.7	90	110	
V	51	2	He	94.234	3.564	128320	2.22	100	94.2	90	110	
Cr	52	2	He	95.455	2.403	169314	2.42	100	95.5	90	110	
Mn	55	2	He	95.585	2.908	68829	4.29	100	95.6	90	110	
Fe	56	2	He	9376.759	2.180	13278255	3.66	10000	93.8	90	110	
Co	59	2	He	95.621	1.114	291843	1.13	100	95.6	90	110	
Ni	60	2	He	94.987	3.593	81216	2.40	100	95.0	90	110	
Cu	63	2	He	97.438	2.770	230304	0.67	100	97.4	90	110	
Zn	66	2	He	95.331	4.095	34526	2.54	100	95.3	90	110	
As	75	2	He	94.625	2.135	24273	0.63	100	94.6	90	110	
Se	78	2	He	100.672	2.633	994	0.73	100	100.7	90	110	
B	11	1	nogas	591.369	0.642	1150498	1.44	500	118.3	90	110	CCV Main CR1-2 Failed
Si	28	1	nogas	4952.913	1.893	24097335	1.40	5000	99.1	90	110	
Ca	43	1	nogas	9357.434	0.714	177738	1.74	10000	93.6	90	110	
Ca	44	1	nogas	9122.133	1.732	2936306	2.80	10000	91.2	90	110	
Fe	56	1	nogas	9374.869	1.586	140922011	0.83	10000	93.7	90	110	
Se	77	1	nogas	-31.310	-38.099	79881	2.69	100	-31.3	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	86.738	4.807	13162	4.66	100	86.7	90	110	CCV Main CR1-2 Failed
Mo	95	1	nogas	92.358	1.012	344489	1.80	100	92.4	90	110	
Sn	118	1	nogas	91.151	2.361	530130	1.49	100	91.2	90	110	
Ba	137	1	nogas	92.653	3.193	260786	0.20	100	92.7	90	110	
Sb	121	2	He	92.699	3.567	105150	2.75	100	92.7	90	110	
Li	7	1	nogas	93.324	3.045	685447	2.24	100	93.3	90	110	
P	31	1	nogas	470.495	2.411	386464	0.89	500	94.1	90	110	
La	139	1	nogas	117.970	17.084	387	17.22	100	118.0	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-61895.267	-75.328	53	47.19	100	-61895.3	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	350374	1.46	317621	110.31	70	125	
Ge	72	1	nogas	1580552	1.51	1478633	106.89	70	125	
In	115	1	nogas	1685004	3.23	1539303	109.47	70	125	
Bi	209	1	nogas	1499730	2.04	1532165	97.88	70	125	
Ge	72	2	He	130673	2.13	126743	103.10	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	075_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T12:22:03-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.091	20.4	330	16.9	1	
Na	23	1	nogas	175.116	3.7	3968854	2.0	100	CCB Main CR1 Failed
Mg	24	1	nogas	12.394	8.0	112418	6.9	100	
Al	27	1	nogas	0.708	19.8	25054	6.4	5	
K	39	1	nogas	19.295	16.5	5171254	0.6	100	
Ti	47	1	nogas	0.030	240.9	397	18.6	2.5	
V	51	1	nogas	-38.899	-7.0	1163824	4.2	2.5	
Cr	52	1	nogas	-1.275	-6.8	29788	4.2	2.5	
Mn	55	1	nogas	0.503	4.5	19848	1.9	2.5	
Co	59	1	nogas	0.066	14.7	1493	9.1	2.5	
Ni	60	1	nogas	0.752	4.5	2644	4.1	2.5	
Cu	63	1	nogas	0.352	11.1	7718	3.6	2.5	
Zn	66	1	nogas	0.519	8.5	1933	6.0	2.5	
As	75	1	nogas	-34.300	-8.6	176124	5.6	2.5	
Sr	88	1	nogas	0.108	16.8	4237	7.6	2.5	
Ag	107	1	nogas	0.073	5.8	1293	3.5	2.5	
Cd	111	1	nogas	0.054	56.0	150	43.7	1	
Sb	121	1	nogas	0.753	15.5	8369	12.9	2.5	
Tl	205	1	nogas	0.209	39.5	3791	36.9	1	
Pb	208	1	nogas	0.101	10.4	2833	8.3	2.5	
U	238	1	nogas	0.074	25.2	2050	21.3	2.5	
[Pb]	206	1	nogas	0.089	14.2	717	10.1	2.5	
[Pb]	207	1	nogas	0.081	26.6	600	18.3	2.5	
Na	23	2	He	165.160	5.3	91351	1.7	100	CCB Main CR1 Failed
Mg	24	2	He	11.770	3.7	1767	4.0	100	
Al	27	2	He	4.699	17.0	207	12.2	5	
K	39	2	He	49.466	17.2	15507	3.3	100	
Ca	43	2	He	-32.816	-168.2	7	173.2	100	
Ca	44	2	He	4.881	359.3	190	34.5	100	
V	51	2	He	0.330	4.2	785	0.9	2.5	
Cr	52	2	He	-0.377	-29.3	1090	16.3	2.5	
Mn	55	2	He	0.453	26.8	620	14.8	2.5	
Fe	56	2	He	-0.705	-80.2	13061	4.3	100	
Co	59	2	He	0.049	24.6	213	19.5	2.5	
Ni	60	2	He	0.688	5.0	393	6.4	2.5	
Cu	63	2	He	0.646	8.0	1753	6.7	2.5	
Zn	66	2	He	0.660	30.6	250	27.7	2.5	
As	75	2	He	-0.011	-767.6	49	41.1	2.5	
Se	78	2	He	-0.194	-104.8	2	100.0	2.5	
B	11	1	nogas	115.152	3.3	286324	3.3	10	CCB Main CR1 Failed
Si	28	1	nogas	-13.315	-24.6	876564	1.3	5	
Ca	43	1	nogas	19.733	26.0	1057	9.6	100	
Ca	44	1	nogas	-338.468	-0.3	80666	0.5	100	
Fe	56	1	nogas	13.767	9.9	1325711	1.3	100	
Se	77	1	nogas	-118.189	-11.2	58672	6.1	2.5	
Se	82	1	nogas	-0.492	-89.7	463	14.4	2.5	
Mo	95	1	nogas	0.101	23.5	687	12.7	2.5	
Sn	118	1	nogas	-0.043	-3.4	1637	0.9	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	-0.010	-240.4	520	13.5	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.580	15.5	783	12.8	2.5	
P	31	1	nogas	1.778	99.4	63494	2.3	10	
La	139	1	nogas	0.115	4820.8	63	24.1	2.5	
Au	197	1	nogas	7400.109	145.0	17	34.6	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	392028	1.63	317621	123.43	70	125	
Ge	72	1	nogas	1584739	0.48	1478633	107.18	70	125	
In	115	1	nogas	1723228	0.43	1539303	111.95	70	125	
Bi	209	1	nogas	1554596	1.37	1532165	101.46	70	125	
Ge	72	2	He	131052	2.02	126743	103.40	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	086_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T12:44:26-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	92.035	5.312	253118	2.46	100	92.0	90	110	
Na	23	1	nogas	9970.439	2.175	114303019	3.48	10000	99.7	90	110	
Mg	24	1	nogas	9911.161	1.825	77672970	3.14	10000	99.1	90	110	
Al	27	1	nogas	94.172	2.072	941617	2.12	100	94.2	90	110	
K	39	1	nogas	9832.499	3.530	89964967	0.80	10000	98.3	90	110	
Ti	47	1	nogas	95.650	3.165	88161	1.41	100	95.7	90	110	
V	51	1	nogas	57.297	7.966	2470107	1.52	100	57.3	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	96.475	5.159	1188129	1.86	100	96.5	90	110	
Mn	55	1	nogas	100.720	7.303	1477222	3.49	100	100.7	90	110	
Co	59	1	nogas	94.905	5.715	1244316	3.15	100	94.9	90	110	
Ni	60	1	nogas	95.694	6.209	275211	2.33	100	95.7	90	110	
Cu	63	1	nogas	96.939	5.049	682839	2.19	100	96.9	90	110	
Zn	66	1	nogas	97.444	3.418	221940	1.17	100	97.4	90	110	
As	75	1	nogas	60.576	7.228	428169	2.69	100	60.6	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	95.776	6.333	1520111	2.93	100	95.8	90	110	
Ag	107	1	nogas	94.544	2.989	881408	2.09	100	94.5	90	110	
Cd	111	1	nogas	95.835	2.084	184645	1.69	100	95.8	90	110	
Sb	121	1	nogas	92.081	5.250	808536	1.97	100	92.1	90	110	
Tl	205	1	nogas	94.571	1.993	1548539	1.59	100	94.6	90	110	
Pb	208	1	nogas	97.372	3.014	2183584	3.01	100	97.4	90	110	
U	238	1	nogas	99.008	1.684	2294442	2.58	100	99.0	90	110	
[Pb]	206	1	nogas	94.062	2.453	534663	2.59	100	94.1	90	110	
[Pb]	207	1	nogas	93.784	3.607	485716	4.22	100	93.8	90	110	
Na	23	2	He	9853.580	1.189	2303131	0.51	10000	98.5	90	110	
Mg	24	2	He	9500.883	2.548	1060954	1.64	10000	95.0	90	110	
Al	27	2	He	92.491	8.852	3130	9.36	100	92.5	90	110	
K	39	2	He	9456.961	0.997	575708	0.98	10000	94.6	90	110	
Ca	43	2	He	10386.285	7.955	2087	6.82	10000	103.9	90	110	
Ca	44	2	He	9476.610	5.881	33804	4.74	10000	94.8	90	110	
V	51	2	He	94.651	2.384	122920	1.28	100	94.7	90	110	
Cr	52	2	He	96.472	3.168	163140	2.59	100	96.5	90	110	
Mn	55	2	He	96.716	3.269	66380	2.88	100	96.7	90	110	
Fe	56	2	He	9531.466	3.898	12865420	3.41	10000	95.3	90	110	
Co	59	2	He	95.500	2.753	277931	2.40	100	95.5	90	110	
Ni	60	2	He	94.632	1.190	77172	0.39	100	94.6	90	110	
Cu	63	2	He	95.914	2.180	216214	1.34	100	95.9	90	110	
Zn	66	2	He	97.069	2.017	33535	1.73	100	97.1	90	110	
As	75	2	He	96.451	0.566	23596	1.28	100	96.5	90	110	
Se	78	2	He	100.750	2.423	949	1.29	100	100.8	90	110	
B	11	1	nogas	583.124	8.432	1062653	6.25	500	116.6	90	110	CCV Main CR1-2 Failed
Si	28	1	nogas	4996.368	3.914	22382733	3.11	5000	99.9	90	110	
Ca	43	1	nogas	10020.704	4.242	175185	1.78	10000	100.2	90	110	
Ca	44	1	nogas	9419.335	6.590	2783930	2.48	10000	94.2	90	110	
Fe	56	1	nogas	9847.747	7.266	136153982	3.91	10000	98.5	90	110	
Se	77	1	nogas	-30.602	-45.758	73769	4.65	100	-30.6	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	95.912	2.038	13355	2.48	100	95.9	90	110	
Mo	95	1	nogas	94.715	6.288	325051	2.92	100	94.7	90	110	
Sn	118	1	nogas	95.620	2.856	509615	0.51	100	95.6	90	110	
Ba	137	1	nogas	96.347	3.675	248541	0.72	100	96.3	90	110	
Sb	121	2	He	93.645	1.374	101313	1.77	100	93.6	90	110	
Li	7	1	nogas	96.710	2.441	664650	2.21	100	96.7	90	110	
P	31	1	nogas	487.313	5.805	366433	0.88	500	97.5	90	110	
La	139	1	nogas	87.181	17.414	277	17.08	100	87.2	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	5864.809	496.247	17	91.65	100	5864.8	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	328440	3.24	317621	103.41	70	125	
Ge	72	1	nogas	1456657	4.10	1478633	98.51	70	125	
In	115	1	nogas	1544523	3.09	1539303	100.34	70	125	
Bi	209	1	nogas	1466475	1.19	1532165	95.71	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	124595	1.12	126743	98.30	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	087_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T12:46:23-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.076	31.5	267	32.3	1	
Na	23	1	nogas	55.012	6.1	2475391	1.4	100	
Mg	24	1	nogas	6.811	6.8	64490	4.9	100	
Al	27	1	nogas	0.360	22.9	20201	3.2	5	
K	39	1	nogas	35.564	72.0	5041874	0.2	100	
Ti	47	1	nogas	0.068	132.2	410	18.4	2.5	
V	51	1	nogas	-37.589	-6.1	1123383	6.4	2.5	
Cr	52	1	nogas	-1.214	-10.2	28976	5.8	2.5	
Mn	55	1	nogas	0.250	16.1	14990	3.4	2.5	
Co	59	1	nogas	0.045	8.1	1130	5.5	2.5	
Ni	60	1	nogas	0.583	5.2	2003	1.0	2.5	
Cu	63	1	nogas	0.119	66.1	5621	6.2	2.5	
Zn	66	1	nogas	0.190	23.4	1060	6.2	2.5	
As	75	1	nogas	-32.705	-9.1	171364	2.8	2.5	
Sr	88	1	nogas	0.033	66.3	2767	8.3	2.5	
Ag	107	1	nogas	0.069	31.5	1187	13.4	2.5	
Cd	111	1	nogas	0.030	42.6	93	27.0	1	
Sb	121	1	nogas	0.717	19.4	7582	13.8	2.5	
Tl	205	1	nogas	0.219	39.5	3887	38.9	1	
Pb	208	1	nogas	0.074	7.1	2230	5.3	2.5	
U	238	1	nogas	0.050	23.7	1443	20.4	2.5	
[Pb]	206	1	nogas	0.073	18.7	607	12.4	2.5	
[Pb]	207	1	nogas	0.058	13.7	467	9.9	2.5	
Na	23	2	He	65.557	5.0	65991	1.6	100	
Mg	24	2	He	4.908	31.8	940	18.6	100	
Al	27	2	He	1.711	110.8	100	65.6	5	
K	39	2	He	23.079	45.1	13935	4.4	100	
Ca	43	2	He	-32.094	-175.9	7	173.2	100	
Ca	44	2	He	2.317	597.1	177	29.0	100	
V	51	2	He	0.275	6.8	696	4.0	2.5	
Cr	52	2	He	-0.299	-28.9	1203	11.9	2.5	
Mn	55	2	He	0.131	30.7	380	7.0	2.5	
Fe	56	2	He	-2.631	-19.6	10123	7.4	100	
Co	59	2	He	0.037	118.4	173	76.8	2.5	
Ni	60	2	He	0.619	8.9	327	13.8	2.5	
Cu	63	2	He	0.396	10.7	1137	9.0	2.5	
Zn	66	2	He	0.242	66.8	97	58.8	2.5	
As	75	2	He	-0.091	-9.0	28	6.9	2.5	
Se	78	2	He	0.221	246.6	6	88.2	2.5	
B	11	1	nogas	92.130	7.5	222378	1.3	10	CCB Main CR1 Failed
Si	28	1	nogas	7.219	171.5	920743	1.5	5	CCB Main CR1 Failed
Ca	43	1	nogas	12.883	24.4	877	1.7	100	
Ca	44	1	nogas	-349.610	-3.1	73203	2.2	100	
Fe	56	1	nogas	-5.441	-71.9	982971	1.6	100	
Se	77	1	nogas	-112.300	-7.9	56986	5.4	2.5	
Se	82	1	nogas	-0.451	-89.4	443	9.1	2.5	
Mo	95	1	nogas	0.088	49.2	607	25.2	2.5	
Sn	118	1	nogas	-0.018	-138.9	1710	7.6	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	-0.084	-24.6	293	17.5	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.576	23.9	763	20.5	2.5	
P	31	1	nogas	7.562	60.5	63898	0.7	10	
La	139	1	nogas	8.607	136.7	83	36.7	2.5	CCB Main CR1 Failed
Au	197	1	nogas	-17870.018	-99.8	30	33.3	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	367151	5.07	317621	115.59	70	125	
Ge	72	1	nogas	1502612	4.76	1478633	101.62	70	125	
In	115	1	nogas	1654260	2.17	1539303	107.47	70	125	
Bi	209	1	nogas	1512899	1.63	1532165	98.74	70	125	
Ge	72	2	He	128301	0.49	126743	101.23	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	098_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T13:08:22-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	87.004	5.799	268370	3.98	100	87.0	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	10058.211	1.846	121490074	3.72	10000	100.6	90	110	
Mg	24	1	nogas	10202.770	1.097	84251908	3.09	10000	102.0	90	110	
Al	27	1	nogas	97.293	5.034	1039581	1.82	100	97.3	90	110	
K	39	1	nogas	9842.267	3.686	96353752	1.51	10000	98.4	90	110	
Ti	47	1	nogas	95.395	2.040	94103	1.81	100	95.4	90	110	
V	51	1	nogas	45.549	15.829	2459712	3.68	100	45.5	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	99.273	2.904	1307700	2.60	100	99.3	90	110	
Mn	55	1	nogas	103.760	3.461	1629519	0.72	100	103.8	90	110	
Co	59	1	nogas	94.736	3.700	1329440	0.95	100	94.7	90	110	
Ni	60	1	nogas	96.018	3.515	295679	0.37	100	96.0	90	110	
Cu	63	1	nogas	96.791	2.728	729856	0.54	100	96.8	90	110	
Zn	66	1	nogas	98.337	2.408	239704	1.77	100	98.3	90	110	
As	75	1	nogas	52.890	10.686	434959	2.87	100	52.9	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	94.566	1.813	1607602	1.66	100	94.6	90	110	
Ag	107	1	nogas	93.760	5.216	934709	2.10	100	93.8	90	110	
Cd	111	1	nogas	95.127	2.840	200355	1.71	100	95.1	90	110	
Sb	121	1	nogas	92.688	2.459	871416	1.53	100	92.7	90	110	
Tl	205	1	nogas	93.523	1.047	1638687	0.82	100	93.5	90	110	
Pb	208	1	nogas	102.452	0.527	2297467	0.53	100	102.5	90	110	
U	238	1	nogas	101.381	1.675	2513743	1.88	100	101.4	90	110	
[Pb]	206	1	nogas	91.180	1.545	554545	0.75	100	91.2	90	110	
[Pb]	207	1	nogas	92.272	1.780	511236	0.87	100	92.3	90	110	
Na	23	2	He	9656.359	2.041	2365403	2.04	10000	96.6	90	110	
Mg	24	2	He	9594.784	2.149	1122456	1.97	10000	95.9	90	110	
Al	27	2	He	88.943	3.493	3154	3.25	100	88.9	90	110	CCV Main CR1-2 Failed
K	39	2	He	9598.947	0.485	584163	0.47	10000	96.0	90	110	
Ca	43	2	He	10241.757	2.251	2157	2.19	10000	102.4	90	110	
Ca	44	2	He	8927.150	0.690	33380	0.74	10000	89.3	90	110	CCV Main CR1-2 Failed
V	51	2	He	91.865	0.827	124996	0.64	100	91.9	90	110	
Cr	52	2	He	94.472	1.952	167398	1.74	100	94.5	90	110	
Mn	55	2	He	93.196	0.059	67020	0.18	100	93.2	90	110	
Fe	56	2	He	9263.668	0.404	13100013	0.24	10000	92.6	90	110	
Co	59	2	He	94.803	1.313	289033	1.51	100	94.8	90	110	
Ni	60	2	He	95.544	1.211	81625	1.40	100	95.5	90	110	
Cu	63	2	He	97.180	2.644	229502	2.78	100	97.2	90	110	
Zn	66	2	He	96.832	1.538	35044	1.72	100	96.8	90	110	
As	75	2	He	95.667	1.541	24517	1.72	100	95.7	90	110	
Se	78	2	He	96.491	4.136	952	4.01	100	96.5	90	110	
B	11	1	nogas	585.711	5.431	1197251	3.63	500	117.1	90	110	CCV Main CR1-2 Failed
Si	28	1	nogas	5100.016	5.701	24410112	2.36	5000	102.0	90	110	
Ca	43	1	nogas	9615.760	4.478	179890	1.83	10000	96.2	90	110	
Ca	44	1	nogas	9395.884	5.450	2973548	3.21	10000	94.0	90	110	
Fe	56	1	nogas	9809.359	2.667	145262149	0.83	10000	98.1	90	110	
Se	77	1	nogas	-69.371	-25.894	69476	4.78	100	-69.4	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	93.478	1.270	13942	2.70	100	93.5	90	110	
Mo	95	1	nogas	92.487	0.488	340112	3.34	100	92.5	90	110	
Sn	118	1	nogas	93.308	3.111	543722	1.19	100	93.3	90	110	
Ba	137	1	nogas	92.212	4.968	260018	2.02	100	92.2	90	110	
Sb	121	2	He	92.326	0.741	104630	0.94	100	92.3	90	110	
Li	7	1	nogas	95.978	3.249	739800	1.86	100	96.0	90	110	
P	31	1	nogas	488.264	6.500	392718	2.59	500	97.7	90	110	
La	139	1	nogas	113.634	17.644	373	12.08	100	113.6	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	13571.037	203.460	13	114.56	100	13571.0	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	368240	2.23	317621	115.94	70	125	
Ge	72	1	nogas	1558255	3.18	1478633	105.38	70	125	
In	115	1	nogas	1688685	3.32	1539303	109.70	70	125	
Bi	209	1	nogas	1569160	0.92	1532165	102.41	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	130510	0.20	126743	102.97	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	099_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T13:10:17-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.086	33.9	313	32.0	1	
Na	23	1	nogas	-2.423	-263.3	1857587	1.2	100	
Mg	24	1	nogas	6.175	24.1	61379	20.0	100	
Al	27	1	nogas	0.494	34.7	23501	8.7	5	
K	39	1	nogas	-6.420	-113.1	5087078	0.8	100	
Ti	47	1	nogas	0.002	3042.5	380	13.7	2.5	
V	51	1	nogas	-51.726	-10.9	991513	9.7	2.5	
Cr	52	1	nogas	-1.408	-8.1	28970	5.7	2.5	
Mn	55	1	nogas	0.169	8.3	15010	1.9	2.5	
Co	59	1	nogas	0.042	24.1	1187	12.0	2.5	
Ni	60	1	nogas	0.413	12.3	1633	9.4	2.5	
Cu	63	1	nogas	-0.024	-97.7	5007	3.1	2.5	
Zn	66	1	nogas	0.131	12.4	1007	3.5	2.5	
As	75	1	nogas	-37.681	-8.4	171120	5.9	2.5	
Sr	88	1	nogas	0.020	80.3	2804	11.0	2.5	
Ag	107	1	nogas	0.076	25.6	1363	15.1	2.5	
Cd	111	1	nogas	0.041	61.5	123	46.8	1	
Sb	121	1	nogas	0.729	12.7	8406	10.8	2.5	
Tl	205	1	nogas	0.228	34.1	4327	35.7	1	
Pb	208	1	nogas	0.081	32.1	2390	24.3	2.5	
U	238	1	nogas	0.046	25.9	1440	24.2	2.5	
[Pb]	206	1	nogas	0.062	31.9	580	24.4	2.5	
[Pb]	207	1	nogas	0.066	48.6	547	36.8	2.5	
Na	23	2	He	2.064	346.1	52680	3.6	100	
Mg	24	2	He	2.800	21.6	720	8.4	100	
Al	27	2	He	3.015	62.1	150	46.2	5	
K	39	2	He	21.959	52.6	13869	5.0	100	
Ca	43	2	He	76.842	62.2	30	33.3	100	
Ca	44	2	He	-6.170	-159.9	150	24.0	100	
V	51	2	He	0.226	14.9	650	6.3	2.5	
Cr	52	2	He	-0.331	-15.7	1187	9.2	2.5	
Mn	55	2	He	0.120	86.2	383	17.8	2.5	
Fe	56	2	He	-2.231	-16.7	11017	3.1	100	
Co	59	2	He	0.036	34.2	173	21.8	2.5	
Ni	60	2	He	0.559	21.5	287	38.3	2.5	
Cu	63	2	He	0.355	4.3	1073	1.9	2.5	
Zn	66	2	He	0.260	34.3	107	30.1	2.5	
As	75	2	He	-0.073	-30.4	33	17.3	2.5	
Se	78	2	He	0.935	42.5	13	31.2	2.5	
B	11	1	nogas	110.170	2.0	273785	1.8	10	CCB Main CR1 Failed
Si	28	1	nogas	-22.746	-11.1	859252	1.1	5	
Ca	43	1	nogas	6.436	42.4	830	6.0	100	
Ca	44	1	nogas	-373.617	-1.3	72289	1.9	100	
Fe	56	1	nogas	-13.164	-7.3	952787	1.0	100	
Se	77	1	nogas	-136.449	-9.8	55903	6.2	2.5	
Se	82	1	nogas	-0.545	-124.1	470	21.6	2.5	
Mo	95	1	nogas	0.124	38.2	800	22.9	2.5	
Sn	118	1	nogas	-0.046	-30.4	1627	6.2	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	-0.078	-16.0	327	9.4	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.602	7.5	817	4.9	2.5	
P	31	1	nogas	4.712	31.3	67638	1.9	10	
La	139	1	nogas	10.473	98.4	93	32.7	2.5	CCB Main CR1 Failed
Au	197	1	nogas	20317.331	83.0	10	100.0	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	389135	1.85	317621	122.52	70	125	
Ge	72	1	nogas	1635951	0.64	1478633	110.64	70	125	
In	115	1	nogas	1733974	1.84	1539303	112.65	70	125	
Bi	209	1	nogas	1615507	3.28	1532165	105.44	70	125	
Ge	72	2	He	132450	1.76	126743	104.50	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	110_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T13:32:24-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	94.850	3.289	282782	0.92	100	94.9	90	110	
Na	23	1	nogas	9948.110	1.954	123505415	1.99	10000	99.5	90	110	
Mg	24	1	nogas	10147.660	1.655	86116717	1.16	10000	101.5	90	110	
Al	27	1	nogas	95.567	2.716	1068291	2.22	100	95.6	90	110	
K	39	1	nogas	9509.404	1.925	97508496	1.76	10000	95.1	90	110	
Ti	47	1	nogas	94.514	1.969	97446	1.28	100	94.5	90	110	
V	51	1	nogas	84.417	4.995	3204393	1.12	100	84.4	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	94.196	3.276	1299320	2.89	100	94.2	90	110	
Mn	55	1	nogas	98.869	2.500	1623839	1.37	100	98.9	90	110	
Co	59	1	nogas	94.349	4.077	1384184	3.31	100	94.3	90	110	
Ni	60	1	nogas	94.011	2.729	302679	1.95	100	94.0	90	110	
Cu	63	1	nogas	94.467	0.452	744866	1.28	100	94.5	90	110	
Zn	66	1	nogas	96.078	2.504	244785	1.38	100	96.1	90	110	
As	75	1	nogas	66.865	7.912	498567	2.95	100	66.9	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	94.706	2.413	1682551	1.32	100	94.7	90	110	
Ag	107	1	nogas	91.033	1.835	949294	1.91	100	91.0	90	110	
Cd	111	1	nogas	97.260	1.766	199986	1.56	100	97.3	90	110	
Sb	121	1	nogas	89.995	1.835	884467	1.70	100	90.0	90	110	CCV Main CR1-2 Failed
Tl	205	1	nogas	97.624	2.649	1663492	1.13	100	97.6	90	110	
Pb	208	1	nogas	104.144	0.727	2335389	0.73	100	104.1	90	110	
U	238	1	nogas	100.391	3.631	2420290	1.77	100	100.4	90	110	
[Pb]	206	1	nogas	95.914	1.667	567361	0.44	100	95.9	90	110	
[Pb]	207	1	nogas	96.417	2.680	519531	1.24	100	96.4	90	110	
Na	23	2	He	10099.802	3.369	2474061	1.87	10000	101.0	90	110	
Mg	24	2	He	9929.112	3.767	1162624	2.19	10000	99.3	90	110	
Al	27	2	He	98.391	5.764	3487	4.31	100	98.4	90	110	
K	39	2	He	9952.757	0.284	605231	0.28	10000	99.5	90	110	
Ca	43	2	He	9360.036	6.177	1973	4.25	10000	93.6	90	110	
Ca	44	2	He	9536.813	2.507	35688	1.72	10000	95.4	90	110	
V	51	2	He	96.000	2.940	130739	1.49	100	96.0	90	110	
Cr	52	2	He	97.671	1.915	173210	1.23	100	97.7	90	110	
Mn	55	2	He	95.370	3.240	68638	1.09	100	95.4	90	110	
Fe	56	2	He	9605.491	3.346	13596211	1.97	10000	96.1	90	110	
Co	59	2	He	97.049	4.941	296089	3.06	100	97.0	90	110	
Ni	60	2	He	98.696	5.385	84375	3.40	100	98.7	90	110	
Cu	63	2	He	98.361	2.958	232503	0.80	100	98.4	90	110	
Zn	66	2	He	98.459	1.840	35675	1.83	100	98.5	90	110	
As	75	2	He	97.788	1.930	25086	0.79	100	97.8	90	110	
Se	78	2	He	102.624	6.961	1013	6.47	100	102.6	90	110	
B	11	1	nogas	592.824	2.495	1170812	0.75	500	118.6	90	110	CCV Main CR1-2 Failed
Si	28	1	nogas	4948.537	2.871	24803965	2.56	5000	99.0	90	110	
Ca	43	1	nogas	9593.889	1.989	187697	1.99	10000	95.9	90	110	
Ca	44	1	nogas	9132.750	4.011	3027251	3.06	10000	91.3	90	110	
Fe	56	1	nogas	9558.232	1.258	147996045	0.63	10000	95.6	90	110	
Se	77	1	nogas	-1.035	-1644.209	89982	4.42	100	-1.0	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.167	3.593	14970	2.42	100	96.2	90	110	
Mo	95	1	nogas	93.545	2.734	359382	2.12	100	93.5	90	110	
Sn	118	1	nogas	96.676	2.107	549955	1.75	100	96.7	90	110	
Ba	137	1	nogas	98.488	3.523	271241	3.54	100	98.5	90	110	
Sb	121	2	He	93.840	2.946	106443	0.79	100	93.8	90	110	
Li	7	1	nogas	100.688	2.964	748678	3.73	100	100.7	90	110	
P	31	1	nogas	467.820	0.749	396289	1.22	500	93.6	90	110	
La	139	1	nogas	89.238	18.422	300	15.27	100	89.2	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	19391.149	93.458	10	100.00	100	19391.1	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	355883	3.08	317621	112.05	70	125	
Ge	72	1	nogas	1628213	1.15	1478633	110.12	70	125	
In	115	1	nogas	1647787	0.59	1539303	107.05	70	125	
Bi	209	1	nogas	1526390	1.84	1532165	99.62	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	130688	2.16	126743	103.11	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	111_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T13:34:22-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.077	11.9	283	11.3	1	
Na	23	1	nogas	-11.806	-22.1	1774611	2.0	100	
Mg	24	1	nogas	5.990	16.2	60944	13.1	100	
Al	27	1	nogas	1.145	16.0	30505	8.6	5	
K	39	1	nogas	-15.322	-199.5	4959598	0.9	100	
Ti	47	1	nogas	0.208	65.4	590	25.0	2.5	
V	51	1	nogas	-2.767	-179.8	1779007	0.7	2.5	
Cr	52	1	nogas	-0.757	-12.4	37398	2.6	2.5	
Mn	55	1	nogas	0.271	15.6	16554	3.1	2.5	
Co	59	1	nogas	0.047	31.5	1247	17.8	2.5	
Ni	60	1	nogas	0.424	12.7	1657	10.1	2.5	
Cu	63	1	nogas	-0.050	-70.1	4764	1.0	2.5	
Zn	66	1	nogas	0.123	37.9	983	16.4	2.5	
As	75	1	nogas	-19.825	-20.3	225840	5.4	2.5	
Sr	88	1	nogas	0.020	87.1	2774	6.6	2.5	
Ag	107	1	nogas	0.062	12.9	1220	10.7	2.5	
Cd	111	1	nogas	0.035	31.1	110	18.2	1	
Sb	121	1	nogas	0.647	22.2	7508	14.5	2.5	
Tl	205	1	nogas	0.214	38.7	4017	34.0	1	
Pb	208	1	nogas	0.081	29.5	2393	22.3	2.5	
U	238	1	nogas	0.058	21.1	1723	15.1	2.5	
[Pb]	206	1	nogas	0.064	29.3	590	17.2	2.5	
[Pb]	207	1	nogas	0.063	47.1	523	29.6	2.5	
Na	23	2	He	-10.819	-20.0	49896	1.4	100	
Mg	24	2	He	4.267	20.5	900	10.0	100	
Al	27	2	He	2.784	71.7	143	52.4	5	
K	39	2	He	6.890	124.5	12971	3.9	100	
Ca	43	2	He	-64.683	0.0	0	#DIV/0!	100	
Ca	44	2	He	11.865	27.0	220	7.9	100	
V	51	2	He	0.604	0.6	1179	2.3	2.5	
Cr	52	2	He	-0.267	-18.7	1307	4.5	2.5	
Mn	55	2	He	0.210	40.2	453	14.7	2.5	
Fe	56	2	He	-0.776	-46.6	13195	1.9	100	
Co	59	2	He	0.028	50.7	150	29.1	2.5	
Ni	60	2	He	0.588	6.5	313	13.3	2.5	
Cu	63	2	He	0.335	23.1	1037	20.0	2.5	
Zn	66	2	He	0.386	37.0	153	32.2	2.5	
As	75	2	He	-0.002	-825.0	52	9.7	2.5	
Se	78	2	He	0.204	266.0	6	88.2	2.5	
B	11	1	nogas	93.374	2.8	238395	3.8	10	CCB Main CR1 Failed
Si	28	1	nogas	-15.988	-51.1	885157	0.6	5	
Ca	43	1	nogas	14.630	83.0	977	18.9	100	
Ca	44	1	nogas	-394.276	-2.4	65334	0.9	100	
Fe	56	1	nogas	-11.221	-32.3	975065	2.4	100	
Se	77	1	nogas	-62.843	-26.1	74138	5.5	2.5	
Se	82	1	nogas	-1.154	-43.0	377	21.3	2.5	
Mo	95	1	nogas	0.080	118.9	613	53.3	2.5	
Sn	118	1	nogas	-0.015	-253.0	1833	9.8	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	-0.049	-33.6	413	9.2	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.533	12.7	743	11.6	2.5	
P	31	1	nogas	0.310	1696.8	63972	1.3	10	
La	139	1	nogas	19.779	78.5	120	33.3	2.5	CCB Main CR1 Failed
Au	197	1	nogas	-14558.442	-119.1	30	33.3	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	388449	1.75	317621	122.30	70	125	
Ge	72	1	nogas	1625829	5.05	1478633	109.95	70	125	
In	115	1	nogas	1758014	3.64	1539303	114.21	70	125	
Bi	209	1	nogas	1616145	2.76	1532165	105.48	70	125	
Ge	72	2	He	133400	2.44	126743	105.25	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	122_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T13:56:35-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	98.068	2.666	258313	1.48	100	98.1	90	110	
Na	23	1	nogas	9848.197	2.612	110878048	1.76	10000	98.5	90	110	
Mg	24	1	nogas	9985.209	3.544	76838139	2.98	10000	99.9	90	110	
Al	27	1	nogas	95.163	3.836	961549	2.99	100	95.2	90	110	
K	39	1	nogas	9445.684	3.715	87561446	2.22	10000	94.5	90	110	
Ti	47	1	nogas	92.765	3.658	86439	1.87	100	92.8	90	110	
V	51	1	nogas	98.359	1.988	3102776	2.47	100	98.4	90	110	
Cr	52	1	nogas	94.422	5.940	1177443	6.05	100	94.4	90	110	
Mn	55	1	nogas	100.599	3.462	1494363	5.29	100	100.6	90	110	
Co	59	1	nogas	91.314	3.686	1211158	3.44	100	91.3	90	110	
Ni	60	1	nogas	93.406	1.712	271857	0.95	100	93.4	90	110	
Cu	63	1	nogas	94.109	4.957	670414	3.08	100	94.1	90	110	
Zn	66	1	nogas	97.405	5.312	224229	3.46	100	97.4	90	110	
As	75	1	nogas	74.284	5.292	471843	3.24	100	74.3	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	93.278	2.730	1498066	2.00	100	93.3	90	110	
Ag	107	1	nogas	93.058	2.307	877081	1.47	100	93.1	90	110	
Cd	111	1	nogas	96.848	1.760	184289	1.51	100	96.8	90	110	
Sb	121	1	nogas	91.286	4.794	810619	3.13	100	91.3	90	110	
Tl	205	1	nogas	92.733	6.142	1493901	3.28	100	92.7	90	110	
Pb	208	1	nogas	96.399	0.536	2161770	0.54	100	96.4	90	110	
U	238	1	nogas	98.468	1.014	2247468	3.41	100	98.5	90	110	
[Pb]	206	1	nogas	92.759	5.688	518672	2.11	100	92.8	90	110	
[Pb]	207	1	nogas	94.297	3.563	480598	0.18	100	94.3	90	110	
Na	23	2	He	9745.947	3.266	2193277	1.09	10000	97.5	90	110	
Mg	24	2	He	9364.196	3.577	1006672	1.94	10000	93.6	90	110	
Al	27	2	He	101.378	6.423	3300	7.44	100	101.4	90	110	
K	39	2	He	9105.619	1.931	554786	1.89	10000	91.1	90	110	
Ca	43	2	He	10294.767	11.463	1993	11.85	10000	102.9	90	110	
Ca	44	2	He	9137.408	0.556	31404	1.60	10000	91.4	90	110	
V	51	2	He	94.243	2.565	117843	1.46	100	94.2	90	110	
Cr	52	2	He	96.369	2.106	156915	1.21	100	96.4	90	110	
Mn	55	2	He	92.093	2.878	60861	0.75	100	92.1	90	110	
Fe	56	2	He	9277.621	2.941	12056398	1.12	10000	92.8	90	110	
Co	59	2	He	95.722	1.838	268238	1.76	100	95.7	90	110	
Ni	60	2	He	97.366	1.445	76459	1.27	100	97.4	90	110	
Cu	63	2	He	98.814	3.213	214450	2.18	100	98.8	90	110	
Zn	66	2	He	93.454	1.936	31084	0.18	100	93.5	90	110	
As	75	2	He	95.564	2.320	22507	1.22	100	95.6	90	110	
Se	78	2	He	99.388	7.443	901	5.89	100	99.4	90	110	
B	11	1	nogas	528.392	5.502	925345	3.39	500	105.7	90	110	
Si	28	1	nogas	4919.294	4.812	22290270	3.97	5000	98.4	90	110	
Ca	43	1	nogas	9526.438	4.268	168432	3.11	10000	95.3	90	110	
Ca	44	1	nogas	9171.216	4.385	2747355	3.62	10000	91.7	90	110	
Fe	56	1	nogas	9573.694	1.339	134035511	3.15	10000	95.7	90	110	
Se	77	1	nogas	30.355	44.977	88545	3.47	100	30.4	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	92.225	1.494	13002	2.32	100	92.2	90	110	
Mo	95	1	nogas	91.055	4.258	316123	2.41	100	91.1	90	110	
Sn	118	1	nogas	94.489	2.994	497348	0.27	100	94.5	90	110	
Ba	137	1	nogas	96.212	4.174	245096	1.28	100	96.2	90	110	
Sb	121	2	He	92.379	2.480	96207	0.41	100	92.4	90	110	
Li	7	1	nogas	100.254	2.384	658450	2.02	100	100.3	90	110	
P	31	1	nogas	470.150	1.090	359710	1.16	500	94.0	90	110	
La	139	1	nogas	127.649	14.205	373	13.48	100	127.6	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-33866.626	-69.822	37	31.49	100	-33866.6	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	314306	1.88	317621	98.96	70	125	
Ge	72	1	nogas	1471907	1.85	1478633	99.55	70	125	
In	115	1	nogas	1525345	2.94	1539303	99.09	70	125	
Bi	209	1	nogas	1444613	3.80	1532165	94.29	70	125	
Ge	72	2	He	119978	2.11	126743	94.66	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	123_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T13:58:35-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.077	32.2	257	29.2	1	
Na	23	1	nogas	-0.397	-516.7	1720734	1.1	100	
Mg	24	1	nogas	6.141	27.4	55728	21.5	100	
Al	27	1	nogas	1.010	1.4	26673	2.4	5	
K	39	1	nogas	-12.159	-91.3	4595665	0.9	100	
Ti	47	1	nogas	0.019	434.9	363	21.0	2.5	
V	51	1	nogas	13.186	25.0	1876978	4.1	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	-0.742	-13.5	34606	5.1	2.5	
Mn	55	1	nogas	0.255	15.8	14990	2.4	2.5	
Co	59	1	nogas	0.042	20.1	1087	9.2	2.5	
Ni	60	1	nogas	0.432	6.5	1550	5.3	2.5	
Cu	63	1	nogas	-0.098	-19.1	4047	3.8	2.5	
Zn	66	1	nogas	0.097	19.6	840	7.2	2.5	
As	75	1	nogas	-12.452	-19.5	229138	4.7	2.5	
Sr	88	1	nogas	0.022	107.1	2584	13.6	2.5	
Ag	107	1	nogas	0.065	35.7	1140	18.4	2.5	
Cd	111	1	nogas	0.023	33.8	77	19.9	1	
Sb	121	1	nogas	0.523	12.8	5818	8.7	2.5	
Tl	205	1	nogas	0.260	44.0	4257	41.7	1	
Pb	208	1	nogas	0.079	42.9	2343	32.3	2.5	
U	238	1	nogas	0.055	37.2	1447	30.2	2.5	
[Pb]	206	1	nogas	0.078	48.1	597	34.5	2.5	
[Pb]	207	1	nogas	0.082	45.6	553	32.8	2.5	
Na	23	2	He	13.319	69.9	50310	2.4	100	
Mg	24	2	He	2.745	29.6	650	15.6	100	
Al	27	2	He	3.868	9.4	163	9.4	5	
K	39	2	He	2.633	83.3	12718	1.0	100	
Ca	43	2	He	3.318	2311.5	13	114.6	100	
Ca	44	2	He	-8.050	-60.5	130	13.3	100	
V	51	2	He	0.742	4.0	1236	0.6	2.5	
Cr	52	2	He	-0.319	-31.6	1097	14.5	2.5	
Mn	55	2	He	0.232	57.5	423	21.2	2.5	
Fe	56	2	He	-0.787	-24.4	11894	3.9	100	
Co	59	2	He	0.054	47.8	207	32.9	2.5	
Ni	60	2	He	0.755	19.1	413	26.5	2.5	
Cu	63	2	He	0.329	6.0	920	2.9	2.5	
Zn	66	2	He	0.292	54.2	107	47.2	2.5	
As	75	2	He	-0.051	-111.4	36	39.0	2.5	
Se	78	2	He	-0.181	-118.9	2	100.0	2.5	
B	11	1	nogas	40.643	16.4	115500	6.2	10	CCB Main CR1 Failed
Si	28	1	nogas	-3.577	-140.9	869573	0.9	5	
Ca	43	1	nogas	15.806	17.6	927	7.2	100	
Ca	44	1	nogas	-397.451	-2.1	59217	2.3	100	
Fe	56	1	nogas	-11.551	-36.4	892763	5.5	100	
Se	77	1	nogas	-29.842	-29.4	75911	3.7	2.5	
Se	82	1	nogas	-0.370	-140.2	453	15.0	2.5	
Mo	95	1	nogas	0.111	80.6	680	44.9	2.5	
Sn	118	1	nogas	-0.035	-102.3	1550	10.6	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	-0.077	-5.3	300	6.7	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.464	22.8	597	16.8	2.5	
P	31	1	nogas	-0.039	-7578.9	58678	2.1	10	
La	139	1	nogas	5.950	50.1	73	7.9	2.5	CCB Main CR1 Failed
Au	197	1	nogas	17001.366	209.3	10	173.2	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	350367	5.54	317621	110.31	70	125	
Ge	72	1	nogas	1494654	1.91	1478633	101.08	70	125	
In	115	1	nogas	1587653	3.72	1539303	103.14	70	125	
Bi	209	1	nogas	1415252	3.89	1532165	92.37	70	125	
Ge	72	2	He	120308	2.55	126743	94.92	70	125	

Sample Report

Sample Table

Sample Name	MBLK-123278
Data File Name	124SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T14:00:38-06:00
Sample Type	Sample
Dilution	1
Comment	B123278 TW
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.017	0.017	69.54	80	0.02	2000	
Na	23	1	nogas	-22.502	-22.502	-24.42	1553739	0.00	200000	
Mg	24	1	nogas	10.695	10.695	5.18	96696	0.01	200000	
Al	27	1	nogas	4.083	4.083	3.81	60699	0.01	2000	
K	39	1	nogas	-33.248	-33.248	-35.01	4636960	0.00	200000	
Ti	47	1	nogas	-0.088	-0.088	-59.02	277	-0.03	2000	
V	51	1	nogas	2.406	2.406	137.23	1804362	0.00	2000	
Cr	52	1	nogas	-0.981	-0.981	-16.46	33327	0.00	2000	
Mn	55	1	nogas	-0.086	-0.086	-8.42	10413	0.00	2000	
Co	59	1	nogas	-0.009	-0.009	-48.83	423	0.00	2000	
Ni	60	1	nogas	0.409	0.409	2.51	1560	0.03	2000	
Cu	63	1	nogas	-0.171	-0.171	-9.67	3700	0.00	2000	
Zn	66	1	nogas	0.220	0.220	20.78	1187	0.02	2000	
As	75	1	nogas	-19.658	-19.658	-21.38	219094	-0.01	2000	
Sr	88	1	nogas	-0.047	-0.047	-19.70	1543	0.00	2000	
Ag	107	1	nogas	0.022	0.022	36.70	770	0.00	2000	
Cd	111	1	nogas	0.001	0.001	1840.01	33	0.00	2000	
Sb	121	1	nogas	0.078	0.078	13.47	1907	0.00	2000	
Tl	205	1	nogas	0.025	0.025	6.26	620	0.00	2000	
Pb	208	1	nogas	0.004	0.004	129.42	663	0.00	2000	
U	238	1	nogas	-0.004	-0.004	-21.64	153	0.00	2000	
[Pb]	206	1	nogas	-0.004	-0.004	-122.88	163	0.00	2000	
[Pb]	207	1	nogas	-0.006	-0.006	-70.42	127	-0.01	2000	
Na	23	2	He	-15.211	-15.211	-48.50	47847	-0.03	200000	
Mg	24	2	He	9.638	9.638	6.29	1513	0.64	200000	
Al	27	2	He	7.529	7.529	26.57	307	2.46	2000	
K	39	2	He	0.448	0.448	2014.68	12588	0.00	200000	
Ca	43	2	He	-1.532	-1.532	-1667.79	13	-11.49	200000	
Ca	44	2	He	-11.830	-11.830	-113.06	127	-9.34	200000	
V	51	2	He	0.642	0.642	8.16	1207	0.05	2000	
Cr	52	2	He	-0.349	-0.349	-2.60	1140	-0.03	2000	
Mn	55	2	He	-0.185	-0.185	-36.54	160	-0.12	2000	
Fe	56	2	He	-4.680	-4.680	-5.44	7412	-0.06	200000	
Co	59	2	He	0.004	0.004	335.73	73	0.01	2000	
Ni	60	2	He	0.669	0.669	7.56	377	0.18	2000	
Cu	63	2	He	0.271	0.271	7.54	863	0.03	2000	
Zn	66	2	He	0.404	0.404	30.25	157	0.26	2000	
As	75	2	He	-0.054	-0.054	-84.49	38	-0.14	2000	
Se	78	2	He	0.215	0.215	170.60	6	3.59	2000	
B	11	1	nogas	43.515	43.515	5.16	124409	0.03	2000	
Si	28	1	nogas	70.981	70.981	16.77	1261497	0.01	2000	
Ca	43	1	nogas	1.713	1.713	345.64	710	0.24	200000	

Sample Report

Ca	44	1	nogas	-416.532	-416.532	-1.19	56586	-0.74	200000	
Fe	56	1	nogas	-18.831	-18.831	-4.41	831792	0.00	200000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Se	77	1	nogas	-55.618	-55.618	-20.34	73528	-0.08	2000	
Se	82	1	nogas	-0.811	-0.811	-35.33	413	-0.20	2000	
Mo	95	1	nogas	-0.045	-0.045	-26.21	140	-0.03	2000	
Sn	118	1	nogas	-0.202	-0.202	-9.47	667	-0.03	2000	
Ba	137	1	nogas	0.189	0.189	17.92	1050	0.02	2000	
Sb	121	2	He	0.129	0.129	58.72	270	0.05	2000	
La	139	1	nogas	3.475	3.475	286.01	70	4.96	2000	
Au	197	1	nogas	1758.219	1758.219	1816.99	20	8791.09	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	359401	2.28	317621	113.15	70	125	
Ge	72	1	nogas	1572483	1.86	1478633	106.35	70	125	
In	115	1	nogas	1659386	0.91	1539303	107.80	70	125	
Bi	209	1	nogas	1591611	2.66	1532165	103.88	70	125	
Ge	72	2	He	130780	2.63	126743	103.18	70	125	

Sample Report

Sample Table

Sample Name	LCS-123278
Data File Name	125SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T14:02:38-06:00
Sample Type	Sample
Dilution	1
Comment	B123278 TW
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	44.925	44.925	7.62	129259	0.03	2000	
Na	23	1	nogas	4469.291	4469.291	4.95	57495680	0.01	200000	
Mg	24	1	nogas	4584.140	4584.140	5.15	39586121	0.01	200000	
Al	27	1	nogas	91.455	91.455	2.64	990338	0.01	2000	
K	39	1	nogas	4477.967	4477.967	4.92	47065054	0.01	200000	
Ti	47	1	nogas	136.185	136.185	3.40	135734	0.10	2000	
V	51	1	nogas	25.666	25.666	29.07	2174762	0.00	2000	
Cr	52	1	nogas	42.514	42.514	3.71	592852	0.01	2000	
Mn	55	1	nogas	45.536	45.536	2.64	730424	0.01	2000	
Co	59	1	nogas	43.826	43.826	2.00	622807	0.01	2000	
Ni	60	1	nogas	47.127	47.127	5.04	147014	0.03	2000	
Cu	63	1	nogas	46.834	46.834	3.50	359894	0.01	2000	
Zn	66	1	nogas	48.475	48.475	2.57	119869	0.04	2000	
As	75	1	nogas	8.697	8.697	28.58	305778	0.00	2000	
Sr	88	1	nogas	87.891	87.891	0.52	1511854	0.01	2000	
Ag	107	1	nogas	44.795	44.795	0.18	452456	0.01	2000	
Cd	111	1	nogas	45.446	45.446	1.61	95864	0.05	2000	
Sb	121	1	nogas	45.032	45.032	2.86	428920	0.01	2000	
Tl	205	1	nogas	45.346	45.346	3.56	779879	0.01	2000	
Pb	208	1	nogas	48.854	48.854	2.85	1095851	0.00	2000	
U	238	1	nogas	91.200	91.200	2.88	2219974	0.00	2000	
[Pb]	206	1	nogas	45.583	45.583	3.85	272194	0.02	2000	
[Pb]	207	1	nogas	44.773	44.773	4.77	243552	0.02	2000	
Na	23	2	He	4472.089	4472.089	3.57	1146967	0.39	200000	
Mg	24	2	He	4406.900	4406.900	2.29	526554	0.84	200000	
Al	27	2	He	83.437	83.437	4.34	3027	2.76	2000	
K	39	2	He	4668.946	4668.946	2.00	290589	1.61	200000	
Ca	43	2	He	4386.219	4386.219	9.07	953	460.07	200000	
Ca	44	2	He	4501.841	4501.841	1.65	17275	26.06	200000	
V	51	2	He	43.246	43.246	3.44	60241	0.07	2000	
Cr	52	2	He	44.489	44.489	3.85	81409	0.05	2000	
Mn	55	2	He	43.054	43.054	1.73	31778	0.14	2000	
Fe	56	2	He	4327.021	4327.021	2.32	6254569	0.07	200000	
Co	59	2	He	44.472	44.472	3.25	138423	0.03	2000	
Ni	60	2	He	45.069	45.069	5.55	39172	0.12	2000	
Cu	63	2	He	45.310	45.310	4.12	109316	0.04	2000	
Zn	66	2	He	46.708	46.708	5.39	17252	0.27	2000	
As	75	2	He	44.183	44.183	2.90	11586	0.38	2000	
Se	78	2	He	42.670	42.670	20.11	431	9.89	2000	
B	11	1	nogas	487.929	487.929	6.38	936925	0.05	2000	
Si	28	1	nogas	4802.350	4802.350	1.21	23327615	0.02	2000	>LDR
Ca	43	1	nogas	4595.850	4595.850	4.70	87369	5.26	200000	
Ca	44	1	nogas	4189.724	4189.724	6.01	1442721	0.29	200000	
Fe	56	1	nogas	4437.314	4437.314	1.62	67110870	0.01	200000	

Sample Report

Se	77	1	nogas	-84.521	-84.521	-12.15	66592	-0.13	2000	
Se	82	1	nogas	43.205	43.205	7.22	6801	0.64	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	43.014	43.014	3.58	160126	0.03	2000	
Sn	118	1	nogas	88.149	88.149	0.28	514524	0.02	2000	
Ba	137	1	nogas	42.948	42.948	1.65	121611	0.04	2000	
Sb	121	2	He	45.683	45.683	4.81	52887	0.09	2000	
La	139	1	nogas	24.685	24.685	36.93	130	18.99	2000	
Au	197	1	nogas	1548.895	1548.895	1109.11	20	7744.48	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	343927	4.41	317621	108.28	70	125	
Ge	72	1	nogas	1576049	1.10	1478633	106.59	70	125	
In	115	1	nogas	1690110	1.17	1539303	109.80	70	125	
Bi	209	1	nogas	1541336	3.76	1532165	100.60	70	125	
Ge	72	2	He	133310	3.45	126743	105.18	70	125	

Sample Report

Sample Table

Sample Name	HS17120366-01
Data File Name	127SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T14:06:39-06:00
Sample Type	Sample
Dilution	1
Comment	B123278 TW
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.052	0.052	39.96	180	0.03	2000	
Na	23	1	nogas	286014.236	286014.236	1.47	3494224211	0.01	200000	>LDR
Mg	24	1	nogas	34321.064	34321.064	2.03	290813907	0.01	200000	
Al	27	1	nogas	15.973	15.973	2.97	179024	0.01	2000	
K	39	1	nogas	1717.187	1717.187	4.35	20169820	0.01	200000	
Ti	47	1	nogas	1.857	1.857	2.67	2114	0.09	2000	
V	51	1	nogas	22.103	22.103	24.19	2024945	0.00	2000	
Cr	52	1	nogas	0.157	0.157	98.74	45897	0.00	2000	
Mn	55	1	nogas	398.540	398.540	3.83	6020218	0.01	2000	
Co	59	1	nogas	5.212	5.212	2.19	71249	0.01	2000	
Ni	60	1	nogas	9.913	9.913	2.97	29771	0.03	2000	
Cu	63	1	nogas	2.000	2.000	7.11	19264	0.01	2000	
Zn	66	1	nogas	57.524	57.524	2.85	135822	0.04	2000	
As	75	1	nogas	-17.118	-17.118	-29.43	217128	-0.01	2000	
Sr	88	1	nogas	647.759	647.759	3.87	10631230	0.01	2000	
Ag	107	1	nogas	0.000	0.000	2072.95	530	0.00	2000	
Cd	111	1	nogas	0.146	0.146	30.04	320	0.05	2000	
Sb	121	1	nogas	0.417	0.417	3.11	4904	0.01	2000	
Tl	205	1	nogas	0.031	0.031	10.99	667	0.00	2000	
Pb	208	1	nogas	0.090	0.090	11.60	2600	0.00	2000	
U	238	1	nogas	0.401	0.401	4.70	9366	0.00	2000	
[Pb]	206	1	nogas	0.081	0.081	26.93	623	0.01	2000	
[Pb]	207	1	nogas	0.088	0.088	2.47	597	0.01	2000	
Na	23	2	He	295894.283	295894.283	2.54	69944417	0.42	200000	>LDR
Mg	24	2	He	33930.412	33930.412	3.31	3911616	0.87	200000	
Al	27	2	He	15.481	15.481	20.46	573	2.70	2000	
K	39	2	He	1791.439	1791.439	2.24	119238	1.50	200000	
Ca	43	2	He	38258.349	38258.349	5.93	7902	484.17	200000	
Ca	44	2	He	33695.007	33695.007	2.88	123721	27.23	200000	
V	51	2	He	1.015	1.015	4.10	1687	0.06	2000	
Cr	52	2	He	0.728	0.728	7.28	2984	0.02	2000	
Mn	55	2	He	388.900	388.900	1.68	274814	0.14	2000	
Fe	56	2	He	568.620	568.620	2.60	805599	0.07	200000	
Co	59	2	He	5.428	5.428	4.49	16368	0.03	2000	
Ni	60	2	He	8.670	8.670	6.31	7121	0.12	2000	
Cu	63	2	He	1.719	1.719	6.09	4217	0.04	2000	
Zn	66	2	He	56.883	56.883	3.89	20295	0.28	2000	
As	75	2	He	1.238	1.238	4.68	363	0.34	2000	
Se	78	2	He	0.017	0.017	2172.80	4	0.41	2000	
B	11	1	nogas	95.182	95.182	1.07	214003	0.04	2000	
Si	28	1	nogas	19269.860	19269.860	1.50	86774782	0.02	2000	>LDR
Ca	43	1	nogas	34217.117	34217.117	5.57	617390	5.54	200000	
Ca	44	1	nogas	33759.871	33759.871	4.47	9880883	0.34	200000	
Fe	56	1	nogas	604.788	604.788	2.69	9659166	0.01	200000	
Se	77	1	nogas	-47.715	-47.715	-32.51	72263	-0.07	2000	
Se	82	1	nogas	-0.538	-0.538	-178.01	433	-0.12	2000	

Sample Report

Mo	95	1	nogas	0.849	0.849	1.95	3310	0.03	2000	
Sn	118	1	nogas	-0.147	-0.147	-12.58	933	-0.02	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ba	137	1	nogas	585.285	585.285	2.23	1546827	0.04	2000	
Sb	121	2	He	0.357	0.357	13.38	520	0.07	2000	
La	139	1	nogas	424.889	424.889	5.75	1153	36.84	2000	
Au	197	1	nogas	5543.229	5543.229	523.65	17	33259.37	2000	>LDR

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	343351	0.36	317621	108.10	70	125	
Ge	72	1	nogas	1506478	1.99	1478633	101.88	70	125	
In	115	1	nogas	1584200	2.88	1539303	102.92	70	125	
Bi	209	1	nogas	1444888	2.40	1532165	94.30	70	125	
Ge	72	2	He	128703	2.68	126743	101.55	70	125	

Sample Report

Sample Table

Sample Name	HS17120435-01SD
Data File Name	129SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T14:10:43-06:00
Sample Type	Sample
Dilution	5
Comment	B123278 TW
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.020	0.099	31.53	90	0.02	2000	
Na	23	1	nogas	99767.209	498836.046	4.02	1194540260	0.01	200000	
Mg	24	1	nogas	31105.339	155526.693	1.35	258193581	0.01	200000	
Al	27	1	nogas	14.724	73.622	2.09	176098	0.01	2000	
K	39	1	nogas	219.068	1095.339	8.88	7100821	0.00	200000	
Ti	47	1	nogas	0.214	1.072	61.33	587	0.04	2000	
V	51	1	nogas	-24.013	-120.066	-21.88	1407703	0.00	2000	
Cr	52	1	nogas	-1.034	-5.169	-15.43	33093	0.00	2000	
Mn	55	1	nogas	8.170	40.848	0.89	142368	0.01	2000	
Co	59	1	nogas	0.101	0.504	5.25	2000	0.01	2000	
Ni	60	1	nogas	2.711	13.554	4.12	8829	0.03	2000	
Cu	63	1	nogas	0.606	3.030	6.66	9719	0.01	2000	
Zn	66	1	nogas	2.240	11.200	2.68	6231	0.04	2000	
As	75	1	nogas	-27.037	-135.186	-16.76	199428	-0.01	2000	
Sr	88	1	nogas	1143.244	5716.219	2.67	19860093	0.01	2000	
Ag	107	1	nogas	-0.012	-0.061	-49.92	433	0.00	2000	
Cd	111	1	nogas	0.069	0.347	36.83	180	0.04	2000	
Sb	121	1	nogas	0.044	0.218	24.54	1603	0.00	2000	
Tl	205	1	nogas	0.007	0.037	16.63	290	0.00	2000	
Pb	208	1	nogas	0.128	0.642	8.14	3460	0.00	2000	
U	238	1	nogas	1.100	5.499	1.89	26142	0.00	2000	
[Pb]	206	1	nogas	0.113	0.567	22.13	830	0.01	2000	
[Pb]	207	1	nogas	0.107	0.533	11.94	713	0.01	2000	
Na	23	2	He	97654.042	488270.210	1.54	23728265	0.41	200000	
Mg	24	2	He	30205.133	151025.663	1.03	3574533	0.85	200000	
Al	27	2	He	17.651	88.256	12.67	667	2.65	2000	
K	39	2	He	242.245	1211.225	1.65	26986	0.90	200000	
Ca	43	2	He	59676.315	298381.575	6.92	12655	471.58	200000	
Ca	44	2	He	53761.237	268806.187	0.25	202539	26.54	200000	
V	51	2	He	0.586	2.928	4.88	1142	0.05	2000	
Cr	52	2	He	-0.187	-0.933	-83.98	1437	-0.01	2000	
Mn	55	2	He	8.286	41.430	9.94	6298	0.13	2000	
Fe	56	2	He	11.314	56.570	7.38	30345	0.04	200000	
Co	59	2	He	0.076	0.378	18.94	297	0.03	2000	
Ni	60	2	He	2.023	10.116	5.18	1553	0.13	2000	
Cu	63	2	He	0.706	3.531	15.96	1910	0.04	2000	
Zn	66	2	He	2.055	10.276	16.04	763	0.27	2000	
As	75	2	He	-0.030	-0.151	-240.43	44	-0.07	2000	
Se	78	2	He	-0.132	-0.658	-175.93	3	-4.93	2000	
B	11	1	nogas	61.352	306.761	3.95	159023	0.04	2000	
Si	28	1	nogas	2792.067	13960.337	0.43	14117671	0.02	2000	>LDR
Ca	43	1	nogas	53058.989	265294.945	2.37	1013114	5.24	200000	
Ca	44	1	nogas	52354.402	261772.008	2.33	16120276	0.32	200000	
Fe	56	1	nogas	31.380	156.899	6.34	1598495	0.00	200000	
Se	77	1	nogas	-83.070	-415.352	-21.55	67713	-0.12	2000	
Se	82	1	nogas	0.298	1.489	188.31	583	0.05	2000	

Sample Report

Mo	95	1	nogas	0.022	0.112	50.70	397	0.01	2000	
Sn	118	1	nogas	-0.165	-0.825	-8.64	903	-0.02	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ba	137	1	nogas	171.974	859.869	2.66	489331	0.04	2000	
Sb	121	2	He	0.039	0.196	47.15	170	0.02	2000	
La	139	1	nogas	647.017	3235.084	8.40	1860	34.78	2000	
Au	197	1	nogas	12513.135	62565.676	85.42	13	93848.51	2000	>LDR

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	359999	2.09	317621	113.34	70	125	
Ge	72	1	nogas	1594587	2.77	1478633	107.84	70	125	
In	115	1	nogas	1704279	1.50	1539303	110.72	70	125	
Bi	209	1	nogas	1490687	1.14	1532165	97.29	70	125	
Ge	72	2	He	132057	0.96	126743	104.19	70	125	

Sample Report

Sample Table

Sample Name	HS17120435-01MS
Data File Name	130SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T14:12:49-06:00
Sample Type	Sample
Dilution	1
Comment	B123278 TW
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	56.342	56.342	4.24	124205	0.05	2000	
Na	23	1	nogas	OR	OR	#VALUE!	OR	#VALUE!	200000	
Mg	24	1	nogas	159453.603	159453.603	4.84	1327231130	0.01	200000	
Al	27	1	nogas	163.641	163.641	3.59	1714490	0.01	2000	
K	39	1	nogas	5523.881	5523.881	1.64	55503453	0.01	200000	
Ti	47	1	nogas	133.917	133.917	1.40	130201	0.10	2000	
V	51	1	nogas	22.586	22.586	8.07	2074442	0.00	2000	
Cr	52	1	nogas	42.258	42.258	3.38	574931	0.01	2000	
Mn	55	1	nogas	85.939	85.939	2.55	1333961	0.01	2000	
Co	59	1	nogas	41.798	41.798	1.76	579257	0.01	2000	
Ni	60	1	nogas	51.878	51.878	1.18	157825	0.03	2000	
Cu	63	1	nogas	44.792	44.792	1.26	335995	0.01	2000	
Zn	66	1	nogas	52.940	52.940	1.87	127661	0.04	2000	
As	75	1	nogas	22.915	22.915	6.00	340441	0.01	2000	
Sr	88	1	nogas	6100.182	6100.182	1.86	102173715	0.01	2000	>LDR
Ag	107	1	nogas	41.740	41.740	0.63	411209	0.01	2000	
Cd	111	1	nogas	44.934	44.934	3.29	87997	0.05	2000	
Sb	121	1	nogas	44.248	44.248	0.46	411176	0.01	2000	
Tl	205	1	nogas	42.910	42.910	0.59	686616	0.01	2000	
Pb	208	1	nogas	46.614	46.614	1.02	1045616	0.00	2000	
U	238	1	nogas	102.357	102.357	1.68	2317178	0.00	2000	
[Pb]	206	1	nogas	46.375	46.375	2.75	257603	0.02	2000	
[Pb]	207	1	nogas	46.213	46.213	1.54	233873	0.02	2000	
Na	23	2	He	520411.987	520411.987	4.76	122434348	0.43	200000	>LDR
Mg	24	2	He	160108.299	160108.299	5.41	18373710	0.87	200000	
Al	27	2	He	160.696	160.696	4.90	5561	2.89	2000	
K	39	2	He	5699.344	5699.344	1.78	351948	1.62	200000	
Ca	43	2	He	322440.264	322440.264	1.70	66266	486.59	200000	>LDR
Ca	44	2	He	292989.317	292989.317	2.74	1070157	27.38	200000	>LDR
V	51	2	He	46.455	46.455	4.17	62200	0.07	2000	
Cr	52	2	He	45.761	45.761	1.19	80506	0.06	2000	
Mn	55	2	He	84.957	84.957	2.77	60005	0.14	2000	
Fe	56	2	He	4424.894	4424.894	2.78	6149813	0.07	200000	
Co	59	2	He	42.366	42.366	3.91	126805	0.03	2000	
Ni	60	2	He	49.220	49.220	3.79	41183	0.12	2000	
Cu	63	2	He	44.059	44.059	1.79	102276	0.04	2000	
Zn	66	2	He	52.766	52.766	5.86	18743	0.28	2000	
As	75	2	He	45.408	45.408	3.07	11450	0.40	2000	
Se	78	2	He	45.244	45.244	3.06	441	10.27	2000	
B	11	1	nogas	680.429	680.429	8.33	987823	0.07	2000	
Si	28	1	nogas	19367.006	19367.006	2.88	88974425	0.02	2000	>LDR
Ca	43	1	nogas	296983.699	296983.699	2.06	5466102	5.43	200000	>LDR
Ca	44	1	nogas	289445.338	289445.338	2.58	85142740	0.34	200000	>LDR
Fe	56	1	nogas	4443.668	4443.668	2.08	65529666	0.01	200000	
Se	77	1	nogas	-31.227	-31.227	-11.62	77722	-0.04	2000	
Se	82	1	nogas	47.832	47.832	6.13	7292	0.66	2000	

Sample Report

Mo	95	1	nogas	43.496	43.496	1.75	157959	0.03	2000	
Sn	118	1	nogas	89.002	89.002	2.96	482220	0.02	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ba	137	1	nogas	1085.168	1085.168	6.20	2839217	0.04	2000	
Sb	121	2	He	45.817	45.817	3.55	51025	0.09	2000	
La	139	1	nogas	3992.653	3992.653	6.45	10257	38.93	2000	>LDR
Au	197	1	nogas	-27574.864	-27574.864	-80.78	33	-82724.59	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	263277	4.52	317621	82.89	70	125	
Ge	72	1	nogas	1537172	1.56	1478633	103.96	70	125	
In	115	1	nogas	1569589	2.49	1539303	101.97	70	125	
Bi	209	1	nogas	1432782	0.74	1532165	93.51	70	125	
Ge	72	2	He	128172	2.42	126743	101.13	70	125	

Sample Report

Sample Table

Sample Name	HS17120435-01MSD
Data File Name	131SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T14:14:48-06:00
Sample Type	Sample
Dilution	1
Comment	B123278 TW
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	58.604	58.604	4.98	123277	0.05	2000	
Na	23	1	nogas	OR	OR	#VALUE!	OR	#VALUE!	200000	
Mg	24	1	nogas	170456.105	170456.105	4.99	1376526364	0.01	200000	
Al	27	1	nogas	166.891	166.891	1.72	1721100	0.01	2000	
K	39	1	nogas	5490.113	5490.113	2.10	54312260	0.01	200000	
Ti	47	1	nogas	136.976	136.976	2.28	131083	0.10	2000	
V	51	1	nogas	21.295	21.295	17.71	2021531	0.00	2000	
Cr	52	1	nogas	42.926	42.926	4.23	574023	0.01	2000	
Mn	55	1	nogas	86.168	86.168	4.22	1316004	0.01	2000	
Co	59	1	nogas	42.139	42.139	2.61	574695	0.01	2000	
Ni	60	1	nogas	53.351	53.351	3.85	159673	0.03	2000	
Cu	63	1	nogas	46.447	46.447	2.02	342658	0.01	2000	
Zn	66	1	nogas	53.972	53.972	0.31	128052	0.04	2000	
As	75	1	nogas	23.448	23.448	17.98	336485	0.01	2000	
Sr	88	1	nogas	6341.718	6341.718	4.03	104505275	0.01	2000	>LDR
Ag	107	1	nogas	41.860	41.860	0.89	405829	0.01	2000	
Cd	111	1	nogas	46.048	46.048	2.37	88363	0.05	2000	
Sb	121	1	nogas	45.390	45.390	1.28	415073	0.01	2000	
Tl	205	1	nogas	44.237	44.237	1.00	700981	0.01	2000	
Pb	208	1	nogas	46.348	46.348	1.19	1039663	0.00	2000	
U	238	1	nogas	102.500	102.500	1.59	2298355	0.00	2000	
[Pb]	206	1	nogas	46.710	46.710	1.44	256987	0.02	2000	
[Pb]	207	1	nogas	46.338	46.338	1.90	232230	0.02	2000	
Na	23	2	He	523419.810	523419.810	5.46	122117592	0.43	200000	>LDR
Mg	24	2	He	161513.158	161513.158	6.46	18377097	0.88	200000	
Al	27	2	He	163.812	163.812	6.79	5618	2.92	2000	
K	39	2	He	5696.920	5696.920	1.10	351803	1.62	200000	
Ca	43	2	He	323217.087	323217.087	6.01	65830	490.99	200000	>LDR
Ca	44	2	He	292189.893	292189.893	5.33	1058034	27.62	200000	>LDR
V	51	2	He	47.245	47.245	4.46	62737	0.08	2000	
Cr	52	2	He	45.385	45.385	6.61	79123	0.06	2000	
Mn	55	2	He	85.479	85.479	3.45	59885	0.14	2000	
Fe	56	2	He	4379.570	4379.570	4.38	6036464	0.07	200000	
Co	59	2	He	42.652	42.652	7.27	126508	0.03	2000	
Ni	60	2	He	48.844	48.844	6.39	40512	0.12	2000	
Cu	63	2	He	44.098	44.098	3.41	101531	0.04	2000	
Zn	66	2	He	52.672	52.672	6.54	18553	0.28	2000	
As	75	2	He	45.462	45.462	7.80	11356	0.40	2000	
Se	78	2	He	44.056	44.056	8.82	425	10.37	2000	
B	11	1	nogas	715.283	715.283	7.86	989756	0.07	2000	
Si	28	1	nogas	19981.202	19981.202	0.89	90337635	0.02	2000	>LDR
Ca	43	1	nogas	292784.350	292784.350	2.13	5303596	5.52	200000	>LDR
Ca	44	1	nogas	288042.195	288042.195	0.37	83386579	0.35	200000	>LDR
Fe	56	1	nogas	4381.180	4381.180	3.06	63590320	0.01	200000	
Se	77	1	nogas	-23.490	-23.490	-42.47	78301	-0.03	2000	
Se	82	1	nogas	48.438	48.438	3.51	7262	0.67	2000	

Sample Report

Mo	95	1	nogas	45.554	45.554	1.41	162753	0.03	2000	
Sn	118	1	nogas	91.659	91.659	2.93	486587	0.02	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ba	137	1	nogas	1074.701	1074.701	2.94	2756575	0.04	2000	
Sb	121	2	He	45.271	45.271	3.21	50026	0.09	2000	
La	139	1	nogas	4061.721	4061.721	5.04	10226	39.72	2000	>LDR
Au	197	1	nogas	-1964.533	-1964.533	-18.38	20	-9822.66	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	251332	4.99	317621	79.13	70	125	
Ge	72	1	nogas	1512767	1.62	1478633	102.31	70	125	
In	115	1	nogas	1537969	2.08	1539303	99.91	70	125	
Bi	209	1	nogas	1418903	0.91	1532165	92.61	70	125	
Ge	72	2	He	127221	4.61	126743	100.38	70	125	

Sample Report

Sample Table

Sample Name	HS17120435-01PDS
Data File Name	132SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T14:16:48-06:00
Sample Type	Sample
Dilution	1
Comment	B123278 TW
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	97.201	97.201	1.90	235840	0.04	2000	
Na	23	1	nogas	OR	OR	#VALUE!	OR	#VALUE!	200000	
Mg	24	1	nogas	165581.547	165581.547	2.69	1339628897	0.01	200000	
Al	27	1	nogas	149.805	149.805	5.21	1572364	0.01	2000	
K	39	1	nogas	9349.814	9349.814	1.22	90714292	0.01	200000	
Ti	47	1	nogas	86.970	86.970	4.05	84748	0.10	2000	
V	51	1	nogas	66.624	66.624	11.56	2753807	0.00	2000	
Cr	52	1	nogas	82.672	82.672	5.04	1082803	0.01	2000	
Mn	55	1	nogas	125.911	125.911	3.82	1951399	0.01	2000	
Co	59	1	nogas	79.883	79.883	4.10	1107603	0.01	2000	
Ni	60	1	nogas	90.029	90.029	2.01	273986	0.03	2000	
Cu	63	1	nogas	82.360	82.360	1.14	614501	0.01	2000	
Zn	66	1	nogas	93.549	93.549	0.80	225375	0.04	2000	
As	75	1	nogas	66.131	66.131	6.61	469048	0.01	2000	
Sr	88	1	nogas	5980.352	5980.352	3.43	100260382	0.01	2000	>LDR
Ag	107	1	nogas	78.493	78.493	3.42	773466	0.01	2000	
Cd	111	1	nogas	85.145	85.145	1.89	167747	0.05	2000	
Sb	121	1	nogas	77.987	77.987	1.40	724570	0.01	2000	
Tl	205	1	nogas	90.694	90.694	1.33	1394682	0.01	2000	
Pb	208	1	nogas	86.449	86.449	1.75	1938697	0.00	2000	
U	238	1	nogas	6.042	6.042	3.35	131651	0.00	2000	
[Pb]	206	1	nogas	89.536	89.536	2.46	477902	0.02	2000	
[Pb]	207	1	nogas	88.986	88.986	0.36	432828	0.02	2000	
Na	23	2	He	507827.903	507827.903	0.47	118380215	0.43	200000	>LDR
Mg	24	2	He	160960.243	160960.243	0.99	18306586	0.88	200000	
Al	27	2	He	148.675	148.675	8.99	5094	2.92	2000	
K	39	2	He	9764.251	9764.251	1.41	594006	1.64	200000	
Ca	43	2	He	321344.944	321344.944	2.00	65405	491.31	200000	>LDR
Ca	44	2	He	295137.011	295137.011	4.75	1067419	27.65	200000	>LDR
V	51	2	He	87.828	87.828	2.30	116200	0.08	2000	
Cr	52	2	He	87.813	87.813	1.23	151411	0.06	2000	
Mn	55	2	He	124.928	124.928	0.76	87270	0.14	2000	
Fe	56	2	He	8297.470	8297.470	0.97	11411742	0.07	200000	
Co	59	2	He	81.885	81.885	0.49	242765	0.03	2000	
Ni	60	2	He	86.833	86.833	2.34	72112	0.12	2000	
Cu	63	2	He	83.102	83.102	1.69	190833	0.04	2000	
Zn	66	2	He	94.740	94.740	1.71	33334	0.28	2000	
As	75	2	He	87.854	87.854	1.05	21894	0.40	2000	
Se	78	2	He	90.175	90.175	5.36	866	10.41	2000	
B	11	1	nogas	109.220	109.220	6.96	201998	0.05	2000	
Si	28	1	nogas	14759.287	14759.287	2.85	68099874	0.02	2000	>LDR
Ca	43	1	nogas	287248.675	287248.675	1.19	5293225	5.43	200000	>LDR
Ca	44	1	nogas	279489.325	279489.325	1.43	82345527	0.34	200000	>LDR
Fe	56	1	nogas	8358.842	8358.842	4.37	122420715	0.01	200000	
Se	77	1	nogas	11.148	11.148	88.06	88005	0.01	2000	
Se	82	1	nogas	87.385	87.385	4.54	12901	0.68	2000	

Sample Report

Mo	95	1	nogas	83.691	83.691	1.06	303958	0.03	2000	
Sn	118	1	nogas	0.129	0.129	58.54	2430	0.01	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ba	137	1	nogas	1031.950	1031.950	2.80	2717833	0.04	2000	
Sb	121	2	He	82.271	82.271	2.59	90689	0.09	2000	
La	139	1	nogas	3670.196	3670.196	1.52	9499	38.64	2000	>LDR
Au	197	1	nogas	-3465.896	-3465.896	-1199.29	20	-17329.48	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	289467	2.70	317621	91.14	70	125	
Ge	72	1	nogas	1539134	2.33	1478633	104.09	70	125	
In	115	1	nogas	1579051	2.15	1539303	102.58	70	125	
Bi	209	1	nogas	1377337	2.00	1532165	89.89	70	125	
Ge	72	2	He	126911	1.85	126743	100.13	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	134_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T14:20:50-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	90.559	5.088	260732	2.75	100	90.6	90	110	
Na	23	1	nogas	10003.349	3.455	121784499	0.64	10000	100.0	90	110	
Mg	24	1	nogas	9917.429	2.138	82572323	1.99	10000	99.2	90	110	
Al	27	1	nogas	95.089	8.252	1005331	3.24	100	95.1	90	110	
K	39	1	nogas	9675.530	4.999	93842094	1.78	10000	96.8	90	110	
Ti	47	1	nogas	91.538	5.457	89354	2.37	100	91.5	90	110	
V	51	1	nogas	95.709	4.895	3210648	2.94	100	95.7	90	110	
Cr	52	1	nogas	92.678	5.819	1210612	0.66	100	92.7	90	110	
Mn	55	1	nogas	99.741	5.357	1550631	1.00	100	99.7	90	110	
Co	59	1	nogas	94.747	3.035	1317166	3.43	100	94.7	90	110	
Ni	60	1	nogas	97.764	5.886	297936	2.63	100	97.8	90	110	
Cu	63	1	nogas	99.271	7.979	739939	3.03	100	99.3	90	110	
Zn	66	1	nogas	98.562	5.914	237650	1.39	100	98.6	90	110	
As	75	1	nogas	81.512	3.317	516065	3.30	100	81.5	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	99.057	6.495	1665949	4.35	100	99.1	90	110	
Ag	107	1	nogas	93.381	5.493	921573	0.73	100	93.4	90	110	
Cd	111	1	nogas	94.442	3.313	195701	1.96	100	94.4	90	110	
Sb	121	1	nogas	94.084	3.779	875574	1.54	100	94.1	90	110	
Tl	205	1	nogas	96.904	4.402	1664710	3.68	100	96.9	90	110	
Pb	208	1	nogas	102.944	1.088	2308493	1.09	100	102.9	90	110	
U	238	1	nogas	98.481	0.186	2394523	1.01	100	98.5	90	110	
[Pb]	206	1	nogas	93.506	2.525	557628	1.71	100	93.5	90	110	
[Pb]	207	1	nogas	94.105	2.169	511297	1.87	100	94.1	90	110	
Na	23	2	He	10145.440	0.891	2429958	0.49	10000	101.5	90	110	
Mg	24	2	He	9960.987	2.787	1140412	1.48	10000	99.6	90	110	
Al	27	2	He	96.641	12.945	3347	11.52	100	96.6	90	110	
K	39	2	He	9598.712	0.790	584149	0.77	10000	96.0	90	110	
Ca	43	2	He	9905.124	7.244	2043	8.40	10000	99.1	90	110	
Ca	44	2	He	9430.774	0.239	34509	1.35	10000	94.3	90	110	
V	51	2	He	96.478	0.903	128477	0.92	100	96.5	90	110	
Cr	52	2	He	95.424	1.948	165506	2.56	100	95.4	90	110	
Mn	55	2	He	92.934	3.841	65420	4.00	100	92.9	90	110	
Fe	56	2	He	9445.267	0.996	13073345	0.52	10000	94.5	90	110	
Co	59	2	He	95.188	0.956	284051	0.72	100	95.2	90	110	
Ni	60	2	He	95.614	2.615	79951	2.39	100	95.6	90	110	
Cu	63	2	He	97.674	3.313	225737	2.37	100	97.7	90	110	
Zn	66	2	He	98.843	3.660	35004	2.36	100	98.8	90	110	
As	75	2	He	96.146	1.984	24116	1.76	100	96.1	90	110	
Se	78	2	He	98.204	3.186	949	4.55	100	98.2	90	110	
B	11	1	nogas	530.545	1.490	1016631	2.86	500	106.1	90	110	
Si	28	1	nogas	4997.546	6.668	23693784	2.13	5000	100.0	90	110	
Ca	43	1	nogas	9927.192	6.291	183755	2.16	10000	99.3	90	110	
Ca	44	1	nogas	9577.318	7.095	2995841	3.32	10000	95.8	90	110	
Fe	56	1	nogas	9512.891	5.017	139458920	2.39	10000	95.1	90	110	
Se	77	1	nogas	53.703	11.772	98509	5.71	100	53.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	94.810	3.878	13992	4.02	100	94.8	90	110	
Mo	95	1	nogas	94.534	6.033	343693	1.31	100	94.5	90	110	
Sn	118	1	nogas	94.841	1.890	543829	0.55	100	94.8	90	110	
Ba	137	1	nogas	92.443	3.634	256559	1.27	100	92.4	90	110	
Sb	121	2	He	94.194	1.514	104478	1.10	100	94.2	90	110	
Li	7	1	nogas	98.214	2.233	706398	4.30	100	98.2	90	110	
P	31	1	nogas	475.485	5.498	380301	0.64	500	95.1	90	110	
La	139	1	nogas	92.045	49.369	310	40.29	100	92.0	90	110	
Au	197	1	nogas	-4887.245	-427.266	23	49.49	100	-4887.2	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	343880	4.31	317621	108.27	70	125	
Ge	72	1	nogas	1543598	4.80	1478633	104.39	70	125	
In	115	1	nogas	1661264	2.41	1539303	107.92	70	125	
Bi	209	1	nogas	1538725	0.83	1532165	100.43	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	127753	1.36	126743	100.80	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	135_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T14:22:46-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.075	40.6	270	38.7	1	
Na	23	1	nogas	130.607	5.0	3371242	0.6	100	CCB Main CR1 Failed
Mg	24	1	nogas	11.623	7.3	104138	6.0	100	
Al	27	1	nogas	0.473	10.7	22040	2.5	5	
K	39	1	nogas	14.797	54.4	5015253	0.8	100	
Ti	47	1	nogas	0.019	224.2	377	10.7	2.5	
V	51	1	nogas	-0.264	-1032.5	1737879	4.2	2.5	
Cr	52	1	nogas	-0.632	-17.9	37288	5.8	2.5	
Mn	55	1	nogas	0.261	3.5	15650	2.8	2.5	
Co	59	1	nogas	0.051	24.9	1247	12.3	2.5	
Ni	60	1	nogas	0.644	16.0	2254	12.3	2.5	
Cu	63	1	nogas	-0.051	-51.4	4544	2.6	2.5	
Zn	66	1	nogas	0.156	11.1	1013	4.5	2.5	
As	75	1	nogas	-13.808	-18.3	233534	4.4	2.5	
Sr	88	1	nogas	0.191	14.4	5544	9.1	2.5	
Ag	107	1	nogas	0.066	18.2	1197	11.9	2.5	
Cd	111	1	nogas	0.050	60.0	133	45.8	1	
Sb	121	1	nogas	0.627	12.3	6998	8.4	2.5	
Tl	205	1	nogas	0.228	41.9	4214	41.8	1	
Pb	208	1	nogas	0.079	23.1	2357	17.4	2.5	
U	238	1	nogas	0.061	27.6	1777	25.5	2.5	
[Pb]	206	1	nogas	0.074	43.1	640	32.3	2.5	
[Pb]	207	1	nogas	0.073	16.2	570	12.7	2.5	
Na	23	2	He	127.590	2.5	82816	0.6	100	CCB Main CR1 Failed
Mg	24	2	He	10.468	10.0	1623	7.8	100	
Al	27	2	He	3.715	12.3	173	8.8	5	
K	39	2	He	3.697	34.1	12781	0.6	100	
Ca	43	2	He	14.380	195.1	17	34.6	100	
Ca	44	2	He	-8.747	-74.7	140	18.9	100	
V	51	2	He	0.540	5.7	1078	2.6	2.5	
Cr	52	2	He	-0.368	-33.7	1113	19.2	2.5	
Mn	55	2	He	0.039	116.5	323	8.9	2.5	
Fe	56	2	He	-1.811	-1.5	11570	1.1	100	
Co	59	2	He	0.028	73.5	150	41.6	2.5	
Ni	60	2	He	0.674	9.2	383	12.9	2.5	
Cu	63	2	He	0.272	8.2	873	7.0	2.5	
Zn	66	2	He	0.389	26.4	153	24.7	2.5	
As	75	2	He	-0.034	-66.6	43	13.3	2.5	
Se	78	2	He	0.610	34.0	10	20.0	2.5	
B	11	1	nogas	57.513	12.0	158892	5.0	10	CCB Main CR1 Failed
Si	28	1	nogas	-16.067	-37.7	844382	1.3	5	
Ca	43	1	nogas	11.209	93.3	877	23.7	100	
Ca	44	1	nogas	-395.316	-0.8	62059	1.1	100	
Fe	56	1	nogas	22.244	20.6	1419749	2.8	100	
Se	77	1	nogas	-37.064	-31.9	76976	4.5	2.5	
Se	82	1	nogas	-0.373	-80.9	470	9.3	2.5	
Mo	95	1	nogas	0.158	76.9	873	48.6	2.5	
Sn	118	1	nogas	0.004	604.3	1817	6.4	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	-0.011	-293.6	490	18.1	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.465	16.3	657	13.8	2.5	
P	31	1	nogas	8.105	17.3	66363	0.6	10	
La	139	1	nogas	1.231	1143.7	63	59.8	2.5	
Au	197	1	nogas	2368.267	1286.5	20	86.6	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	377933	3.66	317621	118.99	70	125	
Ge	72	1	nogas	1549954	1.98	1478633	104.82	70	125	
In	115	1	nogas	1636531	0.78	1539303	106.32	70	125	
Bi	209	1	nogas	1578054	1.84	1532165	103.00	70	125	
Ge	72	2	He	131834	1.32	126743	104.02	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	146_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T14:45:07-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	92.181	0.330	266292	1.21	100	92.2	90	110	
Na	23	1	nogas	9877.348	3.616	120826107	3.69	10000	98.8	90	110	
Mg	24	1	nogas	9596.484	3.679	80240525	3.85	10000	96.0	90	110	
Al	27	1	nogas	90.798	5.258	982557	1.29	100	90.8	90	110	
K	39	1	nogas	9434.436	5.831	93598642	2.28	10000	94.3	90	110	
Ti	47	1	nogas	92.462	4.323	92234	0.82	100	92.5	90	110	
V	51	1	nogas	75.936	13.247	2966147	2.66	100	75.9	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	93.996	6.392	1253745	2.22	100	94.0	90	110	
Mn	55	1	nogas	97.217	6.358	1544091	2.18	100	97.2	90	110	
Co	59	1	nogas	89.046	4.065	1264123	1.12	100	89.0	90	110	CCV Main CR1-2 Failed
Ni	60	1	nogas	92.743	4.395	288899	1.52	100	92.7	90	110	
Cu	63	1	nogas	94.720	2.915	722743	1.82	100	94.7	90	110	
Zn	66	1	nogas	97.534	2.352	240548	2.22	100	97.5	90	110	
As	75	1	nogas	65.767	12.522	479004	3.09	100	65.8	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	94.048	1.843	1618579	4.78	100	94.0	90	110	
Ag	107	1	nogas	92.949	4.056	937678	0.84	100	92.9	90	110	
Cd	111	1	nogas	97.147	2.665	200437	0.60	100	97.1	90	110	
Sb	121	1	nogas	89.673	4.872	852697	3.23	100	89.7	90	110	CCV Main CR1-2 Failed
Tl	205	1	nogas	99.323	2.331	1664551	2.88	100	99.3	90	110	
Pb	208	1	nogas	103.752	2.362	2326619	2.36	100	103.8	90	110	
U	238	1	nogas	101.615	4.610	2409163	4.12	100	101.6	90	110	
[Pb]	206	1	nogas	97.007	1.995	564193	0.67	100	97.0	90	110	
[Pb]	207	1	nogas	96.610	1.582	511973	2.01	100	96.6	90	110	
Na	23	2	He	9613.606	1.802	2334989	2.48	10000	96.1	90	110	
Mg	24	2	He	9571.381	1.547	1109966	0.37	10000	95.7	90	110	
Al	27	2	He	89.307	7.994	3137	6.54	100	89.3	90	110	CCV Main CR1-2 Failed
K	39	2	He	9684.507	0.796	589258	0.78	10000	96.8	90	110	
Ca	43	2	He	9504.681	10.092	1983	8.65	10000	95.0	90	110	
Ca	44	2	He	9160.609	2.297	33948	1.24	10000	91.6	90	110	
V	51	2	He	93.649	2.477	126293	1.06	100	93.6	90	110	
Cr	52	2	He	94.819	1.098	166551	0.53	100	94.8	90	110	
Mn	55	2	He	93.591	4.000	66701	2.81	100	93.6	90	110	
Fe	56	2	He	9200.712	2.009	12897993	1.71	10000	92.0	90	110	
Co	59	2	He	93.327	4.097	281983	2.86	100	93.3	90	110	
Ni	60	2	He	94.630	2.816	80127	1.65	100	94.6	90	110	
Cu	63	2	He	94.447	0.593	221131	1.52	100	94.4	90	110	
Zn	66	2	He	92.793	0.171	33294	1.65	100	92.8	90	110	
As	75	2	He	96.064	1.409	24405	1.82	100	96.1	90	110	
Se	78	2	He	94.161	4.631	921	5.39	100	94.2	90	110	
B	11	1	nogas	524.570	1.959	1008013	0.65	500	104.9	90	110	
Si	28	1	nogas	4910.871	6.354	23807065	2.09	5000	98.2	90	110	
Ca	43	1	nogas	9738.404	5.313	184243	1.40	10000	97.4	90	110	
Ca	44	1	nogas	9327.409	2.159	2989572	2.72	10000	93.3	90	110	
Fe	56	1	nogas	9403.821	4.843	140852891	0.75	10000	94.0	90	110	
Se	77	1	nogas	-8.035	-287.573	85357	5.65	100	-8.0	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	94.310	9.069	14213	7.15	100	94.3	90	110	
Mo	95	1	nogas	91.274	2.838	339410	1.96	100	91.3	90	110	
Sn	118	1	nogas	93.338	0.938	533108	2.82	100	93.3	90	110	
Ba	137	1	nogas	94.434	3.950	260912	1.09	100	94.4	90	110	
Sb	121	2	He	93.072	1.813	104550	0.83	100	93.1	90	110	
Li	7	1	nogas	98.994	1.388	713289	0.11	100	99.0	90	110	
P	31	1	nogas	467.631	7.626	382971	2.27	500	93.5	90	110	
La	139	1	nogas	77.758	4.884	270	3.70	100	77.8	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	13041.727	214.169	13	114.56	100	13041.7	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	344614	1.35	317621	108.50	70	125	
Ge	72	1	nogas	1576896	4.28	1478633	106.65	70	125	
In	115	1	nogas	1654333	3.25	1539303	107.47	70	125	
Bi	209	1	nogas	1500900	2.25	1532165	97.96	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	129389	1.49	126743	102.09	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	147_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T14:47:04-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.061	21.7	233	20.3	1	
Na	23	1	nogas	58.353	11.3	2570416	3.0	100	
Mg	24	1	nogas	8.804	7.3	82767	6.7	100	
Al	27	1	nogas	0.347	24.5	21396	2.2	5	
K	39	1	nogas	-3.017	-407.6	5011652	0.7	100	
Ti	47	1	nogas	-0.037	-135.8	333	17.6	2.5	
V	51	1	nogas	-11.074	-50.1	1620936	3.7	2.5	
Cr	52	1	nogas	-0.964	-16.3	34149	4.2	2.5	
Mn	55	1	nogas	0.322	18.8	17145	4.1	2.5	
Co	59	1	nogas	0.047	10.4	1240	7.0	2.5	
Ni	60	1	nogas	0.601	6.3	2197	7.6	2.5	
Cu	63	1	nogas	-0.104	-9.0	4287	3.4	2.5	
Zn	66	1	nogas	0.161	66.5	1063	27.3	2.5	
As	75	1	nogas	-22.745	-22.2	213457	5.4	2.5	
Sr	88	1	nogas	0.086	21.8	3884	6.5	2.5	
Ag	107	1	nogas	0.059	19.1	1167	12.1	2.5	
Cd	111	1	nogas	0.046	35.8	130	26.6	1	
Sb	121	1	nogas	0.509	15.0	6114	14.2	2.5	
Tl	205	1	nogas	0.265	44.0	4811	41.1	1	
Pb	208	1	nogas	0.073	26.7	2213	19.7	2.5	
U	238	1	nogas	0.063	24.2	1803	19.2	2.5	
[Pb]	206	1	nogas	0.058	48.2	537	30.1	2.5	
[Pb]	207	1	nogas	0.083	32.1	620	22.2	2.5	
Na	23	2	He	67.038	14.2	66683	2.4	100	
Mg	24	2	He	8.164	19.4	1323	15.0	100	
Al	27	2	He	1.605	22.2	97	11.9	5	
K	39	2	He	7.114	184.5	12985	6.0	100	
Ca	43	2	He	-16.084	-301.7	10	100.0	100	
Ca	44	2	He	-8.701	-130.0	137	29.6	100	
V	51	2	He	0.560	2.0	1082	1.8	2.5	
Cr	52	2	He	-0.293	-42.2	1220	17.3	2.5	
Mn	55	2	He	0.166	36.1	407	9.9	2.5	
Fe	56	2	He	-1.699	-18.2	11480	4.5	100	
Co	59	2	He	0.036	16.5	170	10.2	2.5	
Ni	60	2	He	0.675	7.5	377	12.5	2.5	
Cu	63	2	He	0.245	24.4	790	17.0	2.5	
Zn	66	2	He	0.250	41.4	100	36.1	2.5	
As	75	2	He	0.010	866.5	53	41.0	2.5	
Se	78	2	He	0.492	86.7	9	48.0	2.5	
B	11	1	nogas	48.995	6.4	147122	2.9	10	CCB Main CR1 Failed
Si	28	1	nogas	-6.957	-51.3	915870	0.6	5	
Ca	43	1	nogas	18.774	13.7	1050	6.9	100	
Ca	44	1	nogas	-398.359	-1.4	63190	1.7	100	
Fe	56	1	nogas	4.414	169.6	1196954	7.5	100	
Se	77	1	nogas	-72.353	-19.8	70687	3.6	2.5	
Se	82	1	nogas	-0.658	-21.3	443	2.6	2.5	
Mo	95	1	nogas	0.115	30.2	747	18.3	2.5	
Sn	118	1	nogas	-0.011	-141.7	1787	6.8	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	-0.020	-150.9	480	14.4	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.388	8.7	557	5.8	2.5	
P	31	1	nogas	5.253	25.1	66584	0.9	10	
La	139	1	nogas	5.613	160.4	77	30.1	2.5	CCB Main CR1 Failed
Au	197	1	nogas	1436.321	3323.1	20	132.3	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	391856	1.89	317621	123.37	70	125	
Ge	72	1	nogas	1601659	2.14	1478633	108.32	70	125	
In	115	1	nogas	1685742	2.91	1539303	109.51	70	125	
Bi	209	1	nogas	1572501	2.42	1532165	102.63	70	125	
Ge	72	2	He	128999	1.07	126743	101.78	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	158_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T15:09:07-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	90.651	4.960	259742	3.11	100	90.7	90	110	
Na	23	1	nogas	9825.857	3.641	118595573	0.97	10000	98.3	90	110	
Mg	24	1	nogas	9872.934	4.355	81445337	2.73	10000	98.7	90	110	
Al	27	1	nogas	92.289	3.755	985772	2.94	100	92.3	90	110	
K	39	1	nogas	9469.341	1.886	92747304	0.94	10000	94.7	90	110	
Ti	47	1	nogas	92.248	1.947	90842	0.83	100	92.2	90	110	
V	51	1	nogas	57.295	9.210	2638494	2.78	100	57.3	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	92.661	3.665	1221239	2.46	100	92.7	90	110	
Mn	55	1	nogas	96.675	3.051	1516726	2.34	100	96.7	90	110	
Co	59	1	nogas	90.514	1.407	1268540	1.73	100	90.5	90	110	
Ni	60	1	nogas	92.777	1.557	285295	0.44	100	92.8	90	110	
Cu	63	1	nogas	92.941	2.813	699850	2.00	100	92.9	90	110	
Zn	66	1	nogas	97.594	0.378	237500	0.94	100	97.6	90	110	
As	75	1	nogas	56.356	8.259	444663	3.04	100	56.4	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	92.516	0.522	1570145	1.58	100	92.5	90	110	
Ag	107	1	nogas	93.008	1.839	926187	0.76	100	93.0	90	110	
Cd	111	1	nogas	97.219	1.763	193076	1.69	100	97.2	90	110	
Sb	121	1	nogas	87.717	2.600	823247	1.48	100	87.7	90	110	CCV Main CR1-2 Failed
Tl	205	1	nogas	99.807	1.575	1628413	1.98	100	99.8	90	110	
Pb	208	1	nogas	99.005	1.430	2220179	1.43	100	99.0	90	110	
U	238	1	nogas	101.477	2.313	2342654	2.13	100	101.5	90	110	
[Pb]	206	1	nogas	95.792	0.803	542474	0.71	100	95.8	90	110	
[Pb]	207	1	nogas	95.800	1.320	494272	1.84	100	95.8	90	110	
Na	23	2	He	9751.234	1.699	2273046	1.95	10000	97.5	90	110	
Mg	24	2	He	9552.361	1.265	1063616	1.04	10000	95.5	90	110	
Al	27	2	He	86.585	6.191	2924	6.46	100	86.6	90	110	CCV Main CR1-2 Failed
K	39	2	He	9229.417	0.105	562158	0.10	10000	92.3	90	110	
Ca	43	2	He	9809.538	9.416	1967	9.41	10000	98.1	90	110	
Ca	44	2	He	9238.072	1.550	32870	0.69	10000	92.4	90	110	
V	51	2	He	95.183	0.356	123260	1.03	100	95.2	90	110	
Cr	52	2	He	95.004	0.785	160226	1.41	100	95.0	90	110	
Mn	55	2	He	93.971	1.830	64322	2.50	100	94.0	90	110	
Fe	56	2	He	9410.032	0.910	12666171	1.80	10000	94.1	90	110	
Co	59	2	He	94.232	1.062	273461	1.96	100	94.2	90	110	
Ni	60	2	He	94.029	1.191	76453	1.18	100	94.0	90	110	
Cu	63	2	He	96.134	1.218	216079	1.15	100	96.1	90	110	
Zn	66	2	He	96.174	3.827	33120	2.89	100	96.2	90	110	
As	75	2	He	95.329	1.168	23250	0.26	100	95.3	90	110	
Se	78	2	He	96.797	6.831	909	6.01	100	96.8	90	110	
B	11	1	nogas	496.546	5.646	948462	3.17	500	99.3	90	110	
Si	28	1	nogas	4916.676	4.239	23537498	3.03	5000	98.3	90	110	
Ca	43	1	nogas	9554.811	1.248	178539	1.61	10000	95.5	90	110	
Ca	44	1	nogas	9140.510	2.933	2894643	3.84	10000	91.4	90	110	
Fe	56	1	nogas	9447.657	1.170	139721686	0.52	10000	94.5	90	110	
Se	77	1	nogas	-41.141	-40.732	76226	5.27	100	-41.1	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	95.238	2.521	14169	3.33	100	95.2	90	110	
Mo	95	1	nogas	89.076	1.273	326870	0.91	100	89.1	90	110	CCV Main CR1-2 Failed
Sn	118	1	nogas	92.158	1.734	506455	1.73	100	92.2	90	110	
Ba	137	1	nogas	95.780	1.051	254826	2.46	100	95.8	90	110	
Sb	121	2	He	92.382	1.429	99650	1.98	100	92.4	90	110	
Li	7	1	nogas	98.013	2.779	701157	2.13	100	98.0	90	110	
P	31	1	nogas	465.711	2.544	376992	1.19	500	93.1	90	110	
La	139	1	nogas	107.510	31.404	337	25.61	100	107.5	90	110	
Au	197	1	nogas	-20209.851	-252.031	30	88.19	100	-20209.9	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	342047	2.43	317621	107.69	70	125	
Ge	72	1	nogas	1555021	1.11	1478633	105.17	70	125	
In	115	1	nogas	1591608	1.46	1539303	103.40	70	125	
Bi	209	1	nogas	1461030	0.61	1532165	95.36	70	125	
Ge	72	2	He	124220	0.94	126743	98.01	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	159_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T15:11:04-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.066	3.4	233	2.5	1	
Na	23	1	nogas	11.467	46.6	1909629	1.0	100	
Mg	24	1	nogas	7.479	23.9	68407	21.4	100	
Al	27	1	nogas	0.274	36.6	19724	3.2	5	
K	39	1	nogas	-0.614	-3695.9	4816892	0.9	100	
Ti	47	1	nogas	-0.065	-149.3	293	34.3	2.5	
V	51	1	nogas	-33.313	-22.2	1209050	5.6	2.5	
Cr	52	1	nogas	-1.237	-9.7	29260	1.4	2.5	
Mn	55	1	nogas	0.514	15.1	19354	4.3	2.5	
Co	59	1	nogas	0.053	11.0	1260	5.7	2.5	
Ni	60	1	nogas	0.467	8.4	1693	5.3	2.5	
Cu	63	1	nogas	-0.129	-7.4	3920	3.3	2.5	
Zn	66	1	nogas	0.157	52.6	1010	22.8	2.5	
As	75	1	nogas	-30.024	-16.9	182683	4.4	2.5	
Sr	88	1	nogas	0.044	28.5	3024	4.4	2.5	
Ag	107	1	nogas	0.067	3.9	1190	5.5	2.5	
Cd	111	1	nogas	0.052	83.5	130	61.5	1	
Sb	121	1	nogas	0.467	9.9	5464	11.2	2.5	
Tl	205	1	nogas	0.238	33.7	4134	35.0	1	
Pb	208	1	nogas	0.078	20.0	2333	15.0	2.5	
U	238	1	nogas	0.066	25.2	1793	24.6	2.5	
[Pb]	206	1	nogas	0.079	11.2	630	10.4	2.5	
[Pb]	207	1	nogas	0.064	12.0	487	10.3	2.5	
Na	23	2	He	12.691	48.7	52927	0.8	100	
Mg	24	2	He	5.719	25.3	1023	17.2	100	
Al	27	2	He	2.357	58.5	120	36.3	5	
K	39	2	He	6.889	33.1	12971	1.0	100	
Ca	43	2	He	-15.767	-537.3	10	173.2	100	
Ca	44	2	He	11.073	69.0	207	15.6	100	
V	51	2	He	0.306	13.8	728	5.7	2.5	
Cr	52	2	He	-0.323	-6.4	1150	4.5	2.5	
Mn	55	2	He	0.260	68.5	463	24.1	2.5	
Fe	56	2	He	-1.997	-21.6	10873	3.3	100	
Co	59	2	He	0.019	37.3	117	17.8	2.5	
Ni	60	2	He	0.713	18.6	403	29.4	2.5	
Cu	63	2	He	0.265	26.2	820	17.3	2.5	
Zn	66	2	He	0.291	29.4	113	28.4	2.5	
As	75	2	He	0.022	196.2	56	19.3	2.5	
Se	78	2	He	0.018	1146.1	4	50.0	2.5	
B	11	1	nogas	34.262	6.2	109232	3.6	10	CCB Main CR1 Failed
Si	28	1	nogas	1.306	588.0	913789	1.0	5	
Ca	43	1	nogas	20.835	20.4	1043	9.6	100	
Ca	44	1	nogas	-391.003	-2.6	62611	2.3	100	
Fe	56	1	nogas	-11.701	-12.7	914177	3.7	100	
Se	77	1	nogas	-99.039	-20.0	61236	4.7	2.5	
Se	82	1	nogas	-0.832	-15.1	400	4.3	2.5	
Mo	95	1	nogas	0.101	47.5	667	28.1	2.5	
Sn	118	1	nogas	-0.031	-43.2	1543	3.9	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	-0.017	-258.4	450	23.5	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.404	18.4	567	16.8	2.5	
P	31	1	nogas	4.546	87.6	63226	0.8	10	
La	139	1	nogas	-3.924	-135.9	47	24.7	2.5	
Au	197	1	nogas	-6048.507	-455.1	23	65.5	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	368246	0.79	317621	115.94	70	125	
Ge	72	1	nogas	1533498	3.66	1478633	103.71	70	125	
In	115	1	nogas	1556395	4.00	1539303	101.11	70	125	
Bi	209	1	nogas	1486401	2.43	1532165	97.01	70	125	
Ge	72	2	He	126897	2.39	126743	100.12	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	170_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T15:33:01-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	89.965	4.399	294831	1.82	100	90.0	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	10161.123	2.176	129590695	1.14	10000	101.6	90	110	
Mg	24	1	nogas	10035.520	3.338	87508644	1.95	10000	100.4	90	110	
Al	27	1	nogas	94.964	7.340	1081870	4.38	100	95.0	90	110	
K	39	1	nogas	9469.582	2.413	99057952	1.22	10000	94.7	90	110	
Ti	47	1	nogas	93.240	3.021	98045	0.51	100	93.2	90	110	
V	51	1	nogas	47.298	5.441	2653572	4.34	100	47.3	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	92.606	1.594	1304023	2.30	100	92.6	90	110	
Mn	55	1	nogas	98.397	1.171	1649378	3.45	100	98.4	90	110	
Co	59	1	nogas	94.377	3.387	1412560	3.18	100	94.4	90	110	
Ni	60	1	nogas	92.799	4.799	304595	1.28	100	92.8	90	110	
Cu	63	1	nogas	95.333	5.794	765975	2.22	100	95.3	90	110	
Zn	66	1	nogas	97.335	3.323	252898	0.33	100	97.3	90	110	
As	75	1	nogas	48.447	1.541	449760	3.22	100	48.4	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	94.598	3.053	1714071	0.44	100	94.6	90	110	
Ag	107	1	nogas	91.826	3.663	976572	2.82	100	91.8	90	110	
Cd	111	1	nogas	94.667	1.411	206082	1.00	100	94.7	90	110	
Sb	121	1	nogas	91.307	4.715	914730	1.24	100	91.3	90	110	
Tl	205	1	nogas	96.509	2.880	1734613	0.89	100	96.5	90	110	
Pb	208	1	nogas	108.266	0.797	2427807	0.80	100	108.3	90	110	
U	238	1	nogas	99.595	3.097	2532874	0.58	100	99.6	90	110	
[Pb]	206	1	nogas	93.703	2.949	584591	0.76	100	93.7	90	110	
[Pb]	207	1	nogas	93.704	1.310	532718	1.27	100	93.7	90	110	
Na	23	2	He	9916.881	2.707	2438395	1.65	10000	99.2	90	110	
Mg	24	2	He	9671.614	1.930	1136590	2.14	10000	96.7	90	110	
Al	27	2	He	87.178	2.035	3107	3.76	100	87.2	90	110	CCV Main CR1-2 Failed
K	39	2	He	9860.471	1.069	599736	1.05	10000	98.6	90	110	
Ca	43	2	He	9309.572	15.100	1973	16.26	10000	93.1	90	110	
Ca	44	2	He	9372.790	1.788	35194	1.18	10000	93.7	90	110	
V	51	2	He	95.260	2.579	130163	0.92	100	95.3	90	110	
Cr	52	2	He	98.219	2.378	174730	1.03	100	98.2	90	110	
Mn	55	2	He	94.457	2.638	68214	0.82	100	94.5	90	110	
Fe	56	2	He	9653.543	0.872	13712331	0.99	10000	96.5	90	110	
Co	59	2	He	94.263	1.596	288664	1.13	100	94.3	90	110	
Ni	60	2	He	95.496	3.426	81953	3.65	100	95.5	90	110	
Cu	63	2	He	97.409	0.411	231086	1.42	100	97.4	90	110	
Zn	66	2	He	98.075	1.300	35652	1.03	100	98.1	90	110	
As	75	2	He	95.677	1.548	24631	2.27	100	95.7	90	110	
Se	78	2	He	95.790	2.812	949	2.47	100	95.8	90	110	
B	11	1	nogas	526.249	2.465	1147639	0.51	500	105.2	90	110	
Si	28	1	nogas	4918.762	8.418	25120735	4.70	5000	98.4	90	110	
Ca	43	1	nogas	9851.348	1.164	196622	2.77	10000	98.5	90	110	
Ca	44	1	nogas	9346.641	0.935	3157050	2.81	10000	93.5	90	110	
Fe	56	1	nogas	9507.902	0.930	150215533	2.76	10000	95.1	90	110	
Se	77	1	nogas	-69.141	-14.921	74248	6.63	100	-69.1	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	91.869	2.421	14619	3.67	100	91.9	90	110	
Mo	95	1	nogas	91.506	4.246	358438	0.75	100	91.5	90	110	
Sn	118	1	nogas	93.428	1.545	562807	1.96	100	93.4	90	110	
Ba	137	1	nogas	93.735	1.280	273320	0.50	100	93.7	90	110	
Sb	121	2	He	94.605	0.865	107698	1.74	100	94.6	90	110	
Li	7	1	nogas	99.605	4.257	814103	1.61	100	99.6	90	110	
P	31	1	nogas	471.786	5.167	406855	0.87	500	94.4	90	110	
La	139	1	nogas	107.603	21.872	370	18.92	100	107.6	90	110	
Au	197	1	nogas	-26887.177	-192.984	37	78.73	100	-26887.2	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	391247	2.72	317621	123.18	70	125	
Ge	72	1	nogas	1661453	3.42	1478633	112.36	70	125	
In	115	1	nogas	1744560	0.78	1539303	113.33	70	125	
Bi	209	1	nogas	1610314	2.58	1532165	105.10	70	125	
Ge	72	2	He	131111	1.80	126743	103.45	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	171_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T15:35:00-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.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	0.080	32.0	320	25.6	1	
Na	23	1	nogas	6.393	46.7	2032234	1.3	100	
Mg	24	1	nogas	6.866	22.1	69511	17.8	100	
Al	27	1	nogas	0.325	10.8	21536	1.8	5	
K	39	1	nogas	0.597	1182.9	5133752	0.6	100	
Ti	47	1	nogas	-0.030	-320.8	347	30.3	2.5	
V	51	1	nogas	-37.957	-4.9	1211918	3.9	2.5	
Cr	52	1	nogas	-1.305	-3.9	30225	2.6	2.5	
Mn	55	1	nogas	0.307	5.9	17195	2.4	2.5	
Co	59	1	nogas	0.040	23.1	1157	10.0	2.5	
Ni	60	1	nogas	0.455	14.2	1760	10.8	2.5	
Cu	63	1	nogas	-0.143	-10.3	4057	2.9	2.5	
Zn	66	1	nogas	0.147	32.2	1043	11.5	2.5	
As	75	1	nogas	-34.255	-5.9	181231	4.9	2.5	
Sr	88	1	nogas	0.048	20.3	3284	6.8	2.5	
Ag	107	1	nogas	0.060	17.4	1197	9.2	2.5	
Cd	111	1	nogas	0.049	52.8	140	39.8	1	
Sb	121	1	nogas	0.489	22.0	5998	16.4	2.5	
Tl	205	1	nogas	0.228	33.0	4214	29.1	1	
Pb	208	1	nogas	0.069	22.5	2117	16.3	2.5	
U	238	1	nogas	0.061	18.2	1783	13.7	2.5	
[Pb]	206	1	nogas	0.062	31.3	570	18.2	2.5	
[Pb]	207	1	nogas	0.048	14.3	433	8.7	2.5	
Na	23	2	He	6.077	105.0	53923	1.3	100	
Mg	24	2	He	3.804	20.2	843	9.2	100	
Al	27	2	He	2.652	50.1	137	33.0	5	
K	39	2	He	-3.193	-192.7	12371	3.0	100	
Ca	43	2	He	-48.759	-56.6	3	173.2	100	
Ca	44	2	He	-4.468	-394.1	157	40.5	100	
V	51	2	He	0.272	10.1	717	6.9	2.5	
Cr	52	2	He	-0.344	-28.1	1170	15.5	2.5	
Mn	55	2	He	0.169	147.3	420	41.3	2.5	
Fe	56	2	He	-1.739	-4.5	11791	2.2	100	
Co	59	2	He	0.039	76.2	183	49.5	2.5	
Ni	60	2	He	0.658	4.9	373	8.6	2.5	
Cu	63	2	He	0.254	11.9	837	7.2	2.5	
Zn	66	2	He	0.340	2.8	137	4.2	2.5	
As	75	2	He	-0.008	-1746.7	50	74.2	2.5	
Se	78	2	He	-0.132	-228.6	3	114.6	2.5	
B	11	1	nogas	49.346	8.4	160805	2.8	10	CCB Main CR1 Failed
Si	28	1	nogas	-11.394	-46.3	910157	1.0	5	
Ca	43	1	nogas	17.410	18.8	1040	4.4	100	
Ca	44	1	nogas	-400.730	-1.9	63531	2.2	100	
Fe	56	1	nogas	-6.441	-129.0	1050756	10.3	100	
Se	77	1	nogas	-117.508	-5.6	60491	4.1	2.5	
Se	82	1	nogas	-0.008	-10232.1	550	23.6	2.5	
Mo	95	1	nogas	0.132	45.5	823	26.0	2.5	
Sn	118	1	nogas	-0.004	-909.1	1893	12.5	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	-0.039	-75.0	443	18.8	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.411	24.4	600	17.4	2.5	
P	31	1	nogas	8.058	24.4	69719	0.4	10	
La	139	1	nogas	11.480	78.0	97	26.0	2.5	CCB Main CR1 Failed
Au	197	1	nogas	19613.072	92.4	10	100.0	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	426524	3.58	317621	134.29	70	125	ISTD Failed
Ge	72	1	nogas	1629175	1.75	1478633	110.18	70	125	
In	115	1	nogas	1749380	0.37	1539303	113.65	70	125	
Bi	209	1	nogas	1594050	2.90	1532165	104.04	70	125	
Ge	72	2	He	133148	1.76	126743	105.05	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	182_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T15:57:07-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	92.360	3.389	274071	1.20	100	92.4	90	110	
Na	23	1	nogas	10578.402	2.257	126640340	0.37	10000	105.8	90	110	
Mg	24	1	nogas	10173.457	2.762	83335758	2.06	10000	101.7	90	110	
Al	27	1	nogas	93.969	3.919	994888	2.57	100	94.0	90	110	
K	39	1	nogas	9717.613	1.111	94276510	2.46	10000	97.2	90	110	
Ti	47	1	nogas	93.932	1.175	91724	0.78	100	93.9	90	110	
V	51	1	nogas	57.164	6.210	2614176	0.68	100	57.2	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	94.389	1.716	1233042	1.93	100	94.4	90	110	
Mn	55	1	nogas	99.863	4.767	1552929	3.57	100	99.9	90	110	
Co	59	1	nogas	95.311	5.000	1324388	4.74	100	95.3	90	110	
Ni	60	1	nogas	96.841	3.279	295234	1.85	100	96.8	90	110	
Cu	63	1	nogas	97.905	1.708	730805	0.32	100	97.9	90	110	
Zn	66	1	nogas	99.231	1.702	239424	0.81	100	99.2	90	110	
As	75	1	nogas	56.769	12.801	442001	3.45	100	56.8	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	96.933	1.391	1631020	0.90	100	96.9	90	110	
Ag	107	1	nogas	95.022	2.856	938281	2.25	100	95.0	90	110	
Cd	111	1	nogas	96.685	2.897	197457	0.53	100	96.7	90	110	
Sb	121	1	nogas	93.424	1.652	869449	0.82	100	93.4	90	110	
Tl	205	1	nogas	98.125	7.434	1618709	3.10	100	98.1	90	110	
Pb	208	1	nogas	102.137	1.317	2290399	1.32	100	102.1	90	110	
U	238	1	nogas	102.017	1.765	2385308	2.75	100	102.0	90	110	
[Pb]	206	1	nogas	97.681	6.871	559404	2.47	100	97.7	90	110	
[Pb]	207	1	nogas	98.116	3.592	512386	0.99	100	98.1	90	110	
Na	23	2	He	10091.057	1.595	2383635	1.56	10000	100.9	90	110	
Mg	24	2	He	9589.699	1.260	1082860	1.30	10000	95.9	90	110	
Al	27	2	He	96.715	13.804	3307	13.77	100	96.7	90	110	
K	39	2	He	9499.067	1.908	578215	1.87	10000	95.0	90	110	
Ca	43	2	He	10315.884	2.777	2097	2.87	10000	103.2	90	110	
Ca	44	2	He	9188.217	3.117	33157	3.14	10000	91.9	90	110	
V	51	2	He	96.420	0.515	126614	0.32	100	96.4	90	110	
Cr	52	2	He	97.705	0.597	167052	0.77	100	97.7	90	110	
Mn	55	2	He	94.708	1.505	65731	1.30	100	94.7	90	110	
Fe	56	2	He	9657.610	1.469	13181091	1.20	10000	96.6	90	110	
Co	59	2	He	94.986	1.018	279507	0.78	100	95.0	90	110	
Ni	60	2	He	96.593	1.084	79650	0.89	100	96.6	90	110	
Cu	63	2	He	96.682	0.137	220378	0.33	100	96.7	90	110	
Zn	66	2	He	99.070	3.079	34607	3.19	100	99.1	90	110	
As	75	2	He	97.091	1.985	24014	1.71	100	97.1	90	110	
Se	78	2	He	100.050	2.128	953	2.19	100	100.0	90	110	
B	11	1	nogas	517.563	4.033	1022238	1.77	500	103.5	90	110	
Si	28	1	nogas	5028.487	5.381	23850675	4.47	5000	100.6	90	110	
Ca	43	1	nogas	9903.589	1.759	183463	1.20	10000	99.0	90	110	
Ca	44	1	nogas	9505.552	3.696	2976702	2.76	10000	95.1	90	110	
Fe	56	1	nogas	9567.532	4.852	140285149	4.49	10000	95.7	90	110	
Se	77	1	nogas	-53.671	-38.242	72538	5.44	100	-53.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.660	6.165	14249	5.80	100	96.7	90	110	
Mo	95	1	nogas	92.558	2.796	336735	1.58	100	92.6	90	110	
Sn	118	1	nogas	95.640	3.141	540420	1.50	100	95.6	90	110	
Ba	137	1	nogas	96.415	2.350	263778	1.40	100	96.4	90	110	
Sb	121	2	He	94.981	1.060	103888	0.86	100	95.0	90	110	
Li	7	1	nogas	97.888	3.665	724963	1.64	100	97.9	90	110	
P	31	1	nogas	489.274	3.039	389694	2.12	500	97.9	90	110	
La	139	1	nogas	87.755	45.070	293	35.48	100	87.8	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-38152.107	-129.661	40	66.14	100	-38152.1	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	354180	2.48	317621	111.51	70	125	
Ge	72	1	nogas	1542022	1.42	1478633	104.29	70	125	
In	115	1	nogas	1637655	3.41	1539303	106.39	70	125	
Bi	209	1	nogas	1480434	4.38	1532165	96.62	70	125	
Ge	72	2	He	125969	0.27	126743	99.39	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	183_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T15:59:04-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.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	0.084	39.7	320	35.2	1	
Na	23	1	nogas	144.371	2.1	3700827	1.9	100	CCB Main CR1 Failed
Mg	24	1	nogas	9.708	11.9	92546	11.9	100	
Al	27	1	nogas	0.309	11.9	20992	2.4	5	
K	39	1	nogas	9.336	92.4	5127293	1.0	100	
Ti	47	1	nogas	-0.021	-395.6	350	24.9	2.5	
V	51	1	nogas	-35.212	-15.5	1233651	5.9	2.5	
Cr	52	1	nogas	-1.194	-10.4	31133	4.4	2.5	
Mn	55	1	nogas	0.251	23.6	16007	6.3	2.5	
Co	59	1	nogas	0.052	29.2	1307	18.0	2.5	
Ni	60	1	nogas	0.660	5.5	2380	5.0	2.5	
Cu	63	1	nogas	-0.121	-15.5	4154	4.0	2.5	
Zn	66	1	nogas	0.256	6.6	1297	4.2	2.5	
As	75	1	nogas	-32.718	-10.1	182652	4.4	2.5	
Sr	88	1	nogas	0.071	14.1	3630	6.0	2.5	
Ag	107	1	nogas	0.055	35.0	1120	18.8	2.5	
Cd	111	1	nogas	0.027	30.8	90	19.2	1	
Sb	121	1	nogas	0.474	17.9	5771	15.4	2.5	
Tl	205	1	nogas	0.264	41.6	4694	40.2	1	
Pb	208	1	nogas	0.082	31.0	2413	23.6	2.5	
U	238	1	nogas	0.064	15.2	1783	12.9	2.5	
[Pb]	206	1	nogas	0.072	54.8	610	38.8	2.5	
[Pb]	207	1	nogas	0.073	32.5	550	23.2	2.5	
Na	23	2	He	133.642	2.2	83830	0.1	100	CCB Main CR1 Failed
Mg	24	2	He	6.229	8.5	1117	6.3	100	
Al	27	2	He	0.510	240.3	60	72.6	5	
K	39	2	He	11.987	55.9	13275	3.0	100	
Ca	43	2	He	-1.149	-2433.5	13	43.3	100	
Ca	44	2	He	0.404	3948.1	173	34.8	100	
V	51	2	He	0.294	17.2	736	9.2	2.5	
Cr	52	2	He	-0.347	-15.0	1147	8.4	2.5	
Mn	55	2	He	0.083	73.7	353	11.8	2.5	
Fe	56	2	He	-2.015	-19.3	11217	4.2	100	
Co	59	2	He	0.040	78.0	187	52.0	2.5	
Ni	60	2	He	0.653	10.9	363	16.1	2.5	
Cu	63	2	He	0.283	17.1	893	12.7	2.5	
Zn	66	2	He	0.382	18.5	150	17.6	2.5	
As	75	2	He	-0.085	-16.0	30	11.1	2.5	
Se	78	2	He	-0.196	-104.3	2	100.0	2.5	
B	11	1	nogas	42.573	4.6	139004	3.0	10	CCB Main CR1 Failed
Si	28	1	nogas	-16.442	-7.0	870572	1.5	5	
Ca	43	1	nogas	12.296	58.0	923	13.5	100	
Ca	44	1	nogas	-396.215	-0.7	63815	0.5	100	
Fe	56	1	nogas	2.402	208.4	1167878	7.5	100	
Se	77	1	nogas	-116.092	-14.5	59735	5.8	2.5	
Se	82	1	nogas	-0.999	-81.4	393	31.1	2.5	
Mo	95	1	nogas	0.112	42.8	737	25.8	2.5	
Sn	118	1	nogas	-0.035	-98.8	1650	10.9	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	-0.022	-139.8	477	19.5	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.295	21.6	460	16.4	2.5	
P	31	1	nogas	7.500	5.7	68120	1.0	10	
La	139	1	nogas	4.190	435.0	73	68.6	2.5	CCB Main CR1 Failed
Au	197	1	nogas	19367.555	94.1	10	100.0	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	407404	0.87	317621	128.27	70	125	ISTD Failed
Ge	72	1	nogas	1600577	1.26	1478633	108.25	70	125	
In	115	1	nogas	1692224	1.31	1539303	109.93	70	125	
Bi	209	1	nogas	1534400	1.08	1532165	100.15	70	125	
Ge	72	2	He	131124	0.71	126743	103.46	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	194_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T16:21:03-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	97.038	3.955	248781	1.29	100	97.0	90	110	
Na	23	1	nogas	10295.336	5.561	112834536	3.17	10000	103.0	90	110	
Mg	24	1	nogas	9944.864	5.709	74552312	3.83	10000	99.4	90	110	
Al	27	1	nogas	92.695	3.053	915238	0.22	100	92.7	90	110	
K	39	1	nogas	9638.849	3.935	87174600	1.06	10000	96.4	90	110	
Ti	47	1	nogas	94.030	1.278	85625	2.37	100	94.0	90	110	
V	51	1	nogas	104.846	7.369	3122576	1.26	100	104.8	90	110	
Cr	52	1	nogas	91.559	3.059	1116113	0.46	100	91.6	90	110	
Mn	55	1	nogas	98.546	5.026	1428470	2.20	100	98.5	90	110	
Co	59	1	nogas	90.153	5.170	1167353	2.64	100	90.2	90	110	
Ni	60	1	nogas	98.227	5.431	279070	2.65	100	98.2	90	110	
Cu	63	1	nogas	98.354	3.888	684260	1.27	100	98.4	90	110	
Zn	66	1	nogas	100.293	2.826	225580	0.71	100	100.3	90	110	
As	75	1	nogas	83.528	9.480	486199	1.77	100	83.5	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	95.153	5.195	1491874	2.49	100	95.2	90	110	
Ag	107	1	nogas	94.840	2.211	873255	2.15	100	94.8	90	110	
Cd	111	1	nogas	98.726	2.821	182119	0.63	100	98.7	90	110	
Sb	121	1	nogas	93.754	4.384	813134	1.59	100	93.8	90	110	
Tl	205	1	nogas	98.124	4.813	1526603	3.66	100	98.1	90	110	
Pb	208	1	nogas	94.635	1.794	2122223	1.79	100	94.6	90	110	
U	238	1	nogas	97.372	3.290	2143934	2.11	100	97.4	90	110	
[Pb]	206	1	nogas	96.347	2.630	520366	0.51	100	96.3	90	110	
[Pb]	207	1	nogas	96.058	3.049	472657	1.95	100	96.1	90	110	
Na	23	2	He	10240.986	4.189	2231953	1.33	10000	102.4	90	110	
Mg	24	2	He	9466.319	3.244	986830	1.93	10000	94.7	90	110	
Al	27	2	He	93.040	5.334	2940	6.57	100	93.0	90	110	
K	39	2	He	9107.607	1.329	554904	1.30	10000	91.1	90	110	
Ca	43	2	He	10897.547	8.344	2047	10.14	10000	109.0	90	110	
Ca	44	2	He	9350.575	4.018	31140	1.08	10000	93.5	90	110	
V	51	2	He	95.006	3.185	115170	0.64	100	95.0	90	110	
Cr	52	2	He	97.498	2.059	153927	1.77	100	97.5	90	110	
Mn	55	2	He	97.054	3.141	62175	0.59	100	97.1	90	110	
Fe	56	2	He	9581.753	4.492	12068837	1.27	10000	95.8	90	110	
Co	59	2	He	96.783	4.938	262798	1.74	100	96.8	90	110	
Ni	60	2	He	95.751	4.765	72858	1.55	100	95.8	90	110	
Cu	63	2	He	96.291	3.556	202637	2.60	100	96.3	90	110	
Zn	66	2	He	97.285	3.336	31370	1.59	100	97.3	90	110	
As	75	2	He	97.977	5.302	22359	2.07	100	98.0	90	110	
Se	78	2	He	94.858	7.623	834	7.08	100	94.9	90	110	
B	11	1	nogas	493.424	2.502	844018	2.20	500	98.7	90	110	
Si	28	1	nogas	4857.372	2.861	21510036	0.72	5000	97.1	90	110	
Ca	43	1	nogas	9768.227	5.623	168618	3.22	10000	97.7	90	110	
Ca	44	1	nogas	9284.730	3.251	2714656	1.73	10000	92.8	90	110	
Fe	56	1	nogas	9329.716	5.820	127488282	3.11	10000	93.3	90	110	
Se	77	1	nogas	61.746	46.433	93435	4.18	100	61.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	94.503	0.404	13005	3.08	100	94.5	90	110	
Mo	95	1	nogas	92.826	6.963	314649	4.74	100	92.8	90	110	
Sn	118	1	nogas	97.414	0.742	497312	1.60	100	97.4	90	110	
Ba	137	1	nogas	97.581	2.385	241111	0.26	100	97.6	90	110	
Sb	121	2	He	95.124	3.640	96040	1.46	100	95.1	90	110	
Li	7	1	nogas	100.832	1.830	644611	1.42	100	100.8	90	110	
P	31	1	nogas	467.091	2.828	349394	0.43	500	93.4	90	110	
La	139	1	nogas	88.276	38.648	267	30.54	100	88.3	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-9400.616	-124.597	23	24.74	100	-9400.6	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	306078	3.14	317621	96.37	70	125	
Ge	72	1	nogas	1438035	2.78	1478633	97.25	70	125	
In	115	1	nogas	1478855	2.20	1539303	96.07	70	125	
Bi	209	1	nogas	1394149	3.13	1532165	90.99	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	116361	3.23	126743	91.81	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	195_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T16:23:00-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.103	56.4	313	51.6	1	
Na	23	1	nogas	301.379	3.3	4967390	1.5	100	CCB Main CR1 Failed
Mg	24	1	nogas	11.370	6.5	93881	6.8	100	
Al	27	1	nogas	0.295	21.3	18800	2.9	5	
K	39	1	nogas	32.835	17.5	4830410	0.5	100	
Ti	47	1	nogas	-0.085	-106.8	257	31.5	2.5	
V	51	1	nogas	3.955	84.9	1680706	4.1	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	-0.625	-12.1	34816	2.8	2.5	
Mn	55	1	nogas	0.760	2.5	21810	0.9	2.5	
Co	59	1	nogas	0.049	29.3	1143	15.7	2.5	
Ni	60	1	nogas	0.786	3.4	2507	2.2	2.5	
Cu	63	1	nogas	-0.058	-31.8	4191	4.0	2.5	
Zn	66	1	nogas	0.336	4.1	1350	3.4	2.5	
As	75	1	nogas	-9.369	-24.4	230036	3.9	2.5	
Sr	88	1	nogas	0.086	8.5	3514	4.4	2.5	
Ag	107	1	nogas	0.053	21.9	990	9.6	2.5	
Cd	111	1	nogas	0.052	45.6	127	37.3	1	
Sb	121	1	nogas	0.469	25.8	5154	19.6	2.5	
Tl	205	1	nogas	0.252	40.5	4044	37.6	1	
Pb	208	1	nogas	0.071	29.0	2167	21.2	2.5	
U	238	1	nogas	0.067	49.7	1673	41.9	2.5	
[Pb]	206	1	nogas	0.077	63.1	573	43.9	2.5	
[Pb]	207	1	nogas	0.069	45.6	477	30.7	2.5	
Na	23	2	He	343.955	0.7	121776	0.5	100	CCB Main CR1 Failed
Mg	24	2	He	10.138	15.8	1427	11.7	100	
Al	27	2	He	0.902	122.4	67	52.7	5	
K	39	2	He	16.190	12.0	13525	0.9	100	
Ca	43	2	He	22.803	352.1	17	91.7	100	
Ca	44	2	He	24.983	43.5	240	15.0	100	
V	51	2	He	0.608	5.0	1055	3.3	2.5	
Cr	52	2	He	-0.193	-40.7	1283	9.8	2.5	
Mn	55	2	He	0.558	17.3	630	9.7	2.5	
Fe	56	2	He	-1.283	-16.3	11100	2.2	100	
Co	59	2	He	0.031	59.5	143	35.8	2.5	
Ni	60	2	He	0.598	3.3	287	5.3	2.5	
Cu	63	2	He	0.276	13.6	793	10.3	2.5	
Zn	66	2	He	0.304	26.6	110	24.1	2.5	
As	75	2	He	0.057	68.2	60	14.7	2.5	
Se	78	2	He	0.347	134.4	7	62.4	2.5	
B	11	1	nogas	19.226	4.6	71779	1.8	10	CCB Main CR1 Failed
Si	28	1	nogas	10.798	40.7	902042	1.2	5	CCB Main CR1 Failed
Ca	43	1	nogas	23.060	24.3	1020	8.7	100	
Ca	44	1	nogas	-366.277	-0.9	65856	0.5	100	
Fe	56	1	nogas	11.998	18.1	1184174	1.3	100	
Se	77	1	nogas	-18.707	-64.5	75885	4.5	2.5	
Se	82	1	nogas	-0.231	-218.8	457	13.9	2.5	
Mo	95	1	nogas	0.095	82.7	603	43.2	2.5	
Sn	118	1	nogas	-0.002	-2491.6	1633	16.1	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	-0.019	-55.7	430	8.1	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.321	30.9	443	22.8	2.5	
P	31	1	nogas	10.415	14.8	63320	1.8	10	CCB Main CR1 Failed
La	139	1	nogas	-6.063	-116.7	40	43.3	2.5	
Au	197	1	nogas	-36625.110	-34.6	37	15.7	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	332307	1.44	317621	104.62	70	125	
Ge	72	1	nogas	1444625	1.24	1478633	97.70	70	125	
In	115	1	nogas	1496406	2.15	1539303	97.21	70	125	
Bi	209	1	nogas	1388069	1.58	1532165	90.60	70	125	
Ge	72	2	He	118747	0.33	126743	93.69	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	206_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T16:45:09-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	91.459	8.292	272307	3.28	100	91.5	90	110	
Na	23	1	nogas	11077.554	3.652	135465124	1.91	10000	110.8	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	10322.157	2.392	86435279	1.04	10000	103.2	90	110	
Al	27	1	nogas	93.190	0.376	1042341	1.56	100	93.2	90	110	
K	39	1	nogas	9459.623	1.795	97017819	0.25	10000	94.6	90	110	
Ti	47	1	nogas	91.376	3.907	94216	3.14	100	91.4	90	110	
V	51	1	nogas	85.046	3.824	3215213	2.05	100	85.0	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	93.308	1.814	1287676	2.23	100	93.3	90	110	
Mn	55	1	nogas	96.075	2.678	1578243	1.15	100	96.1	90	110	
Co	59	1	nogas	92.387	3.128	1355365	1.64	100	92.4	90	110	
Ni	60	1	nogas	94.051	2.830	302823	2.39	100	94.1	90	110	
Cu	63	1	nogas	95.680	1.398	754299	0.75	100	95.7	90	110	
Zn	66	1	nogas	96.439	1.934	245729	1.48	100	96.4	90	110	
As	75	1	nogas	75.453	3.979	525624	2.37	100	75.5	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	98.885	2.940	1756584	1.50	100	98.9	90	110	
Ag	107	1	nogas	91.352	1.737	952733	2.51	100	91.4	90	110	
Cd	111	1	nogas	96.809	4.134	204672	2.34	100	96.8	90	110	
Sb	121	1	nogas	91.497	2.515	899081	1.08	100	91.5	90	110	
Tl	205	1	nogas	102.491	7.156	1725099	3.60	100	102.5	90	110	
Pb	208	1	nogas	102.272	1.805	2293434	1.80	100	102.3	90	110	
U	238	1	nogas	99.512	2.290	2372994	1.88	100	99.5	90	110	
[Pb]	206	1	nogas	97.181	3.536	568326	1.91	100	97.2	90	110	
[Pb]	207	1	nogas	95.617	3.114	509467	1.85	100	95.6	90	110	
Na	23	2	He	10608.715	2.573	2626534	3.87	10000	106.1	90	110	
Mg	24	2	He	9530.828	3.595	1128678	2.99	10000	95.3	90	110	
Al	27	2	He	89.429	0.796	3210	1.62	100	89.4	90	110	CCV Main CR1-2 Failed
K	39	2	He	9800.463	1.678	596163	1.64	10000	98.0	90	110	
Ca	43	2	He	10183.469	9.360	2170	8.54	10000	101.8	90	110	
Ca	44	2	He	9239.265	1.688	34977	2.96	10000	92.4	90	110	
V	51	2	He	95.337	2.290	131299	1.04	100	95.3	90	110	
Cr	52	2	He	95.783	3.095	171771	1.79	100	95.8	90	110	
Mn	55	2	He	92.722	1.643	67515	2.44	100	92.7	90	110	
Fe	56	2	He	9274.657	1.063	13278389	1.20	10000	92.7	90	110	
Co	59	2	He	95.459	2.180	294598	0.73	100	95.5	90	110	
Ni	60	2	He	94.352	3.813	81579	2.43	100	94.4	90	110	
Cu	63	2	He	97.073	3.074	232033	1.61	100	97.1	90	110	
Zn	66	2	He	97.730	1.931	35809	2.30	100	97.7	90	110	
As	75	2	He	94.513	2.291	24518	0.98	100	94.5	90	110	
Se	78	2	He	92.988	4.848	929	5.90	100	93.0	90	110	
B	11	1	nogas	486.439	8.846	966745	4.62	500	97.3	90	110	
Si	28	1	nogas	4874.727	2.931	24448434	2.57	5000	97.5	90	110	
Ca	43	1	nogas	9742.035	1.263	190607	2.17	10000	97.4	90	110	
Ca	44	1	nogas	9198.360	3.321	3048286	3.29	10000	92.0	90	110	
Fe	56	1	nogas	9264.925	0.736	143498503	0.85	10000	92.6	90	110	
Se	77	1	nogas	31.997	49.943	98399	4.99	100	32.0	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	92.742	4.109	14456	2.98	100	92.7	90	110	
Mo	95	1	nogas	91.245	2.583	350536	1.37	100	91.2	90	110	
Sn	118	1	nogas	95.431	1.486	558401	0.61	100	95.4	90	110	
Ba	137	1	nogas	95.479	3.643	270388	1.72	100	95.5	90	110	
Sb	121	2	He	91.443	1.375	104922	1.96	100	91.4	90	110	
Li	7	1	nogas	100.675	5.094	748171	2.49	100	100.7	90	110	
P	31	1	nogas	477.031	2.809	402760	0.93	500	95.4	90	110	
La	139	1	nogas	90.883	29.216	313	23.95	100	90.9	90	110	
Au	197	1	nogas	13412.374	205.369	13	114.56	100	13412.4	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	356349	6.49	317621	112.19	70	125	
Ge	72	1	nogas	1628291	1.52	1478633	110.12	70	125	
In	115	1	nogas	1695055	1.93	1539303	110.12	70	125	
Bi	209	1	nogas	1510002	3.95	1532165	98.55	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	132137	1.46	126743	104.26	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	207_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T16:47:06-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.060	11.6	227	10.2	1	
Na	23	1	nogas	390.919	1.4	6626741	2.3	100	CCB Main CR1 Failed
Mg	24	1	nogas	20.173	2.5	179024	2.9	100	
Al	27	1	nogas	0.280	17.1	21026	2.5	5	
K	39	1	nogas	5.085	174.2	5173776	0.8	100	
Ti	47	1	nogas	-0.026	-243.0	350	18.7	2.5	
V	51	1	nogas	-5.187	-51.8	1744864	3.3	2.5	
Cr	52	1	nogas	-0.758	-15.7	37475	5.1	2.5	
Mn	55	1	nogas	0.483	4.6	20058	2.0	2.5	
Co	59	1	nogas	0.055	35.8	1367	20.8	2.5	
Ni	60	1	nogas	0.991	5.0	3484	3.6	2.5	
Cu	63	1	nogas	-0.013	-131.9	5071	3.0	2.5	
Zn	66	1	nogas	0.197	33.9	1167	13.9	2.5	
As	75	1	nogas	-16.240	-14.0	237624	3.5	2.5	
Sr	88	1	nogas	0.441	10.7	10250	8.6	2.5	
Ag	107	1	nogas	0.044	35.1	1027	16.3	2.5	
Cd	111	1	nogas	0.086	62.8	213	51.8	1	
Sb	121	1	nogas	0.453	20.8	5651	15.5	2.5	
Tl	205	1	nogas	0.234	40.5	4341	39.4	1	
Pb	208	1	nogas	0.075	6.0	2257	4.4	2.5	
U	238	1	nogas	0.067	28.0	1930	25.0	2.5	
[Pb]	206	1	nogas	0.066	4.3	597	2.6	2.5	
[Pb]	207	1	nogas	0.051	10.8	450	6.7	2.5	
Na	23	2	He	407.008	2.8	144583	1.2	100	CCB Main CR1 Failed
Mg	24	2	He	20.064	11.9	2650	10.6	100	
Al	27	2	He	2.240	87.3	117	57.1	5	
K	39	2	He	24.759	38.0	14035	4.0	100	
Ca	43	2	He	0.981	7701.6	13	114.6	100	
Ca	44	2	He	27.010	51.8	263	18.7	100	
V	51	2	He	0.484	5.5	962	4.4	2.5	
Cr	52	2	He	-0.318	-22.8	1157	11.3	2.5	
Mn	55	2	He	0.262	54.3	467	22.0	2.5	
Fe	56	2	He	-1.286	-23.3	11837	2.8	100	
Co	59	2	He	0.037	15.2	170	10.2	2.5	
Ni	60	2	He	0.675	9.5	370	15.0	2.5	
Cu	63	2	He	0.265	12.7	823	10.2	2.5	
Zn	66	2	He	0.301	28.0	117	26.2	2.5	
As	75	2	He	-0.022	-292.3	44	35.4	2.5	
Se	78	2	He	0.022	983.1	4	50.0	2.5	
B	11	1	nogas	33.294	4.3	112181	1.8	10	CCB Main CR1 Failed
Si	28	1	nogas	-24.790	-14.9	845140	1.3	5	
Ca	43	1	nogas	25.971	6.2	1207	2.1	100	
Ca	44	1	nogas	-389.369	-0.7	67037	0.3	100	
Fe	56	1	nogas	17.811	23.7	1423626	3.6	100	
Se	77	1	nogas	-42.657	-25.4	79430	3.9	2.5	
Se	82	1	nogas	-0.329	-96.0	500	8.7	2.5	
Mo	95	1	nogas	0.104	47.2	717	25.4	2.5	
Sn	118	1	nogas	-0.017	-161.1	1757	7.6	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.376	11.1	1600	7.6	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.433	18.5	597	15.6	2.5	
P	31	1	nogas	8.546	8.1	70027	0.5	10	
La	139	1	nogas	7.830	59.9	83	13.9	2.5	CCB Main CR1 Failed
Au	197	1	nogas	-15283.527	-117.3	30	33.3	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	384969	1.29	317621	121.20	70	125	
Ge	72	1	nogas	1627960	0.93	1478633	110.10	70	125	
In	115	1	nogas	1691900	1.89	1539303	109.91	70	125	
Bi	209	1	nogas	1593608	0.74	1532165	104.01	70	125	
Ge	72	2	He	126697	0.78	126743	99.96	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	218_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T17:09:13-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	92.971	1.600	283803	1.82	100	93.0	90	110	
Na	23	1	nogas	10262.320	1.892	133966182	1.13	10000	102.6	90	110	
Mg	24	1	nogas	9850.121	0.850	87975264	3.15	10000	98.5	90	110	
Al	27	1	nogas	93.532	3.531	1096345	1.19	100	93.5	90	110	
K	39	1	nogas	9362.306	2.232	100725256	0.54	10000	93.6	90	110	
Ti	47	1	nogas	92.342	2.752	99817	0.46	100	92.3	90	110	
V	51	1	nogas	72.000	14.272	3146101	3.51	100	72.0	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	92.657	4.772	1340304	2.55	100	92.7	90	110	
Mn	55	1	nogas	96.873	1.730	1668595	0.89	100	96.9	90	110	
Co	59	1	nogas	92.357	4.797	1420185	2.57	100	92.4	90	110	
Ni	60	1	nogas	93.143	2.372	314412	0.77	100	93.1	90	110	
Cu	63	1	nogas	94.106	1.428	777954	0.95	100	94.1	90	110	
Zn	66	1	nogas	97.145	1.623	259517	0.78	100	97.1	90	110	
As	75	1	nogas	60.225	15.392	500574	4.00	100	60.2	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	94.644	3.813	1762603	1.96	100	94.6	90	110	
Ag	107	1	nogas	93.699	2.711	1024209	0.47	100	93.7	90	110	
Cd	111	1	nogas	99.640	2.550	217075	1.66	100	99.6	90	110	
Sb	121	1	nogas	89.584	2.777	922962	1.45	100	89.6	90	110	CCV Main CR1-2 Failed
Tl	205	1	nogas	96.480	0.429	1715955	2.15	100	96.5	90	110	
Pb	208	1	nogas	108.565	1.079	2434508	1.08	100	108.6	90	110	
U	238	1	nogas	102.717	2.316	2584289	0.56	100	102.7	90	110	
[Pb]	206	1	nogas	94.476	1.550	583136	0.64	100	94.5	90	110	
[Pb]	207	1	nogas	95.593	0.946	537567	1.20	100	95.6	90	110	
Na	23	2	He	10240.269	1.995	2544566	1.34	10000	102.4	90	110	
Mg	24	2	He	9890.925	1.953	1175208	0.88	10000	98.9	90	110	
Al	27	2	He	85.564	2.449	3084	3.00	100	85.6	90	110	CCV Main CR1-2 Failed
K	39	2	He	10253.650	1.661	623149	1.63	10000	102.5	90	110	
Ca	43	2	He	10033.179	1.695	2147	2.85	10000	100.3	90	110	
Ca	44	2	He	9627.576	2.539	36556	3.13	10000	96.3	90	110	
V	51	2	He	98.881	1.163	136629	0.37	100	98.9	90	110	
Cr	52	2	He	98.686	1.784	177537	1.51	100	98.7	90	110	
Mn	55	2	He	96.121	3.007	70204	3.20	100	96.1	90	110	
Fe	56	2	He	9696.067	0.432	13927035	1.02	10000	97.0	90	110	
Co	59	2	He	98.726	1.288	305723	1.28	100	98.7	90	110	
Ni	60	2	He	100.279	1.500	87024	1.25	100	100.3	90	110	
Cu	63	2	He	100.664	2.907	241417	1.88	100	100.7	90	110	
Zn	66	2	He	97.942	0.563	36006	1.71	100	97.9	90	110	
As	75	2	He	98.985	2.508	25762	2.04	100	99.0	90	110	
Se	78	2	He	96.037	5.409	963	5.94	100	96.0	90	110	
B	11	1	nogas	509.911	3.441	1036695	3.36	500	102.0	90	110	
Si	28	1	nogas	4940.511	1.193	25976005	3.39	5000	98.8	90	110	
Ca	43	1	nogas	9783.374	3.441	200657	3.15	10000	97.8	90	110	
Ca	44	1	nogas	9291.804	3.964	3225825	2.94	10000	92.9	90	110	
Fe	56	1	nogas	9420.596	2.810	152952912	2.49	10000	94.2	90	110	
Se	77	1	nogas	-26.318	-109.403	87543	6.82	100	-26.3	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	93.369	4.190	15263	5.02	100	93.4	90	110	
Mo	95	1	nogas	93.051	0.539	374943	2.67	100	93.1	90	110	
Sn	118	1	nogas	96.156	3.676	579412	1.02	100	96.2	90	110	
Ba	137	1	nogas	95.460	3.098	278508	0.40	100	95.5	90	110	
Sb	121	2	He	93.774	2.369	107925	1.24	100	93.8	90	110	
Li	7	1	nogas	97.869	1.008	745611	1.18	100	97.9	90	110	
P	31	1	nogas	475.399	3.855	421028	1.68	500	95.1	90	110	
La	139	1	nogas	118.869	31.262	400	23.85	100	118.9	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-3904.784	-1064.102	23	98.97	100	-3904.8	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	364147	0.79	317621	114.65	70	125	
Ge	72	1	nogas	1707386	2.26	1478633	115.47	70	125	
In	115	1	nogas	1746582	3.06	1539303	113.47	70	125	
Bi	209	1	nogas	1592732	2.15	1532165	103.95	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	132570	1.20	126743	104.60	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	219_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T17:11:10-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.086	36.8	320	35.5	1	
Na	23	1	nogas	218.603	3.4	4761453	1.6	100	CCB Main CR1 Failed
Mg	24	1	nogas	11.947	8.4	115043	6.0	100	
Al	27	1	nogas	0.340	30.5	22040	1.8	5	
K	39	1	nogas	13.509	125.4	5343171	0.8	100	
Ti	47	1	nogas	-0.071	-138.4	307	30.1	2.5	
V	51	1	nogas	1.489	259.8	1885229	4.5	2.5	
Cr	52	1	nogas	-0.637	-28.6	39746	6.4	2.5	
Mn	55	1	nogas	0.395	13.3	18917	1.0	2.5	
Co	59	1	nogas	0.060	35.8	1467	18.9	2.5	
Ni	60	1	nogas	0.866	5.6	3134	1.2	2.5	
Cu	63	1	nogas	-0.051	-40.6	4854	3.1	2.5	
Zn	66	1	nogas	0.454	23.7	1847	11.5	2.5	
As	75	1	nogas	-15.121	-16.5	245239	4.1	2.5	
Sr	88	1	nogas	0.139	11.3	4974	3.7	2.5	
Ag	107	1	nogas	0.042	35.5	1027	16.2	2.5	
Cd	111	1	nogas	0.059	21.1	163	15.4	1	
Sb	121	1	nogas	0.458	25.6	5781	17.8	2.5	
Tl	205	1	nogas	0.267	39.5	5041	35.9	1	
Pb	208	1	nogas	0.086	19.2	2513	14.8	2.5	
U	238	1	nogas	0.079	19.0	2287	14.5	2.5	
[Pb]	206	1	nogas	0.070	22.5	633	13.4	2.5	
[Pb]	207	1	nogas	0.073	23.8	590	15.5	2.5	
Na	23	2	He	228.490	4.2	114240	0.8	100	CCB Main CR1 Failed
Mg	24	2	He	10.789	14.1	1767	8.3	100	
Al	27	2	He	1.300	70.1	93	34.4	5	
K	39	2	He	18.653	45.5	13672	3.7	100	
Ca	43	2	He	-49.745	-52.0	3	173.2	100	
Ca	44	2	He	4.063	92.7	200	5.0	100	
V	51	2	He	0.531	8.7	1135	5.7	2.5	
Cr	52	2	He	-0.284	-17.2	1347	9.1	2.5	
Mn	55	2	He	0.075	43.9	373	9.4	2.5	
Fe	56	2	He	-1.447	-27.4	12875	2.8	100	
Co	59	2	He	0.042	23.2	207	18.3	2.5	
Ni	60	2	He	0.689	12.3	423	19.7	2.5	
Cu	63	2	He	0.215	15.6	783	10.9	2.5	
Zn	66	2	He	0.167	26.4	77	19.9	2.5	
As	75	2	He	-0.024	-214.3	49	28.4	2.5	
Se	78	2	He	-0.018	-1084.6	4	50.0	2.5	
B	11	1	nogas	30.042	0.4	108445	2.8	10	CCB Main CR1 Failed
Si	28	1	nogas	-26.834	-32.1	848823	1.2	5	
Ca	43	1	nogas	23.340	10.3	1177	7.7	100	
Ca	44	1	nogas	-387.966	-2.2	68582	0.6	100	
Fe	56	1	nogas	17.315	32.1	1438929	2.9	100	
Se	77	1	nogas	-43.800	-34.1	80511	6.2	2.5	
Se	82	1	nogas	-0.902	-58.8	420	16.5	2.5	
Mo	95	1	nogas	0.149	49.8	900	29.5	2.5	
Sn	118	1	nogas	0.003	1837.6	1940	16.4	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.054	63.6	713	13.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.318	8.1	520	5.1	2.5	
P	31	1	nogas	13.498	43.6	74728	2.9	10	CCB Main CR1 Failed
La	139	1	nogas	-1.396	-270.6	60	16.7	2.5	
Au	197	1	nogas	-2640.927	-765.9	23	49.5	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	395740	2.58	317621	124.59	70	125	
Ge	72	1	nogas	1656273	3.93	1478633	112.01	70	125	
In	115	1	nogas	1751057	1.52	1539303	113.76	70	125	
Bi	209	1	nogas	1635757	2.19	1532165	106.76	70	125	
Ge	72	2	He	140483	2.67	126743	110.84	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	230_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T17:33:05-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	91.169	3.287	236648	2.61	100	91.2	90	110	
Na	23	1	nogas	10254.733	2.735	112762215	1.63	10000	102.5	90	110	
Mg	24	1	nogas	9974.087	2.514	75009623	1.48	10000	99.7	90	110	
Al	27	1	nogas	96.391	4.604	925276	3.19	100	96.4	90	110	
K	39	1	nogas	9834.403	1.177	86479048	0.70	10000	98.3	90	110	
Ti	47	1	nogas	95.349	3.837	84434	2.51	100	95.3	90	110	
V	51	1	nogas	84.096	4.125	2748935	2.45	100	84.1	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	94.736	2.170	1122380	1.54	100	94.7	90	110	
Mn	55	1	nogas	102.246	1.894	1442841	3.22	100	102.2	90	110	
Co	59	1	nogas	94.467	1.559	1190963	2.29	100	94.5	90	110	
Ni	60	1	nogas	96.927	1.494	268099	0.67	100	96.9	90	110	
Cu	63	1	nogas	96.675	2.438	654618	1.09	100	96.7	90	110	
Zn	66	1	nogas	99.780	1.654	218388	0.76	100	99.8	90	110	
As	75	1	nogas	70.427	5.175	437998	2.83	100	70.4	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	97.587	1.224	1489551	1.10	100	97.6	90	110	
Ag	107	1	nogas	93.919	2.509	841256	1.65	100	93.9	90	110	
Cd	111	1	nogas	97.061	0.574	180137	3.65	100	97.1	90	110	
Sb	121	1	nogas	94.967	1.852	801827	2.37	100	95.0	90	110	
Tl	205	1	nogas	97.871	1.405	1431808	0.93	100	97.9	90	110	
Pb	208	1	nogas	90.112	0.585	2020804	0.58	100	90.1	90	110	
U	238	1	nogas	104.410	1.064	2161674	1.80	100	104.4	90	110	
[Pb]	206	1	nogas	97.305	2.692	494081	1.90	100	97.3	90	110	
[Pb]	207	1	nogas	97.148	2.444	449398	1.71	100	97.1	90	110	
Na	23	2	He	10439.369	3.655	2194894	3.61	10000	104.4	90	110	
Mg	24	2	He	9713.556	1.747	977114	2.81	10000	97.1	90	110	
Al	27	2	He	98.925	6.856	3010	5.76	100	98.9	90	110	
K	39	2	He	8524.660	1.317	520191	1.29	10000	85.2	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	10723.928	9.053	1940	8.25	10000	107.2	90	110	
Ca	44	2	He	9350.041	0.129	30051	1.06	10000	93.5	90	110	
V	51	2	He	97.324	1.389	113829	1.24	100	97.3	90	110	
Cr	52	2	He	96.950	1.381	147672	2.36	100	96.9	90	110	
Mn	55	2	He	96.816	2.658	59854	3.33	100	96.8	90	110	
Fe	56	2	He	9488.872	1.211	11536228	1.58	10000	94.9	90	110	
Co	59	2	He	96.590	3.042	253145	2.61	100	96.6	90	110	
Ni	60	2	He	97.398	2.343	71554	3.47	100	97.4	90	110	
Cu	63	2	He	96.948	1.199	196821	0.11	100	96.9	90	110	
Zn	66	2	He	97.388	1.223	30299	0.20	100	97.4	90	110	
As	75	2	He	95.813	4.335	21113	5.04	100	95.8	90	110	
Se	78	2	He	98.376	5.126	835	5.94	100	98.4	90	110	
B	11	1	nogas	471.965	2.982	818550	2.16	500	94.4	90	110	
Si	28	1	nogas	5060.738	4.322	21767533	2.97	5000	101.2	90	110	
Ca	43	1	nogas	9840.515	1.140	165388	1.76	10000	98.4	90	110	
Ca	44	1	nogas	9289.657	2.204	2642674	0.83	10000	92.9	90	110	
Fe	56	1	nogas	9992.274	1.730	132865420	0.85	10000	99.9	90	110	
Se	77	1	nogas	2.001	877.905	78000	5.92	100	2.0	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	93.806	5.435	12555	4.17	100	93.8	90	110	
Mo	95	1	nogas	95.217	1.566	314260	0.40	100	95.2	90	110	
Sn	118	1	nogas	95.334	3.921	489074	0.72	100	95.3	90	110	
Ba	137	1	nogas	95.557	5.403	237218	1.29	100	95.6	90	110	
Sb	121	2	He	94.310	2.338	91888	2.77	100	94.3	90	110	
Li	7	1	nogas	98.710	2.410	639248	1.49	100	98.7	90	110	
P	31	1	nogas	500.270	3.653	360160	1.82	500	100.1	90	110	
La	139	1	nogas	103.119	25.678	303	19.32	100	103.1	90	110	
Au	197	1	nogas	8936.122	368.849	13	114.56	100	8936.1	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	309693	0.82	317621	97.50	70	125	
Ge	72	1	nogas	1398803	1.38	1478633	94.60	70	125	
In	115	1	nogas	1487463	4.21	1539303	96.63	70	125	
Bi	209	1	nogas	1310180	0.90	1532165	85.51	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	112206	1.11	126743	88.53	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\121
Acq Date Time	2017-12-14T17:35:02-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.109	9.4	330	8.0	1	
Na	23	1	nogas	273.086	2.7	4528083	0.1	100	CCB Main CR1 Failed
Mg	24	1	nogas	11.439	11.0	91844	11.7	100	
Al	27	1	nogas	0.266	21.5	17645	3.8	5	
K	39	1	nogas	50.872	36.4	4746654	1.1	100	
Ti	47	1	nogas	-0.128	-69.4	207	37.0	2.5	
V	51	1	nogas	-4.840	-126.5	1478414	4.5	2.5	
Cr	52	1	nogas	-0.916	-15.0	29868	3.4	2.5	
Mn	55	1	nogas	0.403	11.1	15837	2.2	2.5	
Co	59	1	nogas	0.077	37.0	1437	25.1	2.5	
Ni	60	1	nogas	0.840	6.4	2537	7.8	2.5	
Cu	63	1	nogas	-0.062	-48.5	3964	6.0	2.5	
Zn	66	1	nogas	0.544	4.8	1733	4.1	2.5	
As	75	1	nogas	-17.344	-27.9	197766	5.4	2.5	
Sr	88	1	nogas	0.105	14.6	3624	7.0	2.5	
Ag	107	1	nogas	0.067	28.0	1070	15.4	2.5	
Cd	111	1	nogas	0.070	98.8	153	82.8	1	
Sb	121	1	nogas	0.376	21.7	4147	17.6	2.5	
Tl	205	1	nogas	0.275	38.5	4224	38.5	1	
Pb	208	1	nogas	0.065	17.2	2040	12.3	2.5	
U	238	1	nogas	0.080	19.5	1883	19.0	2.5	
[Pb]	206	1	nogas	0.066	21.8	497	17.4	2.5	
[Pb]	207	1	nogas	0.073	8.3	477	7.9	2.5	
Na	23	2	He	300.923	3.5	108644	2.6	100	CCB Main CR1 Failed
Mg	24	2	He	9.732	23.7	1340	19.2	100	
Al	27	2	He	2.591	22.6	117	17.8	5	
K	39	2	He	3.194	322.4	12751	4.8	100	
Ca	43	2	He	-29.405	-207.8	7	173.2	100	
Ca	44	2	He	19.111	113.3	213	33.9	100	
V	51	2	He	0.432	15.7	808	8.1	2.5	
Cr	52	2	He	-0.126	-53.8	1343	8.2	2.5	
Mn	55	2	He	0.146	38.2	350	12.5	2.5	
Fe	56	2	He	-0.689	-22.8	11467	0.9	100	
Co	59	2	He	0.054	4.3	200	5.0	2.5	
Ni	60	2	He	0.683	8.2	340	10.6	2.5	
Cu	63	2	He	0.258	22.9	730	15.4	2.5	
Zn	66	2	He	0.316	12.1	110	9.1	2.5	
As	75	2	He	-0.005	-1811.2	44	51.0	2.5	
Se	78	2	He	0.296	79.7	6	33.3	2.5	
B	11	1	nogas	17.032	2.9	67383	1.1	10	CCB Main CR1 Failed
Si	28	1	nogas	2.119	202.5	823695	1.5	5	
Ca	43	1	nogas	17.819	71.0	883	22.3	100	
Ca	44	1	nogas	-362.515	-2.3	63685	1.4	100	
Fe	56	1	nogas	1.213	75.1	987934	2.1	100	
Se	77	1	nogas	-47.147	-44.1	66120	5.6	2.5	
Se	82	1	nogas	0.603	132.2	540	17.7	2.5	
Mo	95	1	nogas	0.107	68.7	617	39.1	2.5	
Sn	118	1	nogas	0.021	274.7	1680	19.1	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.067	100.3	617	27.9	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.281	33.7	390	26.0	2.5	
P	31	1	nogas	11.841	25.4	61139	1.5	10	CCB Main CR1 Failed
La	139	1	nogas	4.673	103.7	63	18.2	2.5	CCB Main CR1 Failed
Au	197	1	nogas	23378.831	52.5	7	86.6	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	329890	0.61	317621	103.86	70	125	
Ge	72	1	nogas	1375814	2.07	1478633	93.05	70	125	
In	115	1	nogas	1432166	1.98	1539303	93.04	70	125	
Bi	209	1	nogas	1324905	2.65	1532165	86.47	70	125	
Ge	72	2	He	114796	2.31	126743	90.57	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	236_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T17:45:03-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	90.667	7.291	260632	3.96	100	90.7	90	110	
Na	23	1	nogas	10690.095	3.235	126401386	2.31	10000	106.9	90	110	
Mg	24	1	nogas	10068.513	3.427	81471535	2.81	10000	100.7	90	110	
Al	27	1	nogas	96.761	5.883	1008757	3.10	100	96.8	90	110	
K	39	1	nogas	9794.918	2.763	93593425	0.31	10000	97.9	90	110	
Ti	47	1	nogas	94.976	2.575	91397	0.28	100	95.0	90	110	
V	51	1	nogas	76.552	13.848	2869779	2.93	100	76.6	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	98.181	5.017	1261794	2.95	100	98.2	90	110	
Mn	55	1	nogas	103.822	6.056	1590695	4.62	100	103.8	90	110	
Co	59	1	nogas	94.294	3.582	1291483	2.97	100	94.3	90	110	
Ni	60	1	nogas	96.103	2.797	288814	1.46	100	96.1	90	110	
Cu	63	1	nogas	96.181	1.530	707890	2.17	100	96.2	90	110	
Zn	66	1	nogas	99.062	2.562	235579	1.15	100	99.1	90	110	
As	75	1	nogas	64.652	10.640	458702	1.60	100	64.7	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	96.072	3.874	1592783	1.20	100	96.1	90	110	
Ag	107	1	nogas	95.156	3.428	925924	0.60	100	95.2	90	110	
Cd	111	1	nogas	97.471	1.301	196999	1.21	100	97.5	90	110	
Sb	121	1	nogas	94.012	1.422	862490	1.60	100	94.0	90	110	
Tl	205	1	nogas	97.126	2.134	1572497	1.62	100	97.1	90	110	
Pb	208	1	nogas	98.994	0.699	2219930	0.70	100	99.0	90	110	
U	238	1	nogas	101.172	2.274	2318247	2.90	100	101.2	90	110	
[Pb]	206	1	nogas	95.026	2.571	534018	1.93	100	95.0	90	110	
[Pb]	207	1	nogas	96.290	1.998	492976	1.30	100	96.3	90	110	
Na	23	2	He	10643.601	2.656	2396077	0.61	10000	106.4	90	110	
Mg	24	2	He	9961.712	1.153	1073402	1.07	10000	99.6	90	110	
Al	27	2	He	95.444	3.400	3114	2.09	100	95.4	90	110	
K	39	2	He	9362.761	0.434	570098	0.42	10000	93.6	90	110	
Ca	43	2	He	9781.812	7.591	1900	9.52	10000	97.8	90	110	
Ca	44	2	He	9415.134	6.212	32395	4.19	10000	94.2	90	110	
V	51	2	He	98.079	1.920	122906	2.41	100	98.1	90	110	
Cr	52	2	He	100.011	1.646	163156	2.61	100	100.0	90	110	
Mn	55	2	He	98.329	4.500	65089	2.79	100	98.3	90	110	
Fe	56	2	He	9797.717	2.352	12758665	0.46	10000	98.0	90	110	
Co	59	2	He	99.316	5.081	278733	3.06	100	99.3	90	110	
Ni	60	2	He	99.426	5.189	78204	3.41	100	99.4	90	110	
Cu	63	2	He	100.682	4.085	218902	2.10	100	100.7	90	110	
Zn	66	2	He	99.521	2.978	33167	1.79	100	99.5	90	110	
As	75	2	He	97.066	2.937	22906	1.52	100	97.1	90	110	
Se	78	2	He	100.781	6.879	917	8.84	100	100.8	90	110	
B	11	1	nogas	477.712	2.571	918013	0.85	500	95.5	90	110	
Si	28	1	nogas	5103.511	5.718	23836879	3.34	5000	102.1	90	110	
Ca	43	1	nogas	9950.079	3.851	181613	1.03	10000	99.5	90	110	
Ca	44	1	nogas	9453.902	3.794	2918471	0.99	10000	94.5	90	110	
Fe	56	1	nogas	9930.005	3.924	143466662	3.09	10000	99.3	90	110	
Se	77	1	nogas	-18.710	-103.698	79758	3.09	100	-18.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	92.108	4.572	13402	1.86	100	92.1	90	110	
Mo	95	1	nogas	92.381	1.590	331381	2.36	100	92.4	90	110	
Sn	118	1	nogas	95.829	3.625	535671	1.44	100	95.8	90	110	
Ba	137	1	nogas	95.334	4.226	257958	1.70	100	95.3	90	110	
Sb	121	2	He	95.450	1.435	99653	3.13	100	95.5	90	110	
Li	7	1	nogas	98.671	5.956	707901	2.47	100	98.7	90	110	
P	31	1	nogas	500.042	6.097	391089	3.37	500	100.0	90	110	
La	139	1	nogas	66.296	31.910	233	21.14	100	66.3	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	37547.378	0.000	0	#DIV/0!	100	37547.4	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	343458	3.28	317621	108.13	70	125	
Ge	72	1	nogas	1520297	2.88	1478633	102.82	70	125	
In	115	1	nogas	1619951	2.47	1539303	105.24	70	125	
Bi	209	1	nogas	1449971	0.69	1532165	94.64	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	120224	2.01	126743	94.86	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	237_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T17:47:00-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.112	6.4	377	4.1	1	
Na	23	1	nogas	425.525	3.1	6892268	1.7	100	CCB Main CR1 Failed
Mg	24	1	nogas	10.298	20.9	93318	18.3	100	
Al	27	1	nogas	0.285	8.4	19964	3.0	5	
K	39	1	nogas	42.051	18.2	5237439	0.5	100	
Ti	47	1	nogas	-0.161	-21.2	200	17.3	2.5	
V	51	1	nogas	-13.916	-48.7	1515701	5.0	2.5	
Cr	52	1	nogas	-1.026	-11.5	32082	3.3	2.5	
Mn	55	1	nogas	0.370	9.2	17232	1.2	2.5	
Co	59	1	nogas	0.054	37.6	1283	23.5	2.5	
Ni	60	1	nogas	0.962	9.7	3210	8.3	2.5	
Cu	63	1	nogas	0.044	104.3	5219	5.8	2.5	
Zn	66	1	nogas	0.540	10.7	1930	5.8	2.5	
As	75	1	nogas	-22.003	-19.7	207653	4.4	2.5	
Sr	88	1	nogas	0.117	17.1	4267	7.6	2.5	
Ag	107	1	nogas	0.062	38.4	1147	20.6	2.5	
Cd	111	1	nogas	0.065	31.9	167	25.0	1	
Sb	121	1	nogas	0.506	22.1	5848	18.9	2.5	
Tl	205	1	nogas	0.285	32.3	4851	32.3	1	
Pb	208	1	nogas	0.078	29.1	2337	21.8	2.5	
U	238	1	nogas	0.070	18.0	1870	16.7	2.5	
[Pb]	206	1	nogas	0.074	30.3	597	21.4	2.5	
[Pb]	207	1	nogas	0.091	9.2	620	5.8	2.5	
Na	23	2	He	435.591	3.3	150985	2.2	100	CCB Main CR1 Failed
Mg	24	2	He	7.551	9.1	1227	6.2	100	
Al	27	2	He	3.233	74.7	150	54.6	5	
K	39	2	He	30.193	23.0	14359	2.9	100	
Ca	43	2	He	66.817	42.7	27	21.7	100	
Ca	44	2	He	5.839	235.1	187	26.4	100	
V	51	2	He	0.434	7.3	895	4.7	2.5	
Cr	52	2	He	-0.162	-81.5	1420	15.7	2.5	
Mn	55	2	He	0.134	96.1	377	23.8	2.5	
Fe	56	2	He	-0.727	-10.3	12584	0.7	100	
Co	59	2	He	0.052	71.9	213	51.6	2.5	
Ni	60	2	He	0.725	9.2	410	13.6	2.5	
Cu	63	2	He	0.298	10.4	897	7.9	2.5	
Zn	66	2	He	0.226	22.0	90	19.2	2.5	
As	75	2	He	-0.076	-57.3	31	34.4	2.5	
Se	78	2	He	0.231	90.6	6	33.3	2.5	
B	11	1	nogas	36.136	12.0	112629	3.9	10	CCB Main CR1 Failed
Si	28	1	nogas	-14.191	-12.2	848425	1.2	5	
Ca	43	1	nogas	11.954	29.2	883	6.2	100	
Ca	44	1	nogas	-383.585	-1.8	65160	3.1	100	
Fe	56	1	nogas	-1.510	-409.4	1067702	9.6	100	
Se	77	1	nogas	-66.962	-27.3	69299	4.6	2.5	
Se	82	1	nogas	-0.705	-95.0	420	22.7	2.5	
Mo	95	1	nogas	0.129	31.5	773	20.7	2.5	
Sn	118	1	nogas	-0.011	-14.0	1763	0.9	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	-0.015	-309.4	490	26.8	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.343	14.5	497	11.1	2.5	
P	31	1	nogas	13.508	20.6	69608	0.8	10	CCB Main CR1 Failed
La	139	1	nogas	-5.252	-248.1	47	75.3	2.5	
Au	197	1	nogas	12402.007	231.2	13	114.6	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	367950	3.86	317621	115.85	70	125	
Ge	72	1	nogas	1541152	1.86	1478633	104.23	70	125	
In	115	1	nogas	1666032	0.95	1539303	108.23	70	125	
Bi	209	1	nogas	1470312	1.45	1532165	95.96	70	125	
Ge	72	2	He	126479	0.15	126743	99.79	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	LLCCV5
Data File Name	238LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T17:48:59-06:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	4.411	3.611	13829	2.59	5	88.2	70	130	
Na	23	1	nogas	905.567	4.912	12653832	1.73	500	181.1	70	130	LLICV Main CR1 Failed
Mg	24	1	nogas	558.508	2.053	4644546	1.81	500	111.7	70	130	
Al	27	1	nogas	5.902	3.904	80269	2.31	5	118.0	70	130	
K	39	1	nogas	553.576	3.469	10179872	1.24	500	110.7	70	130	
Ti	47	1	nogas	5.133	4.545	5474	3.66	5	102.7	70	130	
V	51	1	nogas	10.190	76.123	1933452	5.59	5	203.8	70	130	LLICV Main CR1 Failed
Cr	52	1	nogas	4.438	6.688	103238	3.14	5	88.8	70	130	
Mn	55	1	nogas	5.521	1.172	99053	1.75	5	110.4	70	130	
Co	59	1	nogas	4.936	0.493	70728	1.07	5	98.7	70	130	
Ni	60	1	nogas	6.110	0.894	19340	0.81	5	122.2	70	130	
Cu	63	1	nogas	5.279	3.723	45073	2.55	5	105.6	70	130	
Zn	66	1	nogas	6.040	6.732	15520	5.69	5	120.8	70	130	
As	75	1	nogas	-3.115	-197.441	270187	6.20	5	-62.3	70	130	LLICV Main CR1 Failed
Sr	88	1	nogas	4.944	1.358	87377	0.63	5	98.9	70	130	
Ag	107	1	nogas	5.097	2.366	52037	2.75	5	101.9	70	130	
Cd	111	1	nogas	5.411	2.102	11104	2.60	5	108.2	70	130	
Sb	121	1	nogas	4.978	1.557	48521	0.82	5	99.6	70	130	
Tl	205	1	nogas	5.086	2.936	85765	1.01	5	101.7	70	130	
Pb	208	1	nogas	5.463	1.348	123055	1.34	5	109.3	70	130	
U	238	1	nogas	5.127	0.918	122373	1.07	5	102.5	70	130	
[Pb]	206	1	nogas	5.270	2.311	30963	0.91	5	105.4	70	130	
[Pb]	207	1	nogas	5.135	5.241	27473	3.66	5	102.7	70	130	
Na	23	2	He	918.037	2.547	265196	1.16	500	183.6	70	130	LLICV Main CR1 Failed
Mg	24	2	He	523.820	0.992	60237	0.46	500	104.8	70	130	
Al	27	2	He	6.413	1.277	260	0.00	5	128.3	70	130	
K	39	2	He	535.003	2.777	44420	1.99	500	107.0	70	130	
Ca	43	2	He	309.454	70.298	77	58.82	500	61.9	70	130	LLICV Main CR1 Failed
Ca	44	2	He	462.196	11.189	1847	9.84	500	92.4	70	130	
V	51	2	He	5.603	3.198	7755	1.99	5	112.1	70	130	
Cr	52	2	He	4.874	7.751	10056	5.40	5	97.5	70	130	
Mn	55	2	He	5.019	5.537	3797	4.48	5	100.4	70	130	
Fe	56	2	He	485.093	2.854	683270	2.25	500	97.0	70	130	
Co	59	2	He	5.173	3.380	15467	2.72	5	103.5	70	130	
Ni	60	2	He	5.774	7.810	4641	8.89	5	115.5	70	130	
Cu	63	2	He	5.481	1.768	12851	0.94	5	109.6	70	130	
Zn	66	2	He	5.522	8.399	1963	8.68	5	110.4	70	130	
As	75	2	He	4.851	5.415	1262	4.44	5	97.0	70	130	
Se	78	2	He	4.808	26.364	50	24.33	5	96.2	70	130	
B	11	1	nogas	49.957	4.803	142125	2.56	25	199.8	70	130	LLICV Main CR1 Failed
Si	28	1	nogas	264.730	3.548	2171067	1.33	25	1058.9	70	130	LLICV Main CR1 Failed
Ca	43	1	nogas	529.251	2.594	10677	1.68	500	105.9	70	130	
Ca	44	1	nogas	131.667	17.398	221982	2.44	500	26.3	70	130	LLICV Main CR1 Failed
Fe	56	1	nogas	510.094	1.266	8710891	0.54	500	102.0	70	130	
Se	77	1	nogas	-4.334	-538.964	86388	5.96	5	-86.7	70	130	LLICV Main CR1 Failed
Se	82	1	nogas	3.897	30.868	1100	16.44	5	77.9	70	130	
Mo	95	1	nogas	4.812	1.306	18213	1.08	5	96.2	70	130	
Sn	118	1	nogas	4.860	2.025	29222	0.91	5	97.2	70	130	
Ba	137	1	nogas	5.050	3.331	14333	1.56	5	101.0	70	130	
Sb	121	2	He	5.101	5.893	5761	4.81	5	102.0	70	130	
Li	7	1	nogas	5.098	1.621	71925	1.72	5	102.0	70	130	
P	31	1	nogas	42.452	3.723	91226	1.05	25	169.8	70	130	LLICV Main CR1 Failed
La	139	1	nogas	7.446	82.686	80	21.65	5	148.9	70	130	LLICV Main CR1 Failed
Au	197	1	nogas	6933.464	403.637	17	91.65	5	138669.3	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
Li	6	1	nogas	373303	1.04	317621	117.53	70	125	
Ge	72	1	nogas	1578101	0.75	1478633	106.73	70	125	
In	115	1	nogas	1640015	2.04	1539303	106.54	70	125	
Bi	209	1	nogas	1508022	1.96	1532165	98.42	70	125	
Ge	72	2	He	127540	1.08	126743	100.63	70	125	

Sample Report

Sample Table

Sample Name	LLCCV2
Data File Name	239SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T17:50:58-06:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	1.808	1.808	6.50	5838	0.03	2000	
Na	23	1	nogas	500.832	500.832	3.96	7974249	0.01	200000	
Mg	24	1	nogas	215.153	215.153	2.62	1830047	0.01	200000	
Al	27	1	nogas	2.307	2.307	2.95	41814	0.01	2000	
K	39	1	nogas	223.280	223.280	4.51	7041104	0.00	200000	
Ti	47	1	nogas	2.008	2.008	11.74	2354	0.09	2000	
V	51	1	nogas	7.357	7.357	67.32	1881233	0.00	2000	
Cr	52	1	nogas	1.380	1.380	13.92	63589	0.00	2000	
Mn	55	1	nogas	2.395	2.395	2.87	49450	0.00	2000	
Co	59	1	nogas	2.022	2.022	1.42	29177	0.01	2000	
Ni	60	1	nogas	2.746	2.746	4.20	8816	0.03	2000	
Cu	63	1	nogas	2.003	2.003	1.65	20131	0.01	2000	
Zn	66	1	nogas	2.550	2.550	5.99	6901	0.04	2000	
As	75	1	nogas	-7.175	-7.175	-69.24	256786	0.00	2000	
Sr	88	1	nogas	2.024	2.024	4.41	36995	0.01	2000	
Ag	107	1	nogas	1.974	1.974	2.07	20412	0.01	2000	
Cd	111	1	nogas	1.957	1.957	1.04	4122	0.05	2000	
Sb	121	1	nogas	1.979	1.979	3.42	19915	0.01	2000	
Tl	205	1	nogas	2.026	2.026	1.83	33836	0.01	2000	
Pb	208	1	nogas	2.110	2.110	0.98	47885	0.00	2000	
U	238	1	nogas	2.016	2.016	2.76	47652	0.00	2000	
[Pb]	206	1	nogas	1.986	1.986	2.97	11628	0.02	2000	
[Pb]	207	1	nogas	1.982	1.982	1.91	10570	0.02	2000	
Na	23	2	He	534.647	534.647	1.80	177320	0.30	200000	
Mg	24	2	He	207.713	207.713	5.54	24366	0.85	200000	
Al	27	2	He	2.757	2.757	78.38	137	2.02	2000	
K	39	2	He	215.059	215.059	4.15	25367	0.85	200000	
Ca	43	2	He	80.422	80.422	60.19	30	268.07	200000	
Ca	44	2	He	179.132	179.132	21.11	827	21.67	200000	
V	51	2	He	2.474	2.474	3.26	3646	0.07	2000	
Cr	52	2	He	1.988	1.988	6.12	5171	0.04	2000	
Mn	55	2	He	1.952	1.952	6.79	1670	0.12	2000	
Fe	56	2	He	185.373	185.373	1.42	272478	0.07	200000	
Co	59	2	He	2.073	2.073	5.84	6301	0.03	2000	
Ni	60	2	He	2.564	2.564	1.05	1973	0.13	2000	
Cu	63	2	He	2.407	2.407	1.57	5828	0.04	2000	
Zn	66	2	He	2.608	2.608	11.73	943	0.28	2000	
As	75	2	He	1.839	1.839	14.00	516	0.36	2000	
Se	78	2	He	1.868	1.868	22.03	22	8.49	2000	
B	11	1	nogas	31.014	31.014	9.43	106990	0.03	2000	
Si	28	1	nogas	95.924	95.924	4.28	1377389	0.01	2000	
Ca	43	1	nogas	210.691	210.691	2.88	4641	4.54	200000	
Ca	44	1	nogas	-183.728	-183.728	-5.33	126432	-0.15	200000	
Fe	56	1	nogas	210.604	210.604	3.60	4233643	0.00	200000	

Sample Report

Se	77	1	nogas	-20.507	-20.507	-89.53	82078	-0.02	2000	
Se	82	1	nogas	1.792	1.792	39.24	790	0.23	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	1.886	1.886	4.27	7295	0.03	2000	
Sn	118	1	nogas	1.786	1.786	3.70	12134	0.01	2000	
Ba	137	1	nogas	2.056	2.056	2.79	6275	0.03	2000	
Sb	121	2	He	1.909	1.909	6.55	2257	0.08	2000	
La	139	1	nogas	19.134	19.134	42.25	113	16.88	2000	
Au	197	1	nogas	6145.385	6145.385	178.11	17	36872.31	2000	>LDR

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	383580	2.93	317621	120.77	70	125	
Ge	72	1	nogas	1571668	0.81	1478633	106.29	70	125	
In	115	1	nogas	1674865	1.93	1539303	108.81	70	125	
Bi	209	1	nogas	1488745	1.10	1532165	97.17	70	125	
Ge	72	2	He	128907	0.62	126743	101.71	70	125	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	240ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T17:52:56-06:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.017	41.4	83	25.0	0	ICSA Main CR1 Failed
Na	23	1	nogas	108654.115	0.5	1241293594	2.2	0	
Mg	24	1	nogas	107672.543	1.3	852357252	0.5	0	
Al	27	1	nogas	89939.894	1.7	947876173	1.5	0	
K	39	1	nogas	99686.409	1.6	933452354	1.0	0	
Ti	47	1	nogas	2002.188	1.5	1972211	1.5	0	
V	51	1	nogas	-9.476	-7.5	1605992	0.3	0	ICSA Main CR1 Failed
Cr	52	1	nogas	-0.157	-18.2	43595	1.6	0	ICSA Main CR1 Failed
Mn	55	1	nogas	0.563	10.4	20478	3.9	0	ICSA Main CR1 Failed
Co	59	1	nogas	0.072	11.5	1560	7.9	0	ICSA Main CR1 Failed
Ni	60	1	nogas	1.666	9.9	5424	9.1	0	ICSA Main CR1 Failed
Cu	63	1	nogas	0.790	9.5	10887	4.4	0	ICSA Main CR1 Failed
Zn	66	1	nogas	2.156	4.7	5894	3.8	0	ICSA Main CR1 Failed
As	75	1	nogas	-0.205	-933.9	276119	1.7	0	ICSA Main CR1 Failed
Sr	88	1	nogas	0.889	6.1	17445	4.6	0	ICSA Main CR1 Failed
Ag	107	1	nogas	0.016	69.5	703	15.7	0	ICSA Main CR1 Failed
Cd	111	1	nogas	1.311	6.9	2584	7.4	0	ICSA Main CR1 Failed
Sb	121	1	nogas	0.104	20.9	2137	8.8	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.026	38.9	563	29.5	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.081	16.4	2390	12.4	0	ICSA Main CR1 Failed
[Pb]	206	1	nogas	0.077	5.7	583	4.0	0	ICSA Main CR1 Failed
[Pb]	207	1	nogas	0.096	0.5	617	2.5	0	ICSA Main CR1 Failed
Na	23	2	He	103798.016	1.7	23235801	0.2	0	
Mg	24	2	He	100481.360	1.7	10955242	0.1	0	
Al	27	2	He	86042.072	1.2	2807345	2.5	0	
K	39	2	He	95286.460	2.3	5686713	2.3	0	
Ca	43	2	He	98897.122	1.7	19307	0.8	0	
Ca	44	2	He	93216.382	1.9	323423	0.4	0	
V	51	2	He	0.403	4.4	821	1.2	0	ICSA Main CR1 Failed
Cr	52	2	He	0.125	47.1	1833	4.0	0	ICSA Main CR1 Failed
Mn	55	2	He	0.129	114.5	360	29.0	0	ICSA Main CR1 Failed
Fe	56	2	He	97304.757	0.9	128167518	1.2	0	
Co	59	2	He	0.006	277.4	77	66.9	0	ICSA Main CR1 Failed
Ni	60	2	He	0.765	2.4	427	4.9	0	ICSA Main CR1 Failed
Cu	63	2	He	0.567	9.5	1453	6.5	0	ICSA Main CR1 Failed
Zn	66	2	He	1.044	24.0	363	24.8	0	ICSA Main CR1 Failed
As	75	2	He	0.018	286.2	52	22.4	0	ICSA Main CR1 Failed
Se	78	2	He	0.410	189.9	7	95.8	0	ICSA Main CR1 Failed
B	11	1	nogas	26.165	4.0	93416	1.5	0	
Si	28	1	nogas	72.979	13.9	1261946	2.9	0	
Ca	43	1	nogas	100103.755	2.1	1871324	1.3	0	
Ca	44	1	nogas	98834.466	1.3	29644635	0.8	0	
Fe	56	1	nogas	95731.798	1.1	1411354498	0.9	0	
Se	77	1	nogas	17.491	34.6	90788	0.8	0	
Se	82	1	nogas	-0.720	-70.9	423	17.1	0	ICSA Main CR1 Failed
Mo	95	1	nogas	1974.363	1.4	7267614	1.6	0	
Sn	118	1	nogas	-0.085	-63.5	1257	24.0	0	ICSA Main CR1 Failed
Ba	137	1	nogas	0.010	152.0	523	7.2	0	ICSA Main CR1 Failed
Sb	121	2	He	0.172	42.2	297	26.2	0	ICSA Main CR1 Failed

Interference Check Solution A (ICS-A) Report

P	31	1	nogas	93156.956	1.1	63507762	0.3	0	
La	139	1	nogas	79.807	15.0	260	11.5	0	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	368957	1.61	317621	116.16	70	125	
Ge	72	1	nogas	1561157	0.81	1478633	105.58	70	125	
In	115	1	nogas	1560912	1.04	1539303	101.40	70	125	
Bi	209	1	nogas	1397842	2.80	1532165	91.23	70	125	
Ge	72	2	He	121687	1.57	126743	96.01	70	125	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	241ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\121
Acq Date Time	2017-12-14T17:55:00-06:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	84.518	0.622	248025	2.57	100	84.5	80	120	
Na	23	1	nogas	119787.424	0.515	1375434631	1.17	100	119787.4	80	120	
Mg	24	1	nogas	119520.380	1.189	951346388	2.27	100	119520.4	80	120	
Al	27	1	nogas	90302.418	4.598	936004919	2.49	100	90302.4	80	120	ICSB Main CR1 Failed
K	39	1	nogas	109827.198	4.454	1011034256	2.48	100	109827.2	80	120	
Ti	47	1	nogas	2135.563	5.289	2068612	3.16	100	2135.6	80	120	ICSB Main CR1 Failed
V	51	1	nogas	58.169	11.866	2619087	2.12	100	58.2	80	120	ICSB Main CR1 Failed
Cr	52	1	nogas	82.990	4.604	1084921	2.29	100	83.0	80	120	
Mn	55	1	nogas	89.426	7.298	1386016	5.47	100	89.4	80	120	
Co	59	1	nogas	82.854	1.968	1146973	0.37	100	82.9	80	120	
Ni	60	1	nogas	86.707	5.568	263268	3.43	100	86.7	80	120	
Cu	63	1	nogas	85.677	4.189	637517	2.09	100	85.7	80	120	
Zn	66	1	nogas	89.766	2.444	215806	0.37	100	89.8	80	120	
As	75	1	nogas	69.843	8.892	479079	2.08	100	69.8	80	120	ICSB Main CR1 Failed
Sr	88	1	nogas	88.759	5.301	1487235	3.18	100	88.8	80	120	
Ag	107	1	nogas	80.564	2.820	792531	1.34	100	80.6	80	120	
Cd	111	1	nogas	90.454	0.920	176306	0.69	100	90.5	80	120	
Sb	121	1	nogas	85.781	2.458	795381	1.79	100	85.8	80	120	
Tl	205	1	nogas	90.017	3.442	1413254	1.21	100	90.0	80	120	
Pb	208	1	nogas	86.978	0.541	1950550	0.54	100	87.0	80	120	
U	238	1	nogas	96.244	1.394	2139013	1.90	100	96.2	80	120	
[Pb]	206	1	nogas	87.571	2.799	477278	0.45	100	87.6	80	120	
[Pb]	207	1	nogas	86.916	3.309	431520	0.90	100	86.9	80	120	
Na	23	2	He	117190.534	1.301	25973522	0.56	100	117190.5	80	120	ICSB Main CR1 Failed
Mg	24	2	He	113692.387	1.273	12276819	1.85	100	113692.4	80	120	ICSB Main CR1 Failed
Al	27	2	He	90517.604	1.761	2924248	2.03	100	90517.6	80	120	ICSB Main CR1 Failed
K	39	2	He	106962.146	1.596	6381981	1.59	100	106962.1	80	120	
Ca	43	2	He	105482.392	1.648	20391	0.86	100	105482.4	80	120	ICSB Main CR1 Failed
Ca	44	2	He	102079.411	1.751	350728	0.96	100	102079.4	80	120	
V	51	2	He	89.873	1.103	112903	0.34	100	89.9	80	120	
Cr	52	2	He	90.215	1.015	147671	1.61	100	90.2	80	120	
Mn	55	2	He	87.591	2.761	58166	2.22	100	87.6	80	120	
Fe	56	2	He	109395.448	3.504	142680738	3.33	100	109395.4	80	120	ICSB Main CR1 Failed
Co	59	2	He	89.125	3.669	250869	3.69	100	89.1	80	120	
Ni	60	2	He	88.880	4.994	70078	4.47	100	88.9	80	120	
Cu	63	2	He	88.149	1.392	192201	0.60	100	88.1	80	120	
Zn	66	2	He	88.240	1.496	29484	1.59	100	88.2	80	120	
As	75	2	He	89.670	1.353	21218	1.11	100	89.7	80	120	
Se	78	2	He	86.096	7.000	785	6.99	100	86.1	80	120	
B	11	1	nogas	453.869	4.757	890695	1.52	100	453.9	80	120	
Si	28	1	nogas	4498.036	4.123	21347063	2.07	100	4498.0	80	120	ICSB Main CR1 Failed
Ca	43	1	nogas	114039.857	0.811	2098224	2.64	100	114039.9	80	120	ICSB Main CR1 Failed
Ca	44	1	nogas	110719.948	1.448	32657935	1.66	100	110719.9	80	120	
Fe	56	1	nogas	106229.093	6.688	1539952134	5.02	100	106229.1	80	120	
Se	77	1	nogas	43.303	58.975	95453	4.45	100	43.3	80	120	ICSB Main CR1 Failed
Se	82	1	nogas	87.439	3.504	12888	1.88	100	87.4	80	120	
Mo	95	1	nogas	2119.604	5.055	7673214	3.20	100	2119.6	80	120	ICSB Main CR1 Failed
Sn	118	1	nogas	90.643	1.579	488923	1.92	100	90.6	80	120	
Ba	137	1	nogas	88.547	1.974	231196	1.54	100	88.5	80	120	
Sb	121	2	He	87.104	2.996	91141	3.01	100	87.1	80	120	
La	139	1	nogas	282.602	13.448	777	13.03	100	282.6	80	120	ICSB Main CR1 Failed

QC ISTD Table

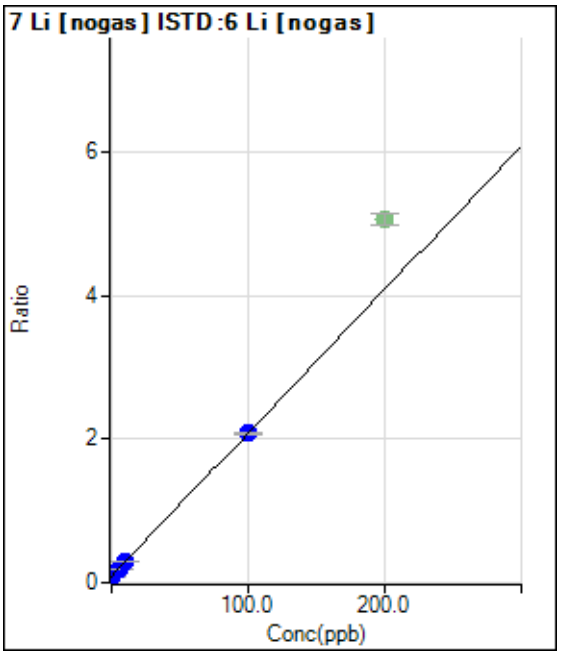
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	350116	3.20	317621	110.23	70	125	
Ge	72	1	nogas	1536332	2.10	1478633	103.90	70	125	
In	115	1	nogas	1562064	1.61	1539303	101.48	70	125	
Bi	209	1	nogas	1406693	2.45	1532165	91.81	70	125	
Ge	72	2	He	120495	0.80	126743	95.07	70	125	

Calibration for 011_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\121417A.b\
Analysis File: 121417A.batch.bin
DA Date-Time: 2017-12-14 13:49:24
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	004CALB.d	CAL BLK	2017-12-14 09:25:04
2	005CALS.d	2/10/200	2017-12-14 09:27:03
3	006CALS.d	5/25/500	2017-12-14 09:29:02
4	007CALS.d	10/50/1000	2017-12-14 09:31:01
5	008CALS.d	100/500/10K	2017-12-14 09:33:00
6	009CALS.d	200/1000/20K	2017-12-14 09:34:57
7			

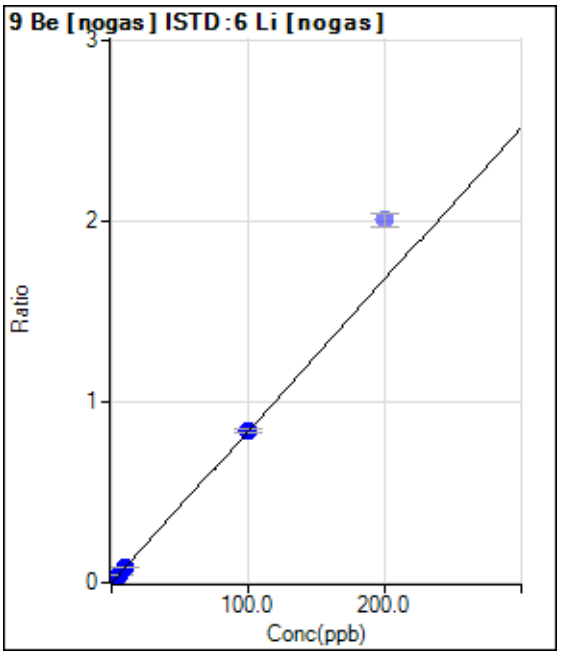
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	28819.07	0.0907	P	5.5
2	☐	2.000	1.687	39127.41	0.1245	P	1.7
3	☐	5.000	4.671	57936.18	0.1841	P	5.6
4	☐	10.000	10.060	90034.57	0.2919	P	1.4
5	☐	100.000	100.017	602226.71	2.0905	P	1.3
6	☑	200.000		1251648.24	5.0580	A	3.1
7	☐	1.000					

y = 0.0200 * x + 0.0907
R = 1.0000
DL = 0.7478
BEC = 4.538

Weight: <None>
Min Conc: <None>

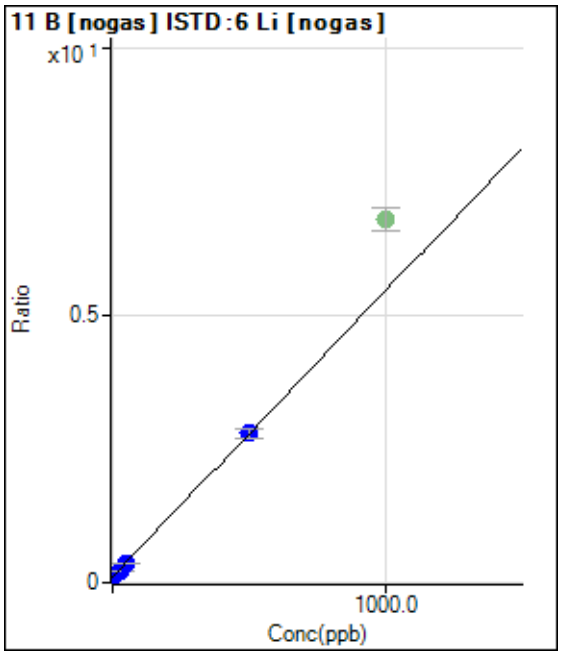


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26.67	0.0001	P	142.
2	☐	2.000	2.103	5567.60	0.0177	P	2.8
3	☐	5.000	4.653	12304.25	0.0391	P	9.5
4	☐	10.000	9.929	25697.64	0.0833	P	4.2
5	☐	100.000	100.022	241385.14	0.8385	P	3.5
6	☑	200.000		495882.08	2.0046	P	3.7
7	☐	1.000					

y = 0.0084 * x + 8.3999E-005
R = 1.0000
DL = 0.04276
BEC = 0.01002

Weight: <None>
Min Conc: <None>

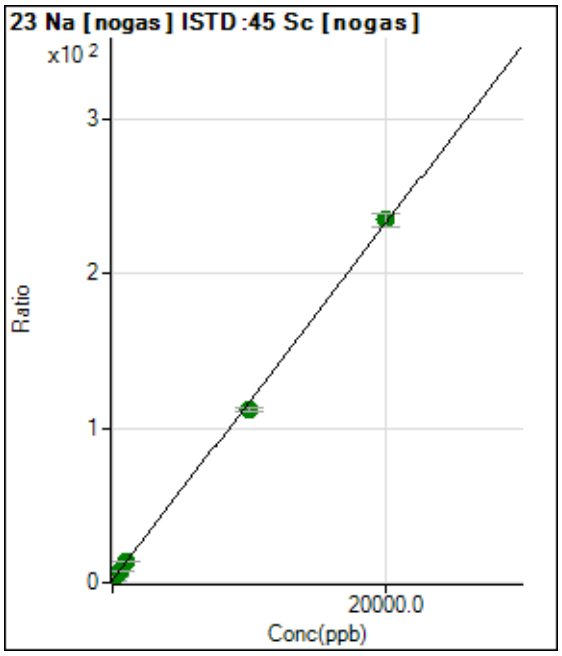
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	35871.08	0.1129	P	1.8
2	☐	10.000	9.066	50774.83	0.1616	P	2.3
3	☐	25.000	21.660	72076.58	0.2291	P	1.7
4	☐	50.000	46.692	112053.40	0.3633	P	1.0
5	☐	500.000	500.516	804314.18	2.7966	P	7.0
6	☑	1000.000		1680373.52	6.7946	A	6.4
7	☐	5.000					

y = 0.0054 * x + 0.1129
R = 1.0000
DL = 1.158
BEC = 21.06

Weight: <None>
Min Conc: <None>

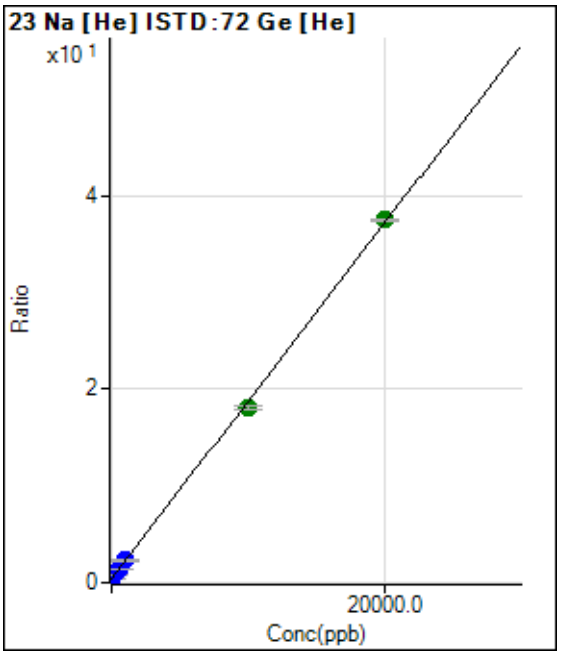


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1681525.04	1.7628	A	3.1
2	☐	200.000	188.006	3788458.55	3.9309	A	1.0
3	☐	500.000	474.432	7038279.06	7.2339	A	0.4
4	☐	1000.000	1016.655	13100336.23	13.4867	A	4.5
5	☐	10000.00	9574.983	107708948.2	112.180	A	1.9
6	☐	20000.00	20212.435	222142804.9	234.849	A	3.4
7	☐	100.000					

y = 0.0115 * x + 1.7628
R = 0.9997
DL = 14.29
BEC = 152.9

Weight: <None>
Min Conc: <None>

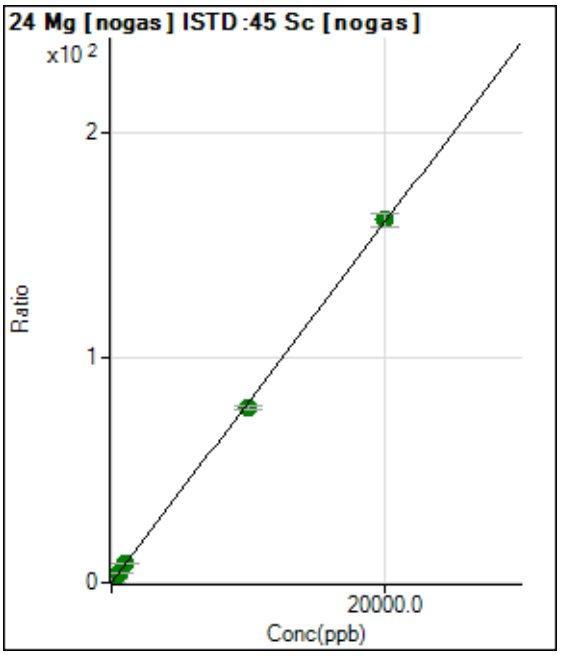
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	49936.03	0.3940	P	0.8
2	☐	200.000	203.224	96667.15	0.7671	P	3.0
3	☐	500.000	510.035	170698.11	1.3304	P	3.2
4	☐	1000.000	1029.108	300080.96	2.2835	P	4.9
5	☐	10000.00	9623.540	2334400.33	18.0640	A	1.6
6	☐	20000.00	20186.492	4642054.93	37.4590	A	0.2
7	☐	100.000					

y = 0.0018 * x + 0.3940
R = 0.9997
DL = 4.849
BEC = 214.6

Weight: <None>
Min Conc: <None>

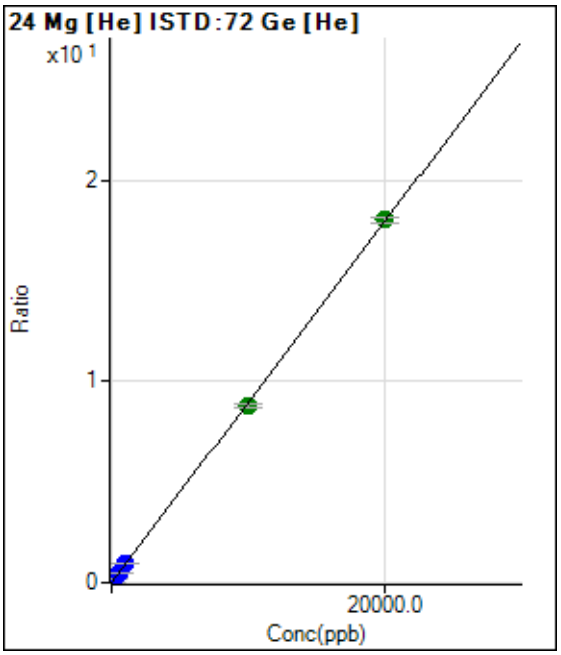


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7602.87	0.0080	P	20.6
2	☐	200.000	201.567	1562348.34	1.6212	A	1.1
3	☐	500.000	502.128	3918088.24	4.0267	A	2.3
4	☐	1000.000	1043.943	8124185.34	8.3632	A	3.9
5	☐	10000.00	9709.472	74627545.42	77.7177	A	1.7
6	☐	20000.00	20142.998	152520590.9	161.222	A	3.7
7	☐	100.000					

y = 0.0080 * x + 0.0080
R = 0.9998
DL = 0.6158
BEC = 0.9946

Weight: <None>
Min Conc: <None>

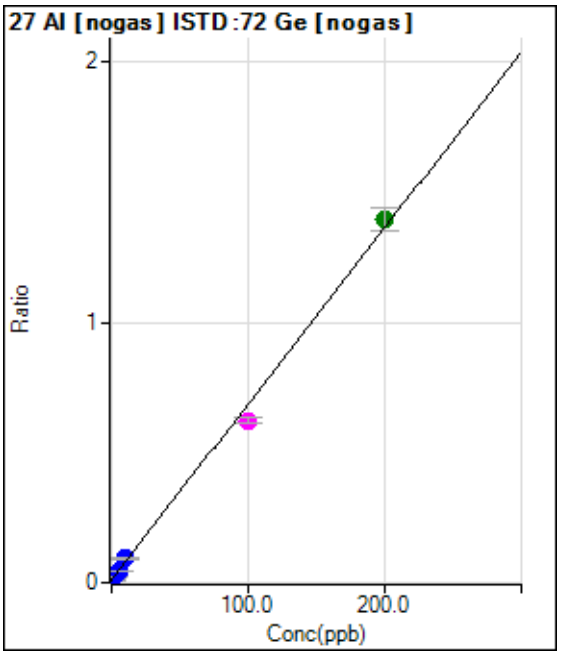
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	373.35	0.0029	P	31.8
2	☐	200.000	205.489	23575.15	0.1871	P	4.2
3	☐	500.000	512.450	59313.27	0.4621	P	1.3
4	☐	1000.000	1033.793	122132.99	0.9293	P	4.5
5	☐	10000.00	9778.807	1132789.72	8.7657	A	1.7
6	☐	20000.00	20108.541	2233252.05	18.0221	A	1.8
7	☐	100.000					

y = 8.9610E-004 * x + 0.0029
R = 0.9999
DL = 3.127
BEC = 3.273

Weight: <None>
Min Conc: <None>

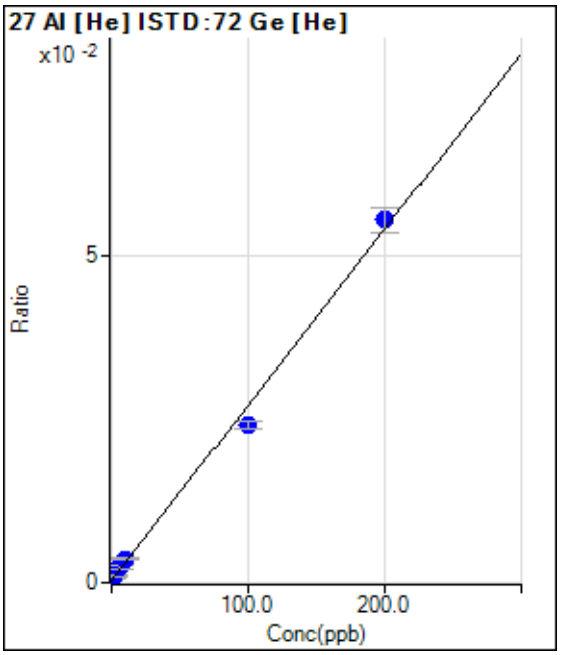


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16297.31	0.0110	P	6.6
2	☐	2.000	1.708	32246.00	0.0226	P	3.3
3	☐	5.000	5.414	69308.17	0.0476	P	0.7
4	☐	10.000	12.205	133878.13	0.0934	P	3.4
5	☐	100.000	90.515	938706.37	0.6221	M	4.2
6	☐	200.000	204.625	1946534.19	1.3924	A	6.4
7	☐	1.000					

y = 0.0068 * x + 0.0110
R = 0.9983
DL = 0.3211
BEC = 1.633

Weight: <None>
Min Conc: <None>

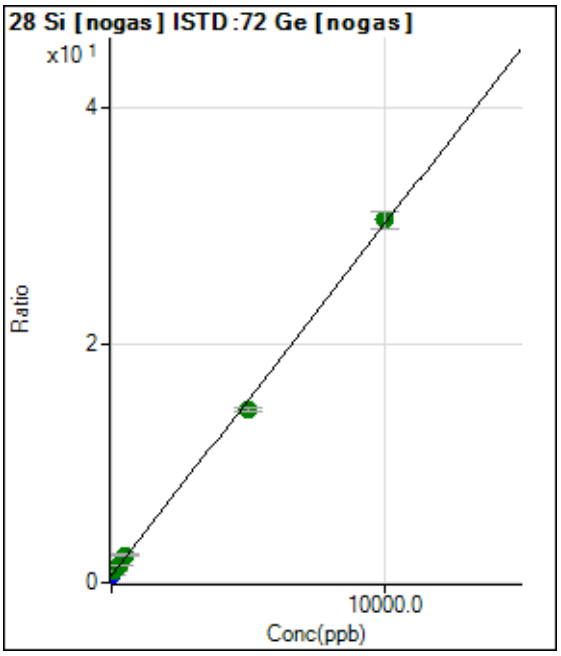
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.670	63.33	0.0005	P	17.3
2	☐	2.000	2.256	116.67	0.0009	P	34.2
3	☐	5.000	7.677	306.67	0.0024	P	28.3
4	☐	10.000	12.205	473.35	0.0036	P	6.4
5	☐	100.000	88.742	3116.97	0.0241	P	5.6
6	☐	200.000	205.449	6864.70	0.0554	P	7.1
7	☐	1.000					

y = 2.6810E-004 * x + 3.1942E-004
R = 0.9975
DL = 0.9672
BEC = 1.191

Weight: <None>
Min Conc: <None>

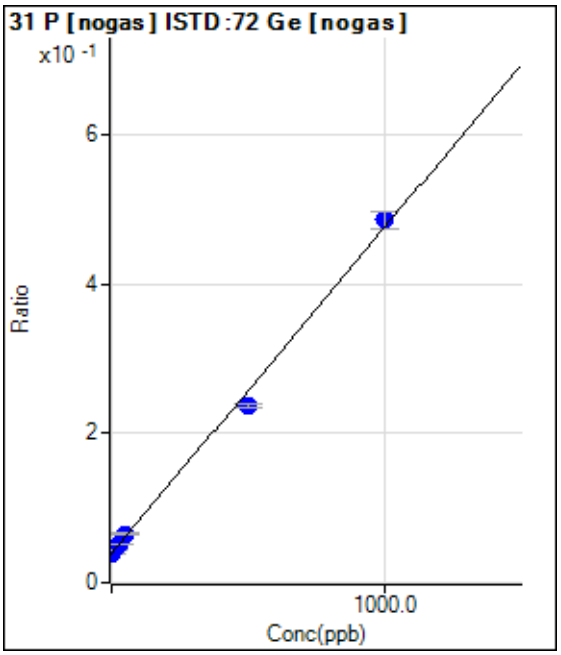


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	875902.85	0.5926	P	2.4
2	☐	100.000	141.368	1444928.10	1.0109	A	2.1
3	☐	250.000	302.068	2165355.75	1.4864	A	0.4
4	☐	500.000	587.563	3340531.72	2.3311	A	3.9
5	☐	5000.000	4741.683	22069426.34	14.6230	A	2.3
6	☐	10000.00	10123.065	42718266.03	30.5462	A	4.7
7	☐	5.000					

y = 0.0030 * x + 0.5926
R = 0.9994
DL = 14.14
BEC = 200.3

Weight: <None>
Min Conc: <None>

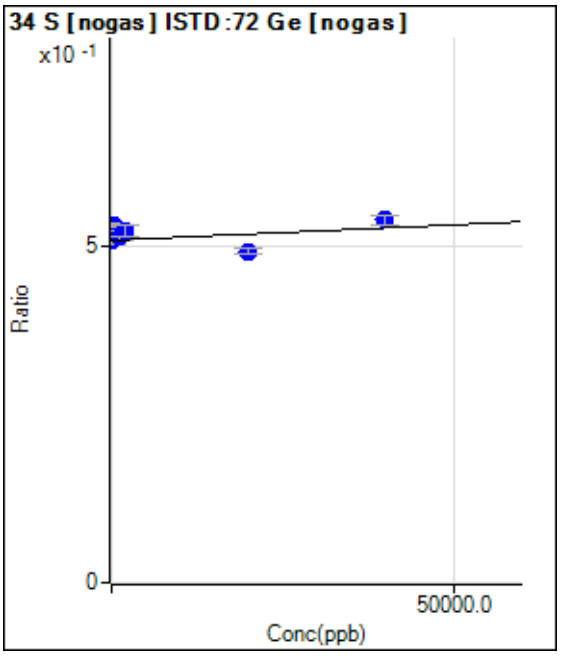
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	58086.21	0.0393	P	1.1
2	☐	10.000	11.262	63182.44	0.0442	P	2.2
3	☐	25.000	27.270	74547.09	0.0512	P	2.0
4	☐	50.000	58.875	93121.84	0.0650	P	2.4
5	☐	500.000	452.538	357239.94	0.2367	P	1.9
6	☐	1000.000	1023.218	679234.23	0.4857	P	4.7
7	☐	5.000					

y = 4.3628E-004 * x + 0.0393
R = 0.9983
DL = 2.877
BEC = 90.05

Weight: <None>
Min Conc: <None>

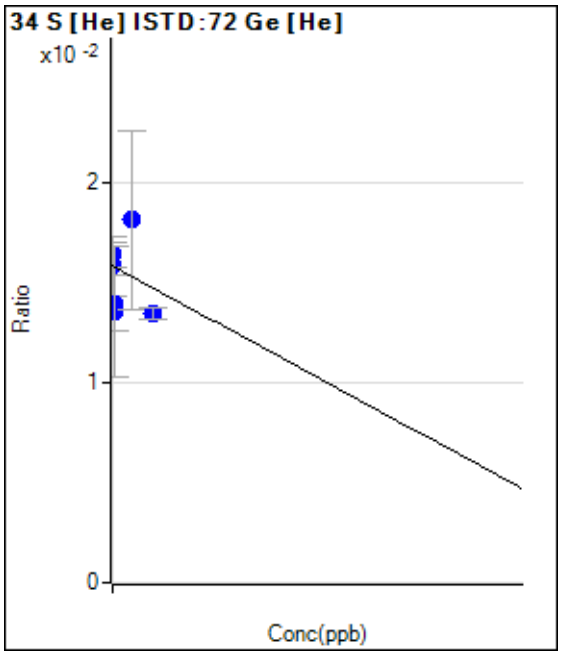


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	750532.32	0.5078	P	2.8
2	☐	400.000	50583.968	759025.78	0.5310	P	0.9
3	☐	1000.000	13051.961	748179.36	0.5138	P	2.9
4	☐	2000.000	30356.594	747656.02	0.5217	P	3.4
5	☐	20000.00	-35879.27	741427.75	0.4913	P	1.9
6	☐	40000.00	65718.667	752733.04	0.5380	P	2.7
7	☐	100.000					

y = 4.5961E-007 * x + 0.5078
R = 0.2329
DL = 9.215E+04
BEC = 1.105E+06

Weight: <None>
Min Conc: <None>

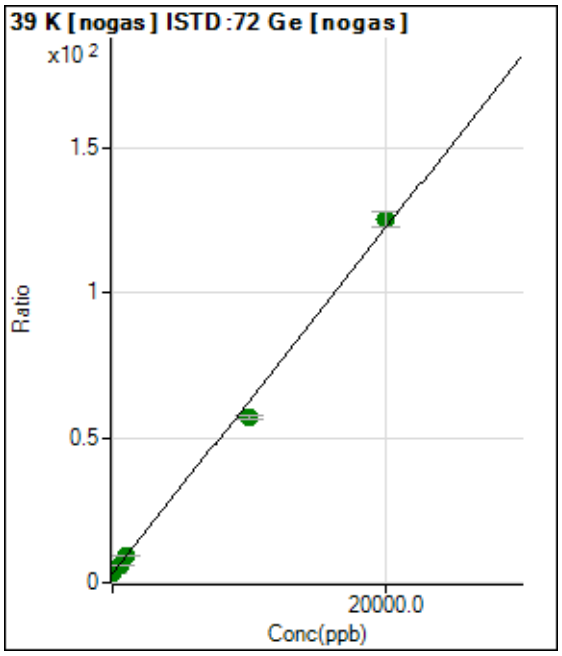
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2000.61	0.0158	P	19.1
2	☐	400.000	-21081.76	2067.23	0.0164	P	7.3
3	☐	1000.000	84408.880	1733.81	0.0135	P	48.6
4	☐	2000.000	67861.904	1833.78	0.0140	P	19.6
5	☐	20000.00	-84412.14	2334.14	0.0181	P	49.0
6	☐	40000.00	87042.571	1667.06	0.0135	P	4.0
7	☐	100.000					

y = -2.7254E-008 * x + 0.0158
R = -0.1047
DL = -3.33E+05
BEC = -5.807E+05

Weight: <None>
Min Conc: <None>

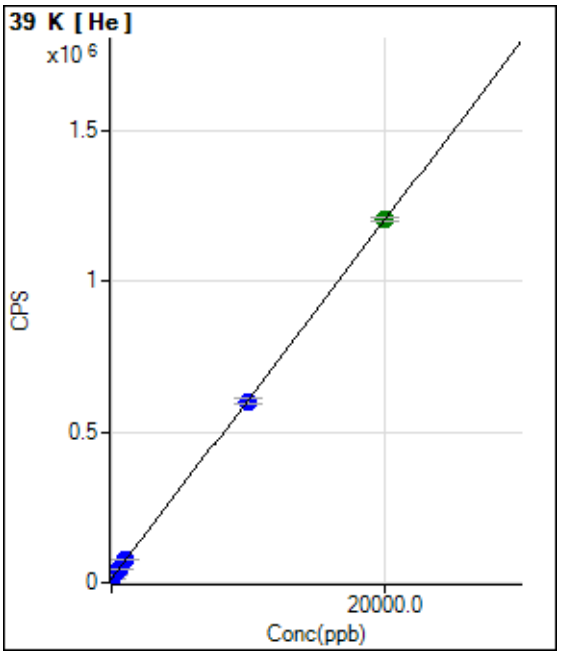


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4653435.39	3.1480	A	2.5
2	☐	200.000	223.731	6407989.20	4.4830	A	0.1
3	☐	500.000	503.729	8960286.66	6.1538	A	3.8
4	☐	1000.000	1045.252	13450004.47	9.3850	A	2.8
5	☐	10000.00	9040.548	86160795.68	57.0922	A	2.5
6	☐	20000.00	20477.133	175299245.5	125.333	A	4.2
7	☐	100.000					

y = 0.0060 * x + 3.1480
R = 0.9984
DL = 38.78
BEC = 527.6

Weight: <None>
Min Conc: <None>

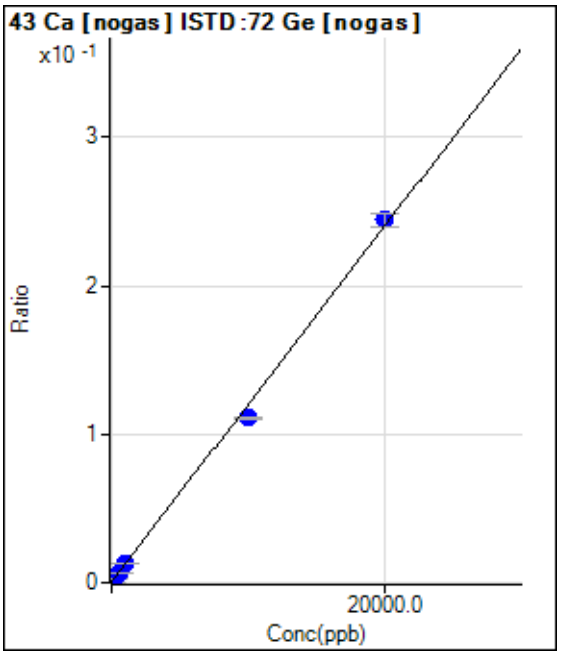
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	12561.06		P	4.4
2	☐	200.000	208.837	24996.98		P	1.9
3	☐	500.000	513.739	43153.37		P	2.6
4	☐	1000.000	1091.710	77570.62		P	1.5
5	☐	10000.00	9925.296	603596.12		P	2.8
6	☐	20000.00	20032.335	1205453.68		A	1.2
7	☐	100.000					

y = 59.5484 * x + 12561.0567
R = 1.0000
DL = 28.11
BEC = 210.9

Weight: <None>
Min Conc: <None>

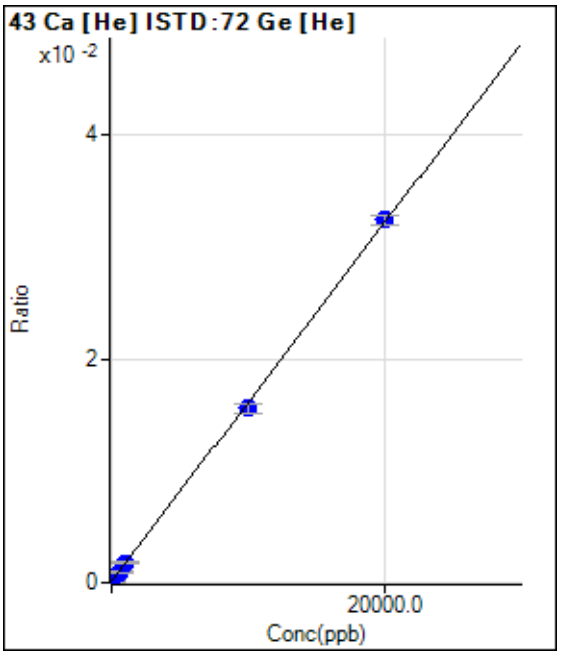


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	636.69	0.0004	P	16.2
2	☐	200.000	218.486	4353.90	0.0030	P	0.9
3	☐	500.000	518.054	9659.33	0.0066	P	2.5
4	☐	1000.000	1071.294	19000.04	0.0133	P	1.5
5	☐	10000.00	9253.804	167831.21	0.1112	P	1.4
6	☐	20000.00	20368.897	341699.11	0.2443	P	3.6
7	☐	100.000					

y = 1.1971E-005 * x + 4.3042E-004
R = 0.9990
DL = 17.46
BEC = 35.95

Weight: <None>
Min Conc: <None>

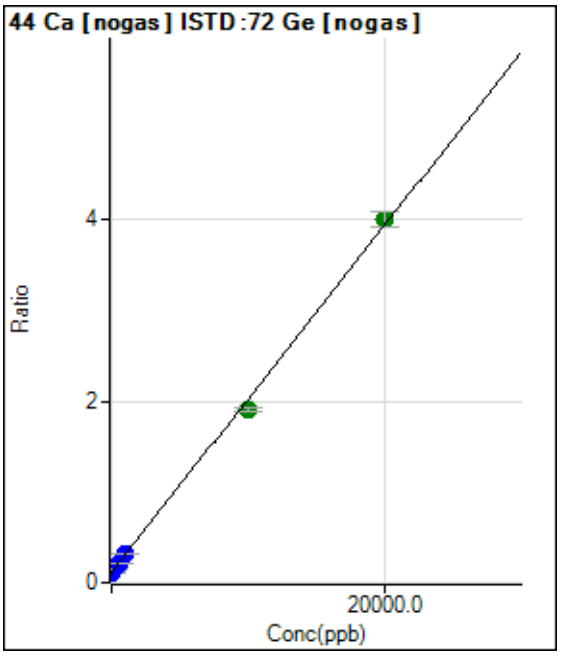
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13.33	0.0001	P	113.
2	☐	200.000	282.471	70.00	0.0006	P	25.8
3	☐	500.000	487.582	113.33	0.0009	P	16.3
4	☐	1000.000	1058.738	236.67	0.0018	P	10.4
5	☐	10000.00	9653.031	2013.48	0.0156	P	5.9
6	☐	20000.00	20170.033	4020.52	0.0324	P	2.8
7	☐	100.000					

y = 1.6035E-006 * x + 1.0372E-004
R = 0.9998
DL = 219.6
BEC = 64.68

Weight: <None>
Min Conc: <None>

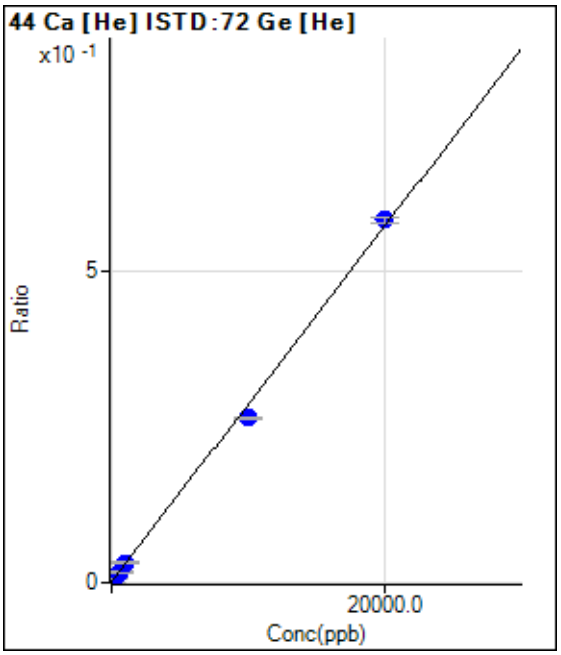


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	170807.09	0.1155	P	1.9
2	☐	200.000	218.571	224817.63	0.1573	P	2.4
3	☐	500.000	509.338	309878.98	0.2128	P	3.5
4	☐	1000.000	1087.248	463147.16	0.3232	P	2.9
5	☐	10000.00	9353.653	2869963.71	1.9018	A	1.8
6	☐	20000.00	20318.392	5588725.33	3.9957	A	4.3
7	☐	100.000					

y = 1.9097E-004 * x + 0.1155
R = 0.9992
DL = 35.32
BEC = 605

Weight: <None>
Min Conc: <None>

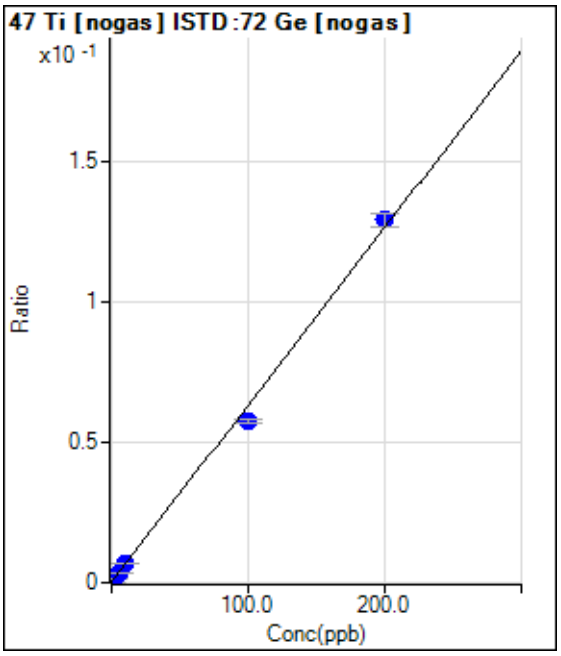
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	166.67	0.0013	P	34.2
2	☐	200.000	208.380	913.38	0.0072	P	8.9
3	☐	500.000	539.438	2143.50	0.0167	P	5.3
4	☐	1000.000	1072.556	4187.21	0.0319	P	7.0
5	☐	10000.00	9244.032	34218.36	0.2648	P	1.0
6	☐	20000.00	20373.286	72129.83	0.5820	P	1.6
7	☐	100.000					

y = 2.8504E-005 * x + 0.0013
R = 0.9990
DL = 47.2
BEC = 45.95

Weight: <None>
Min Conc: <None>

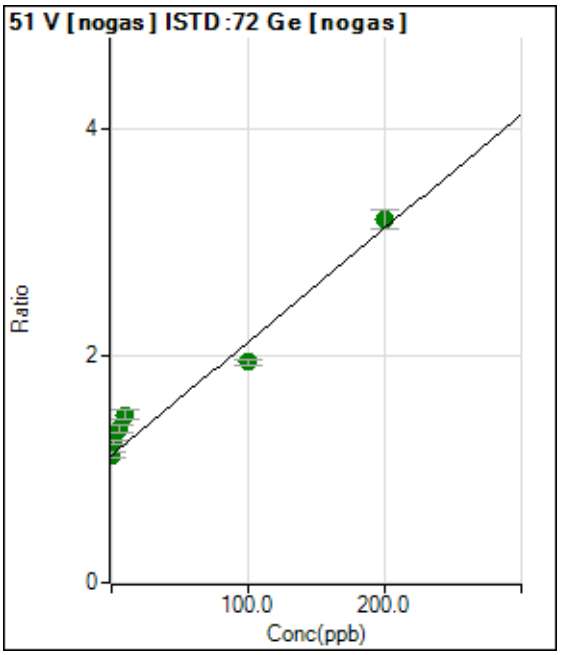


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	343.34	0.0002	P	29.1
2	☐	2.000	1.922	2063.53	0.0014	P	8.3
3	☐	5.000	4.869	4810.72	0.0033	P	2.7
4	☐	10.000	10.360	9696.04	0.0068	P	4.6
5	☐	100.000	90.840	86837.01	0.0575	P	1.7
6	☐	200.000	204.566	180844.79	0.1293	P	3.7
7	☐	1.000					

y = 6.3085E-004 * x + 2.3132E-004
R = 0.9985
DL = 0.3202
BEC = 0.3667

Weight: <None>
Min Conc: <None>

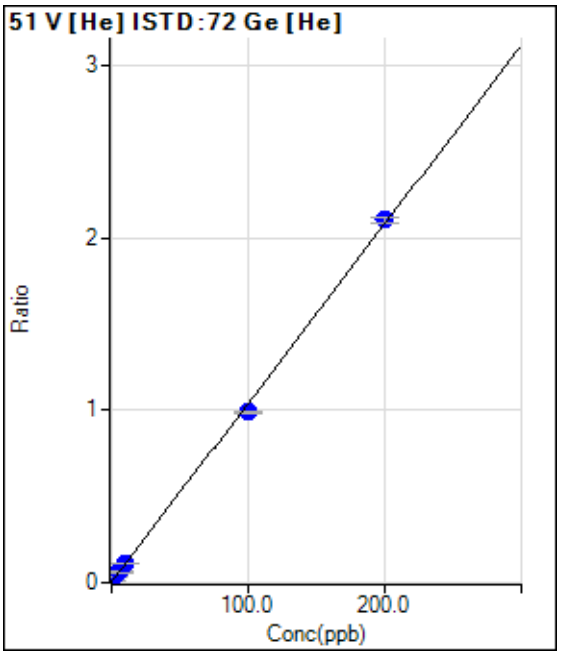
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1661966.35	1.1236	A	5.3
2	☐	2.000	11.390	1768997.11	1.2376	A	3.5
3	☐	5.000	23.739	1981813.26	1.3611	A	5.0
4	☐	10.000	35.671	2121199.85	1.4805	A	5.4
5	☐	100.000	81.907	2932659.89	1.9432	A	2.8
6	☐	200.000	207.201	4470533.56	3.1971	A	5.2
7	☐	1.000					

y = 0.0100 * x + 1.1236
R = 0.9829
DL = 17.78
BEC = 112.3

Weight: <None>
Min Conc: <None>

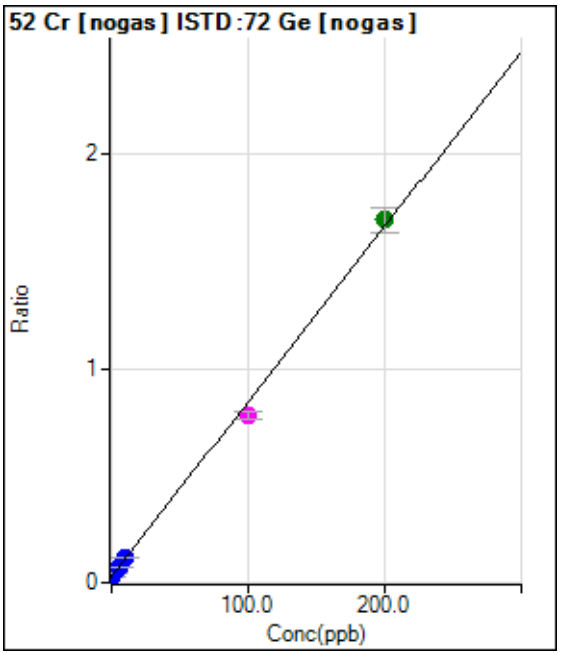


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.623	1145.37	0.0090	P	6.9
2	☐	2.000	2.652	3797.07	0.0301	P	4.2
3	☐	5.000	5.693	7921.70	0.0618	P	4.5
4	☐	10.000	10.561	14757.90	0.1124	P	7.0
5	☐	100.000	95.047	128031.56	0.9909	P	1.4
6	☐	200.000	202.425	261167.62	2.1074	P	1.8
7	☐	1.000					

y = 0.0104 * x + 0.0026
R = 0.9995
DL = 0.18
BEC = 0.2463

Weight: <None>
Min Conc: <None>

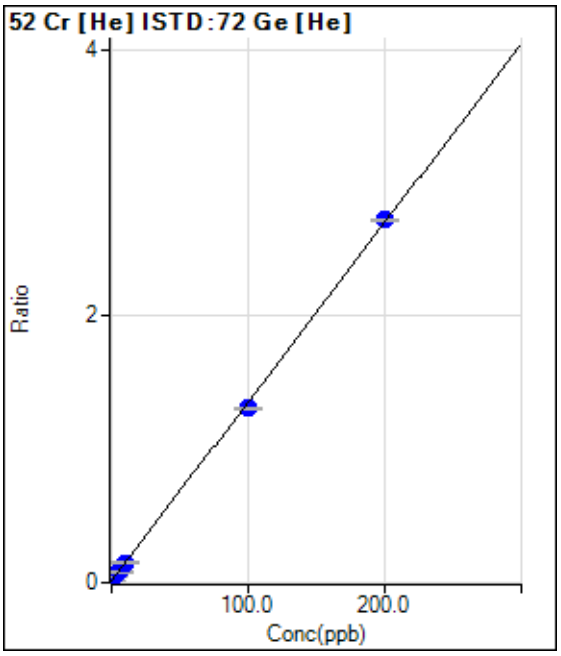
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43184.05	0.0292	P	1.6
2	☐	2.000	2.108	66335.80	0.0464	P	4.0
3	☐	5.000	5.591	108982.55	0.0748	P	3.2
4	☐	10.000	10.945	169879.64	0.1185	P	3.2
5	☐	100.000	92.096	1178599.15	0.7809	M	4.9
6	☐	200.000	203.889	2366919.65	1.6934	A	7.0
7	☐	1.000					

y = 0.0082 * x + 0.0292
R = 0.9989
DL = 0.1766
BEC = 3.578

Weight: <None>
Min Conc: <None>

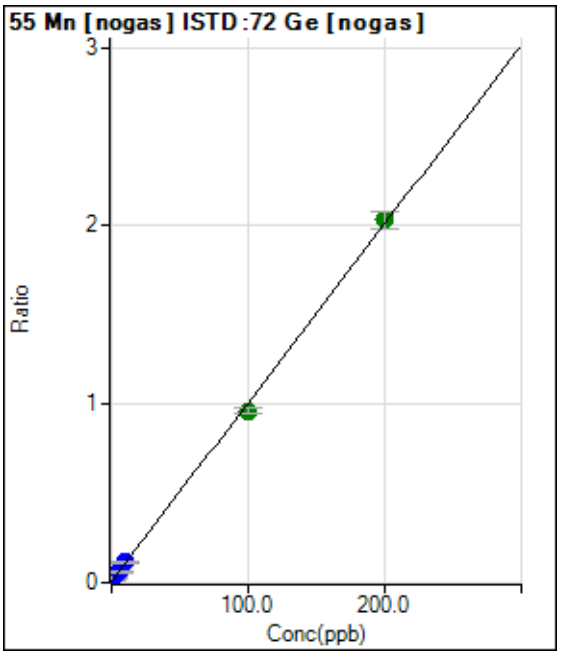


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1696.78	0.0134	P	6.6
2	☐	2.000	1.981	5044.11	0.0400	P	1.9
3	☐	5.000	4.918	10196.30	0.0795	P	3.6
4	☐	10.000	10.234	19830.92	0.1509	P	5.9
5	☐	100.000	96.615	169464.61	1.3115	P	1.2
6	☐	200.000	201.683	337452.59	2.7231	P	0.8
7	☐	1.000					

y = 0.0134 * x + 0.0134
R = 0.9998
DL = 0.1961
BEC = 0.9973

Weight: <None>
Min Conc: <None>

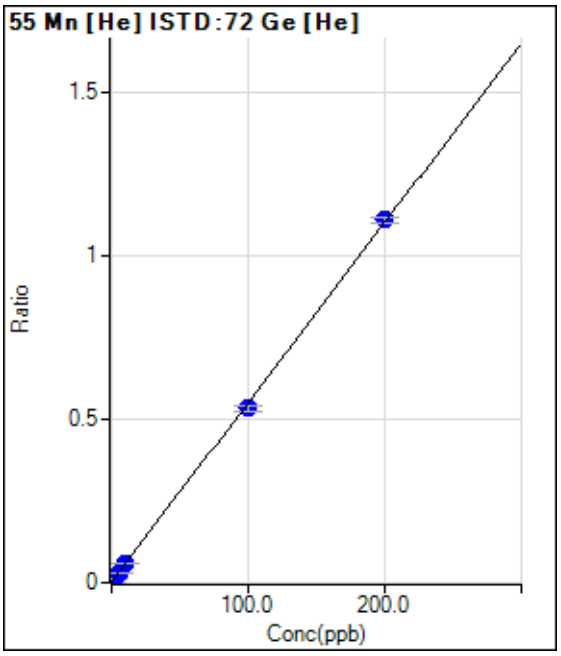
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11066.83	0.0075	P	4.1
2	☐	2.000	1.978	39011.59	0.0273	P	2.7
3	☐	5.000	5.178	86409.80	0.0593	P	3.2
4	☐	10.000	10.702	164307.27	0.1146	P	3.7
5	☐	100.000	95.350	1452201.59	0.9623	A	3.6
6	☐	200.000	202.286	2843022.88	2.0331	A	5.0
7	☐	1.000					

y = 0.0100 * x + 0.0075
R = 0.9996
DL = 0.09146
BEC = 0.7474

Weight: <None>
Min Conc: <None>

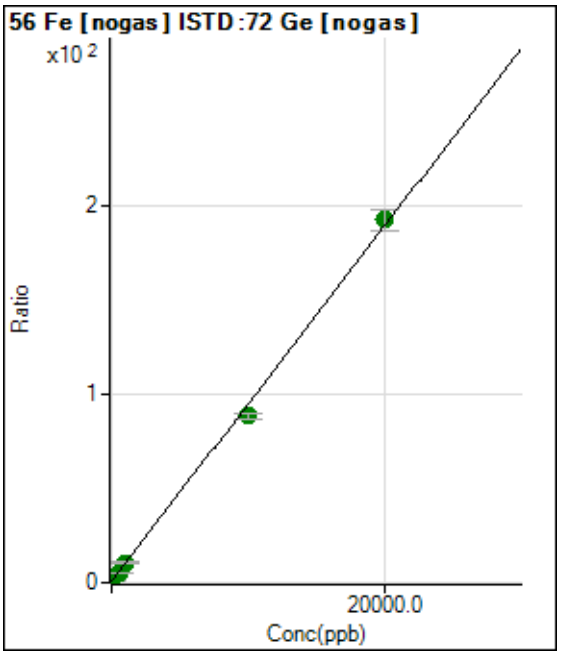


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	283.34	0.0022	P	24.4
2	☐	2.000	1.815	1536.76	0.0122	P	6.9
3	☐	5.000	5.052	3843.79	0.0300	P	6.0
4	☐	10.000	10.302	7725.09	0.0588	P	6.5
5	☐	100.000	96.604	68765.01	0.5322	P	3.2
6	☐	200.000	201.683	137388.42	1.1087	P	1.5
7	☐	1.000					

y = 0.0055 * x + 0.0022
R = 0.9998
DL = 0.2987
BEC = 0.4088

Weight: <None>
Min Conc: <None>

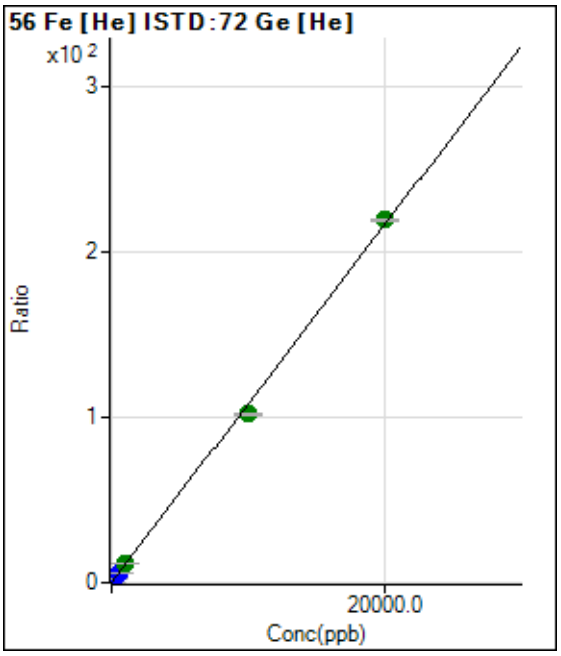
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1044651.23	0.7067	P	1.9
2	☐	200.000	205.967	3788243.58	2.6503	A	1.4
3	☐	500.000	505.005	7969533.25	5.4721	A	2.1
4	☐	1000.000	1058.294	15324404.51	10.6932	A	4.1
5	☐	10000.00	9291.415	133382386.3	88.3845	A	3.1
6	☐	20000.00	20351.193	269489864.3	192.749	A	5.8
7	☐	100.000					

y = 0.0094 * x + 0.7067
R = 0.9991
DL = 4.266
BEC = 74.89

Weight: <None>
Min Conc: <None>

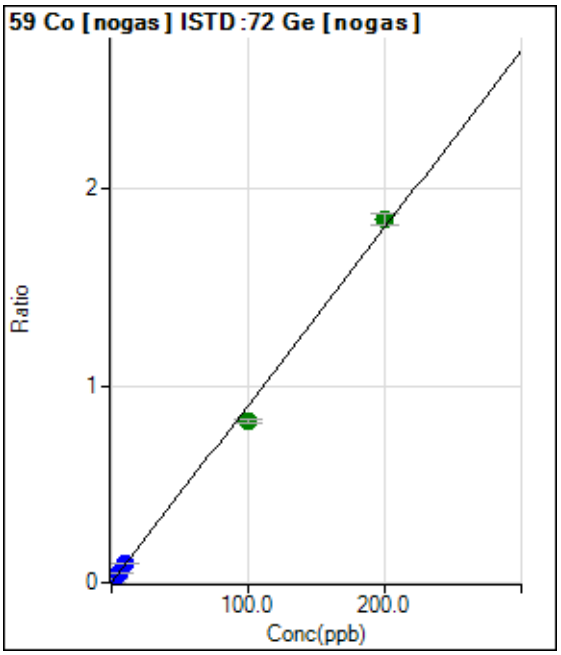


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13611.96	0.1074	P	1.9
2	☐	200.000	191.436	274672.35	2.1795	P	2.7
3	☐	500.000	482.241	683620.67	5.3271	P	1.9
4	☐	1000.000	1033.931	1486213.10	11.2985	A	1.1
5	☐	10000.00	9423.796	13196361.47	102.109	A	1.2
6	☐	20000.00	20286.935	27225255.43	219.691	A	0.5
7	☐	100.000					

y = 0.0108 * x + 0.1074
R = 0.9994
DL = 0.5799
BEC = 9.92

Weight: <None>
Min Conc: <None>

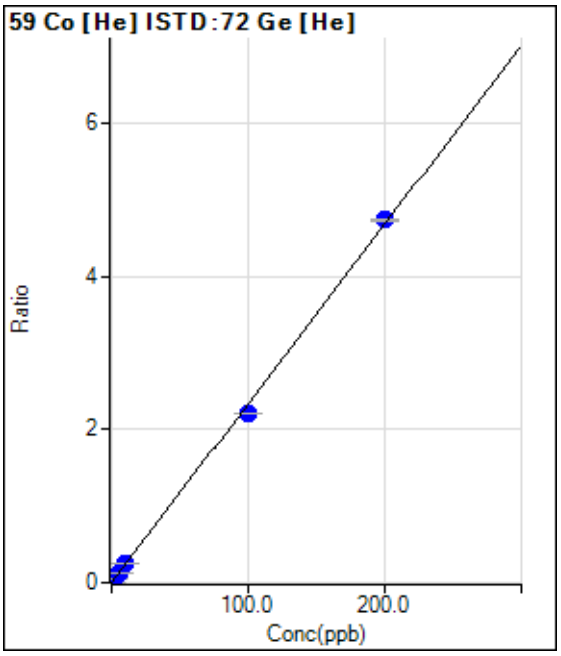
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	513.35	0.0003	P	16.6
2	☐	2.000	2.025	26569.60	0.0186	P	3.3
3	☐	5.000	4.978	65819.24	0.0452	P	2.7
4	☐	10.000	10.585	137138.12	0.0957	P	4.0
5	☐	100.000	90.879	1236028.29	0.8191	A	2.5
6	☐	200.000	204.531	2578233.35	1.8429	A	3.1
7	☐	1.000					

y = 0.0090 * x + 3.4645E-004
R = 0.9985
DL = 0.01914
BEC = 0.03846

Weight: <None>
Min Conc: <None>

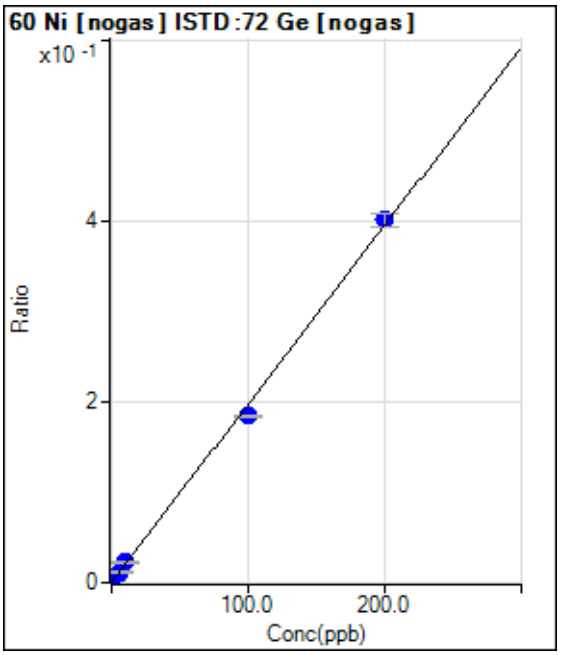


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	60.00	0.0005	P	73.8
2	☐	2.000	2.080	6181.14	0.0490	P	6.4
3	☐	5.000	5.100	15340.00	0.1196	P	4.2
4	☐	10.000	10.372	31934.96	0.2427	P	0.1
5	☐	100.000	94.751	286034.18	2.2134	P	0.3
6	☐	200.000	202.602	586438.79	4.7323	P	0.5
7	☐	1.000					

y = 0.0234 * x + 4.7663E-004
R = 0.9995
DL = 0.0452
BEC = 0.02041

Weight: <None>
Min Conc: <None>

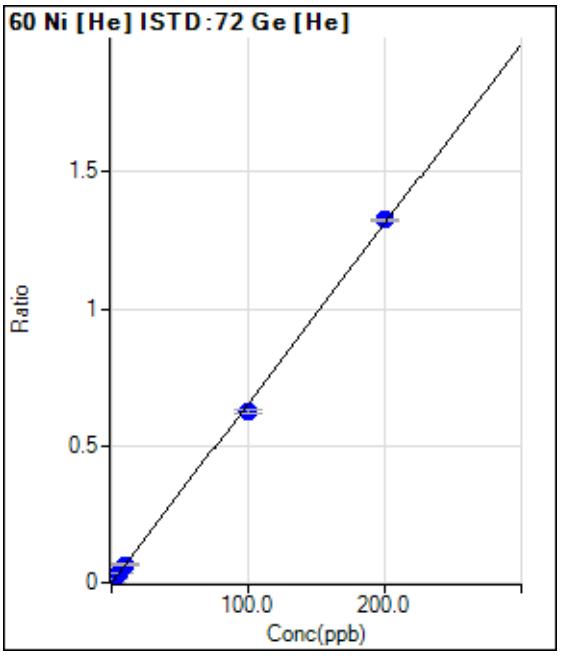
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.641	2143.49	0.0014	P	7.3
2	☐	2.000	2.723	7951.84	0.0056	P	1.2
3	☐	5.000	5.747	16797.94	0.0115	P	4.6
4	☐	10.000	11.308	32272.07	0.0225	P	5.0
5	☐	100.000	93.347	278607.94	0.1846	P	0.5
6	☐	200.000	203.235	561995.78	0.4017	P	3.5
7	☐	1.000					

y = 0.0020 * x + 1.8326E-004
R = 0.9991
DL = 0.1616
BEC = 0.09275

Weight: <None>
Min Conc: <None>

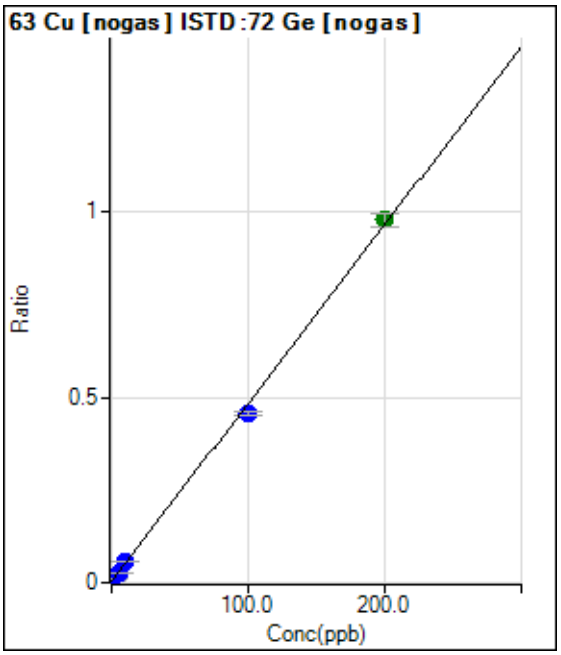


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.644	343.34	0.0027	P	20.3
2	☐	2.000	2.605	1963.48	0.0156	P	6.9
3	☐	5.000	5.651	4563.98	0.0356	P	6.0
4	☐	10.000	10.340	8715.56	0.0663	P	6.1
5	☐	100.000	95.600	80868.58	0.6258	P	1.8
6	☐	200.000	202.161	164201.37	1.3250	P	0.7
7	☐	1.000					

y = 0.0066 * x - 0.0015
R = 0.9996
DL = 0.2519
BEC = -0.2305

Weight: <None>
Min Conc: <None>

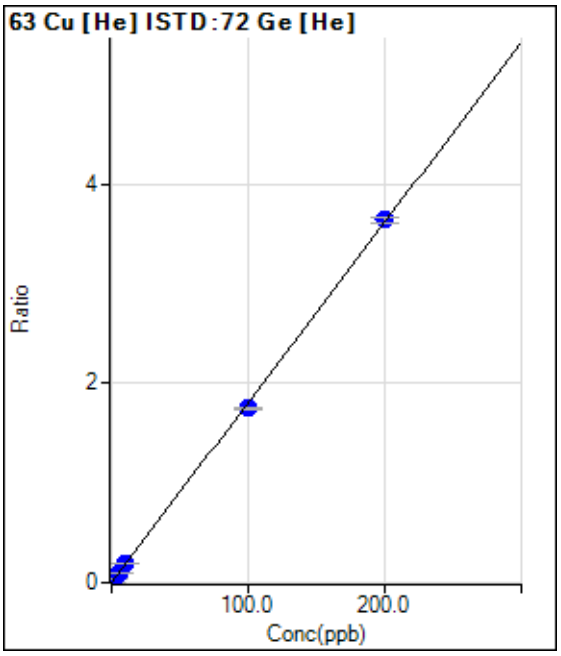
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4697.34	0.0032	P	4.2
2	☐	2.000	2.050	18633.19	0.0130	P	2.2
3	☐	5.000	5.162	40785.90	0.0280	P	2.0
4	☐	10.000	10.986	80269.38	0.0560	P	3.0
5	☐	100.000	94.098	687716.55	0.4557	P	2.1
6	☐	200.000	202.897	1369562.17	0.9789	A	3.5
7	☐	1.000					

y = 0.0048 * x + 0.0032
R = 0.9994
DL = 0.08336
BEC = 0.6609

Weight: <None>
Min Conc: <None>

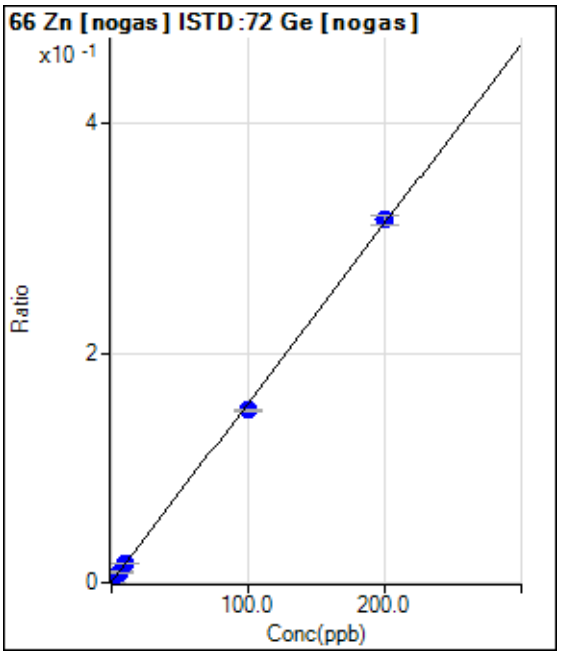


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.292	883.37	0.0070	P	15.4
2	☐	2.000	2.426	5740.98	0.0456	P	4.4
3	☐	5.000	5.408	12751.27	0.0995	P	7.1
4	☐	10.000	10.447	25050.81	0.1905	P	5.9
5	☐	100.000	96.927	226627.63	1.7539	P	1.5
6	☐	200.000	201.500	451592.55	3.6443	P	1.5
7	☐	1.000					

y = 0.0181 * x + 0.0017
R = 0.9998
DL = 0.1781
BEC = 0.09388

Weight: <None>
Min Conc: <None>

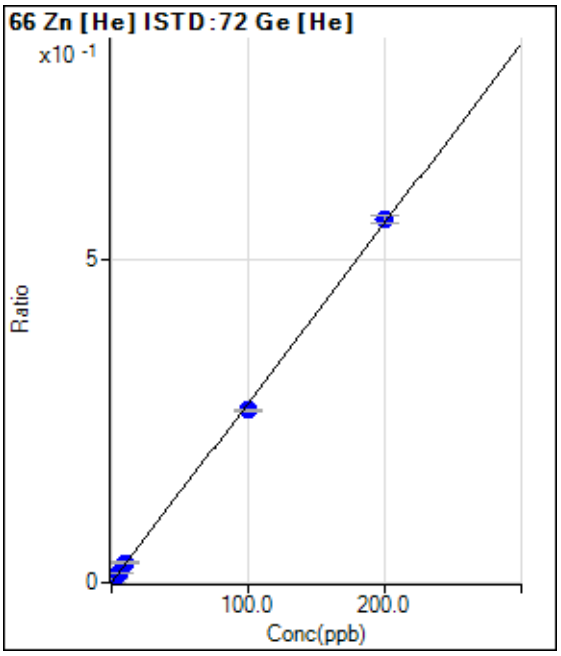
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.257	1200.06	0.0008	P	5.4
2	☐	2.000	2.520	6207.81	0.0043	P	2.5
3	☐	5.000	5.556	13225.05	0.0091	P	2.8
4	☐	10.000	10.851	24867.25	0.0173	P	1.4
5	☐	100.000	95.758	226176.27	0.1499	P	1.5
6	☐	200.000	202.059	441808.05	0.3158	P	3.0
7	☐	1.000					

y = 0.0016 * x + 4.1046E-004
R = 0.9996
DL = 0.08419
BEC = 0.263

Weight: <None>
Min Conc: <None>

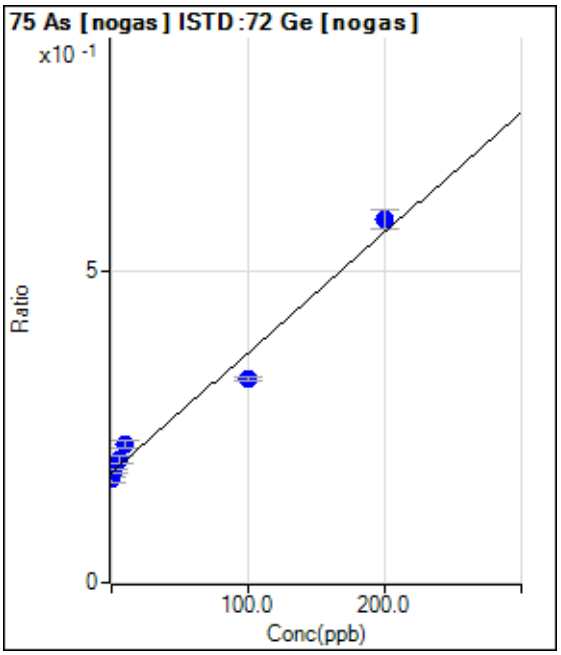


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.358	136.67	0.0011	P	16.0
2	☐	2.000	2.259	800.03	0.0063	P	17.0
3	☐	5.000	5.590	2000.15	0.0156	P	8.0
4	☐	10.000	10.873	3967.18	0.0302	P	11.1
5	☐	100.000	95.962	34385.96	0.2661	P	0.7
6	☐	200.000	201.958	69388.54	0.5599	P	2.1
7	☐	1.000					

y = 0.0028 * x + 8.4850E-005
R = 0.9997
DL = 0.1862
BEC = 0.03061

Weight: <None>
Min Conc: <None>

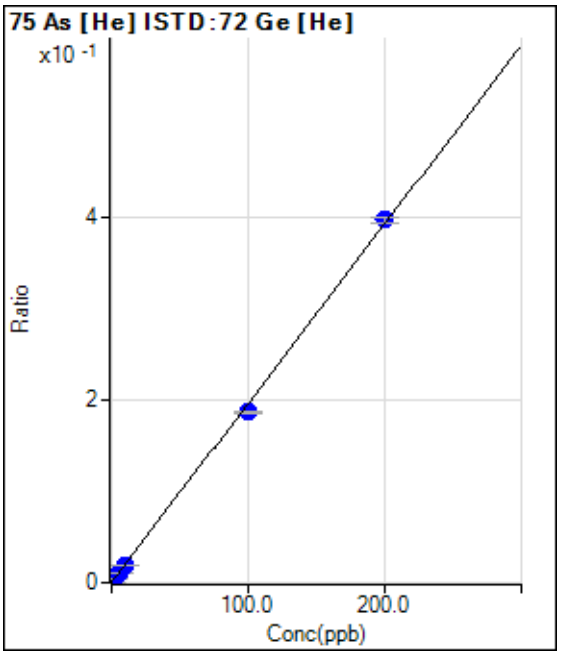
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-5.889	245398.91	0.1659	P	4.9
2	☐	2.000	1.050	256294.72	0.1793	P	4.6
3	☐	5.000	10.556	287710.78	0.1976	P	6.5
4	☐	10.000	23.206	318097.73	0.2220	P	5.6
5	☐	100.000	77.733	493791.31	0.3272	P	2.1
6	☐	200.000	210.344	815250.69	0.5830	P	5.2
7	☐	1.000					

y = 0.0019 * x + 0.1773
R = 0.9876
DL = 12.64
BEC = 91.91

Weight: <None>
Min Conc: <None>

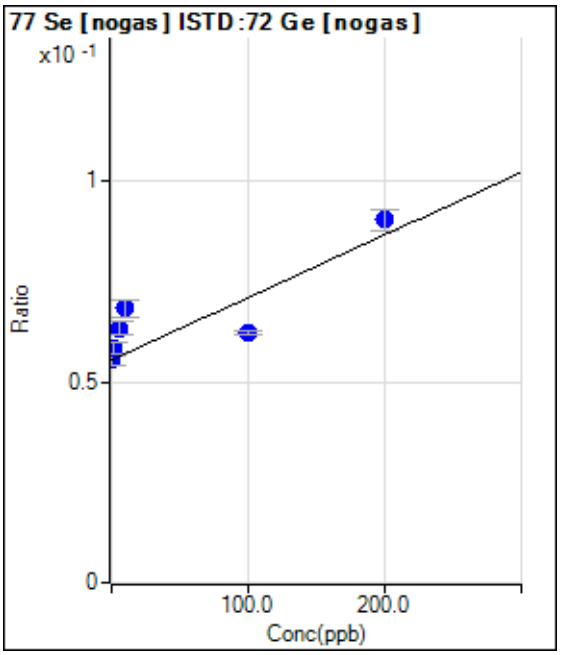


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	50.00	0.0004	P	13.8
2	☐	2.000	1.714	473.34	0.0038	P	11.6
3	☐	5.000	5.213	1363.40	0.0106	P	5.8
4	☐	10.000	9.894	2602.42	0.0198	P	0.4
5	☐	100.000	95.115	24137.16	0.1868	P	1.1
6	☐	200.000	202.445	49204.01	0.3971	P	1.7
7	☐	1.000					

y = 0.0020 * x + 3.9467E-004
R = 0.9996
DL = 0.08346
BEC = 0.2014

Weight: <None>
Min Conc: <None>

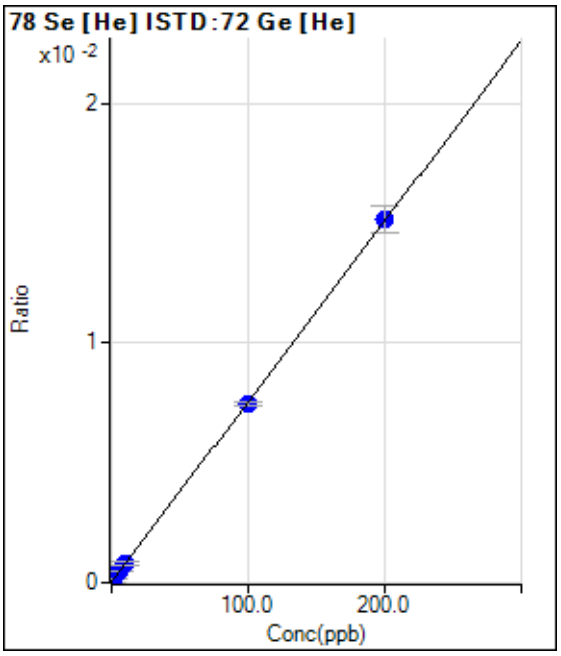
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	81994.69	0.0554	P	4.3
2	☐	2.000	18.700	83403.96	0.0583	P	5.0
3	☐	5.000	50.609	92188.89	0.0633	P	5.5
4	☐	10.000	82.446	97821.63	0.0683	P	6.0
5	☐	100.000	42.566	93666.15	0.0621	P	1.7
6	☐	200.000	223.787	126267.90	0.0903	P	6.0
7	☐	1.000					

y = 1.5583E-004 * x + 0.0554
R = 0.8517
DL = 46.01
BEC = 355.7

Weight: <None>
Min Conc: <None>

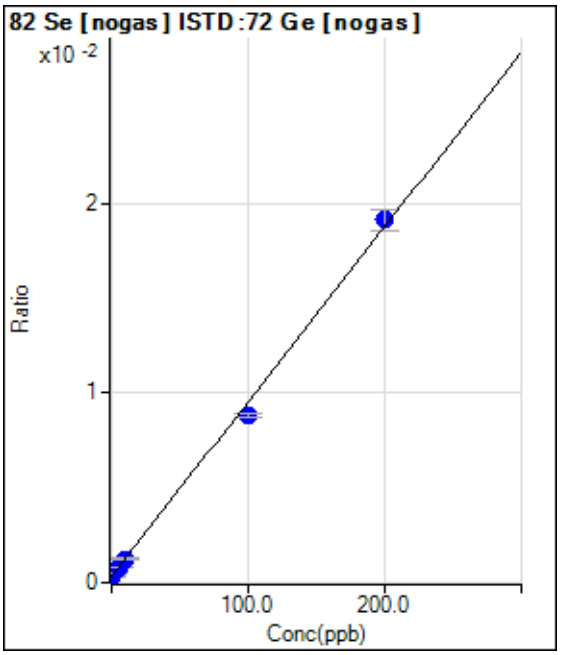


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.118	2.67	0.0000	P	44.6
2	☐	2.000	1.500	18.00	0.0001	P	12.2
3	☐	5.000	6.156	63.33	0.0005	P	6.6
4	☐	10.000	10.226	105.33	0.0008	P	27.9
5	☐	100.000	98.544	962.70	0.0074	P	2.1
6	☐	200.000	200.693	1876.77	0.0151	P	7.3
7	☐	1.000					

y = 7.5291E-005 * x + 3.0022E-005
R = 0.9999
DL = 0.3755
BEC = 0.3987

Weight: <None>
Min Conc: <None>

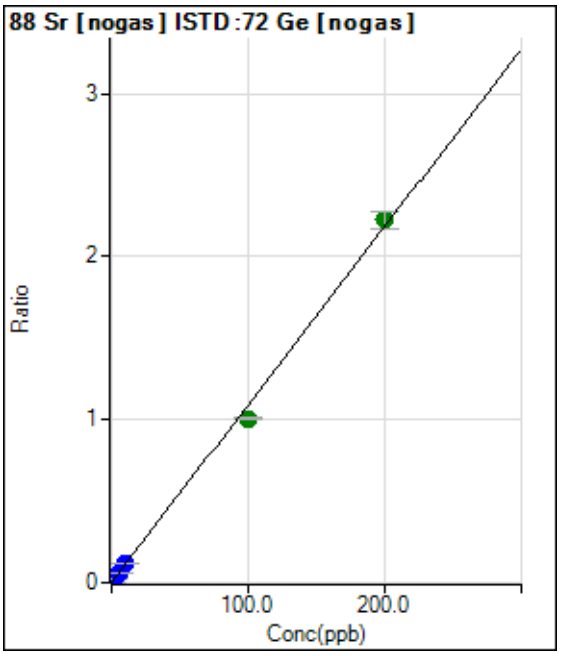
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	500.02	0.0003	P	12.4
2	☐	2.000	1.652	700.03	0.0005	P	8.7
3	☐	5.000	4.656	1116.72	0.0008	P	1.4
4	☐	10.000	9.863	1786.79	0.0012	P	5.2
5	☐	100.000	91.926	13288.41	0.0088	P	2.7
6	☐	200.000	204.056	26750.17	0.0191	P	6.1
7	☐	1.000					

y = 9.2118E-005 * x + 3.3761E-004
R = 0.9989
DL = 1.362
BEC = 3.665

Weight: <None>
Min Conc: <None>

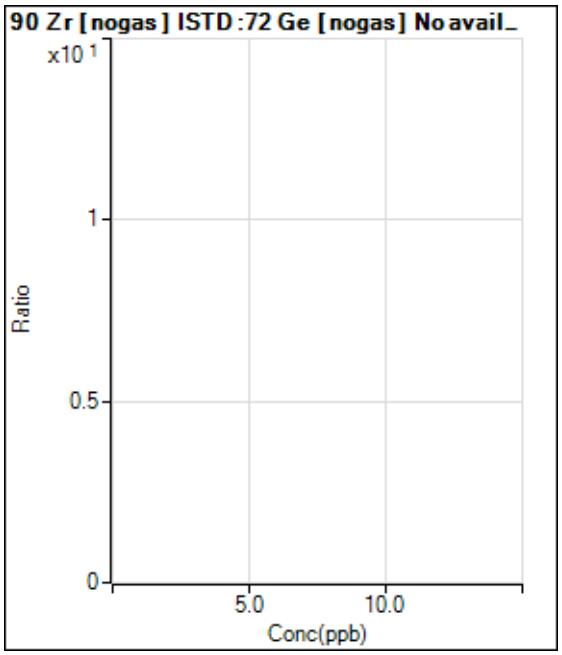


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2206.84	0.0015	P	1.1
2	☐	2.000	2.038	33882.32	0.0237	P	1.0
3	☐	5.000	5.087	82888.34	0.0569	P	4.1
4	☐	10.000	10.760	170185.45	0.1187	P	2.6
5	☐	100.000	92.016	1515555.65	1.0042	A	1.5
6	☐	200.000	203.951	3110234.43	2.2241	A	4.8
7	☐	1.000					

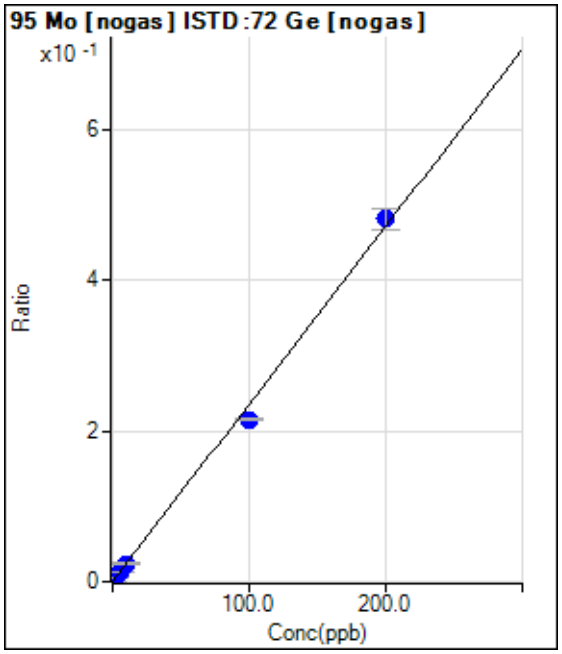
y = 0.0109 * x + 0.0015
R = 0.9989
DL = 0.004575
BEC = 0.1369

Weight: <None>
Min Conc: <None>

Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

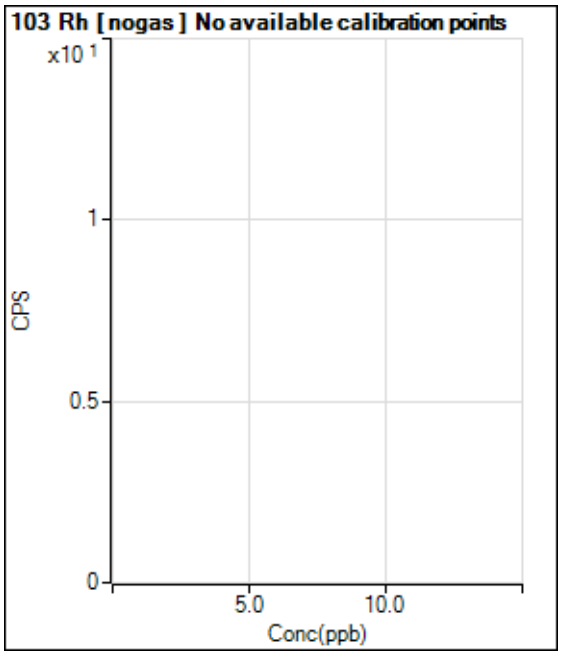


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	290.01	0.0002	P	28.8
2	☐	2.000	1.957	6874.80	0.0048	P	5.6
3	☐	5.000	4.921	17178.56	0.0118	P	4.4
4	☐	10.000	10.212	34794.37	0.0243	P	0.8
5	☐	100.000	91.193	324784.56	0.2152	P	0.7
6	☐	200.000	204.395	674068.87	0.4821	P	5.8
7	☐	1.000					

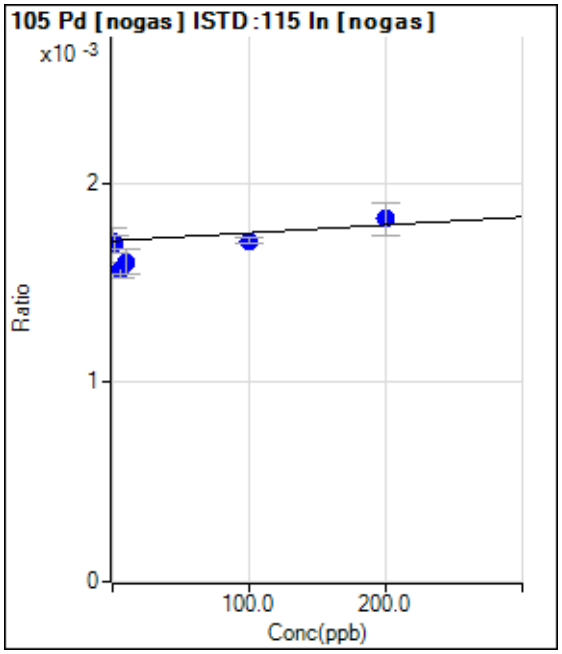
y = 0.0024 * x + 1.9563E-004
R = 0.9986
DL = 0.07173
BEC = 0.08297

Weight: <None>
Min Conc: <None>

Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			143.33		P	8.1
2	☐			233.34		P	32.2
3	☐			240.01		P	47.0
4	☐			150.00		P	13.3
5	☐			270.01		P	25.7
6	☐			373.35		P	12.4
7	☐						

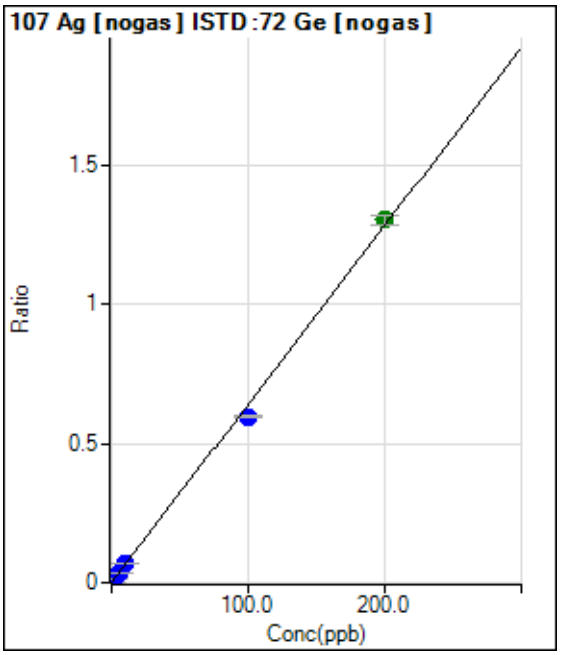


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2636.92	0.0017	P	7.3
2	☐	2.000	-39.915	2586.89	0.0017	P	5.5
3	☐	5.000	-360.880	2456.88	0.0016	P	4.8
4	☐	10.000	-265.791	2513.56	0.0016	P	8.0
5	☐	100.000	-2.042	2646.91	0.0017	P	1.6
6	☐	200.000	274.377	2723.59	0.0018	P	8.8
7	☐	1.000					

y = 4.0021E-007 * x + 0.0017
R = 0.7739
DL = 936.6
BEC = 4279

Weight: <None>
Min Conc: <None>

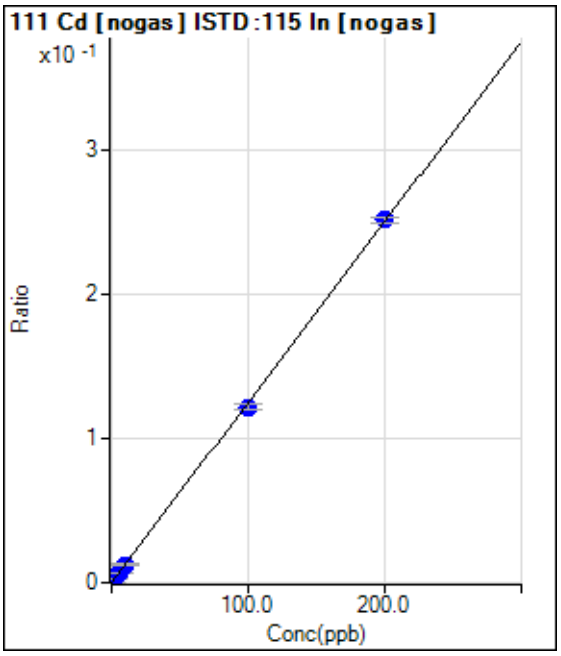
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	516.68	0.0003	P	12.3
2	☐	2.000	1.983	18640.17	0.0130	P	1.1
3	☐	5.000	5.056	47634.76	0.0327	P	3.0
4	☐	10.000	10.905	100552.76	0.0702	P	1.9
5	☐	100.000	93.197	900779.00	0.5969	P	2.0
6	☐	200.000	203.355	1821791.38	1.3020	A	2.7
7	☐	1.000					

y = 0.0064 * x + 3.4957E-004
R = 0.9992
DL = 0.02013
BEC = 0.05461

Weight: <None>
Min Conc: <None>

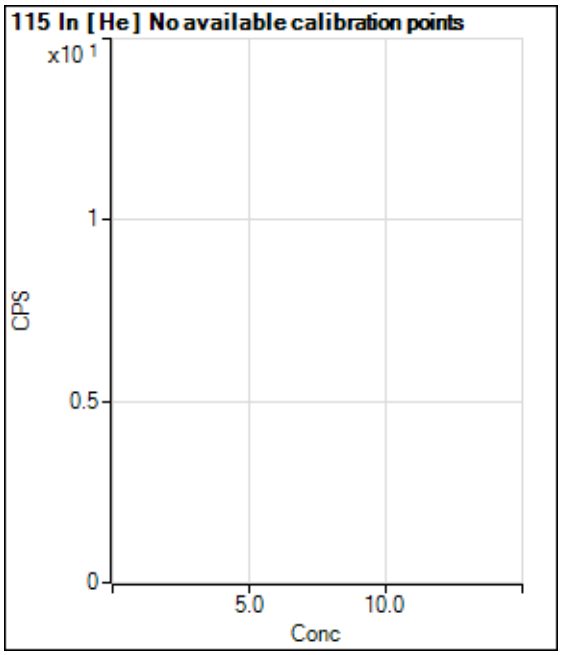


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	30.00	0.0000	P	86.1
2	☐	2.000	2.035	3897.17	0.0026	P	4.5
3	☐	5.000	5.109	10016.38	0.0064	P	4.4
4	☐	10.000	10.032	19601.16	0.0125	P	3.3
5	☐	100.000	97.501	188143.71	0.1217	P	2.8
6	☐	200.000	201.245	374775.72	0.2511	P	1.9
7	☐	1.000					

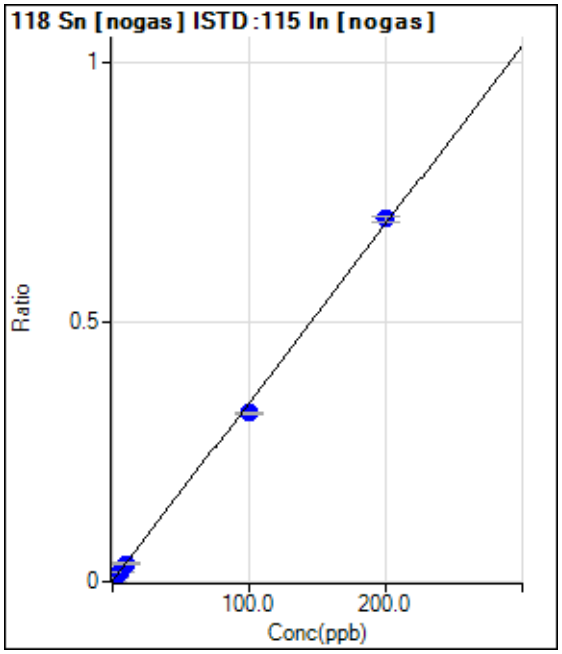
y = 0.0012 * x + 1.9197E-005
R = 0.9999
DL = 0.03974
BEC = 0.01539

Weight: <None>
Min Conc: <None>

Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			153576.24		P	2.5
2	☐			156425.82		P	2.9
3	☐			159903.73		P	1.1
4	☐			154991.54		P	1.3
5	☐			153733.98		P	1.7
6	☐			152010.34		P	1.0
7	☐						

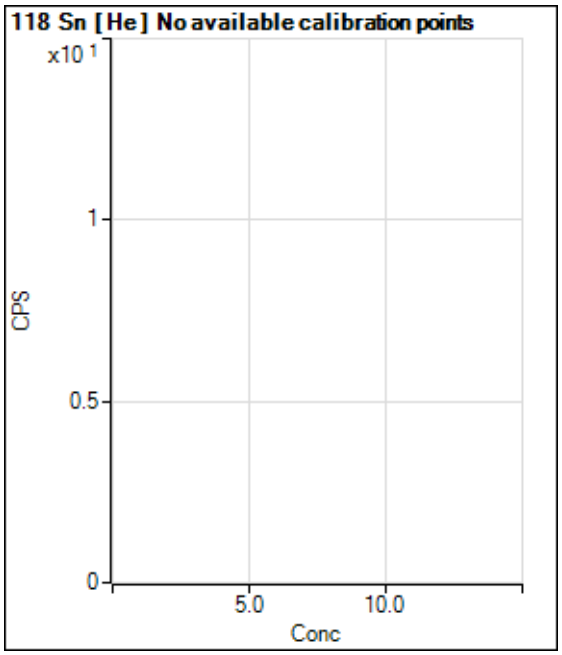


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1683.44	0.0011	P	19.0
2	☐	2.000	1.962	11954.31	0.0078	P	3.3
3	☐	5.000	4.800	27605.61	0.0176	P	1.4
4	☐	10.000	9.889	54930.13	0.0351	P	3.1
5	☐	100.000	94.045	502090.06	0.3247	P	1.7
6	☐	200.000	202.988	1044403.87	0.6996	P	1.7
7	☐	1.000					

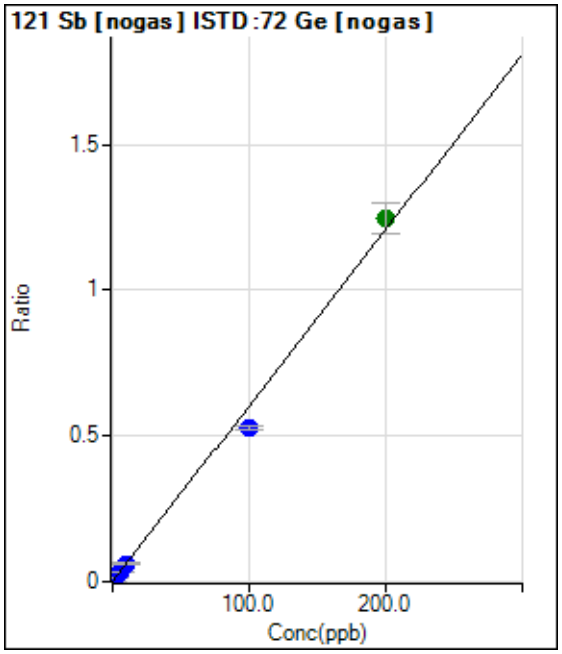
y = 0.0034 * x + 0.0011
R = 0.9994
DL = 0.1814
BEC = 0.319

Weight: <None>
Min Conc: <None>

Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			253.34		P	31.9
2	☐			1583.44		P	13.9
3	☐			3850.49		P	2.9
4	☐			7815.20		P	3.1
5	☐			72607.41		P	1.8
6	☐			144210.44		P	1.4
7	☐						

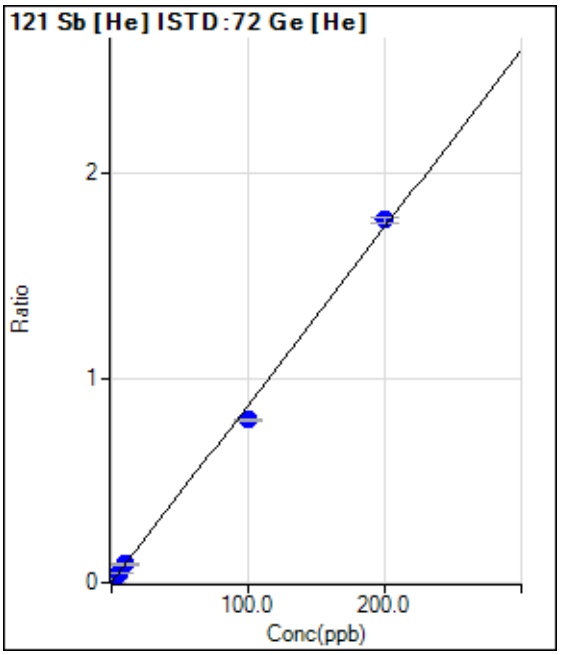


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1096.72	0.0007	P	6.3
2	☐	2.000	1.980	18123.03	0.0127	P	0.6
3	☐	5.000	5.034	45275.86	0.0311	P	2.4
4	☐	10.000	10.256	89673.29	0.0626	P	3.0
5	☐	100.000	87.320	795473.35	0.5271	P	2.3
6	☐	200.000	206.327	1739208.88	1.2445	A	8.6
7	☐	1.000					

y = 0.0060 * x + 7.4231E-004
R = 0.9972
DL = 0.02326
BEC = 0.1231

Weight: <None>
Min Conc: <None>

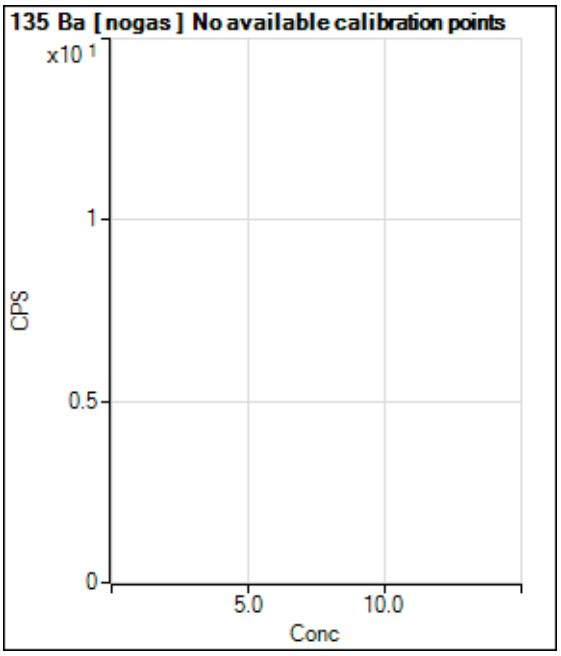
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	120.00	0.0009	P	23.3
2	☐	2.000	1.980	2283.52	0.0181	P	6.8
3	☐	5.000	4.985	5674.35	0.0442	P	3.3
4	☐	10.000	10.320	11890.96	0.0905	P	5.2
5	☐	100.000	91.460	102619.95	0.7942	P	1.4
6	☐	200.000	204.254	219647.95	1.7725	P	1.9
7	☐	1.000					

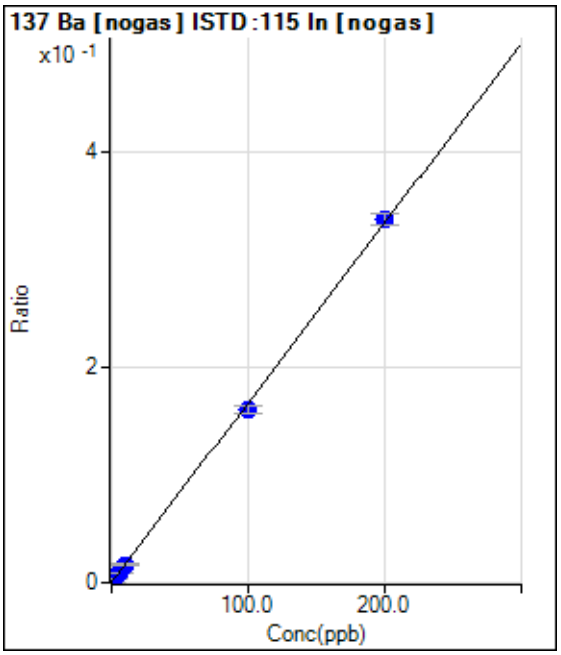
y = 0.0087 * x + 9.4875E-004
R = 0.9987
DL = 0.0764
BEC = 0.1094

Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			226.67		P	17.8
2	☐			3233.69		P	3.3
3	☐			7615.17		P	7.2
4	☐			15437.14		P	1.6
5	☐			139306.57		P	2.2
6	☐			287725.10		P	2.7
7	☐						

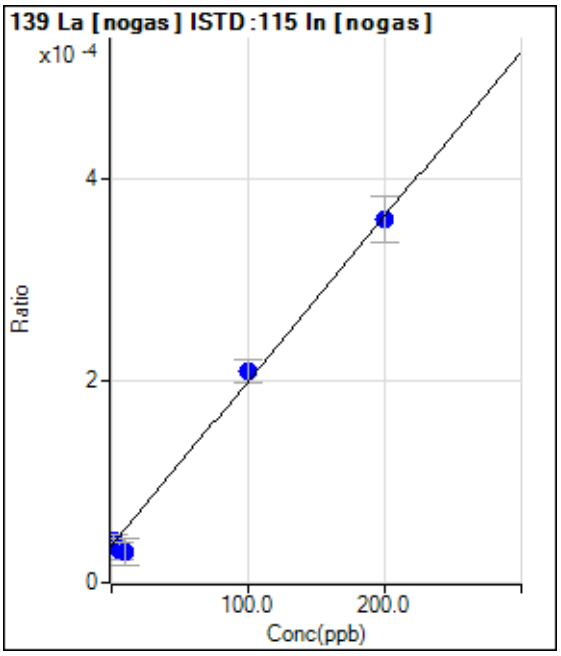
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	490.01	0.0003	P	17.4
2	☐	2.000	1.917	5354.26	0.0035	P	7.7
3	☐	5.000	4.999	13568.93	0.0087	P	1.6
4	☐	10.000	9.953	26460.64	0.0169	P	5.5
5	☐	100.000	96.396	248985.35	0.1611	P	4.7
6	☐	200.000	201.805	502785.60	0.3370	P	3.1
7	☐	1.000					

y = 0.0017 * x + 3.1813E-004
R = 0.9998
DL = 0.09982
BEC = 0.1907

Weight: <None>
Min Conc: <None>

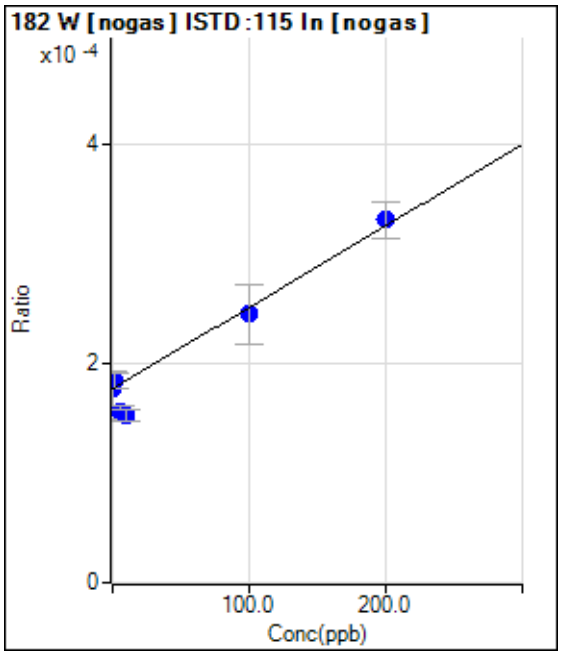


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.67	0.0000	P	34.0
2	☐	2.000	3.080	63.33	0.0000	P	24.6
3	☐	5.000	-2.916	50.00	0.0000	P	52.4
4	☐	10.000	-3.988	46.67	0.0000	P	87.7
5	☐	100.000	106.036	323.34	0.0002	P	11.4
6	☐	200.000	197.869	536.69	0.0004	P	12.9
7	☐	100.000					

y = 1.6292E-006 * x + 3.6590E-005
R = 0.9968
DL = 22.9
BEC = 22.46

Weight: <None>
Min Conc: <None>

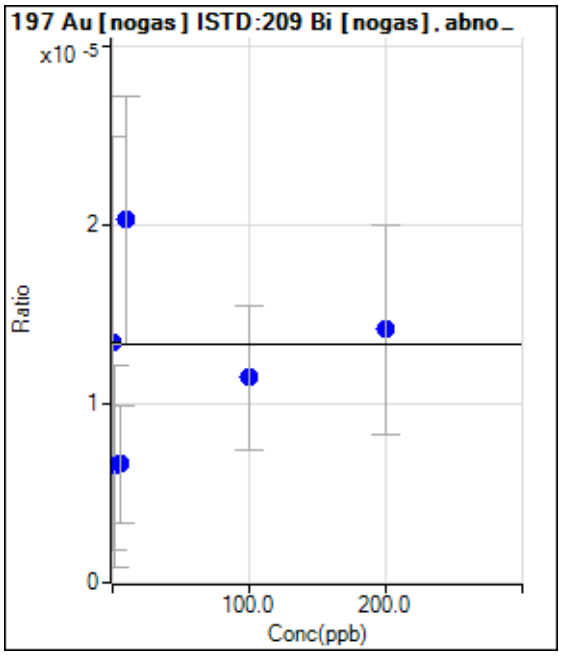
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	273.34	0.0002	P	18.7
2	☐	2.000	9.182	280.01	0.0002	P	7.9
3	☐	5.000	-29.206	243.34	0.0002	P	8.8
4	☐	10.000	-31.697	240.01	0.0002	P	7.0
5	☐	100.000	91.441	380.01	0.0002	P	22.1
6	☐	200.000	207.148	493.35	0.0003	P	9.8
7	☐	1.000					

y = 7.4350E-007 * x + 1.7701E-004
R = 0.9782
DL = 133.6
BEC = 238.1

Weight: <None>
Min Conc: <None>

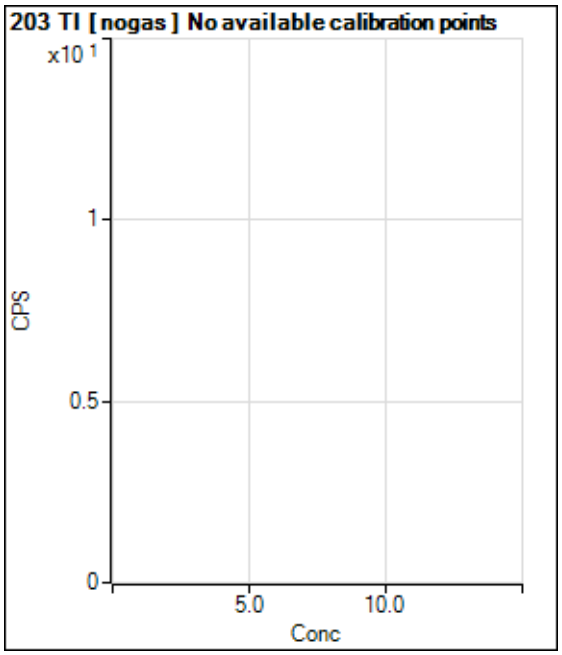


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20.00	0.0000	P	173.
2	☐	2.000	19219.943	10.00	0.0000	P	173.
3	☐	5.000	18951.654	10.00	0.0000	P	100.
4	☐	10.000	-19341.19	30.00	0.0000	P	68.2
5	☐	100.000	5416.054	16.67	0.0000	P	71.0
6	☐	200.000	-2156.313	20.00	0.0000	P	82.8
7	☐	100.000					

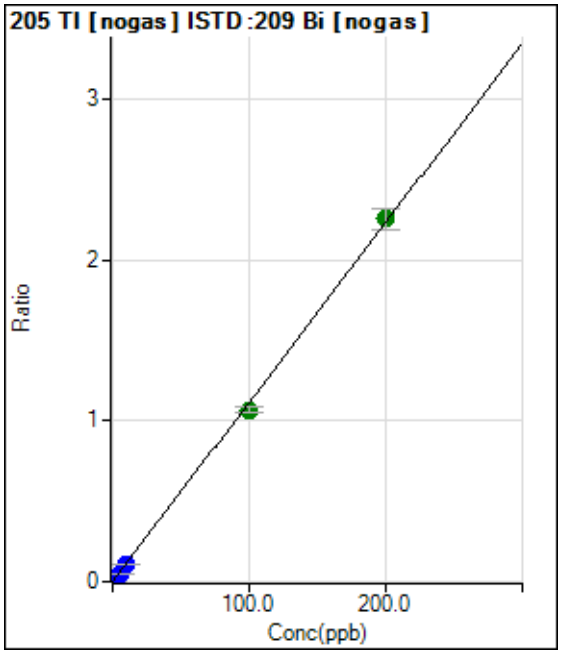
y = -3.5676E-010 * x + 1.3395E-005
R = 0.1882
DL = -1.951E+05
BEC = -3.755E+04

Weight: <None>
Min Conc: <None>

Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			96.67		P	26.0
2	☐			13092.13		P	1.7
3	☐			32623.07		P	5.3
4	☐			69514.39		P	1.1
5	☐			652263.84		P	2.1
6	☐			1329251.07		A	1.3
7	☐						

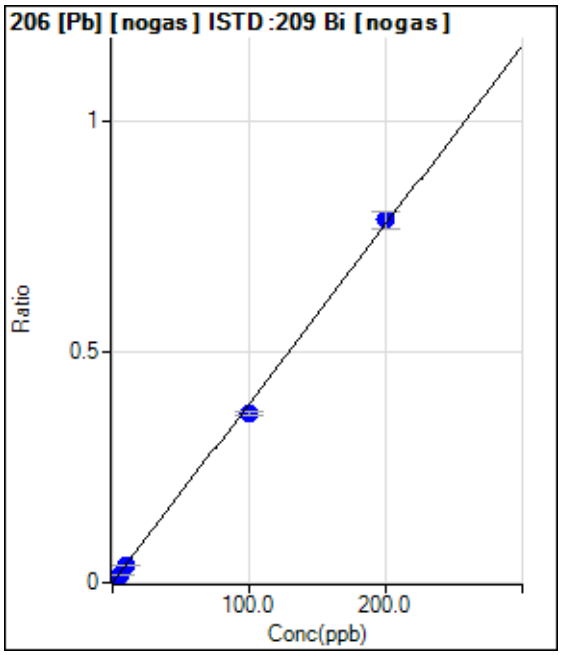


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	170.00	0.0001	P	20.9
2	☐	2.000	1.911	32692.96	0.0215	P	3.5
3	☐	5.000	4.656	79407.82	0.0521	P	4.5
4	☐	10.000	9.973	166180.09	0.1115	P	3.0
5	☐	100.000	95.584	1562775.86	1.0674	A	3.2
6	☐	200.000	202.219	3118203.81	2.2580	A	5.9
7	☐	1.000					

y = 0.0112 * x + 1.1097E-004
R = 0.9997
DL = 0.006238
BEC = 0.009938

Weight: <None>
Min Conc: <None>

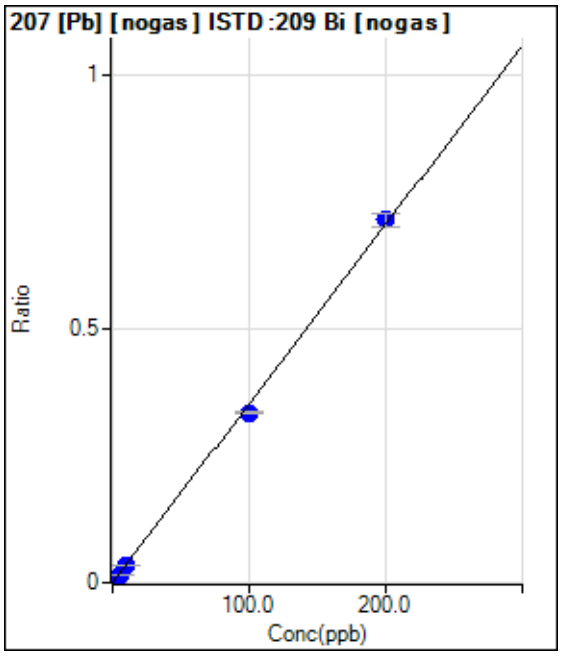
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	180.00	0.0001	P	30.7
2	☐	2.000	1.865	11197.41	0.0073	P	2.1
3	☐	5.000	4.683	27844.18	0.0183	P	2.7
4	☐	10.000	9.779	56679.14	0.0380	P	1.3
5	☐	100.000	94.779	537976.32	0.3674	P	1.8
6	☐	200.000	202.631	1084879.80	0.7853	P	4.7
7	☐	1.000					

y = 0.0039 * x + 1.1752E-004
R = 0.9995
DL = 0.02789
BEC = 0.03033

Weight: <None>
Min Conc: <None>

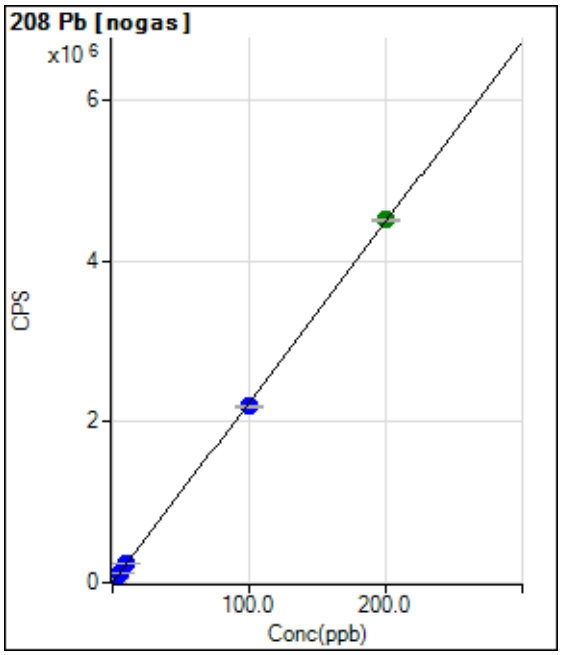


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	156.67	0.0001	P	11.4
2	☐	2.000	1.911	10436.86	0.0068	P	2.1
3	☐	5.000	4.661	25253.42	0.0166	P	1.6
4	☐	10.000	10.022	52902.67	0.0355	P	1.9
5	☐	100.000	94.696	489718.80	0.3344	P	1.2
6	☐	200.000	202.660	988690.25	0.7155	P	3.9
7	☐	1.000					

y = 0.0035 * x + 1.0238E-004
R = 0.9995
DL = 0.009903
BEC = 0.029

Weight: <None>
Min Conc: <None>

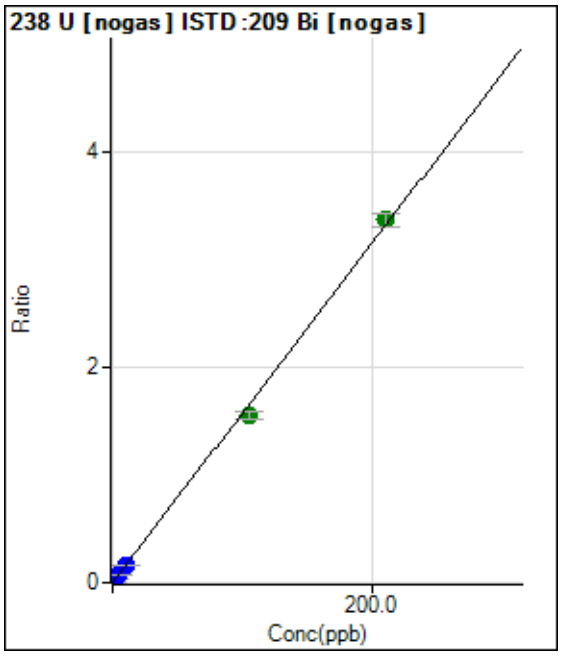
Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	580.01		P	9.1
2	☐	2.000	2.003	45488.88		P	1.9
3	☐	5.000	5.093	114768.36		P	1.7
4	☐	10.000	10.505	236098.35		P	0.2
5	☐	100.000	97.825	2193726.06		P	0.7
6	☐	200.000	201.060	4508172.04		A	0.9
7	☐	1.000					

y = 22419.1377 * x + 580.0067
R = 0.9999
DL = 0.007081
BEC = 0.02587

Weight: <None>
Min Conc: <None>

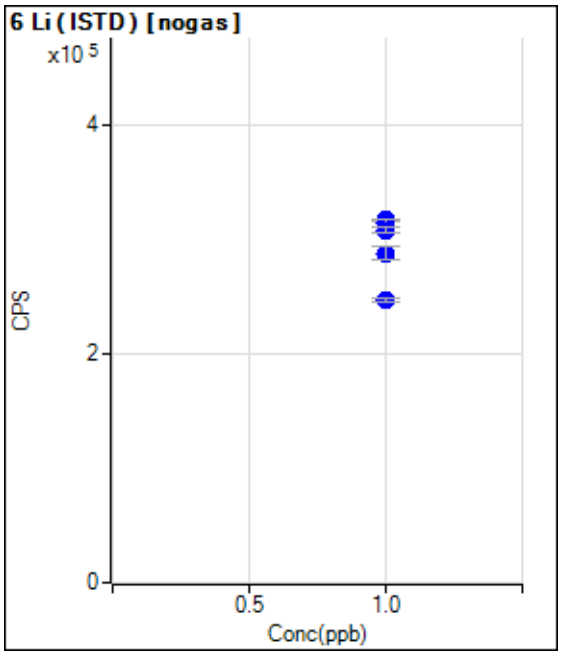


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	240.01	0.0002	P	31.3
2	☐	2.000	1.881	45525.76	0.0299	P	3.6
3	☐	5.000	4.895	118165.53	0.0775	P	2.5
4	☐	10.000	10.268	242068.86	0.1624	P	4.0
5	☐	105.000	98.184	2271662.83	1.5515	A	4.8
6	☐	210.000	213.399	4660473.68	3.3718	A	3.5
7	☐	1.000					

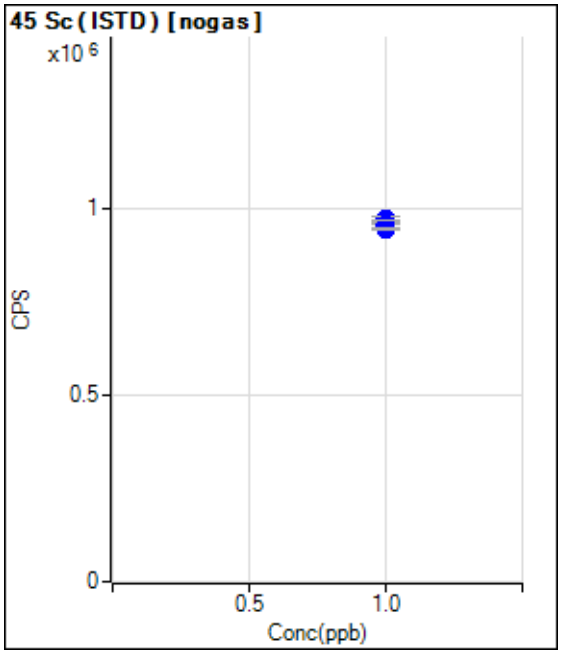
y = 0.0158 * x + 1.5737E-004
R = 0.9993
DL = 0.009366
BEC = 0.00996

Weight: <None>
Min Conc: <None>

Calibration for 011_ICV.d

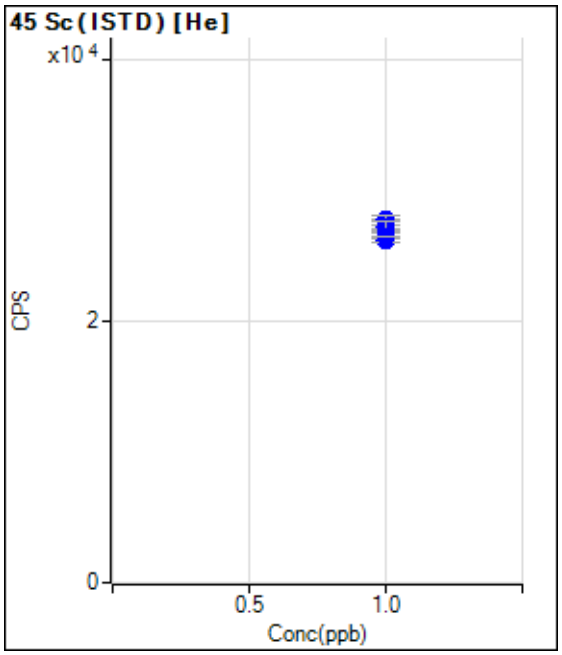


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		317621.49		P	0.8
2	☐	1.000		314356.37		P	1.6
3	☐	1.000		314702.33		P	1.8
4	☐	1.000		308453.56		P	1.7
5	☐	1.000		288107.72		P	4.0
6	☐	1.000		247473.02		P	1.7
7	☐	1.000					

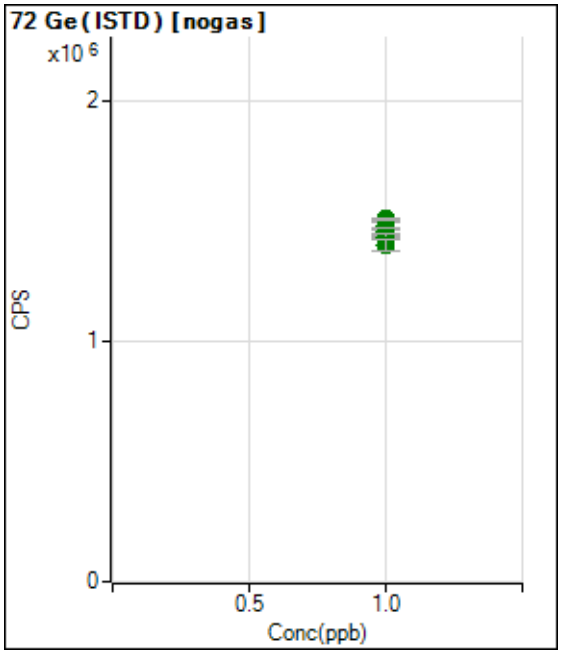


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		954047.98		P	0.9
2	☐	1.000		963740.38		P	0.7
3	☐	1.000		972947.88		P	1.1
4	☐	1.000		971871.76		P	1.8
5	☐	1.000		960312.36		P	2.4
6	☐	1.000		946081.18		P	0.9
7	☐	1.000					

Calibration for 011_ICV.d

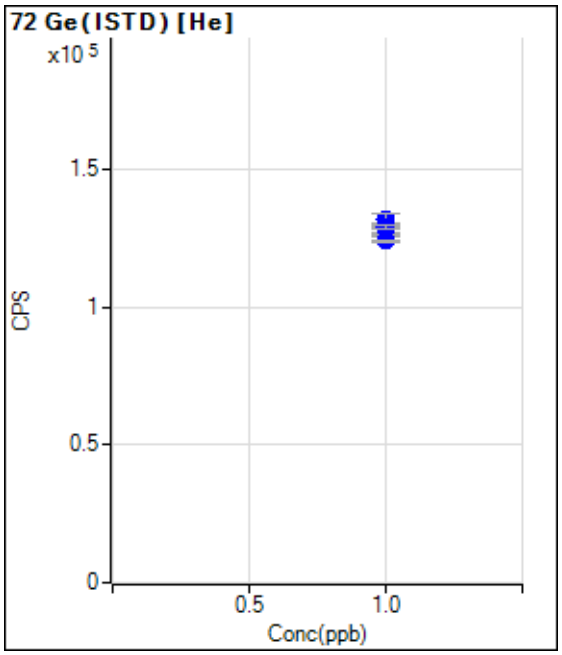


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		27307.27		P	3.1
2	☐	1.000		27600.95		P	4.0
3	☐	1.000		27744.54		P	2.4
4	☐	1.000		27263.60		P	3.3
5	☐	1.000		26122.07		P	1.2
6	☐	1.000		26519.34		P	0.1
7	☐	1.000					

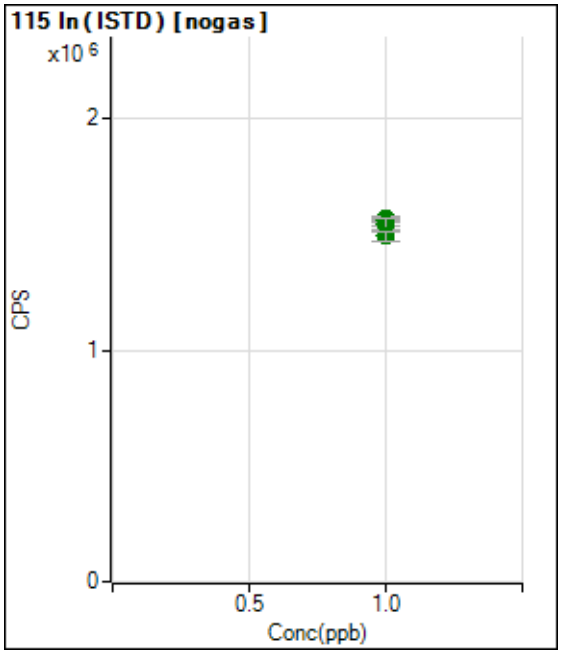


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1478633.15		A	2.0
2	☐	1.000		1429390.03		A	0.1
3	☐	1.000		1456756.85		A	1.9
4	☐	1.000		1433648.21		A	1.9
5	☐	1.000		1509165.97		A	0.5
6	☐	1.000		1400016.64		A	3.6
7	☐	1.000					

Calibration for 011_ICV.d

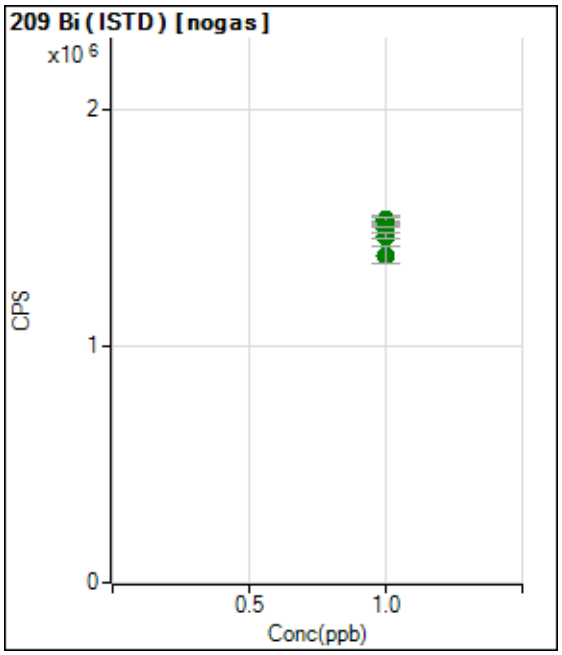


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		126743.37		P	2.1
2	☐	1.000		126042.98		P	1.4
3	☐	1.000		128375.41		P	2.9
4	☐	1.000		131571.64		P	3.9
5	☐	1.000		129226.77		P	1.1
6	☐	1.000		123924.60		P	0.6
7	☐	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1539302.61		A	2.9
2	☐	1.000		1523831.73		A	1.5
3	☐	1.000		1567266.78		A	1.5
4	☐	1.000		1564079.97		A	1.5
5	☐	1.000		1546520.71		A	3.1
6	☐	1.000		1492961.03		A	2.7
7	☐	1.000					

Calibration for 011_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1532164.72		A	2.2
2	☐	1.000		1524242.37		A	0.7
3	☐	1.000		1525030.76		A	2.0
4	☐	1.000		1491384.35		A	2.0
5	☐	1.000		1464628.88		A	1.6
6	☐	1.000		1383536.23		A	4.9
7	☐	1.000					

Hexavalent Chromium Raw Data

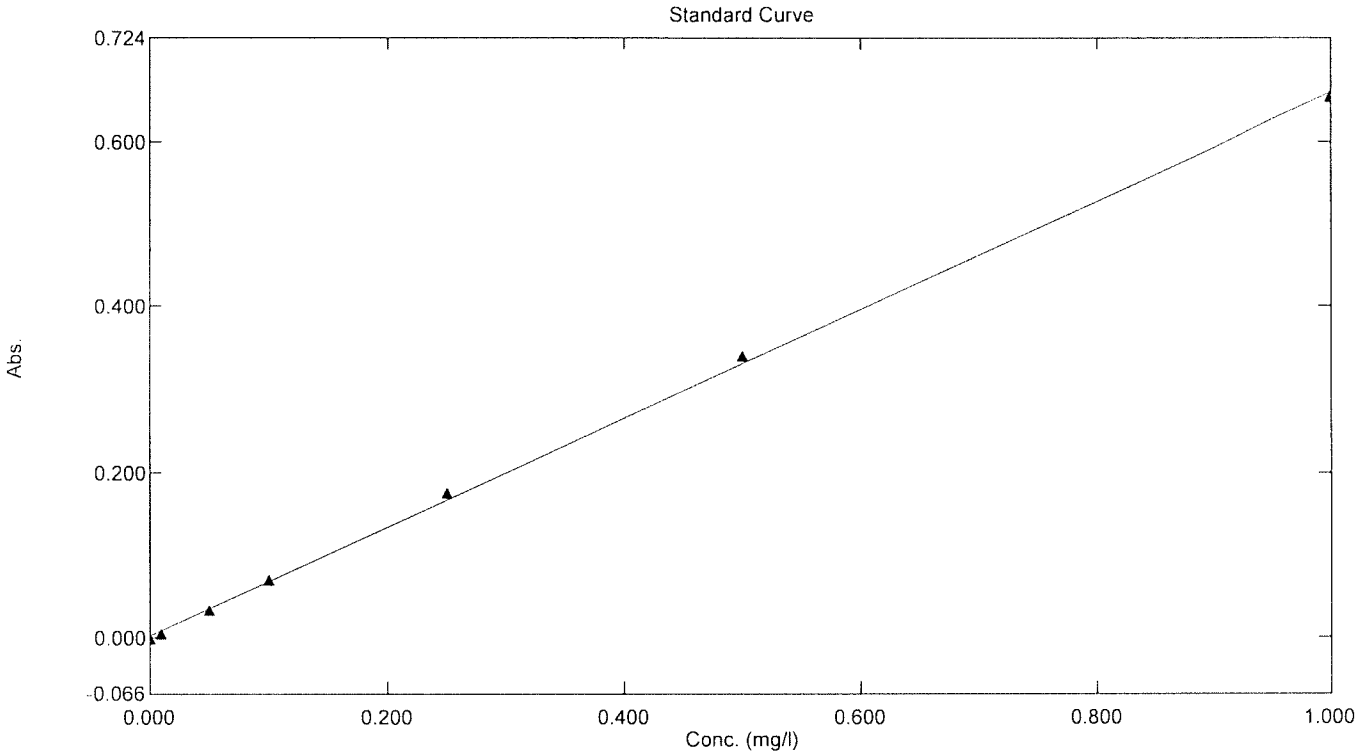
Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Influent Samples
ALS WO# HS17120366

MS171203 66

Standard Table Report

12/27/2017 04:02:46 PM

File Name: Q:\UVProbe\CR6+_UNKNOWN\171207_CR6_W.pho



Correlation Coefficient r2 = 0.99935

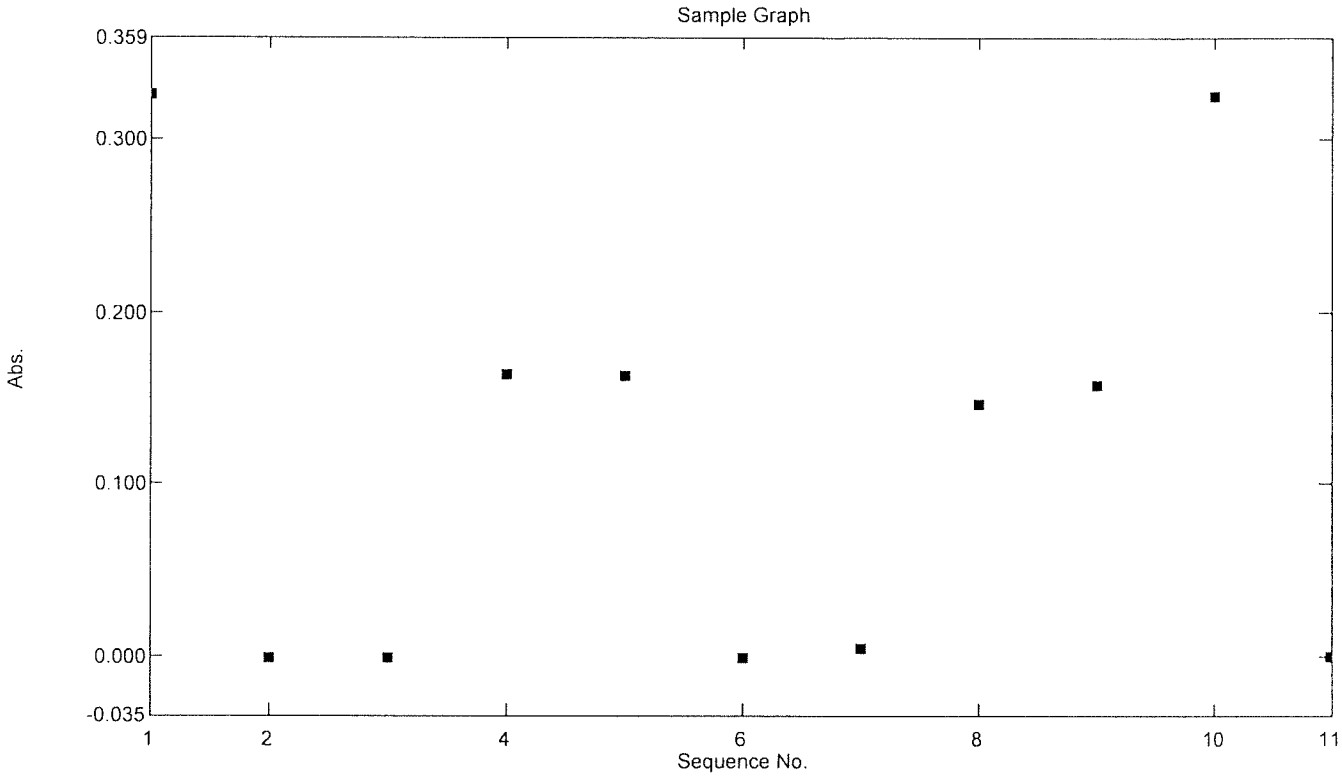
Standard Table

	Sample ID	Type	Ex	Conc	WL540.0	Wgt.Factor	Comments
1	STD1	Standard		0.000	-0.000	1.000	
2	STD2	Standard		0.010	0.005	1.000	
3	STD3	Standard		0.050	0.033	1.000	
4	STD4	Standard		0.100	0.069	1.000	
5	STD5	Standard		0.250	0.174	1.000	
6	STD6	Standard		0.500	0.340	1.000	
7	STD7	Standard		1.000	0.652	1.000	
8							

Sample Table Report

12/27/2017 04:02:48 PM

File Name: Q:\UVProbe\CR6+_UNKNOWN\171207_CR6_W.pho



Sample Table

	Sample ID	Type	Ex	Conc	WL540.0	Comments
1	CCV	Unknown		0.494	0.327	
2	CCB	Unknown		-0.007	-0.002	
3	MBLK	Unknown		-0.007	-0.002	
4	LCS	Unknown		0.246	0.164	
5	LCSD	Unknown		0.244	0.163	
6	17120365.01	Unknown		-0.007	-0.001	01:26PM
7	17120366.01	Unknown		0.002	0.005	
8	17120366.01MS	Unknown		0.219	0.147	
9	17120366.01MSD	Unknown		0.235	0.157	
10	CCV2	Unknown		0.492	0.326	
11	CCB2	Unknown		-0.005	-0.000	
12						

Sub Contract Data (Perchlorate)

Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Monthly Influent Samples
ALS WO# HS17120366

Case Narrative

Method: 6850
Analysis: Perchlorate
Analysis SOP: LC-MS-CLO4
ALS WO ID(s): 1734272; 1734273; 1734274; 1734528

Client: ALS Laboratories (Houston, TX)
Matrix: Water
ELMS Batch (HBN): 2013 (205263)

General Set Information: There were fifteen 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: These field samples were analyzed and reported at the following dilutions. The reporting limits have been adjusted accordingly.

Sample #	Dilution
1732473001	1,000
1734528004	10,000
1734528005	10
1734528010	100

Method QC data: The method blank (LMB 579516) was less than 1/2 the CRDL. The recovery for the LCS (579517) was within acceptable parameters.

MS/MSD Analysis: The matrix spike and matrix spike duplicate (MS/MSD) was performed on sample 1734272001 (Client ID: LH18/24-SP650_120617). 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 18DECP03/09/15/19.

Thomas Bosch December 21, 2017
Date

ANALYTICAL REPORT

Report Date: December 22, 2017

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

Phone: (281) 530-5656

E-mail: Sonia.West@alsglobal.com

Workorder: **34-1734273**
Project ID: HS17120366 120617
Purchase Order: HS17120366
Project Manager Kevin W. Griffiths

Client Sample ID	Lab ID	Collect Date	Receive Date	Sampling Site
LH18/24-SP140_120617	1734273001	12/06/17	12/08/17	

ANALYTICAL REPORT

Workorder: 34-1734273
Client: ALS Environmental (Houston)
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **LH18/24-SP140_120617**	Sampling Site: NA	Collected: 12/06/2017
Lab ID: 1734273001	Media: 125 mL Nalgene	Received: 12/08/2017
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/2013 (HBN: 205263)	**Percent Solid:** NA
	Analyzed: 12/18/2017 18:38	**Report Basis:** Wet

Analyte	Result (ug/L)	DL (ug/L)	LOD (ug/L)	LOQ (ug/L)	Dilution	Qual
Perchlorate	**8000**	1000	2000	4000	1000	

Comments

Quality Control: EPA 6850, DoD QSM - (HBN: 205263)

These field samples were analyzed and reported at the following dilutions.

1732473001 – 1:1,000.

1734528004 – 1:10,000.

1734528005 – 1:10.

1734528010 – 1:100.

The reporting limits have been adjusted accordingly.

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

Method	Analyst	Peer Review
EPA 6850, DoD QSM	/S/ Thomas Bosch 12/20/2017 14:31	/S/ Stephen Brose 12/22/2017 09:13

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: 34-1734273
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: 34-1734273
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: 1734273

Limits:	Client SOW/Contract Specified	**Preparation:**	NA	**Analysis:**	EPA 6850
Basis:	DoD QSM	**Batch:**	NA	**Batch:**	ELMS/2013 (HBN: 205263)
		Prepared By:	NA	**Analyzed By:**	Thomas Bosch

Blank

LMB: 579516
Analyzed: 12/18/2017 09:59
Units: ug/L

Analyte	Result	MDL	RL
Perchlorate	ND	1	2.00

Laboratory Control Sample

LCS: 579517
Analyzed: 12/18/2017 10:18
Dilution: 1
Units: ug/L

Analyte	Result	Target	% Rec	QC Limits	
Perchlorate	4.94	5.00	98.8	78.8	123.8

Matrix Spike - Matrix Spike Duplicate

Sample:	1734272001	**MS:**	579518				**MSD:**	579519			
Analyzed:	12/18/2017 10:39	**Analyzed:**	12/18/2017 11:56				**Analyzed:**	12/18/2017 11:17			
Dilution:	1	**Dilution:**	1				**Dilution:**	1			
Units:	ug/L	**Units:**	ug/L				**Units:**	ug/L			

Analyte	Result	Result	Target	% Rec	QC Limits		Result	% Rec	RPD	QC Limits	
Perchlorate	ND	5.3	5	106	78.8	123.8	5.32	106	0.341	0.0	20.0

Continuing Calibration Verification

CCV:	579513			**CCV:**	579520			**CCV:**	579522		
Analyzed:	12/18/2017 08:58			**Analyzed:**	12/18/2017 14:10			**Analyzed:**	12/18/2017 19:35		
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	22.6	25.0	90.5	24.0	25.0	96.0	25.7	25.0	103

CCV:	580015			**CCV:**	580016				
Analyzed:	12/20/2017 09:14			**Analyzed:**	12/20/2017 10:40				
Units:	ug/L			**Units:**	ug/L				
Criteria:	± 15%			**Criteria:**	± 15%				

Analyte	Result	Target	% Rec.	Result	Target	% Rec.
Perchlorate	27.4	25.0	110	27.1	25.0	109

Interference Check Sample

ICSA: 579515
Analyzed: 12/18/2017 09:39
Units: ug/L
Criteria: ± 30%

Analyte	Result	Target	% Rec.
Perchlorate	0.866	1.00	86.6

Quality Control Sample Batch Report

Analysis Information

Workorder: 1734273

Limits:	Client SOW/Contract Specified	**Preparation:**	NA	**Analysis:**	EPA 6850
Basis:	DoD QSM	**Batch:**	NA	**Batch:**	ELMS/2013 (HBN: 205263)
		Prepared By:	NA	**Analyzed By:**	Thomas Bosch

Limit of Detection Verification

LODV:	579514			**LODV:**	579521			**LODV:**	579523		
Analyzed:	12/18/2017 09:19			**Analyzed:**	12/18/2017 16:02			**Analyzed:**	12/18/2017 19:54		
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	0.858	1.00	85.8	0.883	1.00	88.3		1.05	1.00	105

Comments

These field samples were analyzed and reported at the following dilutions.

1732473001 – 1:1,000.

1734528004 – 1:10,000.

1734528005 – 1:10.

1734528010 – 1:100.

The reporting limits have been adjusted accordingly.

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

Analyst	Peer Review
/S/ Thomas Bosch	/S/ Stephen Brose
12/20/2017 14:31	12/22/2017 09:13

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

W 1734273

ıtract Chain of Custody

COC ID: 8175

1734273

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:	HS17120366
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS17120366-01**	**LH18/24-SP140_120617**	**Water**	**06 Dec 2017 14:00**
	SUB_Perch-6850			14 Dec 2017

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

QC Level: DOD IV (DoD Data Package)

Relinquished By:	J. Ingram	Date/Time:	12/7/17 18:00
Received By:		Date/Time:	12/8/17 935
Cooler ID(s):	8873	Temperature(s):	2°

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Environmental

CHAIN-OF-CUSTODY

Project / Job / Task: HS17120366	Split:	Workorder ID: 1734273	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	12/06/2017 14:00	LH18/24-SP140_120617	1734273001		Water	A	1	A
2								
3								
4								
5								
6								
7								
8								
9								
10								

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ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Reason for Transfer / Storage Location
Warath, Julie	12/08/2017 09:35	ALS Sample Receiving	Sample Login
Julie Warath	12/8/17 1600	4B	Storage
R.33.1	12/18/17/09:20	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

00878812

ALS - Salt Lake City-Related Information Report (CRIR)

Cooler or Container Information Checklist (Fill In or Circle)

Client Name: ALS Houston

Project/Task/Site: 173473

Date/Time of Receipt: 12/8/17 0915

Number of Coolers Received:

Condition of Coolers:	Acceptable/Unacceptable	Temperature Control:	Present/Not Included
Cooler Custody Seals:	Present/Absent/NA Intact/Broken/NA	Location Temp Taken:	Control/Between Samples
Container Custody Seals:	Present/Absent/NA Intact/Broken/NA	Are all temperatures within project specific guidelines?	Yes/No/NA
Ice Present:	Yes/No/NA Frozen/Melted/NA	VOA Headspace Present?	Yes/No/NA

pH Check Performed:	Metals	Yes/No/NA	Total Phenolics	Yes/No/NA	NO3/NO2	Yes/No/NA
	Cyanide	Yes/No/NA	TPH – 418.1	Yes/No/NA	Oil & Grease	Yes/No/NA
	Sulfide	Yes/No/NA	COD	Yes/No/NA	Total Phosphorous	Yes/No/NA
	Ammonia	Yes/No/NA	TKN	Yes/No/NA	TOC Preserved	Yes/No/NA

Cooler Received	ALS Cooler No.	Temp.	Cooler Received	ALS Cooler No.	Temp.	Cooler Received	ALSL Cooler No.	Temp.
1	C17- 8873	2 °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: [signature] Signature [signature] Printed Name 12/8/17 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


(ALS)
BILL SENDER
PAUL POPE
ALS ENVIRONMENTAL
960 W. LEVOY DRIVE
SALT LAKE CITY UT 84123
REF: HS17120365/366/367 SW
FedEx
Express
FRI – 08 DEC 3:00P
STANDARD OVERNIGHT
TRK# 0201 7376 9750 8640
84123
SLC
UT – US
X/1 BTFA
SD
Saturday Delivery
151966 10/04 MWI
199 of 306

Batch Worklist

Batch: ELMS/ 2013 **Created:** 12/18/2017 08:45 **Instrument:** **HBN:** 205263

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

Workorder: 1734272 [ENV_LVL4]
Workorder: 1734273 [ENV_LVL4]
Workorder: 1734274 [ENV_LVL4]
Workorder: 1734528 [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	579513	CCV for HBN 205263 [ELMS/2013]				CCV	3		E685041C3Q	5311		12/22/2017	
2	579514	LODV for HBN 205263 [ELMS/2013				LODV	3		E6850..D3Q	5311		12/22/2017	
3	579515	ICS for HBN 205263 [ELMS/2013]				ICS	3		E6850..D3Q	5311		12/22/2017	
4	579516	LMB for HBN 205263 [ELMS/2013]				LMB	3		E6850Q413Q	5311		12/22/2017	
5	579517	LCS for HBN 205263 [ELMS/2013]				LCS	3		E6850Q413Q	5311		12/22/2017	
6	1734272001	LH18/24-SP650_120617				SAMPLE	3	1734272001-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
7	579518	LH18/24-SP650...(1734272001MS)				MS	3		E6850Q413Q	5311		12/22/2017	
8	579519	LH18/24-SP65...(1734272001MSD)				MSD	3		E6850Q413Q	5311		12/22/2017	
9	1734273001	LH18/24-SP140_120617				SAMPLE	3	1734273001-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
10	1734274001	LH18/24-SP650_120617				SAMPLE	3	1734274001-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
11	1734528001	C09_120517				SAMPLE	3	1734528001-A	E6850Q41.3	5480	1/2/2018	12/22/2017	
12	1734528002	126_120517				SAMPLE	3	1734528002-A	E6850Q41.3	5480	1/2/2018	12/22/2017	
13	1734528003	C08_120517				SAMPLE	3	1734528003-A	E6850Q41.3	5480	1/2/2018	12/22/2017	
14	1734528004	18WW17_120517				SAMPLE	3	1734528004-A	E6850Q41.3	5480	1/2/2018	12/22/2017	
15	1734528005	C03_120517				SAMPLE	3	1734528005-A	E6850Q41.3	5480	1/2/2018	12/22/2017	
16	579520	CCV for HBN 205263 [ELMS/2013]				CCV	3		E685041C3Q	5311		12/22/2017	
17	579521	LODV for HBN 205263 [ELMS/2013				LODV	3		E6850..D3Q	5311		12/22/2017	
18	1734528006	18CPTMW18_120517				SAMPLE	3	1734528006-A	E6850Q41.3	5480	1/2/2018	12/22/2017	
19	1734528007	18WW22_120617				SAMPLE	3	1734528007-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
20	1734528008	18CPTMW19_120617				SAMPLE	3	1734528008-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
21	1734528009	18CPTMW19_120617_a				SAMPLE	3	1734528009-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
22	1734528010	18WW08_120617				SAMPLE	3	1734528010-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
23	1734528011	18CPTMW15_120617				SAMPLE	3	1734528011-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
24	1734528012	18CPTMW07_120617				SAMPLE	3	1734528012-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
25	579522	CCV for HBN 205263 [ELMS/2013]				CCV	3		E685041C3Q	5311		12/22/2017	
26	579523	LODV for HBN 205263 [ELMS/2013				LODV	3		E6850..D3Q	5311		12/22/2017	

00878815

Batch Worklist

Pos	Lab ID	Sample ID	Prep Initial	Prep Final	Dust Weight	Type	Mx	Container	Procedure	Mgr	Expire Date	Due Date	Run Date
27	580015	CCV for HBN 205263 [ELMS/2013]				CCV	3		E685041C3Q	5311		12/22/2017	
28	580016	CCV for HBN 205263 [ELMS/2013]				CCV	3		E685041C3Q	5311		12/22/2017	

00878816

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Analytical Documentation

Sequence: C:\HPCHEM\1\SEQUENCE\CLO4\2017\DEC\18DEC17P.S

Sequence Table:

Method and Injection Info Part:

Line	Location	SampleName		Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	579513	CCV@25	CLO4-DOD	1	Ctrl Samp		
2	Vial 72	579514	LODV@1.	CLO4-DOD	1	Ctrl Samp		
3	Vial 73	579515	ICS@1.	CLO4-DOD	1	Ctrl Samp		
4	Vial 74	579516	LMB	CLO4-DOD	1	Ctrl Samp		
5	Vial 75	579517	LCS@5.	CLO4-DOD	1	Ctrl Samp		
6	Vial 76	1734272001		CLO4-DOD	1	Sample		
7	Vial 77	579518	342721S	CLO4-DOD	1	Sample		
8	Vial 78	579519	342721D	CLO4-DOD	1	Sample		
9	Vial 79	1734273001		CLO4-DOD	1	Sample		
10	Vial 77	579518	342721S	CLO4-DOD	1	Sample		
11	Vial 80	1734274001		CLO4-DOD	1	Sample		
12	Vial 81	1734528001		CLO4-DOD	1	Sample		
13	Vial 82	1734528002		CLO4-DOD	1	Sample		
14	Vial 83	1734528003		CLO4-DOD	1	Sample		
15	Vial 84	1734528004		CLO4-DOD	1	Sample		
16	Vial 85	1734528005		CLO4-DOD	1	Sample		
17	Vial 71	579520	CCV@25	CLO4-DOD	1	Ctrl Samp		
18	Vial 72	579521	LODV@1.	CLO4-DOD	1	Ctrl Samp		
19	Vial 72	579521	LODV@1.	CLO4-DOD	1	Ctrl Samp		
20	Vial 86	1734528006		CLO4-DOD	1	Sample		
21	Vial 87	1734528007		CLO4-DOD	1	Sample		
22	Vial 88	1734528008		CLO4-DOD	1	Sample		
23	Vial 89	1734528009		CLO4-DOD	1	Sample		
24	Vial 90	1734528010		CLO4-DOD	1	Sample		
25	Vial 91	1734528011		CLO4-DOD	1	Sample		
26	Vial 92	1734528012		CLO4-DOD	1	Sample		
27	Vial 93	1734273001	1K	CLO4-DOD	1	Sample		
28	Vial 94	1734528004	1K	CLO4-DOD	1	Sample		
29	Vial 95	1734528005	10X	CLO4-DOD	1	Sample		
30	Vial 71	579522	CCV@25	CLO4-DOD	1	Ctrl Samp		
31	Vial 72	579523	LODV@1.	CLO4-DOD	1	Ctrl Samp		

ALS Work Order #'s & Sample #( )'s: 1734272 (001); 1734273 (001); 1734274 (001); 1734528 (001-12)
ELMS Batch/HBN ID: 2013 (205263)
Prep Date: 12/18/2017 Analysis Date: 12/18;20/2017 Analyst: T. Bosch
Analyte: **Perchlorate** Matrix: **Water** Method: **6850**
Sequence:\\HPCHEM\1\SEQUENCE\CLO4\2017\DEC\18DEC17P.s & 20DEC17P.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 579517; Target = 5.0µg/L. ASTM type II water was used for LMB 579516.

MS/MSD: MS/MSD was performed on sample 1734272001 (Client ID: LH18/24-SP650_120617). 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. These field samples were analyzed and reported at the following dilutions. The reporting limits have been adjusted accordingly.

Sample #	Dilution
1732473001	1,000
1734528004	10,000
1734528005	10
1734528010	100

2) All QC, Blank, CCV, and MS/MSD results were within method parameters.
3) Sample data can be viewed at two directories within the ALS system: \\ALSLTWS013\LCMS\LCMS04\2017\DEC\HBN# or through NuGenesis\Tree\PrintData\LCMS\DefaultView.
4) Due to limitations of the Chemstation Software, many of the chromatographic peaks require manual integration. Manual Integrations were performed for some of the Initial Calibration analyses (datafiles: 28NOVP01,02) along with datafiles 18DECP03/09/15/19.
5) Notebook: \\alsltws013\ORGANIC\BOSCH\LCMS\Perchlorates\Waters\2017\CLO4-205263-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
MFG: ALS/SLC
MFG Lot: TNB: 05/11/2017
Part ID:

Created By: T. Bosch
Create Date: 05/11/2017
Lab Lot: CLO4 QC INT 10.ug/mL

Amount: 10 mL
Expires: 05/11/2018
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	10 ug/mL

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
109	ASTM H2O	ASTM Type II Water	LAB 109	9.9 mL	11/07/2025
36748	CLO4 QCSTOCK	6850 QC Stock STD 1,000ug/mL	CLO4 QC STOCK	0.1 mL	03/31/2020

STANDARD REPORT

Constituent

Solvent Standard - ASTM H2O

ASTM H2O		Description - ASTM Type II Water
Standard: 109	Created By: ALS Support (Lims)	Amount: 1000 L
MFG: DCL In House	Create Date: 10/6/2005	Expires: 11/7/2025
MFG Lot:	Lab Lot: LAB 109	Usable: Yes
Part ID:		

Pos.	Analyte	Name	Concentration
Solvent - Analyte(s) not applicable			

STANDARD REPORT

Constituent

Stock Standard - CLO4 QCSTOCK

CLO4 QCSTOCK Description - 6850 QC Stock STD 1,000ug/mL

Standard: 36748
MFG: Ultra Scientific
MFG Lot: CP-0860
Part ID: ICC-013

Created By: T. Bosch
Create Date: 5/11/2017
Lab Lot: CLO4 QC STOCK

Amount: 100 mL
Expires: 3/31/2020
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	1000 ug/mL

STANDARD REPORT

Working Standard - CLO4ISTDWRK

CLO4ISTDWRK		Description - Perchlorate ISTD Wrk 1,000ug/L
Standard: 38780	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

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.

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

TRIPLE ISO CERTIFICATION ISO 9001:2008 ISO GUIDE 34:2009 ISO/IEC 17025:2005 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

OR-ORG/IND-001
Rev. 5/16

Cambridge Isotope Laboratories, Inc.

Certificate of Analysis

Quality Standards:
ISO Guide 34 • ISO/IEC 17025 • ISO 13485 • cGMP

23118

Product Name: (Isotopic Label & Enrichment Specification)	PERCHLORIC ACID, SODIUM SALT (18O4, 90%+) 100 UG/ML IN WATER
Lot Number:	SDDG-013
Catalog Number:	OLM-7310-S

Product Information

Chemical Purity Specification:	≥98%
Labeled CAS Number:	NA
Unlabeled CAS Number:	7601-89-0
MW*:	130.4
Chemical Formula:	NaCl*O4
Storage:	Store at room temperature away from light and moisture.
Stability:	See storage and expiration date.

Certification

Cambridge Isotope Laboratories, Inc. guarantees that this material meets or exceeds the specifications stated. Absolute identity as well as chemical and isotopic purities are assured by the use of unambiguous synthetic routes and multiple chemical analyses whenever possible. Results are representative of QC testing at time of release from Quality Control unless otherwise stated.

Volumetric measurements were made with Class A glassware. Gravimetry is traceable to the NIST through calibrated balances and certified, calibrated, standard weights. The calibrations are traceable to the NIST under Test No. 822/270236-04. The calibrations also meet specifications outlined in ISO 9001, ISO/IEC 17025, ANSI/NSCL Z540-1-1994, NCR Document 10CFR50 Appendix B, and applicable subdocuments.

This COA references the bulk catalog number before packaging. The COA also applies to the CIL finished good catalog number. Some possible packaging sizes and their corresponding suffix are -1.2, -1, -0.5, -10, or -0.1.

* *For isotopically labeled compounds, MW listed is for the fully enriched product.*

Approved by: T. J. Eckersley

Timothy J. Eckersley, Ph.D., Quality Assurance

Quality Control Tests and Results

QC Release Date	2/27/2014
Expiration Date	2/27/2024
Concentration Based on Gravimetry	102 µg/mL
Chemical Purity of Neat Material(s)	98%
LC/MS for Concentration	109.4 ± 2.8 µg/mL (k=2)

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Raw Data

Batch Report: C:\HPCHEM\1\DATA\18DEC17P\18DEC17P.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
#	*	579513	CCV@25	Vial 71	1	Control	1	8.19513e5	12.270	22.61557
#	*	579514	LODV@1.	Vial 72	1	Control	2	2.99723e4	12.414	8.57599e-1
#	*	579515	ICS@1.	Vial 73	1	Control	3	2.28938e4	12.202	8.65794e-1
#		579516	LMB	Vial 74	1	Control	4	0.00000	0.000	0.00000
#	*	579517	LCS@5.	Vial 75	1	Control	5	1.72923e5	12.304	4.94133
#		1734272001		Vial 76	1	Sample	6	0.00000	0.000	0.00000
#	*	579519	342721D	Vial 78	1	Sample	8	1.70836e5	12.497	5.32002
#		1734273001		Vial 79	1	Sample	9	3.34489e8	10.358	1644.58694 D:1/5
#	*	579518	342721S	Vial 77	1	Sample	10	1.71421e5	12.597	5.30192
#		1734274001		Vial 80	1	Sample	11	0.00000	0.000	0.00000
#		1734528001		Vial 81	1	Sample	12	0.00000	0.000	0.00000
#		1734528002		Vial 82	1	Sample	13	0.00000	0.000	0.00000
#		1734528003		Vial 83	1	Sample	14	0.00000	0.000	0.00000
#		1734528004		Vial 84	1	Sample	15	0.00000	0.000	0.00000 D:1/5
#		1734528005		Vial 85	1	Sample	16	6.13484e6	12.265	137.24631 D:1/5
#	*	579520	CCV@25	Vial 71	1	Control	17	7.71231e5	12.572	23.99556
#	*	579521	LODV@1.	Vial 72	1	Control	18	6.02035e4	12.741	1.93940 N.R.
#	*	579521	LODV@1.	Vial 72	1	Control	19	3.19782e4	12.758	8.83370e-1
#		1734528006		Vial 86	1	Sample	20	5.11133e4	12.122	2.04849
#		1734528007		Vial 87	1	Sample	21	0.00000	0.000	0.00000
#		1734528008		Vial 88	1	Sample	22	1.40651e6	12.759	35.44352
#		1734528009		Vial 89	1	Sample	23	1.50139e6	12.641	35.94367
#		1734528010		Vial 90	1	Sample	24	1.03788e8	11.575	783.79545 D:1/5
#		1734528011		Vial 91	1	Sample	25	5.36376e4	12.428	1.85996
#		1734528012		Vial 92	1	Sample	26	0.00000	0.000	0.00000
#	*	1734273001	1K	Vial 93	1	Sample	27	2.96423e5	12.816	7998.96138
#	*	1734528004	1K	Vial 94	1	Sample	28	4.10797e6	12.777	7.71227e4 D:1/5
#	*	1734528005	10X	Vial 95	1	Sample	29	7.03474e5	12.664	171.80316
#	*	579522	CCV@25	Vial 71	1	Control	30	1.03284e6	12.662	25.66192
*		579523	LODV@1.	Vial 72	1	Control	31	4.11635e4	12.811	1.05307

N.R. - NOT REPORTED, RERUN

#	*	Sample	Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
#	*	579513	CCV@25	Vial 71	1	Control	1	2.73170e5	12.287	23.70026
#	*	579514	LODV@1.	Vial 72	1	Control	2	1.37695e4	12.427	9.84936e-1
#	*	579515	ICS@1.	Vial 73	1	Control	3	8384.95508	12.231	7.53800e-1
#		579516	LMB	Vial 74	1	Control	4	0.00000	0.000	0.00000
#	*	579517	LCS@5.	Vial 75	1	Control	5	6.35733e4	12.316	5.43577
#		1734272001		Vial 76	1	Sample	6	0.00000	0.000	0.00000
#	*	579519	342721D	Vial 78	1	Sample	8	5.96372e4	12.512	5.57190
#		1734273001		Vial 79	1	Sample	9	1.21188e8	10.368	1980.88358
#	*	579518	342721S	Vial 77	1	Sample	10	6.02931e4	12.608	5.59454
#		1734274001		Vial 80	1	Sample	11	0.00000	0.000	0.00000
#		1734528001		Vial 81	1	Sample	12	0.00000	0.000	0.00000
#		1734528002		Vial 82	1	Sample	13	0.00000	0.000	0.00000
#		1734528003		Vial 83	1	Sample	14	0.00000	0.000	0.00000
#		1734528004		Vial 84	1	Sample	15	0.00000	12.225	0.00000
#		1734528005		Vial 85	1	Sample	16	2.00064e6	12.279	149.19548
#	*	579520	CCV@25	Vial 71	1	Control	17	2.66561e5	12.598	26.03933
#	*	579521	LODV@1.	Vial 72	1	Control	18	2.41168e4	12.726	2.18233
#	*	579521	LODV@1.	Vial 72	1	Control	19	1.26778e4	12.762	8.54268e-1
#		1734528006		Vial 86	1	Sample	20	2.10850e4	12.132	2.39278
#		1734528007		Vial 87	1	Sample	21	0.00000	0.000	0.00000
#		1734528008		Vial 88	1	Sample	22	4.55259e5	12.783	36.62958
#		1734528009		Vial 89	1	Sample	23	4.76179e5	12.662	36.49676
#		1734528010		Vial 90	1	Sample	24	3.64636e7	11.594	924.32429
#		1734528011		Vial 91	1	Sample	25	2.03285e4	12.422	1.96094
#		1734528012		Vial 92	1	Sample	26	0.00000	0.000	0.00000
#	*	1734273001	1K	Vial 93	1	Sample	27	1.02865e5	12.825	8462.65308
#	*	1734528004	1K	Vial 94	1	Sample	28	1.28486e6	12.793	7.95428e4

Batch Report: C:\HPCHEM\1\DATA\18DEC17P\18DEC17P.B

#	Sample	Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
#*	1734528005	10X	Vial 95	1	Sample	29	2.33472e5	12.682	177.99797
#*	579522	CCV@25	Vial 71	1	Control	30	3.36885e5	12.677	26.45174
*	579523	LODV@1.	Vial 72	1	Control	31	1.50817e4	12.805	9.67895e-1

#	Sample	Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
#*	579513	CCV@25	Vial 71	1	Control	1	1.50222e5	12.291	5.00000
#*	579514	LODV@1.	Vial 72	1	Control	2	1.66184e5	12.442	5.00000
#*	579515	ICS@1.	Vial 73	1	Control	3	1.25695e5	12.227	5.00000
#*	579516	LMB	Vial 74	1	Control	4	1.78027e5	12.525	5.00000
#*	579517	LCS@5.	Vial 75	1	Control	5	1.59033e5	12.328	5.00000
#*	1734272001		Vial 76	1	Sample	6	1.28204e5	12.458	5.00000
#*	579519	342721D	Vial 78	1	Sample	8	1.45591e5	12.522	5.00000
#*	1734273001		Vial 79	1	Sample	9	9.64717e4	10.331	5.00000
#*	579518	342721S	Vial 77	1	Sample	10	1.46605e5	12.617	5.00000
#*	1734274001		Vial 80	1	Sample	11	1.32893e5	12.657	5.00000
#*	1734528001		Vial 81	1	Sample	12	1.12509e5	12.134	5.00000
#*	1734528002		Vial 82	1	Sample	13	8.14045e4	12.135	5.00000
#*	1734528003		Vial 83	1	Sample	14	7.98631e4	12.223	5.00000
#*	1734528004		Vial 84	1	Sample	15	0.00000	0.000	0.00000
#*	1734528005		Vial 85	1	Sample	16	1.19726e5	12.288	5.00000
#*	579520	CCV@25	Vial 71	1	Control	17	1.32362e5	12.602	5.00000
#*	579521	LODV@1.	Vial 72	1	Control	18	1.44412e5	12.735	5.00000
#*	579521	LODV@1.	Vial 72	1	Control	19	1.71963e5	12.778	5.00000
#*	1734528006		Vial 86	1	Sample	20	1.15933e5	12.136	5.00000
#*	1734528007		Vial 87	1	Sample	21	1.30647e5	12.655	5.00000
#*	1734528008		Vial 88	1	Sample	22	1.54970e5	12.775	5.00000
#*	1734528009		Vial 89	1	Sample	23	1.62755e5	12.662	5.00000
#*	1734528010		Vial 90	1	Sample	24	1.18491e5	11.602	5.00000
#*	1734528011		Vial 91	1	Sample	25	1.34288e5	12.447	5.00000
#*	1734528012		Vial 92	1	Sample	26	1.56764e5	12.490	5.00000
#*	1734273001	1K	Vial 93	1	Sample	27	1.65455e5	12.842	5000.00000
#*	1734528004	1K	Vial 94	1	Sample	28	1.75146e5	12.796	5000.00000
#*	1734528005	10X	Vial 95	1	Sample	29	1.74320e5	12.696	50.00000
#*	579522	CCV@25	Vial 71	1	Control	30	1.64442e5	12.683	5.00000
*	579523	LODV@1.	Vial 72	1	Control	31	1.84677e5	12.840	5.00000

*** End of Report ***

Batch Report: C:\HPCHEM\1\DATA\20DEC17P\20DEC17P.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
	*	580015	CCV@25	Vial 71	1	Control	1	1.01810e6	12.642	27.41290
	*	1734528010	10X	Vial 96	1	Sample	2	1.08442e7	12.531	1772.19164
	*	1734528004	10K	Vial 97	1	Sample	3	3.29576e5	12.818	9.35585e4
	*	1734528010	100	Vial 98	1	Sample	4	9.33493e5	12.776	2386.90132
	*	580016	CCV@25	Vial 71	1	Control	5	1.01357e6	12.639	27.14098

#	*	Sample	Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
	*	580015	CCV@25	Vial 71	1	Control	1	3.19294e5	12.650	27.31357
	*	1734528010	10X	Vial 96	1	Sample	2	3.38019e6	12.545	1881.86812
	*	1734528004	10K	Vial 97	1	Sample	3	1.09810e5	12.834	9.55831e4
	*	1734528010	100	Vial 98	1	Sample	4	2.95219e5	12.800	2386.21800
	*	580016	CCV@25	Vial 71	1	Control	5	3.16517e5	12.656	26.92819

#	*	Sample	Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
	*	580015	CCV@25	Vial 71	1	Control	1	1.50493e5	12.665	5.00000
	*	1734528010	10X	Vial 96	1	Sample	2	1.45913e5	12.542	50.00000
	*	1734528004	10K	Vial 97	1	Sample	3	1.56125e5	12.834	5.00000e4
	*	1734528010	100	Vial 98	1	Sample	4	1.61157e5	12.799	500.00000
	*	580016	CCV@25	Vial 71	1	Control	5	1.51519e5	12.664	5.00000

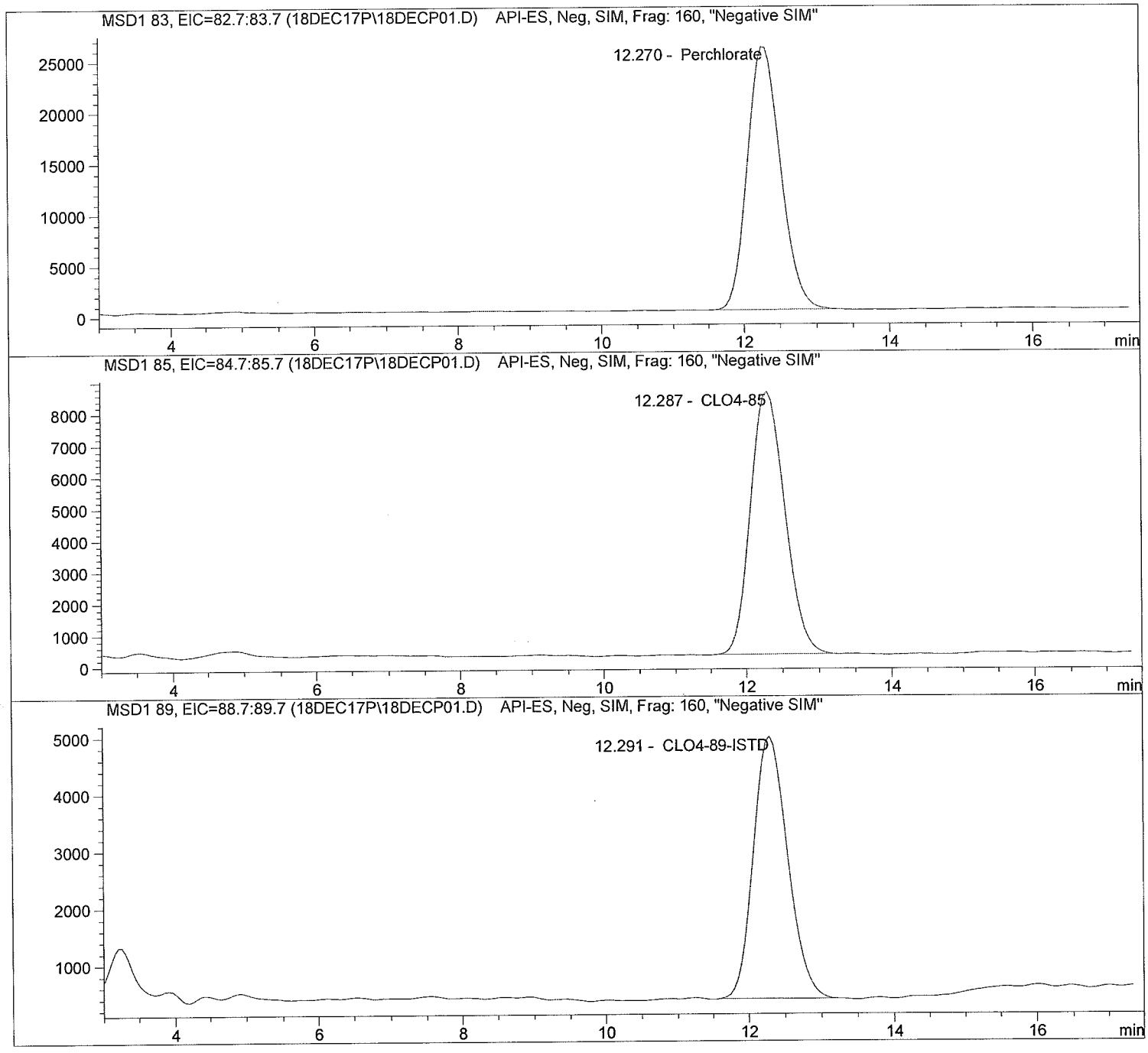
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP01.D Sample Name: 579513 CCV@25

Injection Date:	12/18/2017 08:58:15	Seq Line:	1
Sample Name:	579513 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\18DEC17P\18DECP01.D Sample Name: 579513 CCV@25

Injection Date:	12/18/2017 08:58:15	Seq Line:	1
Sample Name:	579513 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
12.270	BBA	819513.3	22.6156	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.287	PBA	273170.0	23.7003	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.291	PBA	150221.5	5.0000	CLO4-89-ISTD

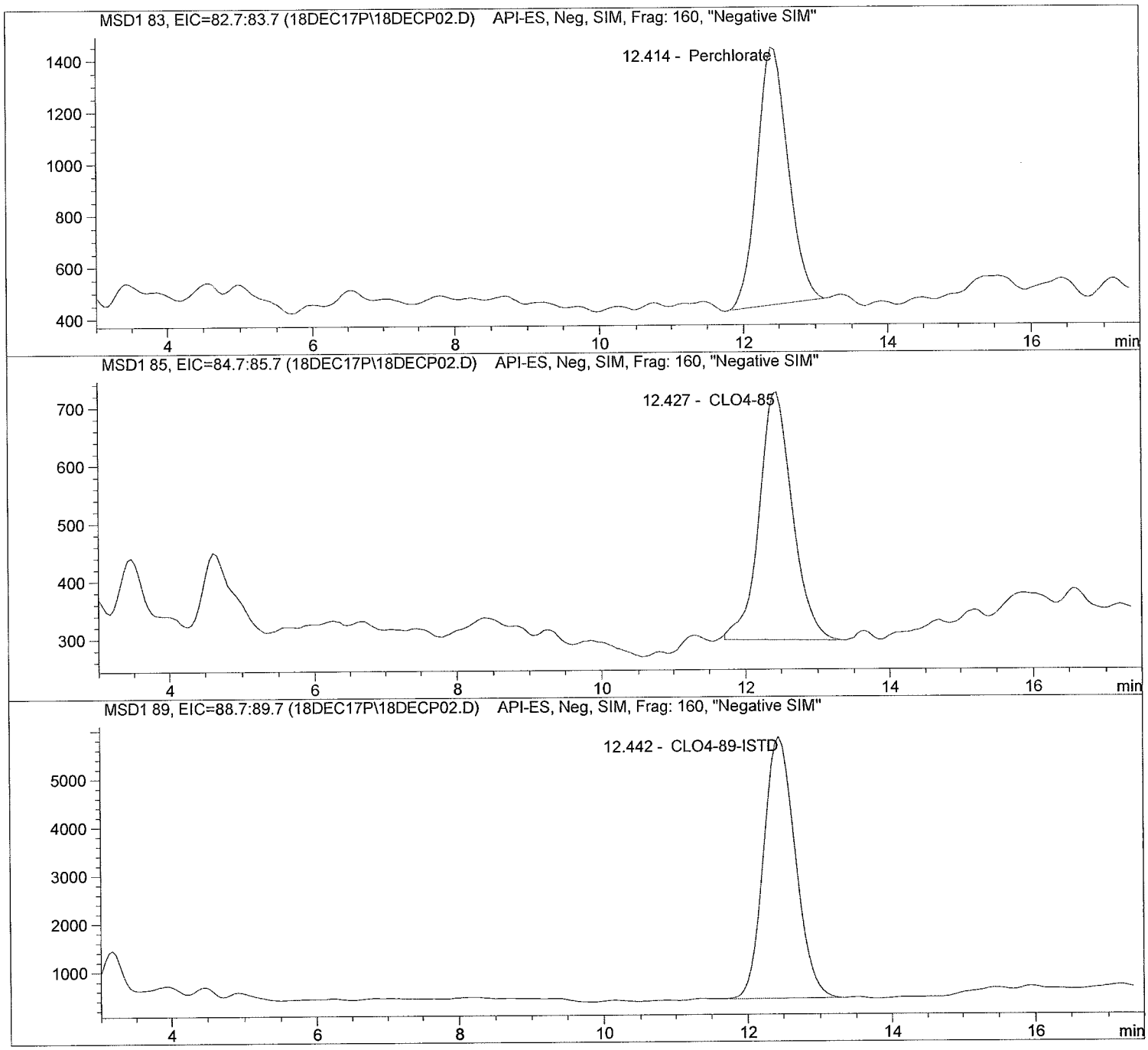
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP02.D Sample Name: 579514 LODV@1.

Injection Date:	12/18/2017 09:19:50	Seq Line:	2
Sample Name:	579514 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\18DEC17P\18DECP02.D Sample Name: 579514 LODV@1.

Injection Date:	12/18/2017 09:19:50	Seq Line:	2
Sample Name:	579514 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
12.414	PBA	29972.3	0.8576	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.427	BBA	13769.5	0.9849	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.442	BBA	166183.7	5.0000	CLO4-89-ISTD

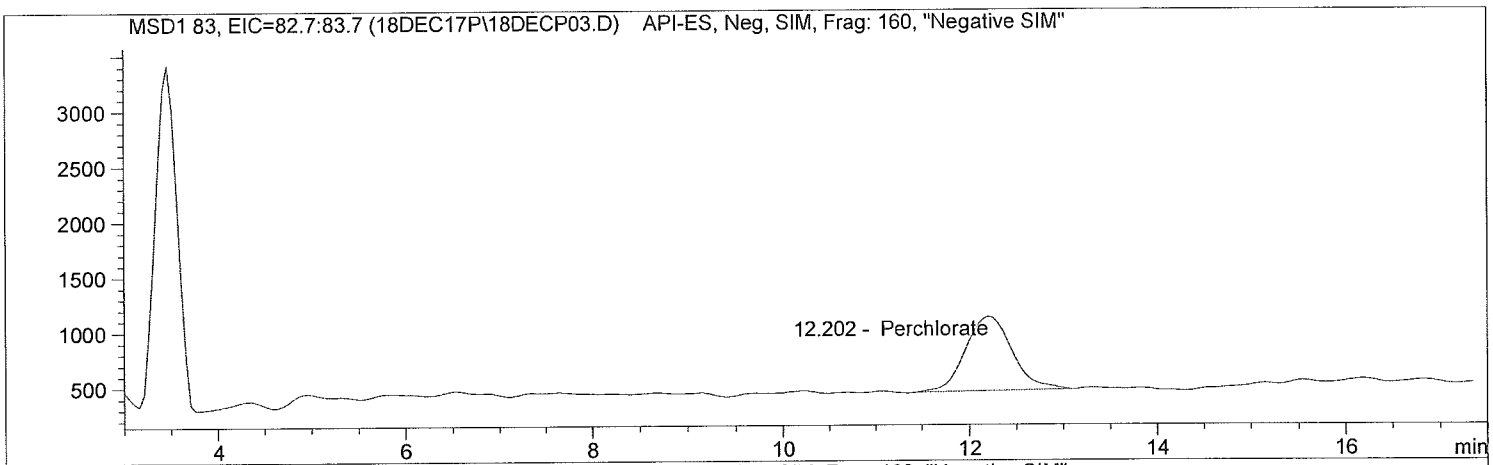
*** End of Report ***

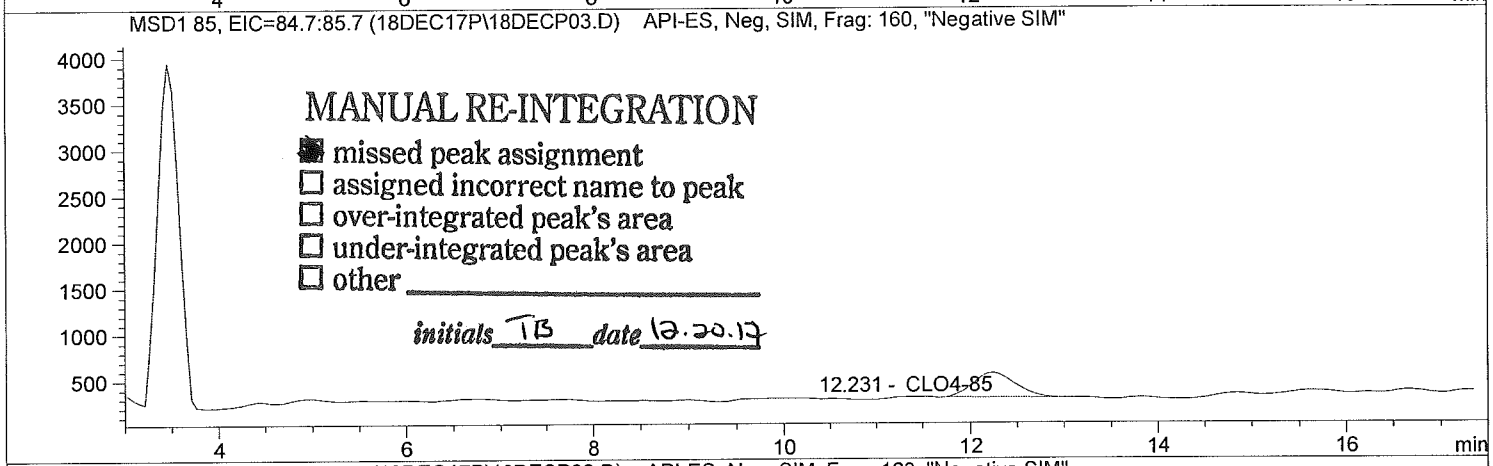
Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP03.D Sample Name: 579515 ICS@1.

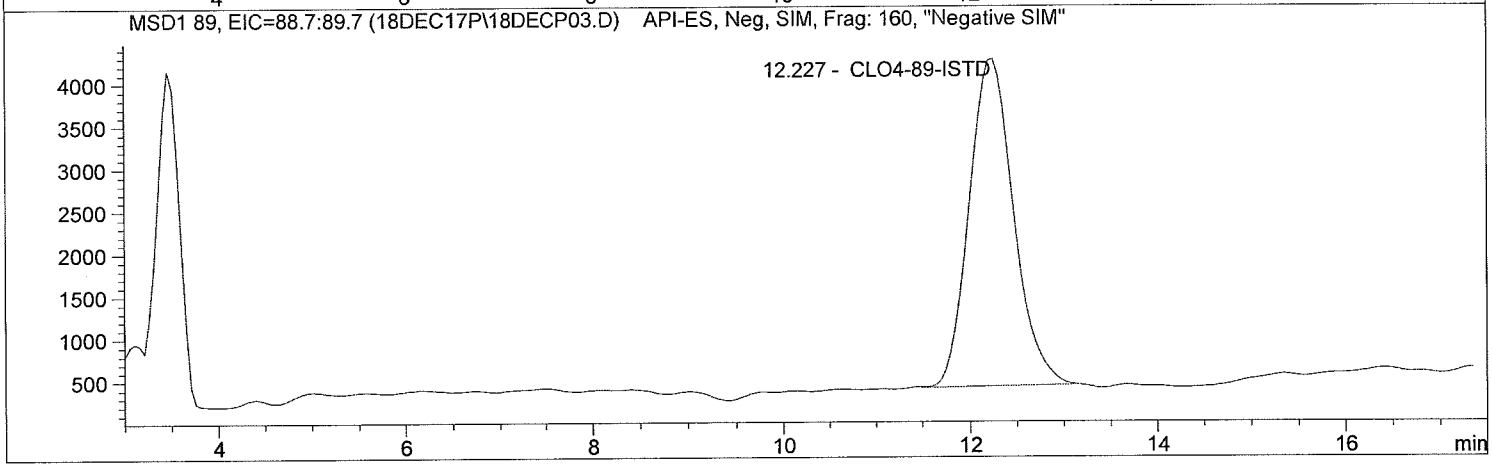
Injection Date:	12/18/2017 09:39:00	Seq Line:	3
Sample Name:	579515 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP03.D Sample Name: 579515 ICS@1.

Injection Date:	12/18/2017 09:39:00	Seq Line:	3
Sample Name:	579515 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
12.202	PBA	22893.8	0.8658	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.231	MM	8385.0	0.7538	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.227	BBA	125694.8	5.0000	CLO4-89-ISTD

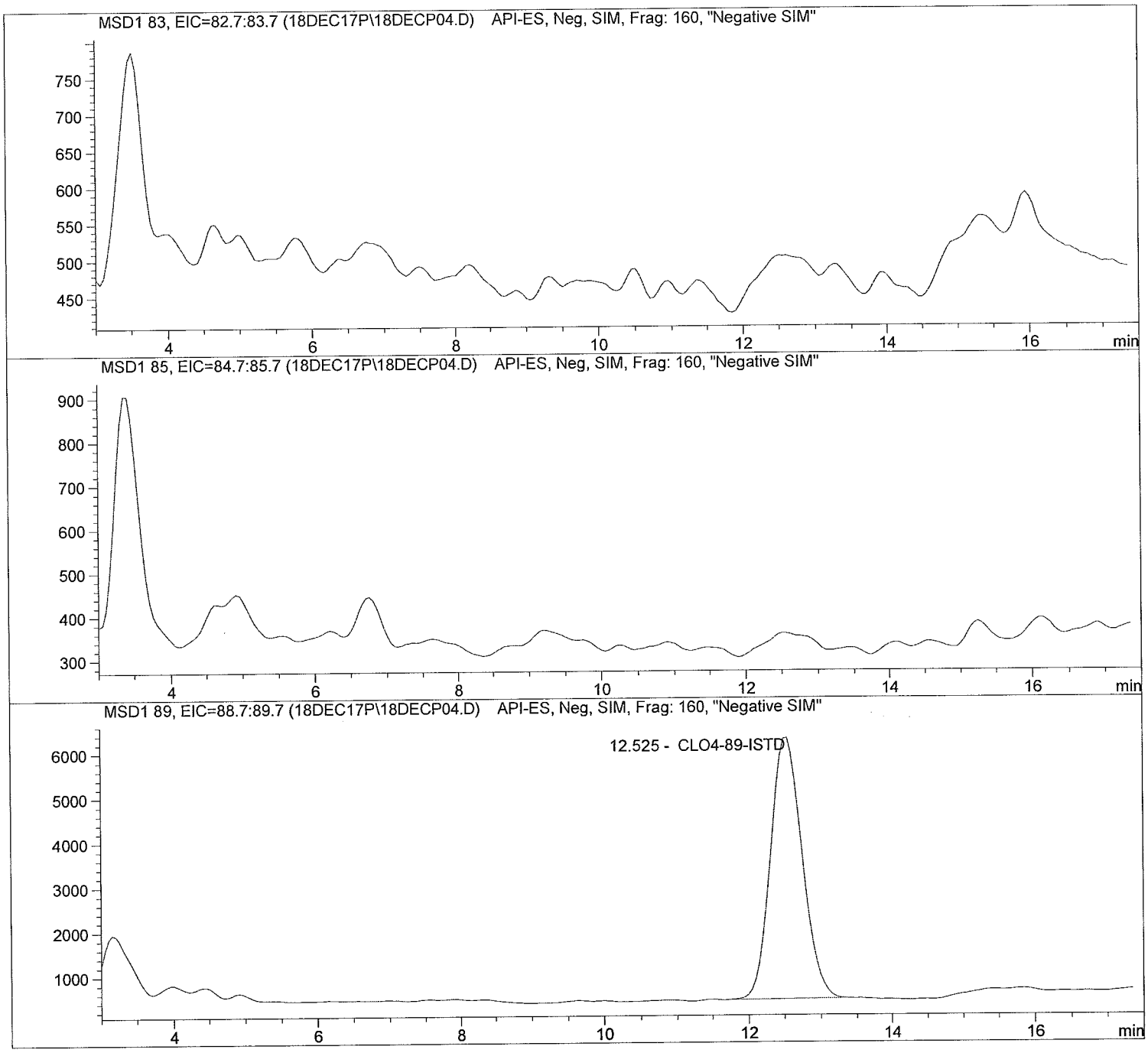
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP04.D Sample Name: 579516 LMB

Injection Date:	12/18/2017 09:59:19	Seq Line:	4
Sample Name:	579516 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\18DEC17P\18DECP04.D Sample Name: 579516 LMB

Injection Date:	12/18/2017 09:59:19	Seq Line:	4
Sample Name:	579516 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
12.525	BBA	178027.5	5.0000	CLO4-89-ISTD

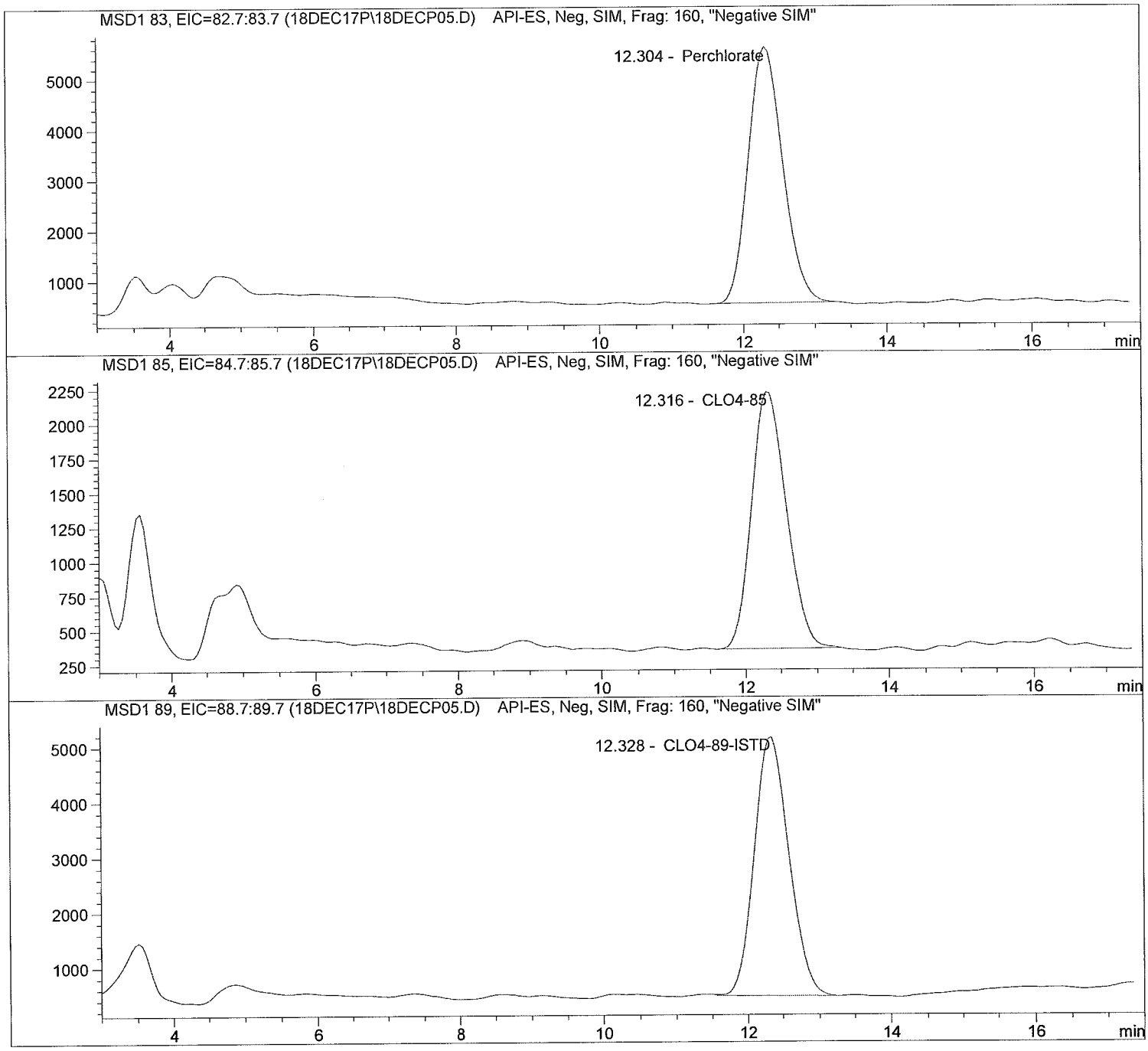
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP05.D Sample Name: 579517 LCS@5.

Injection Date:	12/18/2017 10:18:30	Seq Line:	5
Sample Name:	579517 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\18DEC17P\18DECP05.D Sample Name: 579517 LCS@5.

Injection Date:	12/18/2017 10:18:30	Seq Line:	5
Sample Name:	579517 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
12.304	PBA	172923.4	4.9413	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.316	PBA	63573.3	5.4358	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.328	BBA	159032.7	5.0000	CLO4-89-ISTD

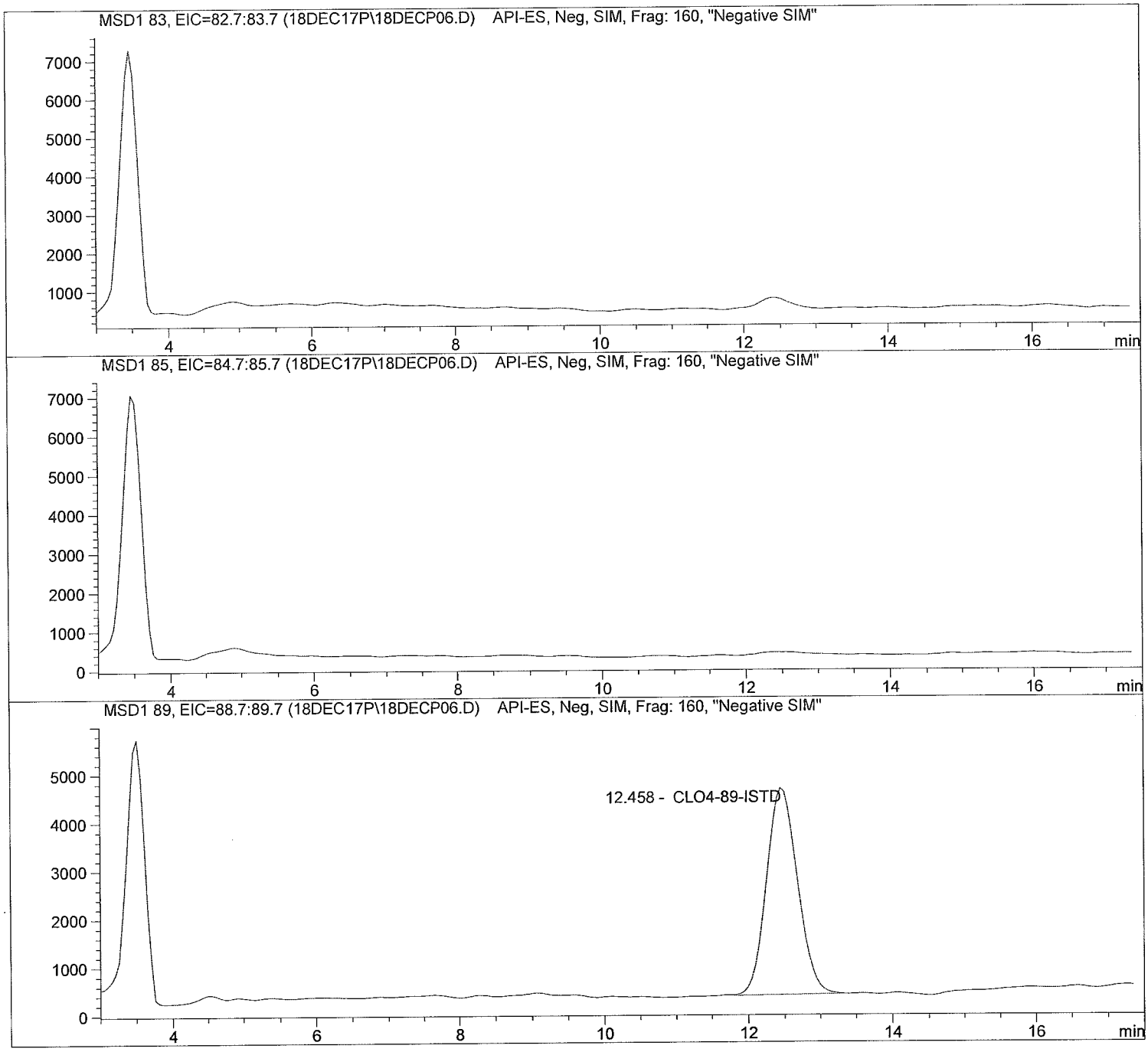
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP06.D Sample Name: 1734272001

Injection Date:	12/18/2017 10:39:17	Seq Line:	6
Sample Name:	1734272001	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\18DEC17P\18DECP06.D Sample Name: 1734272001

Injection Date:	12/18/2017 10:39:17	Seq Line:	6
Sample Name:	1734272001	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.458	BBA	128203.7	5.0000	CLO4-89-ISTD

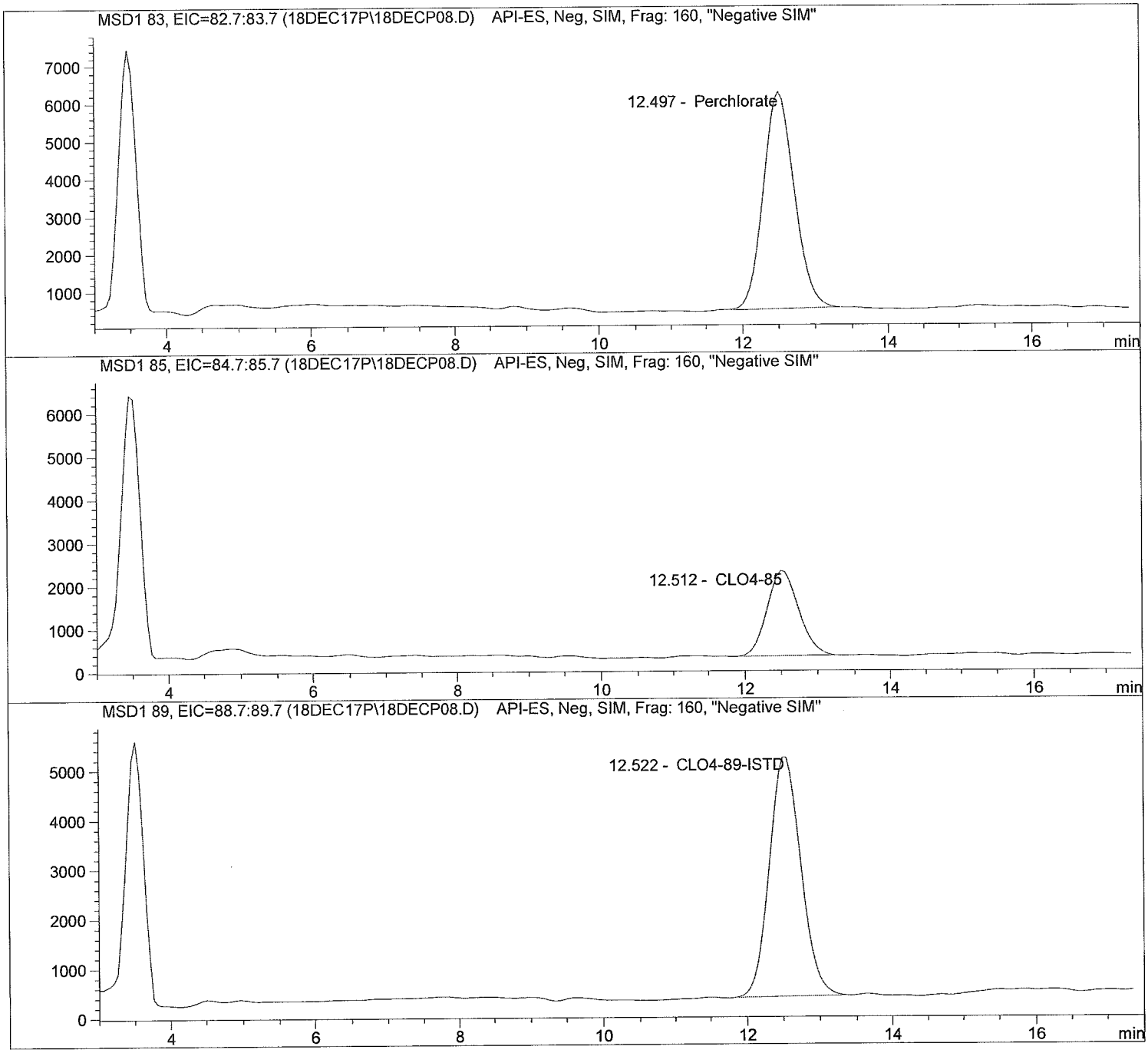
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP08.D Sample Name: 579519 342721D

Injection Date:	12/18/2017 11:17:39	Seq Line:	8
Sample Name:	579519 342721D	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\18DEC17P\18DECP08.D Sample Name: 579519 342721D

Injection Date:	12/18/2017 11:17:39	Seq Line:	8
Sample Name:	579519 342721D	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
12.497	BBA	170836.3	5.3200	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.512	PBA	59637.2	5.5719	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.522	PBA	145591.5	5.0000	CLO4-89-ISTD

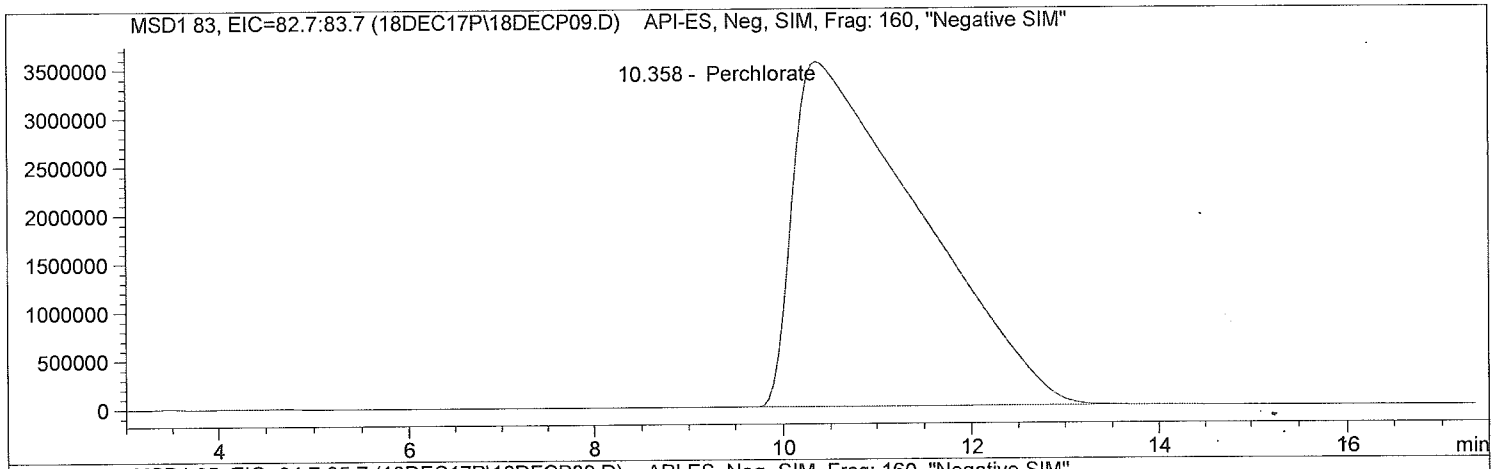
*** End of Report ***

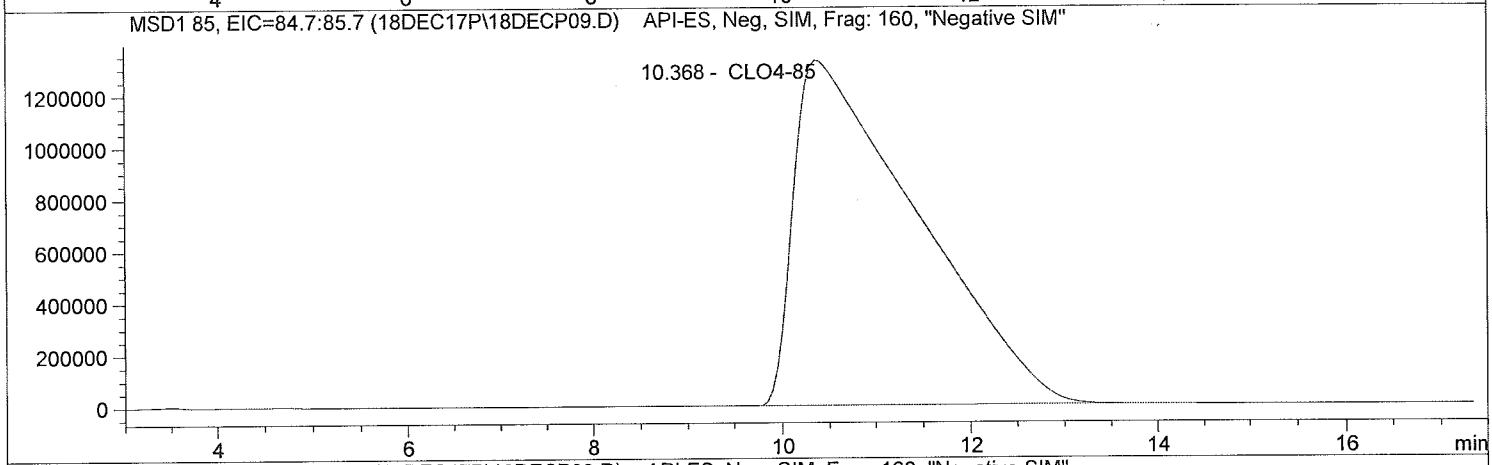
Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP09.D Sample Name: 1734273001

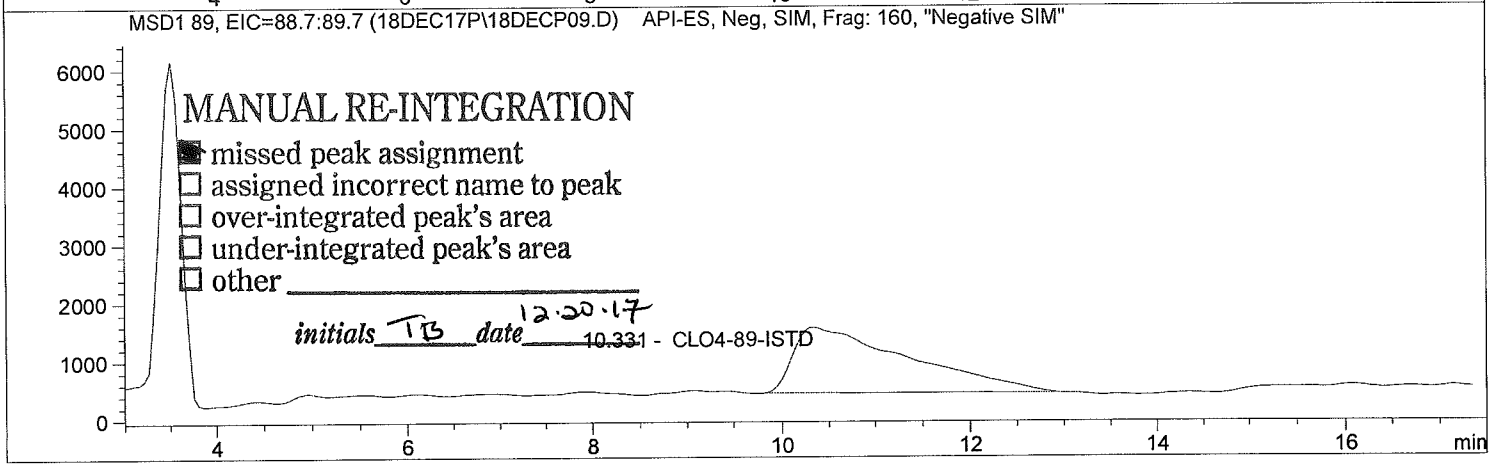
Injection Date:	12/18/2017 11:36:53	Seq Line:	9
Sample Name:	1734273001	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP09.D Sample Name: 1734273001

Injection Date:	12/18/2017 11:36:53	Seq Line:	9
Sample Name:	1734273001	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.358	PBA	334489216.0	1644.5869	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.368	PBA	121188464.0	1980.8836	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.331	MM	96471.7	5.0000	CLO4-89-ISTD

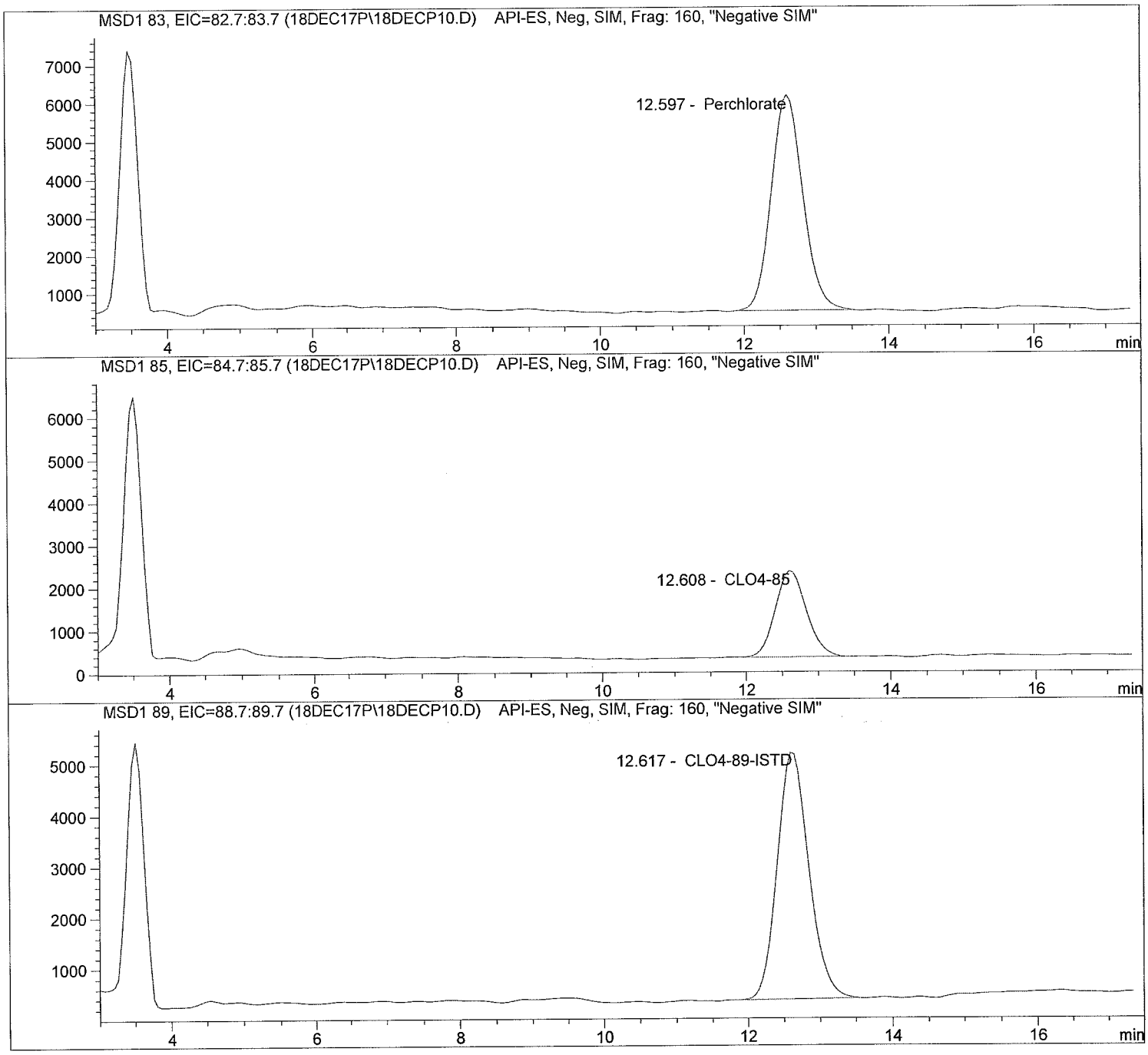
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP10.D Sample Name: 579518 342721S

Injection Date:	12/18/2017 11:56:04	Seq Line:	10
Sample Name:	579518 342721S	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\18DEC17P\18DECP10.D Sample Name: 579518 342721S

Injection Date:	12/18/2017 11:56:04	Seq Line:	10
Sample Name:	579518 342721S	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
12.597	BBA	171421.4	5.3019	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.608	BBA	60293.1	5.5945	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.617	BBA	146604.7	5.0000	CLO4-89-ISTD

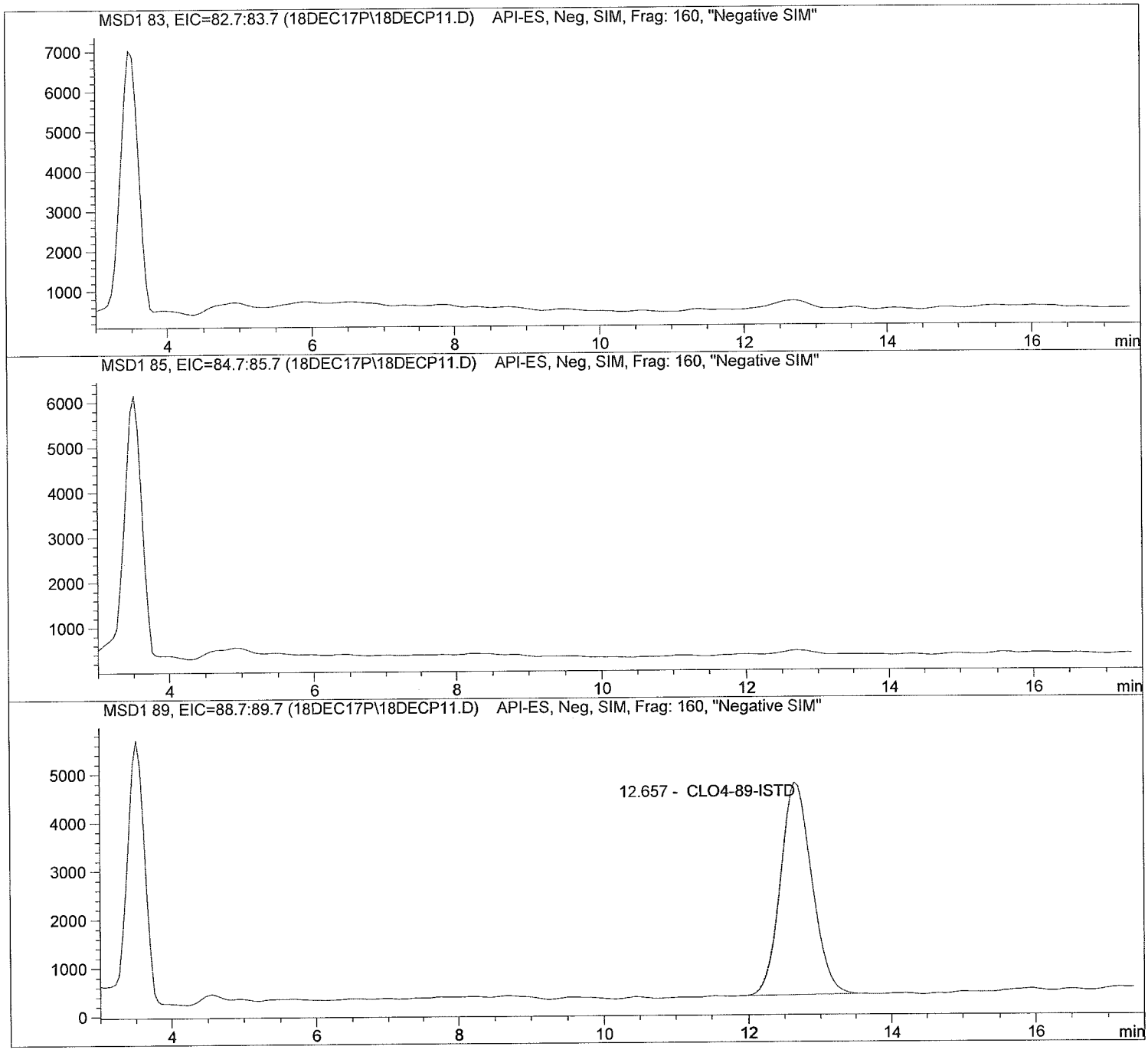
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP11.D Sample Name: 1734274001

Injection Date:	12/18/2017 12:15:14	Seq Line:	11
Sample Name:	1734274001	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\18DEC17P\18DECP11.D Sample Name: 1734274001

Injection Date:	12/18/2017 12:15:14	Seq Line:	11
Sample Name:	1734274001	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.657	BBA	132893.4	5.0000	CLO4-89-ISTD

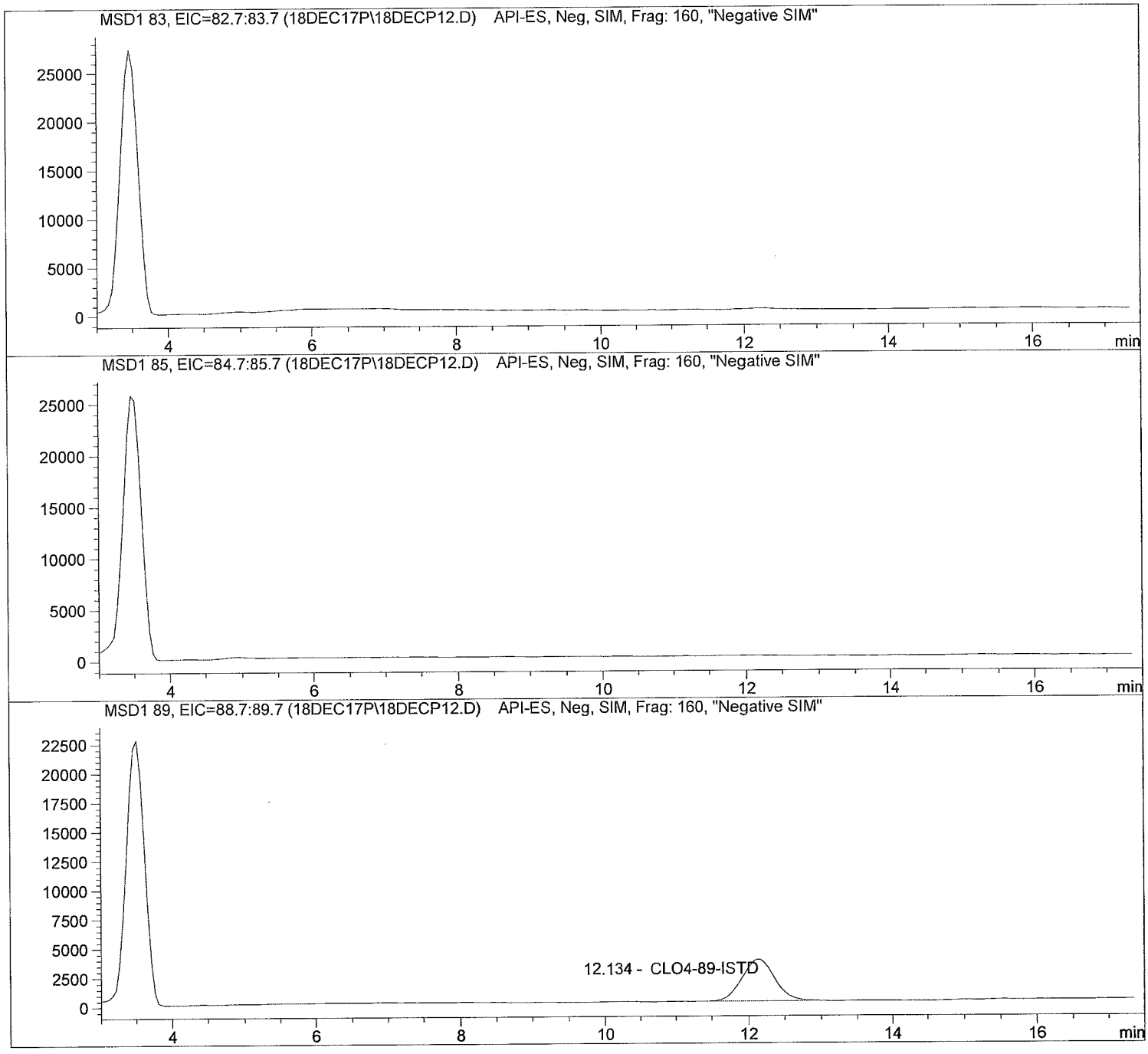
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP12.D Sample Name: 1734528001

Injection Date:	12/18/2017 12:34:23	Seq Line:	12
Sample Name:	1734528001	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\18DEC17P\18DECP12.D Sample Name: 1734528001

Injection Date:	12/18/2017 12:34:23	Seq Line:	12
Sample Name:	1734528001	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
12.134	BBA	112508.5	5.0000	CLO4-89-ISTD

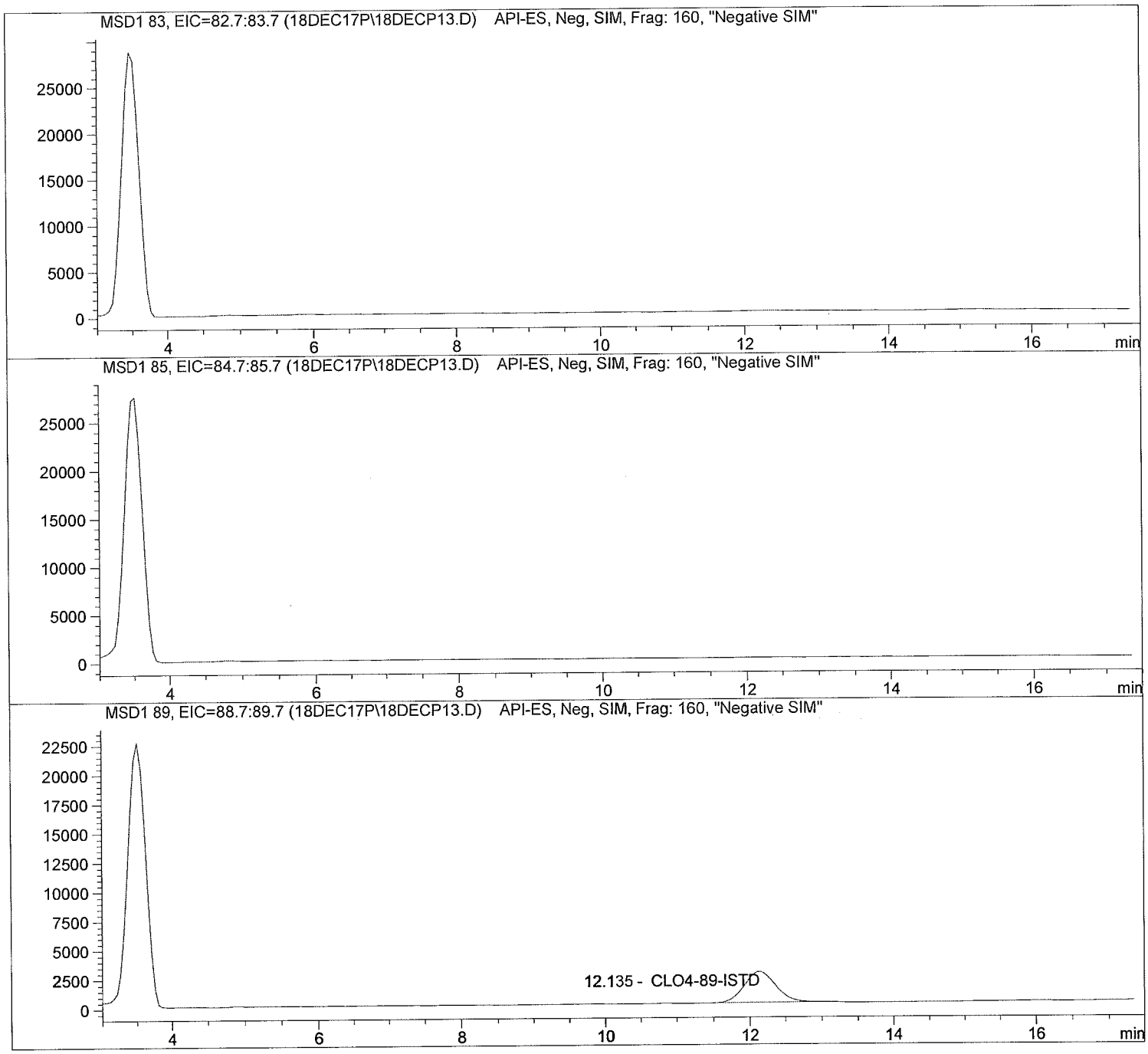
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP13.D Sample Name: 1734528002

Injection Date:	12/18/2017 12:53:32	Seq Line:	13
Sample Name:	1734528002	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\18DEC17P\18DECP13.D Sample Name: 1734528002

Injection Date:	12/18/2017 12:53:32	Seq Line:	13
Sample Name:	1734528002	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
12.135	PBA	81404.5	5.0000	CLO4-89-ISTD

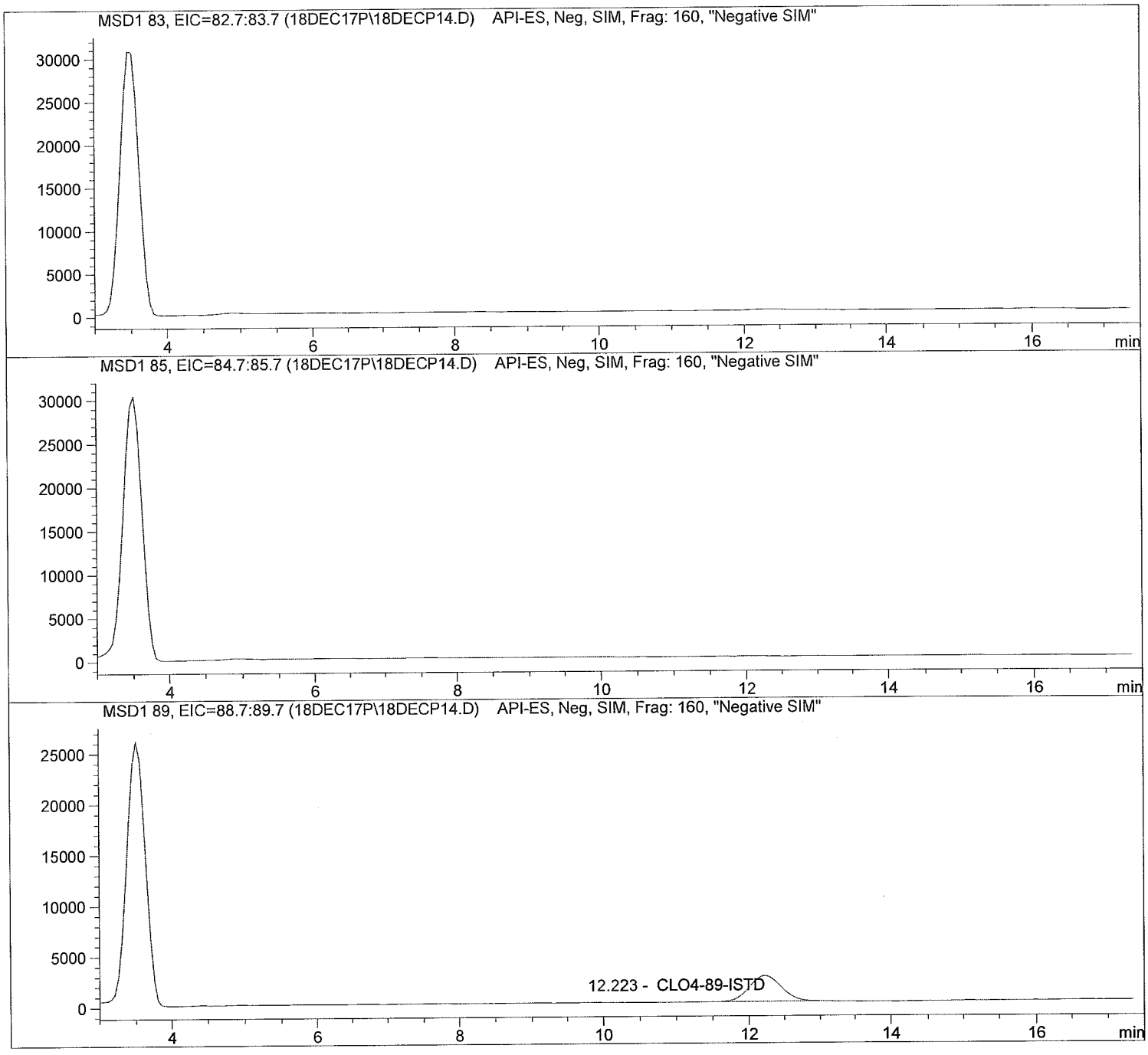
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP14.D Sample Name: 1734528003

Injection Date:	12/18/2017 13:12:40	Seq Line:	14
Sample Name:	1734528003	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\18DEC17P\18DECP14.D Sample Name: 1734528003

Injection Date:	12/18/2017 13:12:40	Seq Line:	14
Sample Name:	1734528003	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
12.223	BBA	79863.1	5.0000	CLO4-89-ISTD

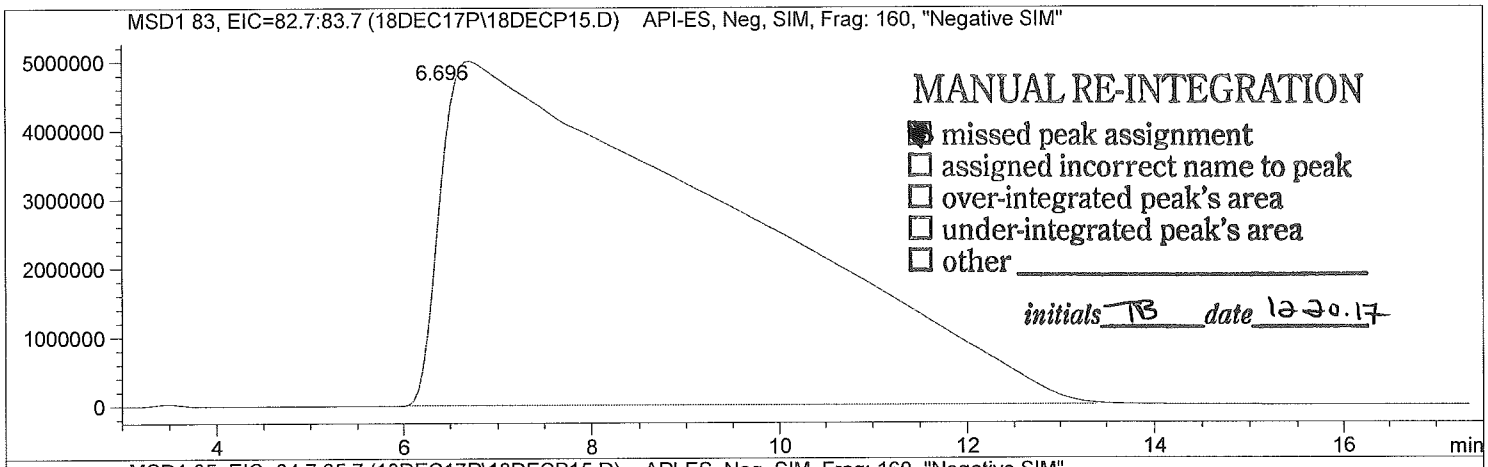
*** End of Report ***

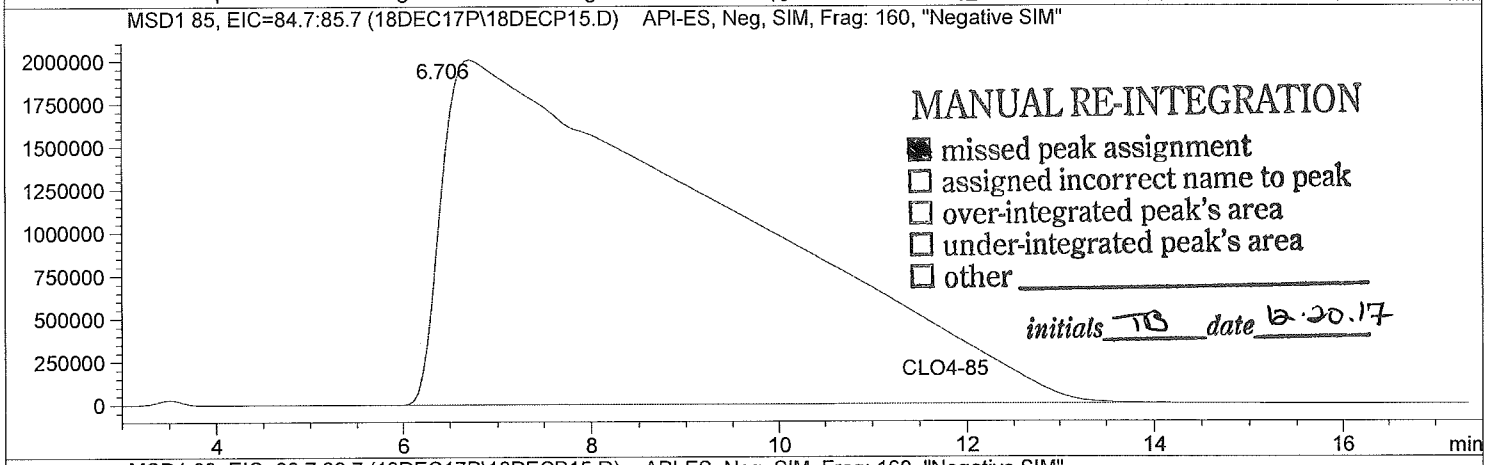
Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP15.D Sample Name: 1734528004

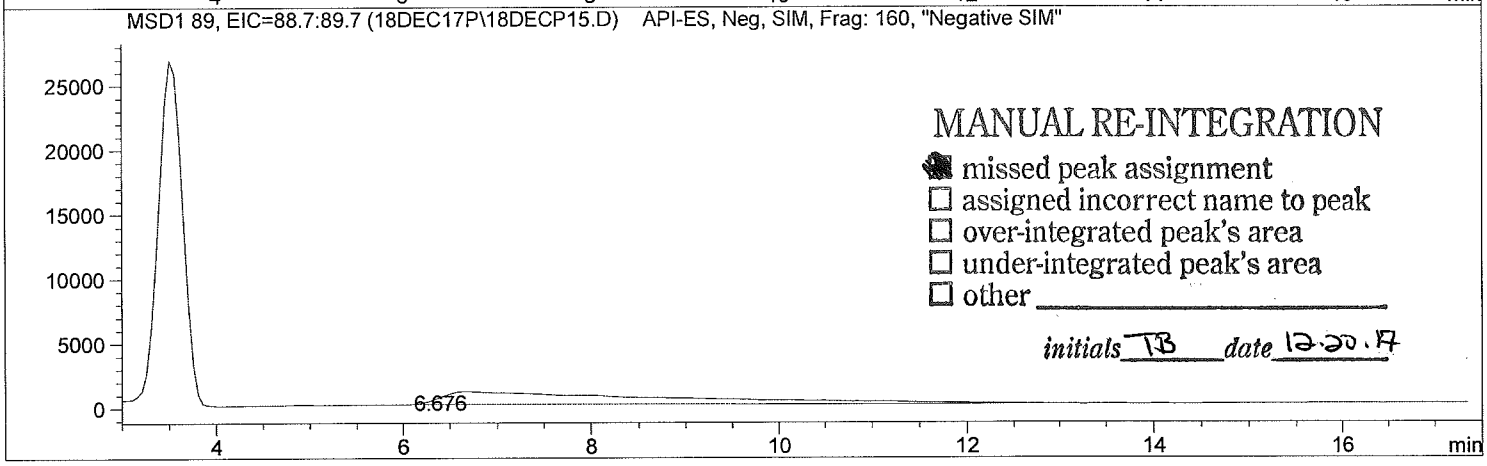
Injection Date:	12/18/2017 13:31:48	Seq Line:	15
Sample Name:	1734528004	Location:	Vial 84
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP15.D Sample Name: 1734528004

Injection Date:	12/18/2017 13:31:48	Seq Line:	15
Sample Name:	1734528004	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
6.696	MM	1071827904.0	0.0000	
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
6.706	MM	423853856.0	0.0000	
7.356	Rsho	0.0	0.0000	
7.872	Rsho	0.0	0.0000	
8.804	Rsho	0.0	0.0000	
9.803	Rsho	0.0	0.0000	
10.409	Rsho	0.0	0.0000	
10.779	Rsho	0.0	0.0000	
11.176	Rsho	0.0	0.0000	
11.684	Rsho	0.0	0.0000	
12.225	Rsho	0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
6.676	MM	168329.7	0.0000	
0.000		0.0	0.0000	CLO4-89-ISTD

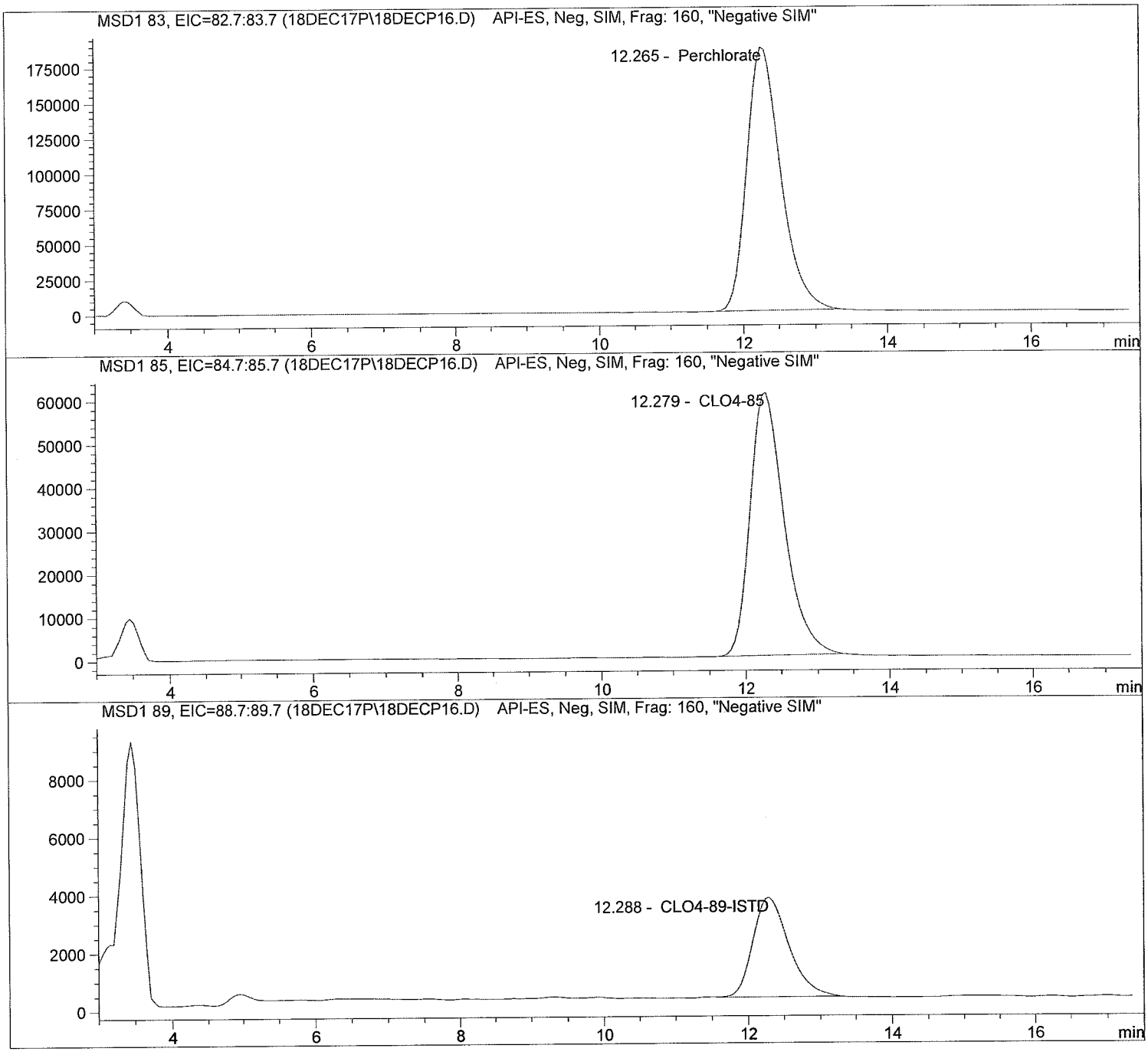
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP16.D Sample Name: 1734528005

Injection Date:	12/18/2017 13:50:58	Seq Line:	16
Sample Name:	1734528005	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\18DEC17P\18DECP16.D Sample Name: 1734528005

Injection Date:	12/18/2017 13:50:58	Seq Line:	16
Sample Name:	1734528005	Location:	Vial 85
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.265	PBA	6134840.0	137.2463	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.279	PBA	2000638.1	149.1955	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.288	BBA	119725.5	5.0000	CLO4-89-ISTD

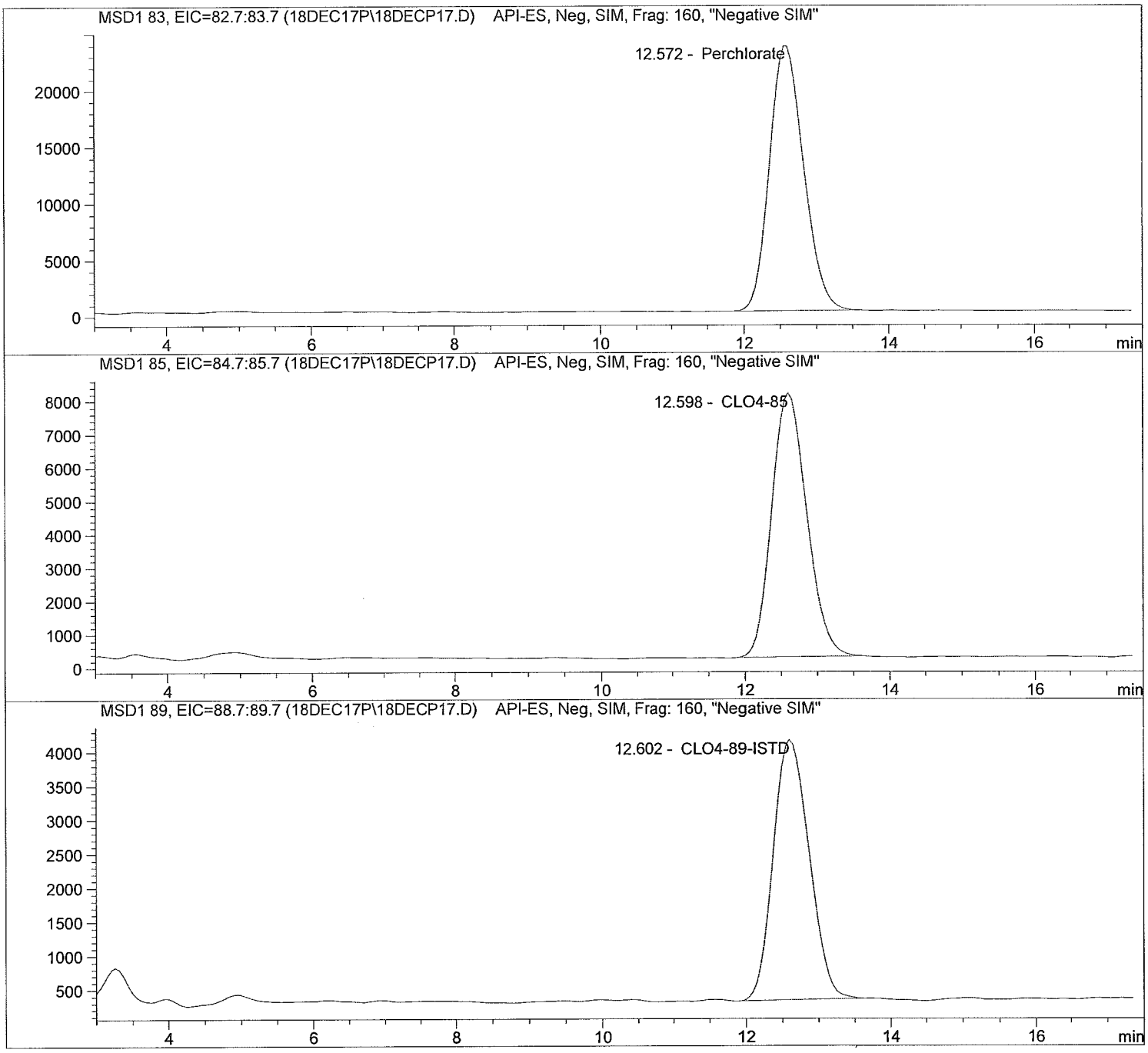
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP17.D Sample Name: 579520 CCV@25

Injection Date:	12/18/2017 14:10:07	Seq Line:	17
Sample Name:	579520 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\18DEC17P\18DECP17.D Sample Name: 579520 CCV@25

Injection Date:	12/18/2017 14:10:07	Seq Line:	17
Sample Name:	579520 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
12.572	PBA	771230.9	23.9956	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.598	PBA	266560.7	26.0393	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.602	PBA	132362.0	5.0000	CLO4-89-ISTD

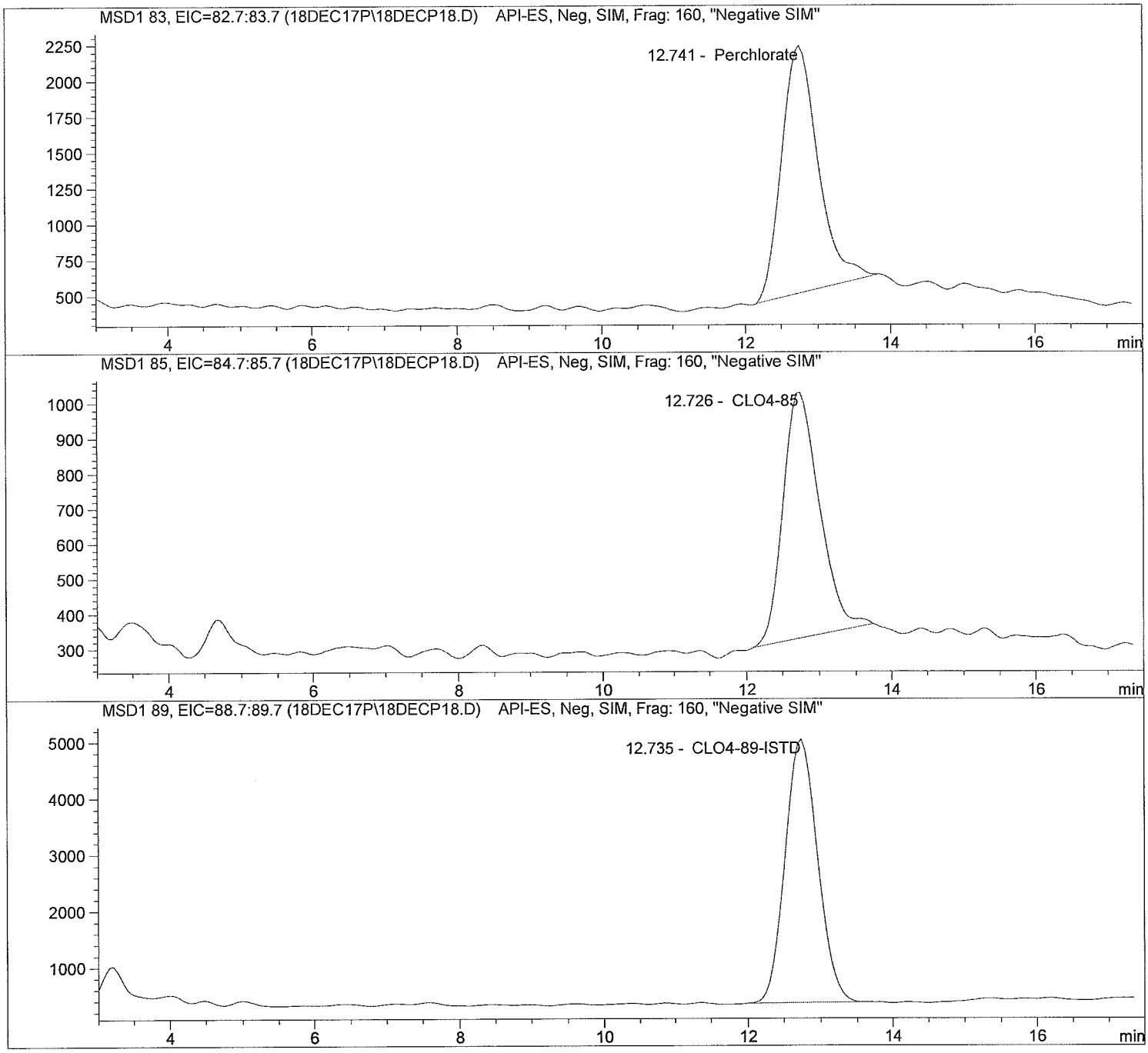
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP18.D Sample Name: 579521 LODV@1.

Injection Date:	12/18/2017 14:29:17	Seq Line:	18
Sample Name:	579521 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\18DEC17P\18DECP18.D Sample Name: 579521 LODV@1.

Injection Date:	12/18/2017 14:29:17	Seq Line:	18
Sample Name:	579521 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
12.741	PBA	60203.5	1.9394	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.726	BBA	24116.8	2.1823	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.735	PBA	144412.5	5.0000	CLO4-89-ISTD

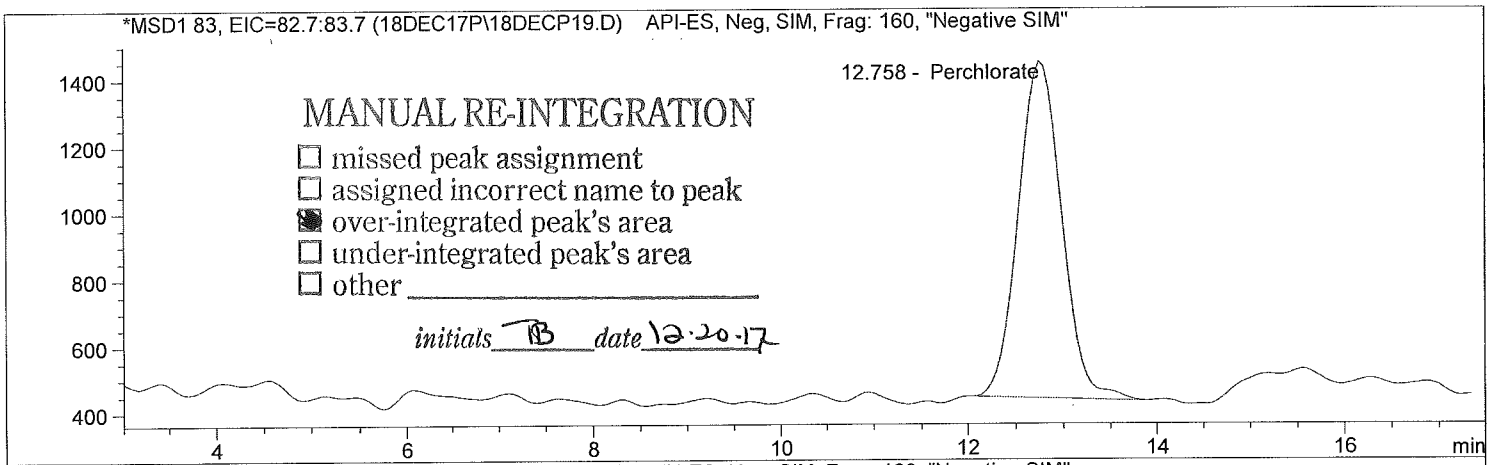
*** End of Report ***

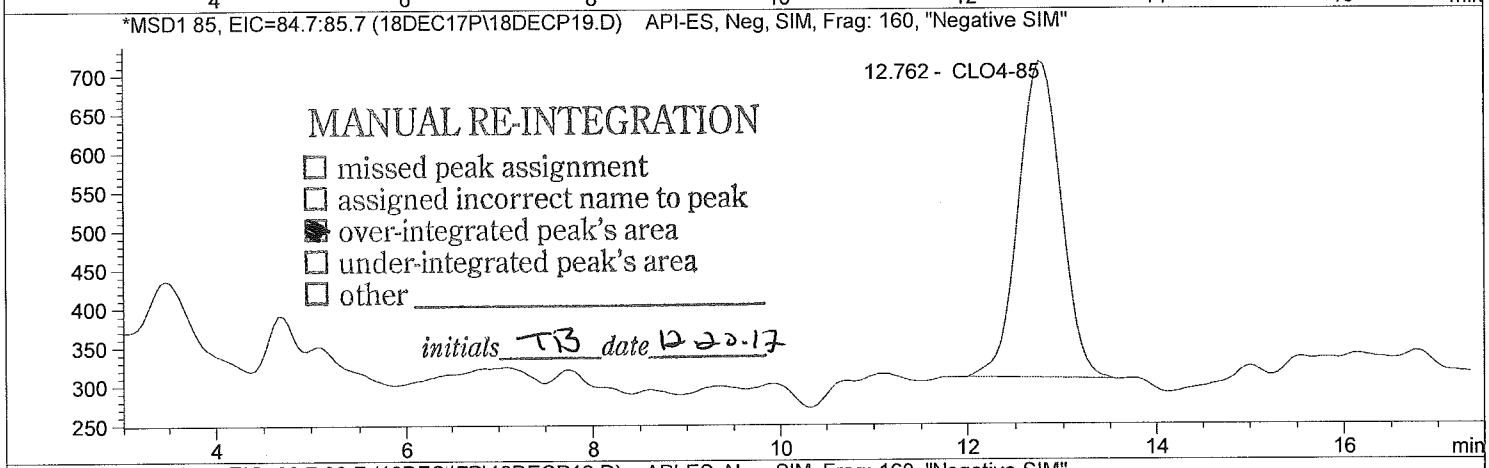
Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP19.D Sample Name: 579521 LODV@1.

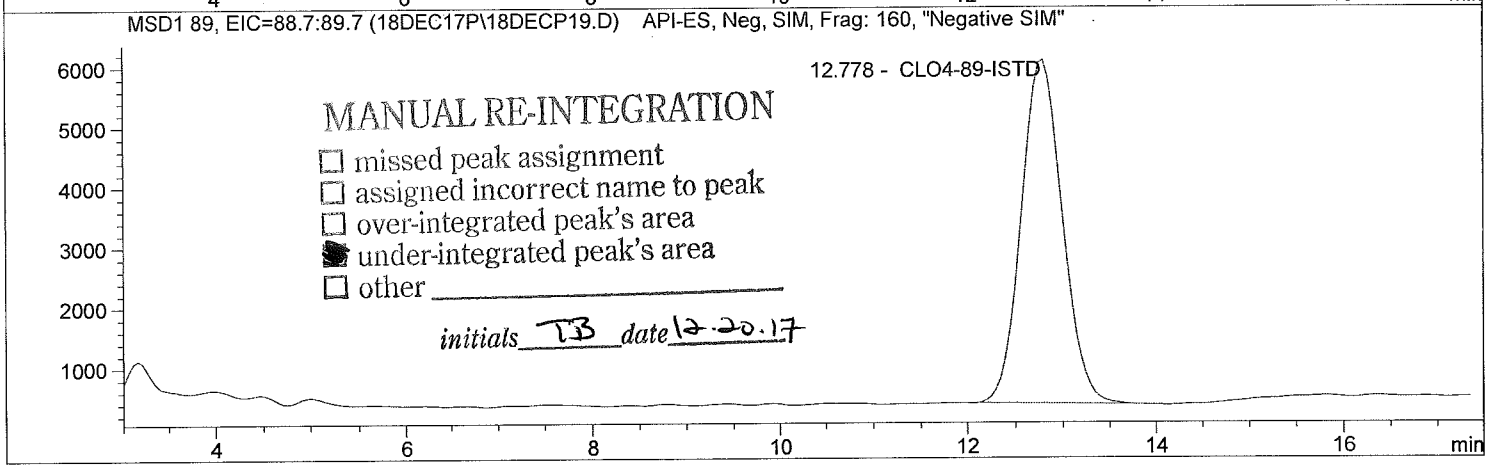
Injection Date:	12/18/2017 16:02:52	Seq Line:	19
Sample Name:	579521 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP19.D Sample Name: 579521 LODV@1.

Injection Date:	12/18/2017 16:02:52	Seq Line:	19
Sample Name:	579521 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
12.758	MM	31978.2	0.8834	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.762	MM	12677.8	0.8543	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.778	MM	171963.0	5.0000	CLO4-89-ISTD

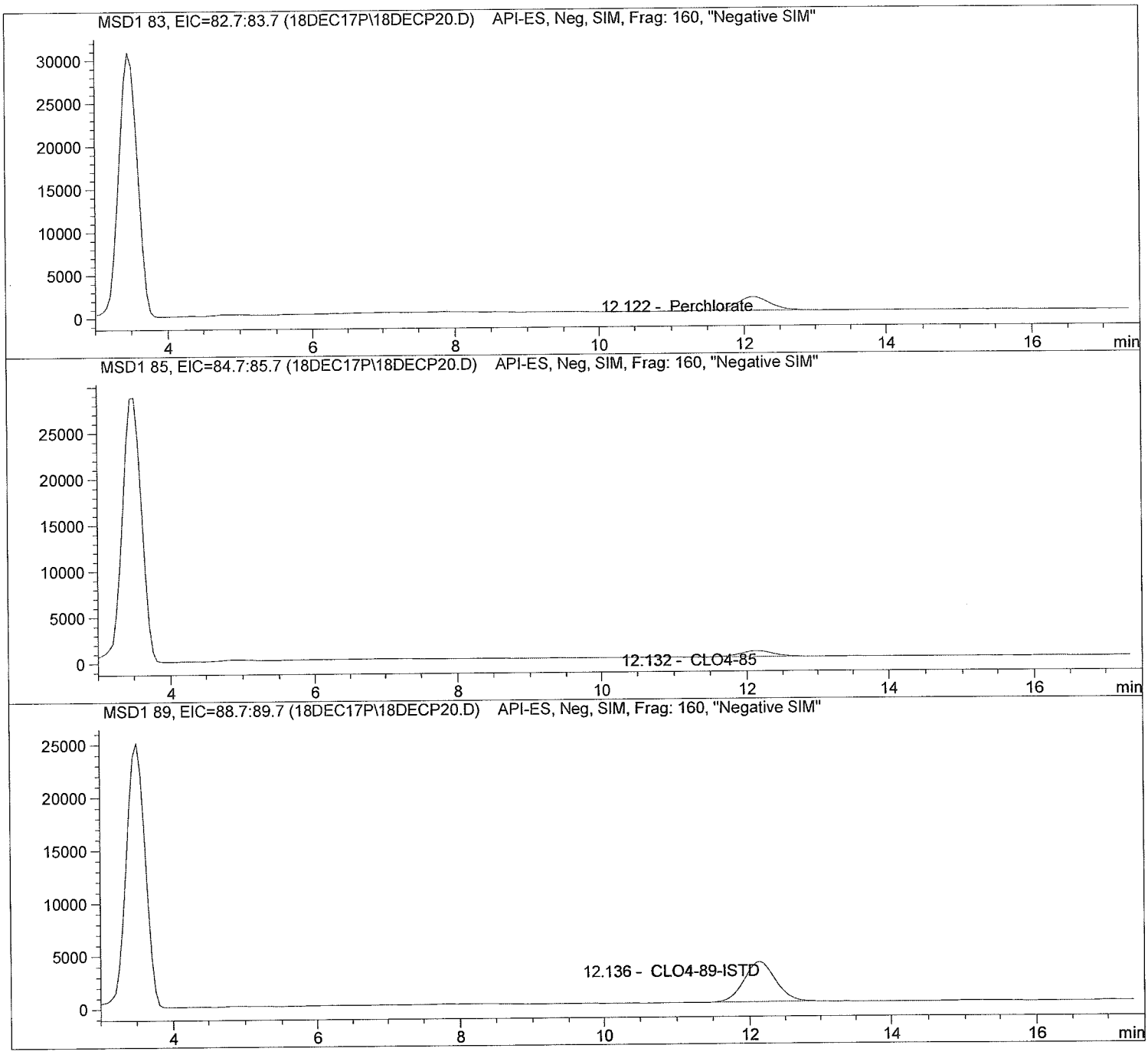
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP20.D Sample Name: 1734528006

Injection Date:	12/18/2017 16:23:47	Seq Line:	20
Sample Name:	1734528006	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\18DEC17P\18DECP20.D Sample Name: 1734528006

Injection Date:	12/18/2017 16:23:47	Seq Line:	20
Sample Name:	1734528006	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
12.122	BBA	51113.3	2.0485	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.132	PBA	21085.0	2.3928	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.136	BBA	115933.3	5.0000	CLO4-89-ISTD

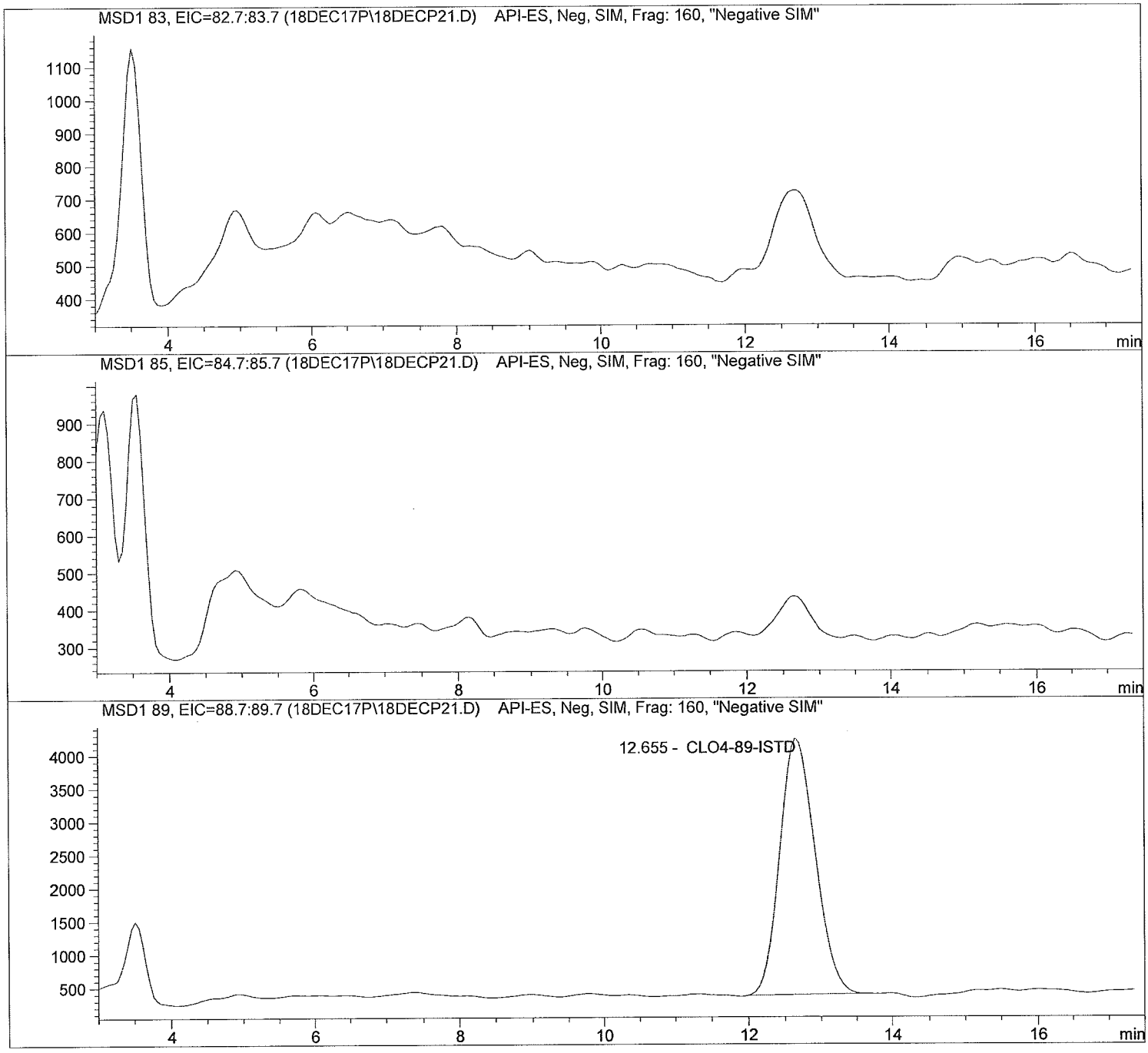
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP21.D Sample Name: 1734528007

Injection Date:	12/18/2017 16:42:56	Seq Line:	21
Sample Name:	1734528007	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\18DEC17P\18DECP21.D Sample Name: 1734528007

Injection Date:	12/18/2017 16:42:56	Seq Line:	21
Sample Name:	1734528007	Location:	Vial 87
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.655	PBA	130647.1	5.0000	CLO4-89-ISTD

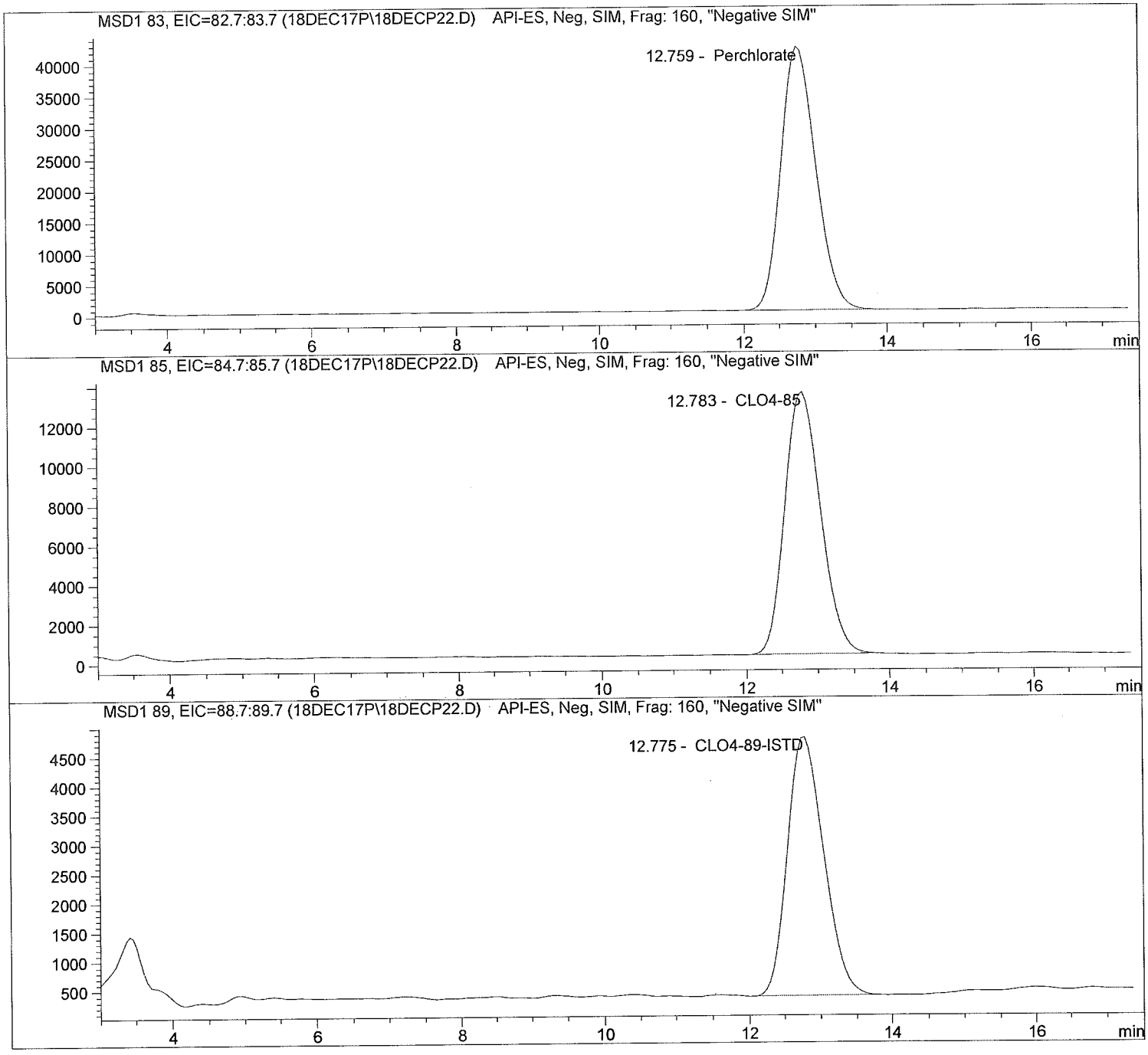
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP22.D Sample Name: 1734528008

Injection Date:	12/18/2017 17:02:04	Seq Line:	22
Sample Name:	1734528008	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\18DEC17P\18DECP22.D Sample Name: 1734528008

Injection Date:	12/18/2017 17:02:04	Seq Line:	22
Sample Name:	1734528008	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
12.759	BBA	1406507.4	35.4435	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.783	PBA	455258.8	36.6296	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.775	PBA	154969.8	5.0000	CLO4-89-ISTD

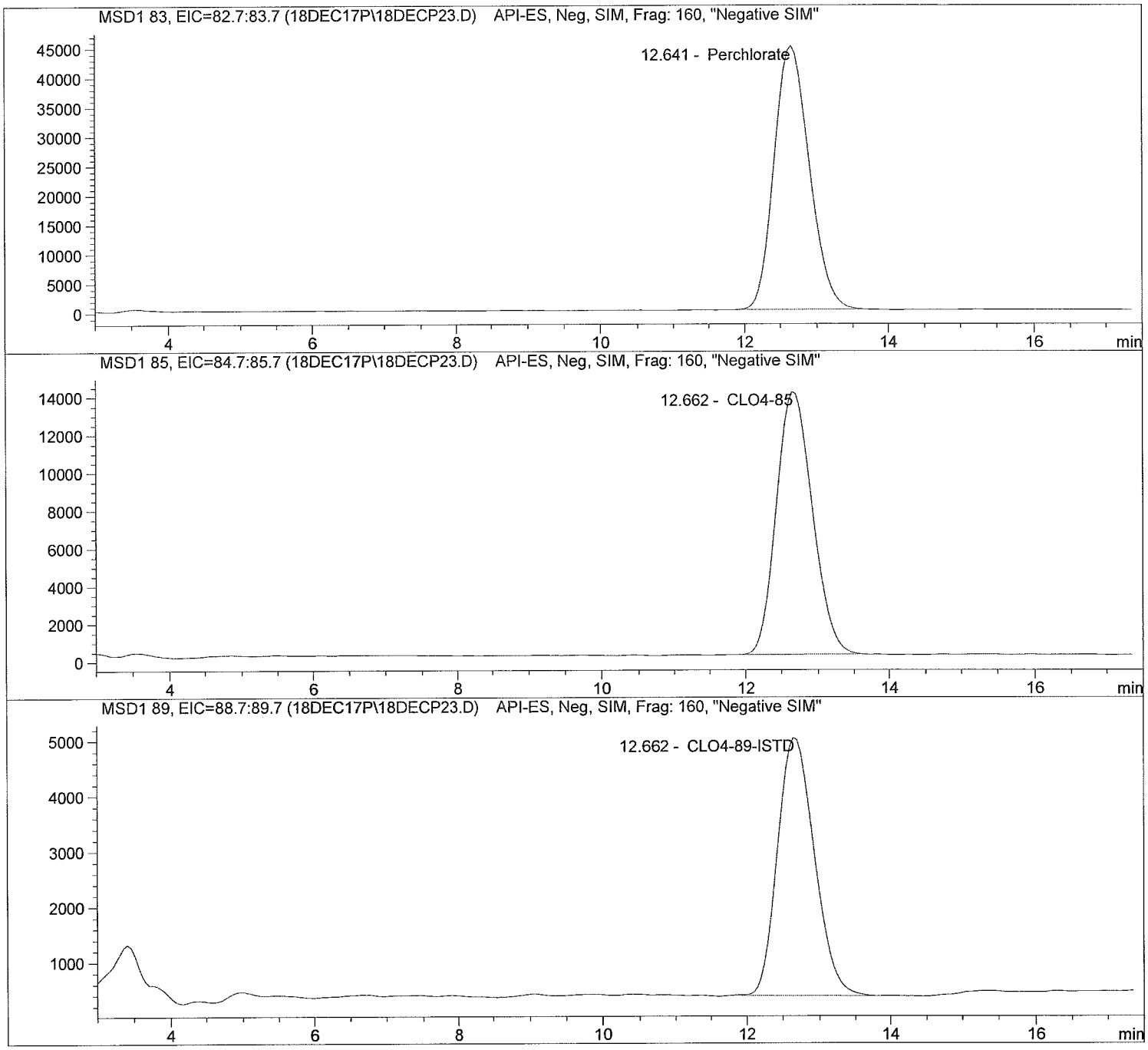
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP23.D Sample Name: 1734528009

Injection Date:	12/18/2017 17:21:17	Seq Line:	23
Sample Name:	1734528009	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\18DEC17P\18DECP23.D Sample Name: 1734528009

Injection Date:	12/18/2017 17:21:17	Seq Line:	23
Sample Name:	1734528009	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
12.641	BBA	1501387.5	35.9437	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.662	BBA	476178.7	36.4968	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.662	BBA	162754.7	5.0000	CLO4-89-ISTD

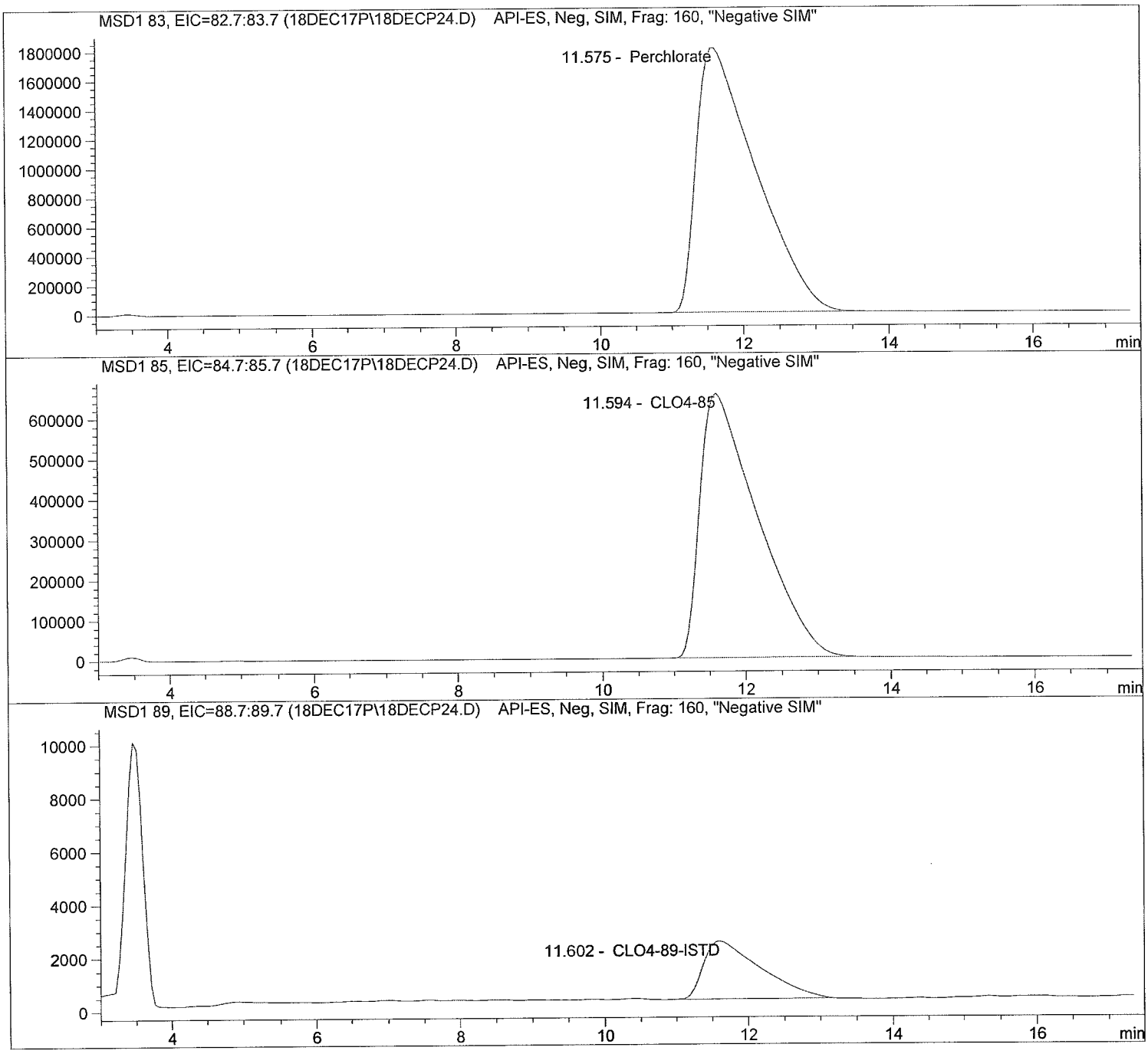
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP24.D Sample Name: 1734528010

Injection Date:	12/18/2017 17:40:29	Seq Line:	24
Sample Name:	1734528010	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\18DEC17P\18DECP24.D Sample Name: 1734528010

Injection Date:	12/18/2017 17:40:29	Seq Line:	24
Sample Name:	1734528010	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
11.575	PBA	103788384.0	783.7955	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.594	PBA	36463644.0	924.3243	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.602	PBA	118491.4	5.0000	CLO4-89-ISTD

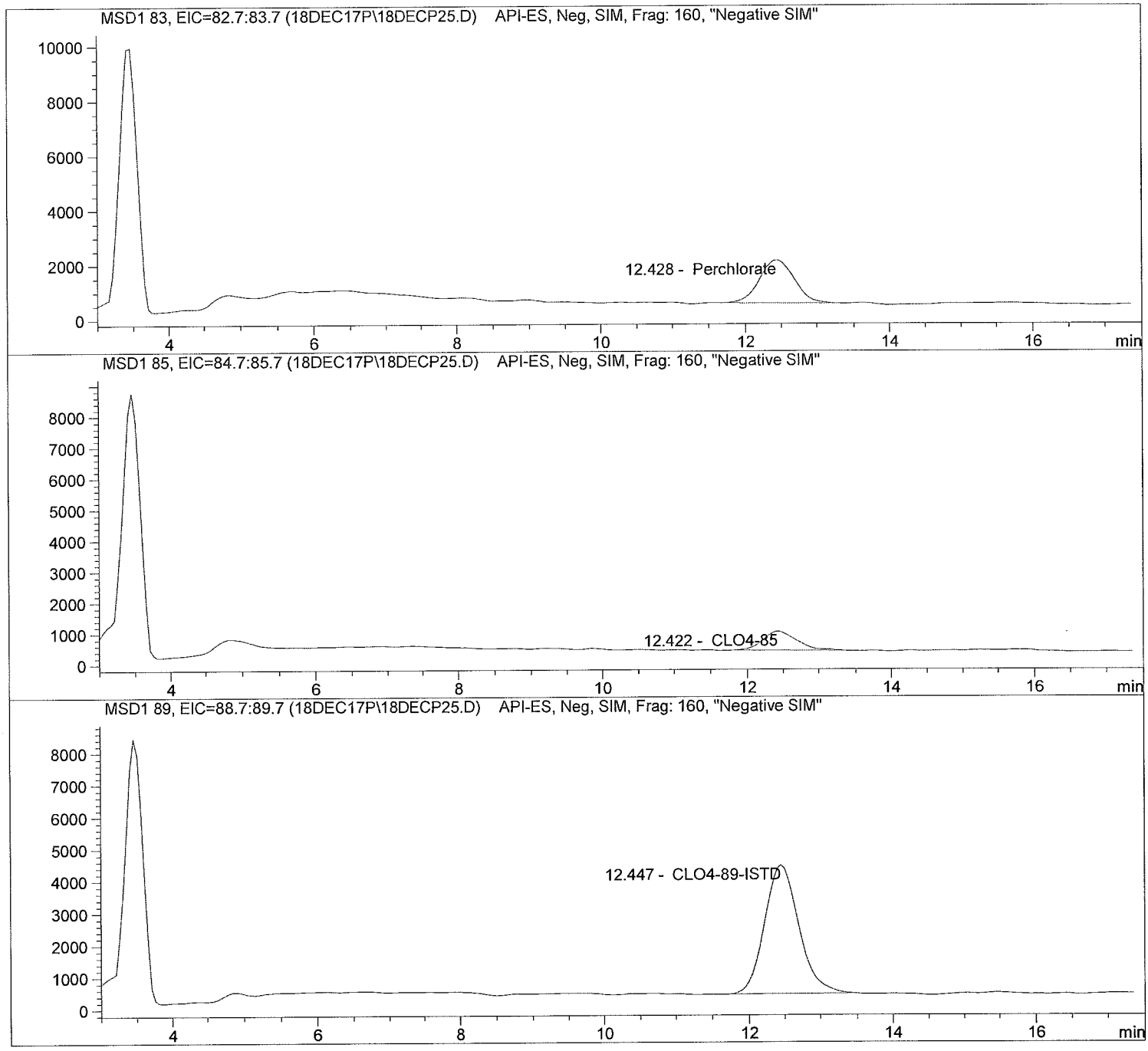
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP25.D Sample Name: 1734528011

Injection Date:	12/18/2017 17:59:42	Seq Line:	25
Sample Name:	1734528011	Location:	Vial 91
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP25.D Sample Name: 1734528011

Injection Date:	12/18/2017 17:59:42	Seq Line:	25
Sample Name:	1734528011	Location:	Vial 91
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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
12.428	BBA	53637.6	1.8600	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.422	PBA	20328.5	1.9609	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.447	PBA	134287.7	5.0000	CLO4-89-ISTD

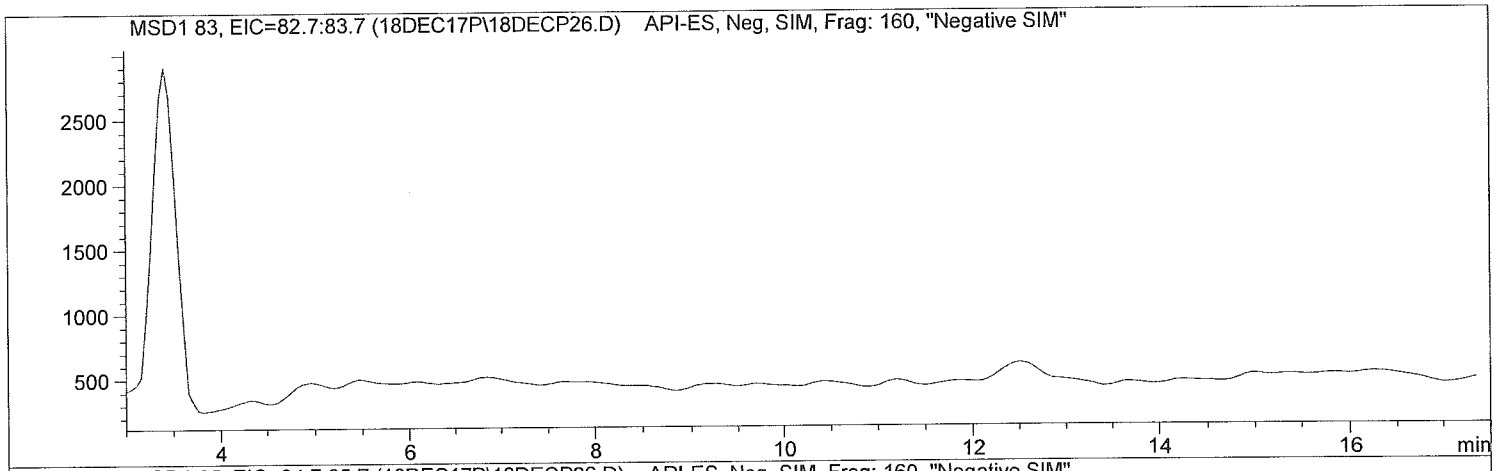
*** End of Report ***

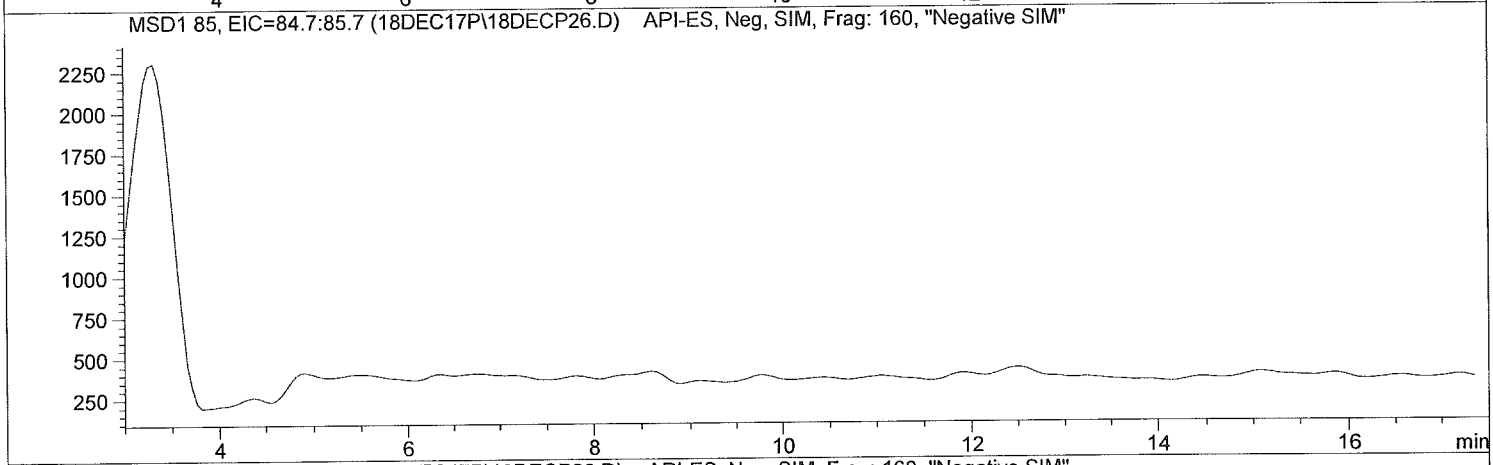
Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP26.D Sample Name: 1734528012

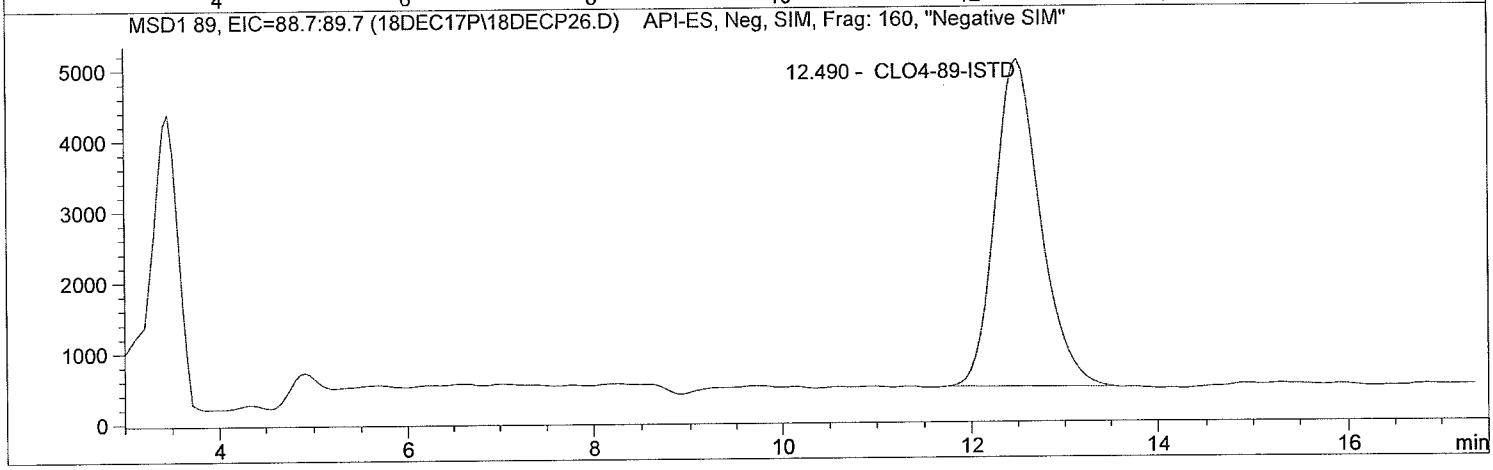
Injection Date:	12/18/2017 18:18:50	Seq Line:	26
Sample Name:	1734528012	Location:	Vial 92
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP26.D Sample Name: 1734528012

Injection Date:	12/18/2017 18:18:50	Seq Line:	26
Sample Name:	1734528012	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
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
12.490	BBA	156763.8	5.0000	CLO4-89-ISTD

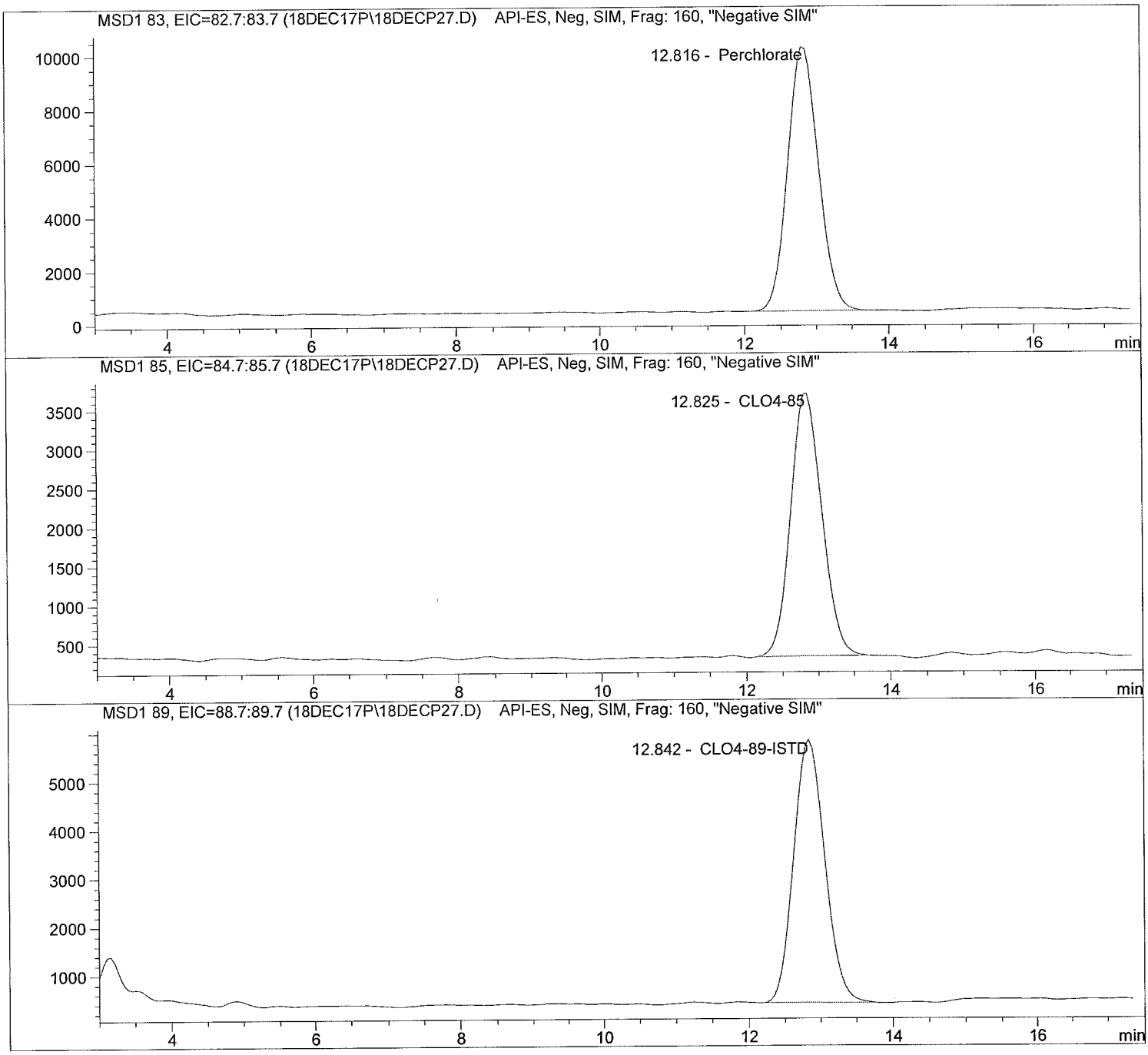
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP27.D Sample Name: 1734273001 1K

Injection Date:	12/18/2017 18:38:01	Seq Line:	27
Sample Name:	1734273001 1K	Location:	Vial 93
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP27.D Sample Name: 1734273001 1K

Injection Date:	12/18/2017 18:38:01	Seq Line:	27
Sample Name:	1734273001 1K	Location:	Vial 93
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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
12.816	BBA	296423.4	7998.9614	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.825	PBA	102865.2	8462.6531	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.842	PBA	165454.5	5000.0000	CLO4-89-ISTD

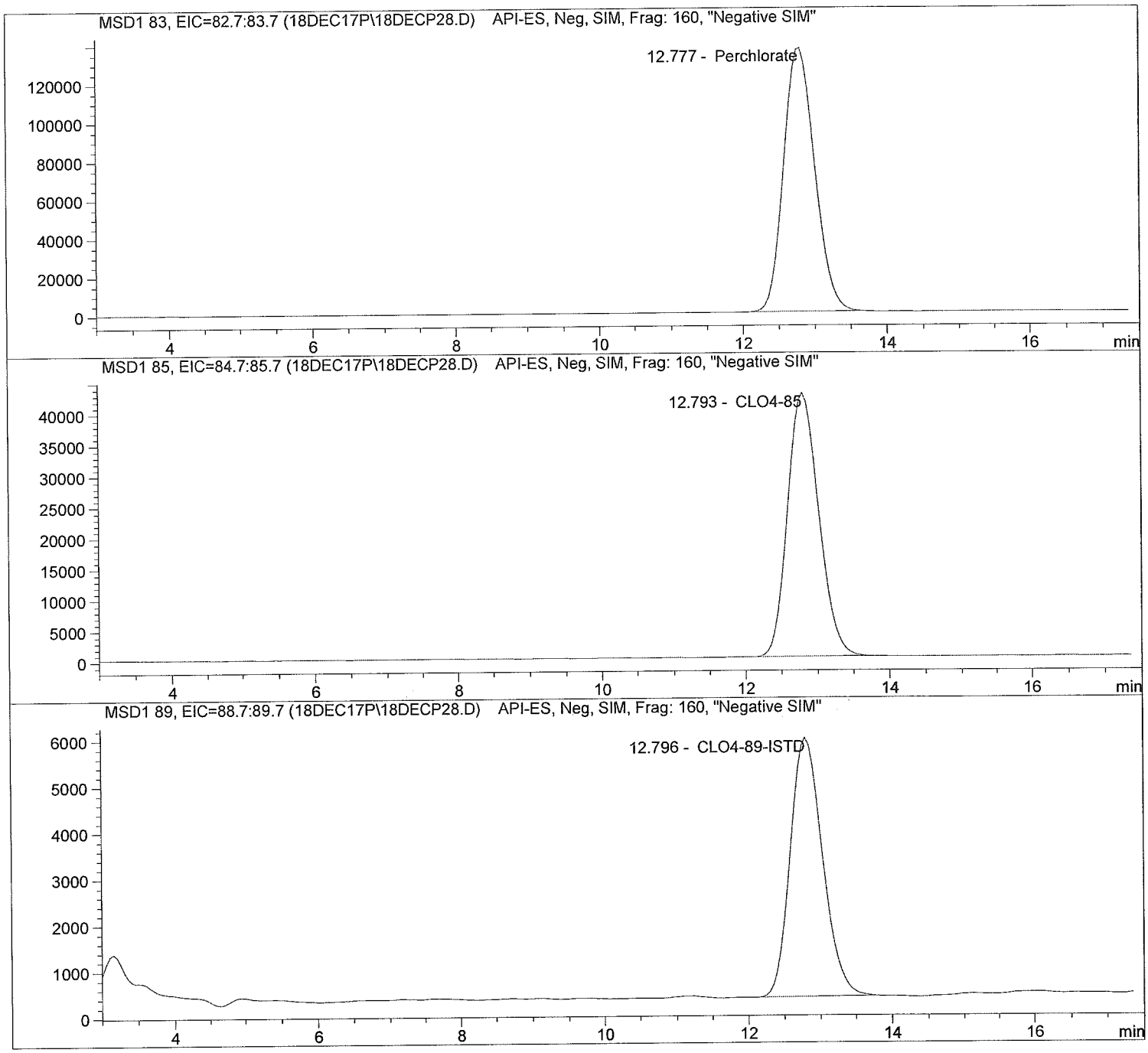
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP28.D Sample Name: 1734528004 1K

Injection Date:	12/18/2017 18:57:10	Seq Line:	28
Sample Name:	1734528004 1K	Location:	Vial 94
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP28.D Sample Name: 1734528004 1K

Injection Date:	12/18/2017 18:57:10	Seq Line:	28
Sample Name:	1734528004 1K	Location:	Vial 94
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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
12.777	BBA	4107968.5	77122.6692	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.793	PBA	1284860.0	79542.8295	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.796	PBA	175145.7	5000.0000	CLO4-89-ISTD

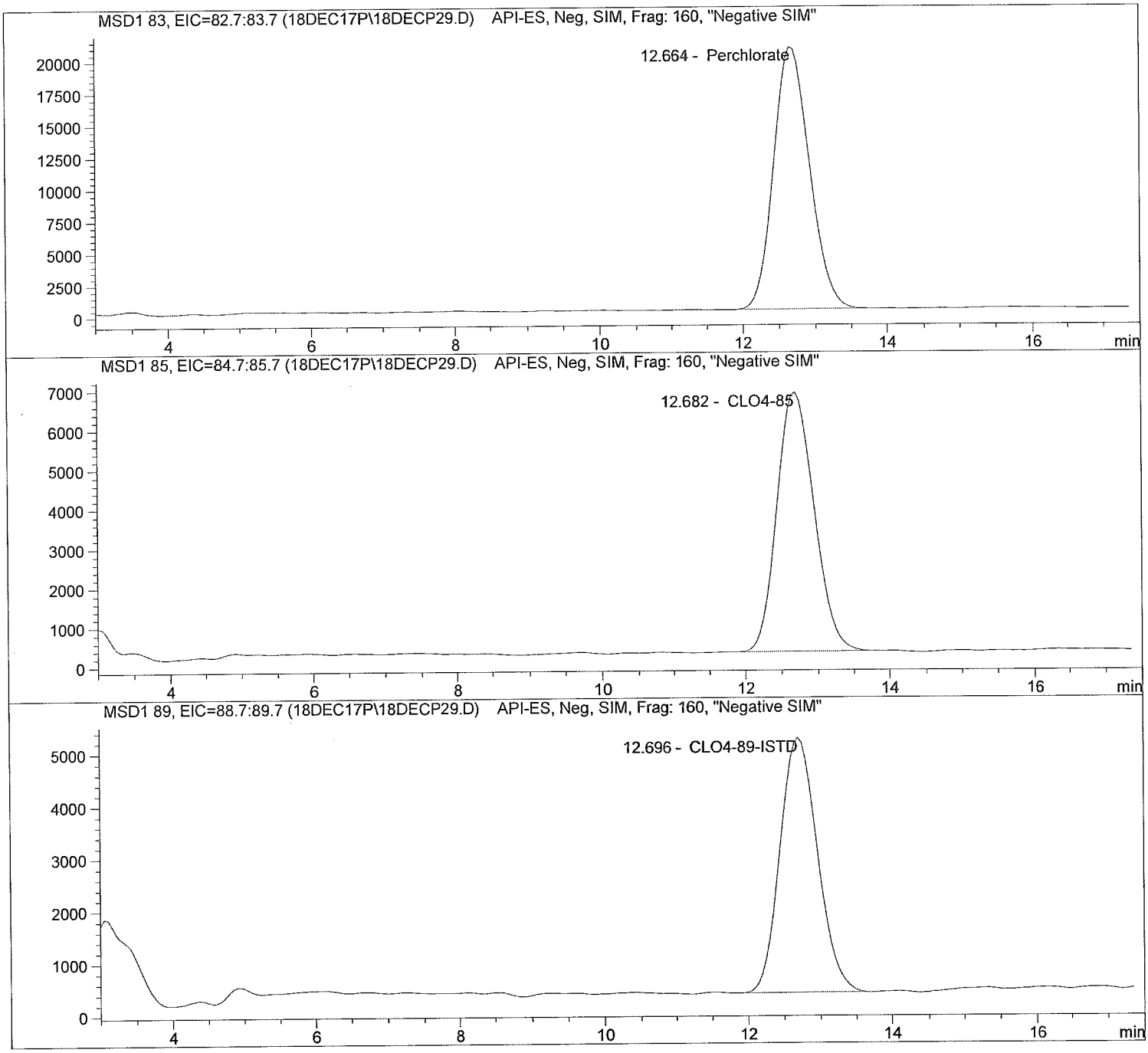
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP29.D Sample Name: 1734528005 10X

Injection Date:	12/18/2017 19:16:19	Seq Line:	29
Sample Name:	1734528005 10X	Location:	Vial 95
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP29.D Sample Name: 1734528005 10X

Injection Date:	12/18/2017 19:16:19	Seq Line:	29
Sample Name:	1734528005 10X	Location:	Vial 95
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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
12.664	PBA	703473.7	171.8032	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.682	BBA	233471.7	177.9980	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.696	PBA	174320.1	50.0000	CLO4-89-ISTD

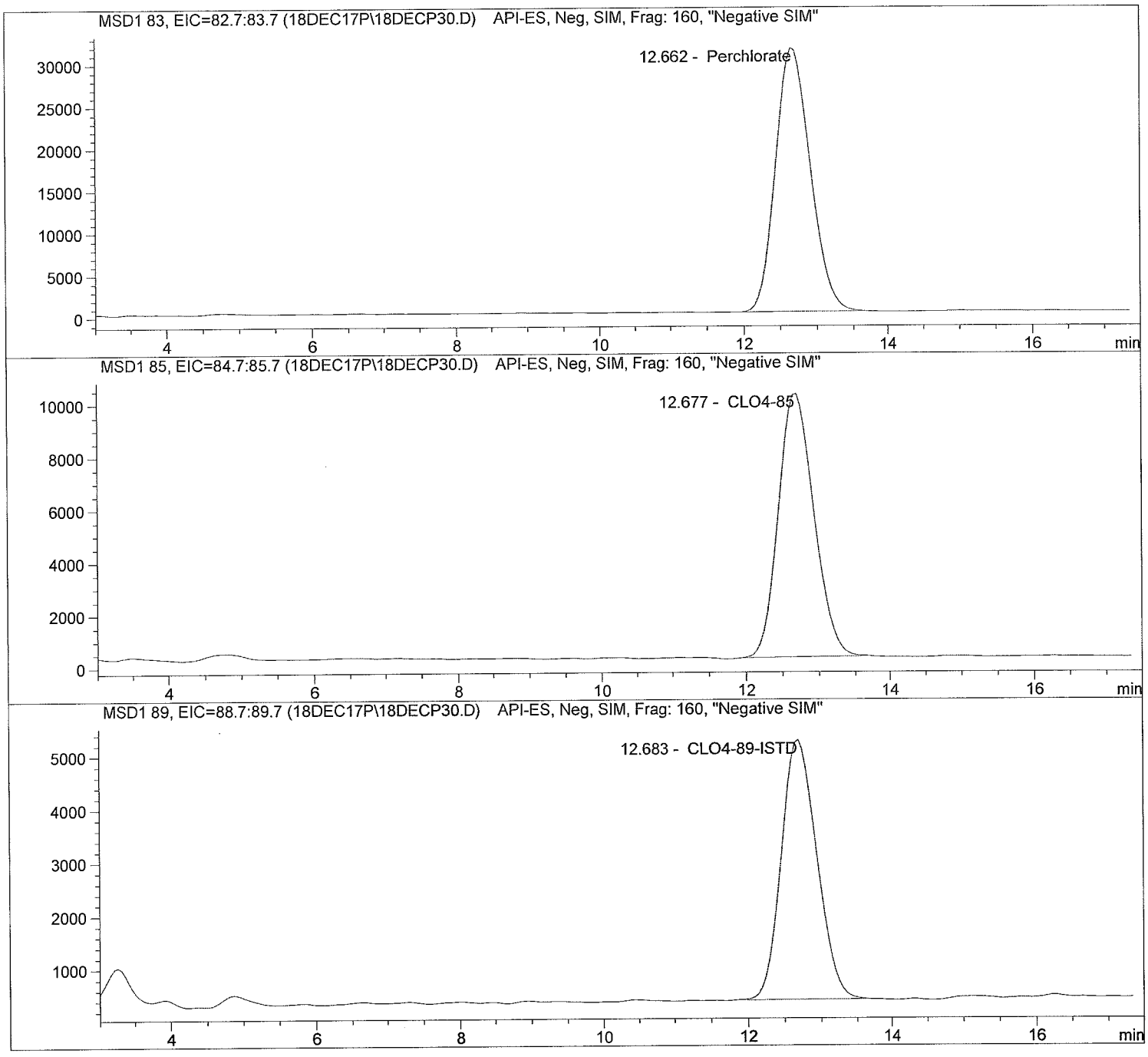
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP30.D Sample Name: 579522 CCV@25

Injection Date:	12/18/2017 19:35:27	Seq Line:	30
Sample Name:	579522 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\18DEC17P\18DECP30.D Sample Name: 579522 CCV@25

Injection Date:	12/18/2017 19:35:27	Seq Line:	30
Sample Name:	579522 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
12.662	PBA	1032842.7	25.6619	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.677	PBA	336885.3	26.4517	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.683	BBA	164442.1	5.0000	CLO4-89-ISTD

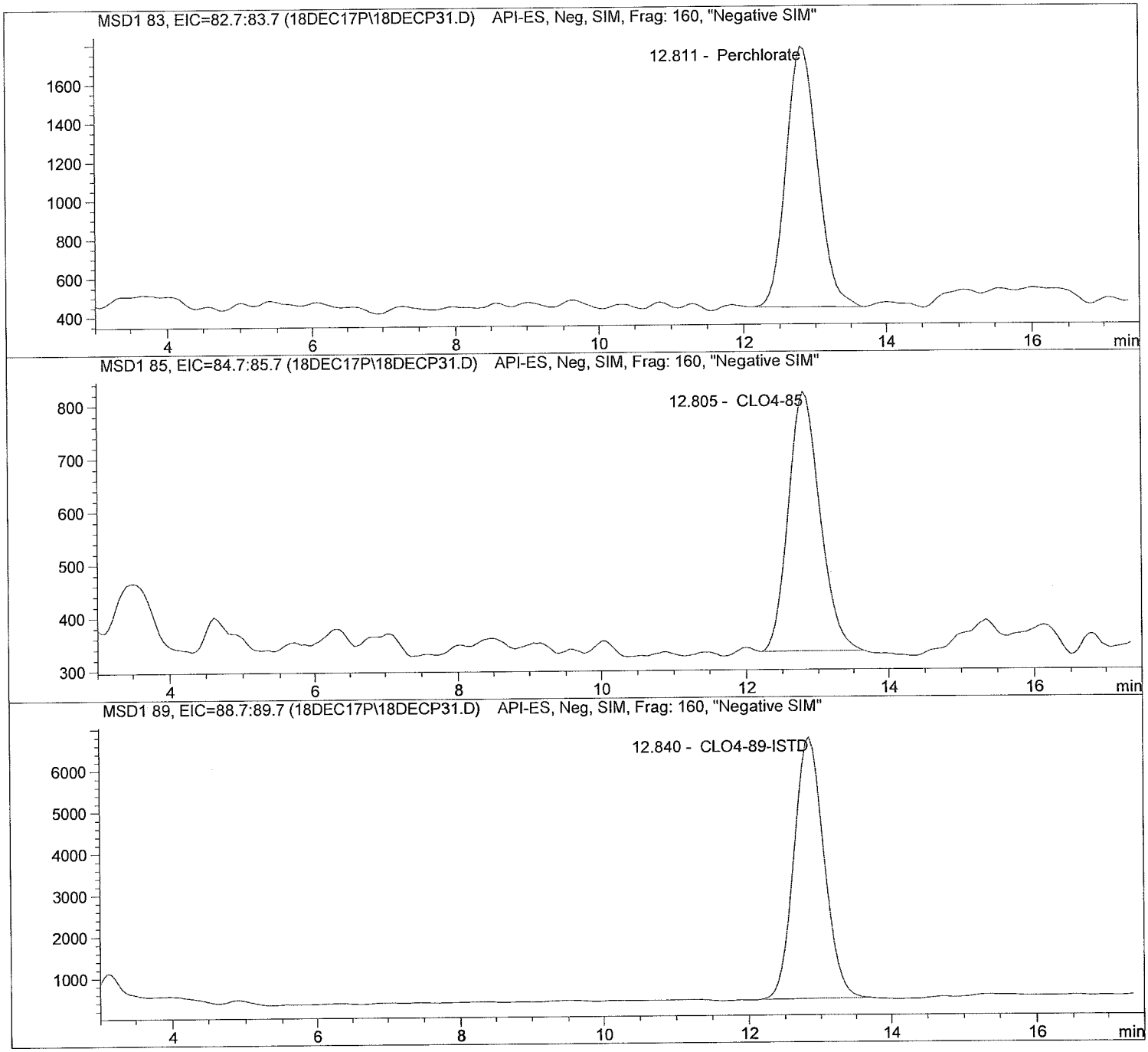
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Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP31.D Sample Name: 579523 LODV@1.

Injection Date:	12/18/2017 19:54:35	Seq Line:	31
Sample Name:	579523 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\18DEC17P\18DECP31.D Sample Name: 579523 LODV@1.

Injection Date:	12/18/2017 19:54:35	Seq Line:	31
Sample Name:	579523 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
12.811	BBA	41163.5	1.0531	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.805	BBA	15081.7	0.9679	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.840	PBA	184676.8	5.0000	CLO4-89-ISTD

*** End of Report ***

Sequence: C:\HPCHEM\1\SEQUENCE\CLO4\2017\DEC\20DEC17P.S

Sequence Table:

Method and Injection Info Part:

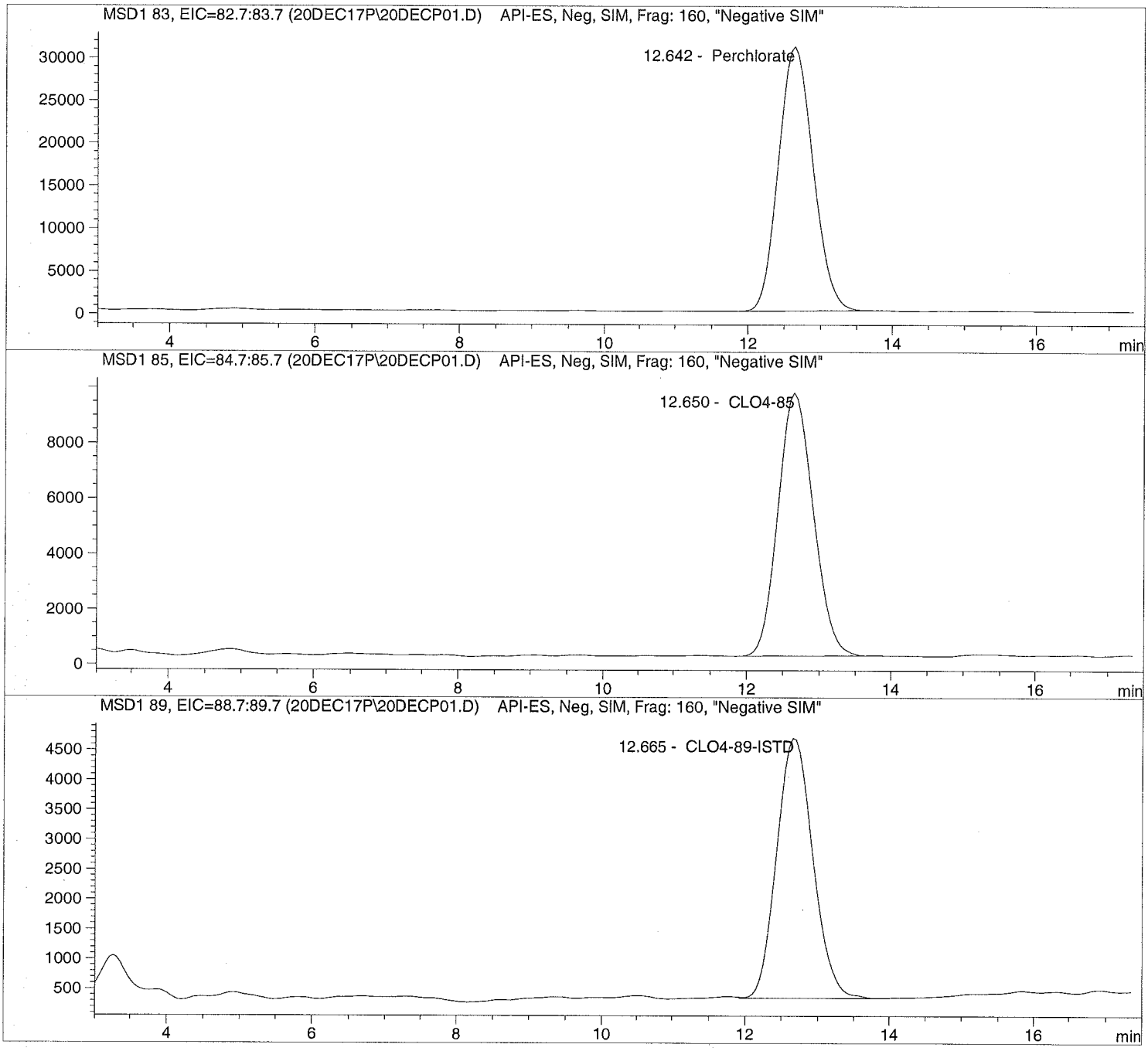
Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	580015 CCV@25	CLO4-DOD	1	Ctrl Samp		
2	Vial 96	1734528010 10X	CLO4-DOD	1	Sample		
3	Vial 97	1734528004 10K	CLO4-DOD	1	Sample		
4	Vial 98	1734528010 100	CLO4-DOD	1	Sample		
5	Vial 71	580016 CCV@25	CLO4-DOD	1	Ctrl Samp		

Data file: C:\HPCHEM\1\DATA\20DEC17P\20DECP01.D Sample Name: 580015 CCV@25

Injection Date:	12/20/2017 09:14:54	Seq Line:	1
Sample Name:	580015 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\20DEC17P\20DECP01.D Sample Name: 580015 CCV@25

Injection Date:	12/20/2017 09:14:54	Seq Line:	1
Sample Name:	580015 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
12.642	PBA	1018095.5	27.4129	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.650	PBA	319294.4	27.3136	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.665	BBA	150493.3	5.0000	CLO4-89-ISTD

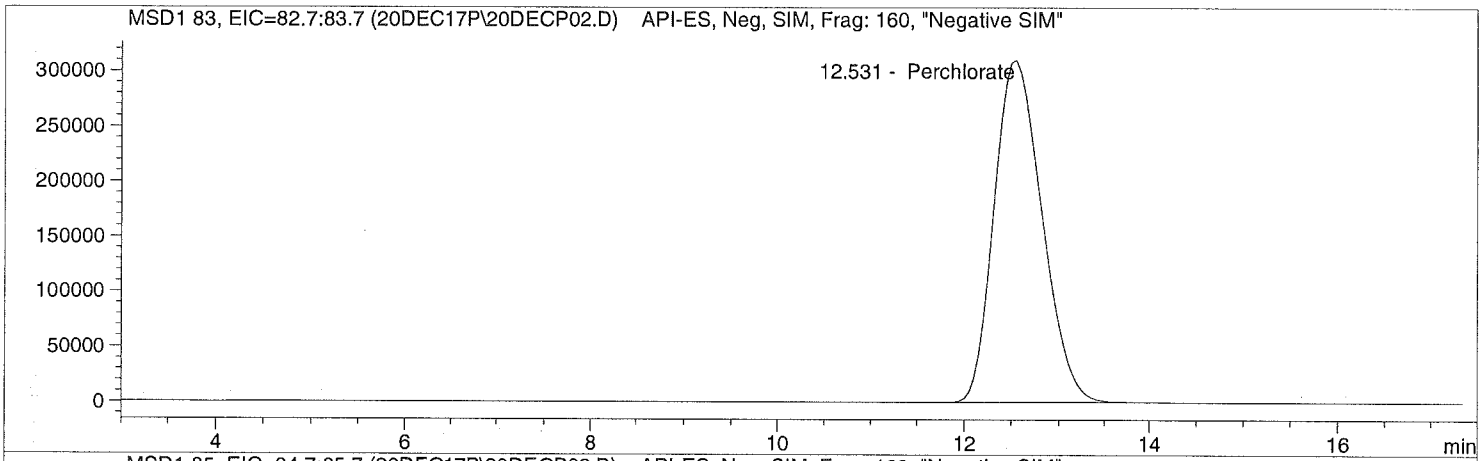
*** End of Report ***

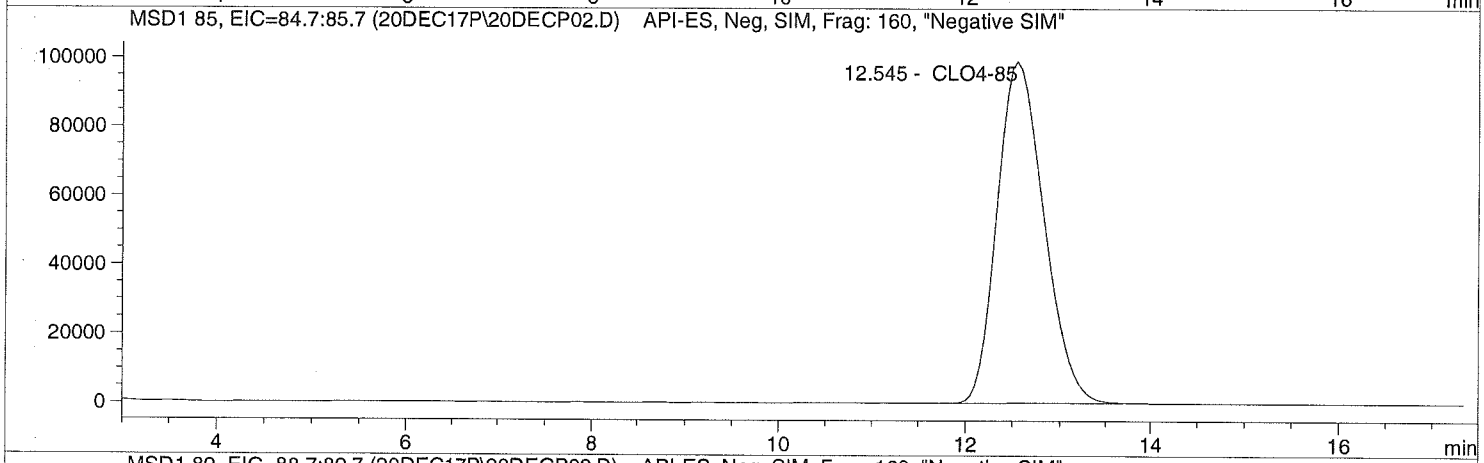
Data file: C:\HPCHEM\1\DATA\20DEC17P\20DECP02.D Sample Name: 1734528010 10X

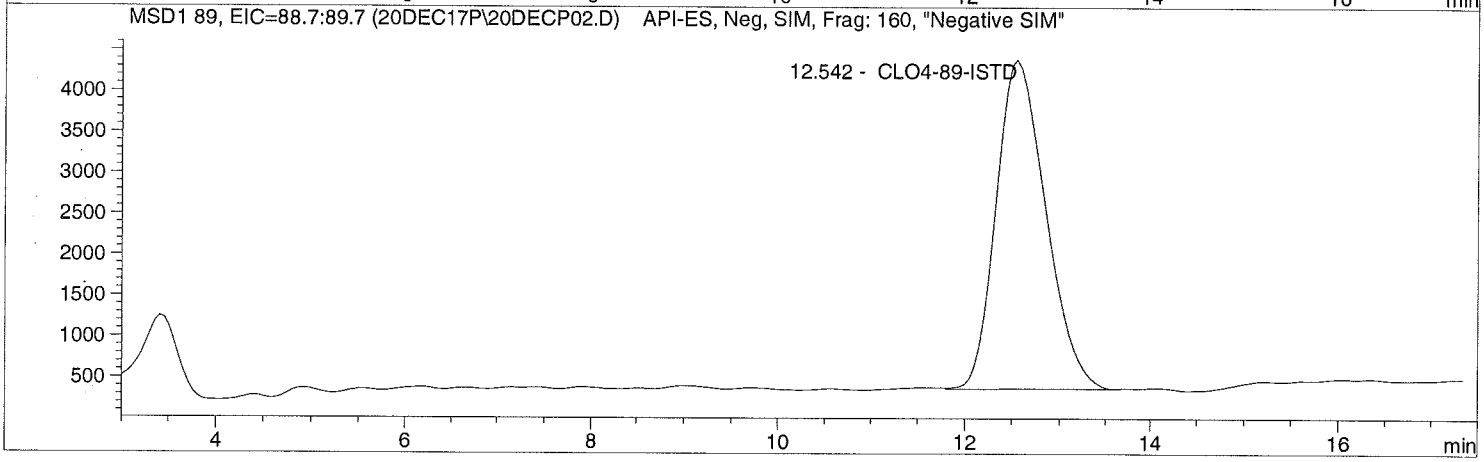
Injection Date:	12/20/2017 09:35:33	Seq Line:	2
Sample Name:	1734528010 10X	Location:	Vial 96
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\20DEC17P\20DECP02.D Sample Name: 1734528010 10X

Injection Date:	12/20/2017 09:35:33	Seq Line:	2
Sample Name:	1734528010 10X	Location:	Vial 96
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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
12.531	PBA	10844225.0	1772.1916	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.545	PBA	3380188.5	1881.8681	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.542	BBA	145913.5	50.0000	CLO4-89-ISTD

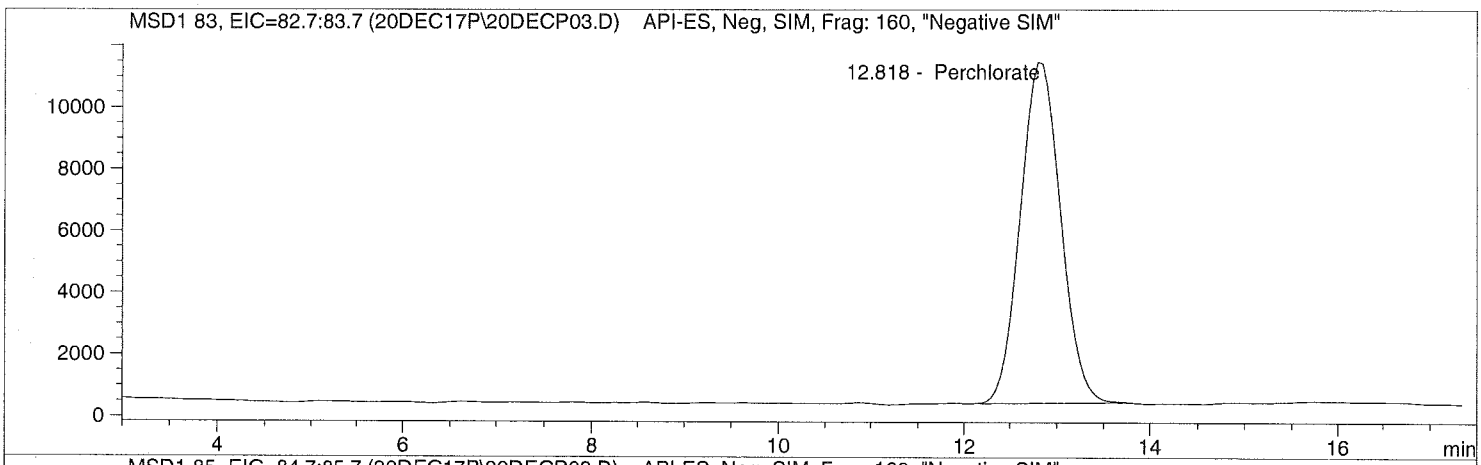
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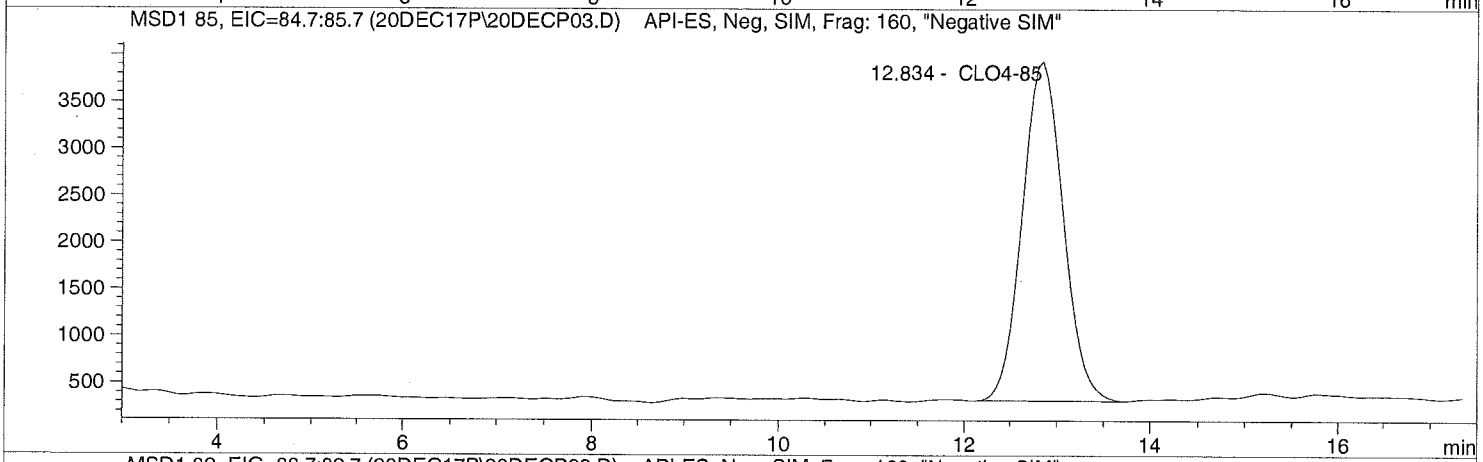
Data file: C:\HPCHEM\1\DATA\20DEC17P\20DECP03.D Sample Name: 1734528004 10K

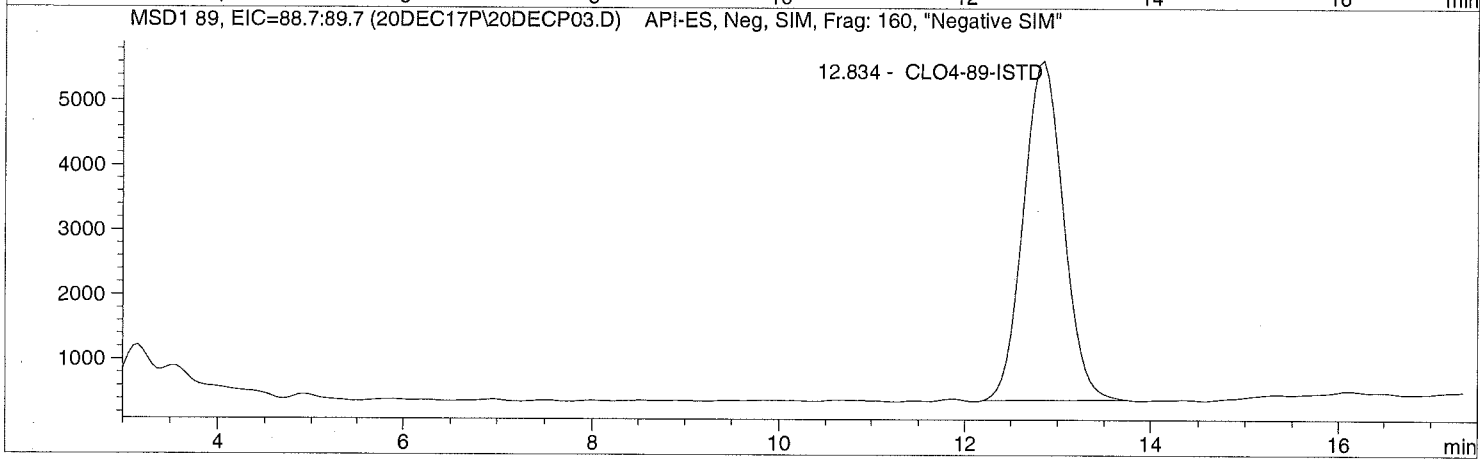
Injection Date:	12/20/2017 09:54:43	Seq Line:	3
Sample Name:	1734528004 10K	Location:	Vial 97
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\20DEC17P\20DECP03.D Sample Name: 1734528004 10K

Injection Date:	12/20/2017 09:54:43	Seq Line:	3
Sample Name:	1734528004 10K	Location:	Vial 97
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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
12.818	BBA	329575.6	93558.4549	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.834	PBA	109809.7	95583.1366	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.834	BBA	156124.6	50000.0000	CLO4-89-ISTD

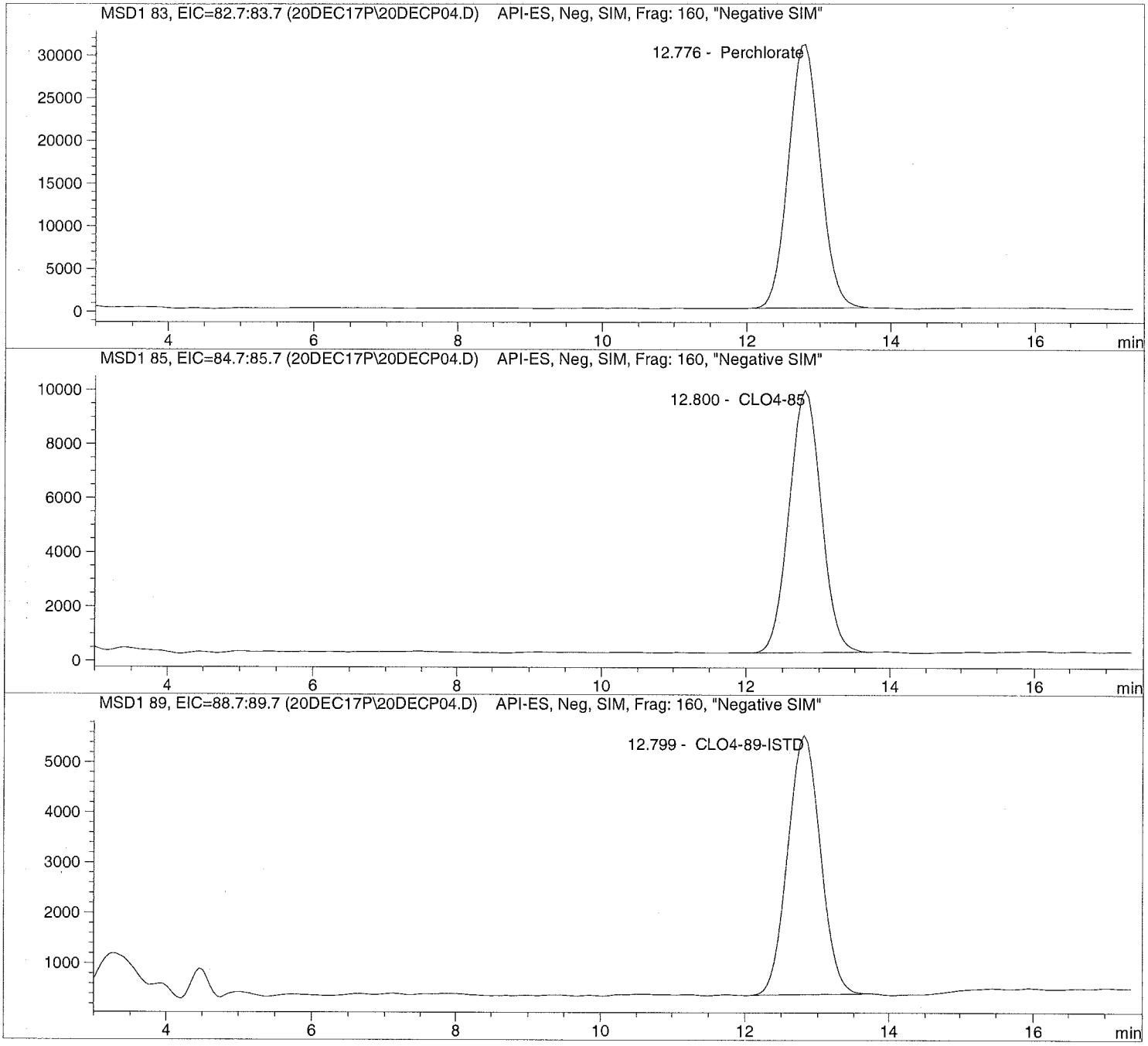
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\20DEC17P\20DECP04.D Sample Name: 1734528010 100

Injection Date:	12/20/2017 10:13:52	Seq Line:	4
Sample Name:	1734528010 100	Location:	Vial 98
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\20DEC17P\20DECP04.D Sample Name: 1734528010 100

Injection Date:	12/20/2017 10:13:52	Seq Line:	4
Sample Name:	1734528010 100	Location:	Vial 98
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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
12.776	BBA	933493.1	2386.9013	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.800	PBA	295219.5	2386.2180	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.799	PBA	161157.0	500.0000	CLO4-89-ISTD

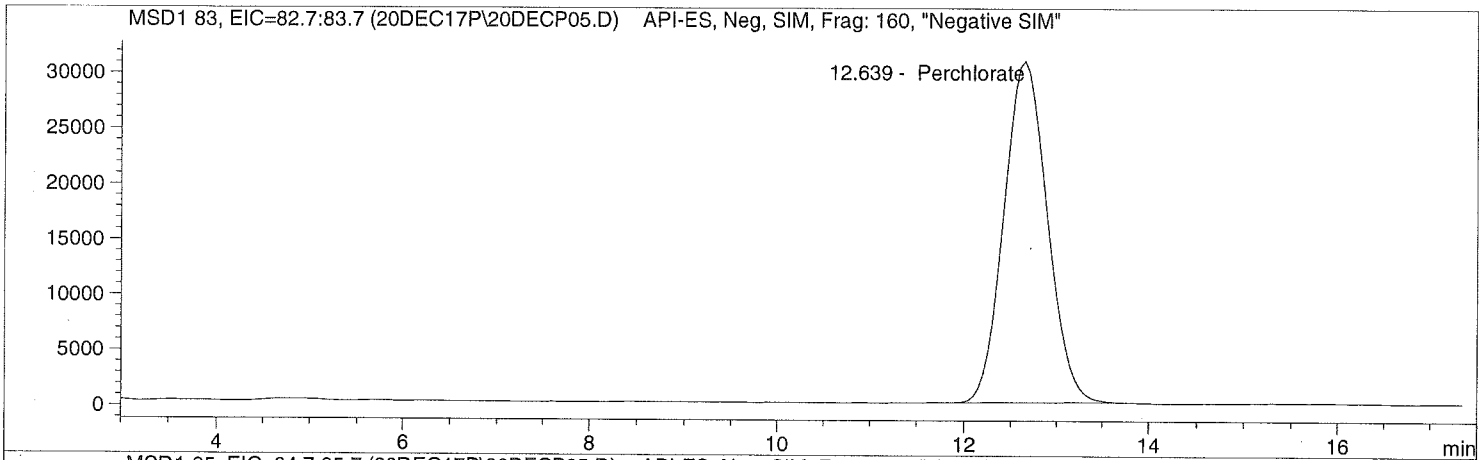
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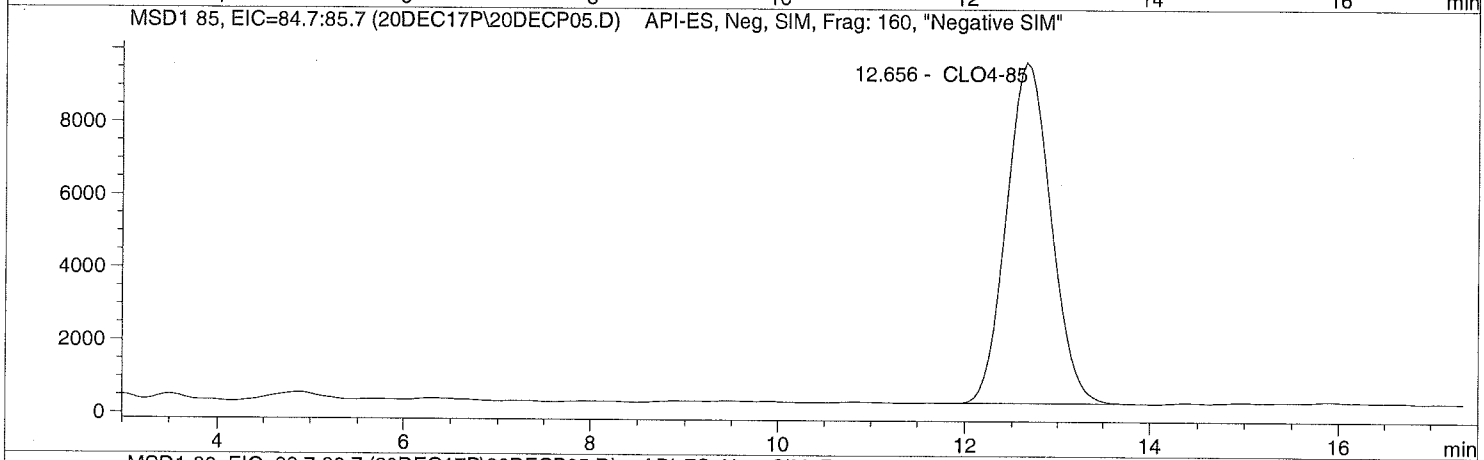
Data file: C:\HPCHEM\1\DATA\20DEC17P\20DECP05.D Sample Name: 580016 CCV@25

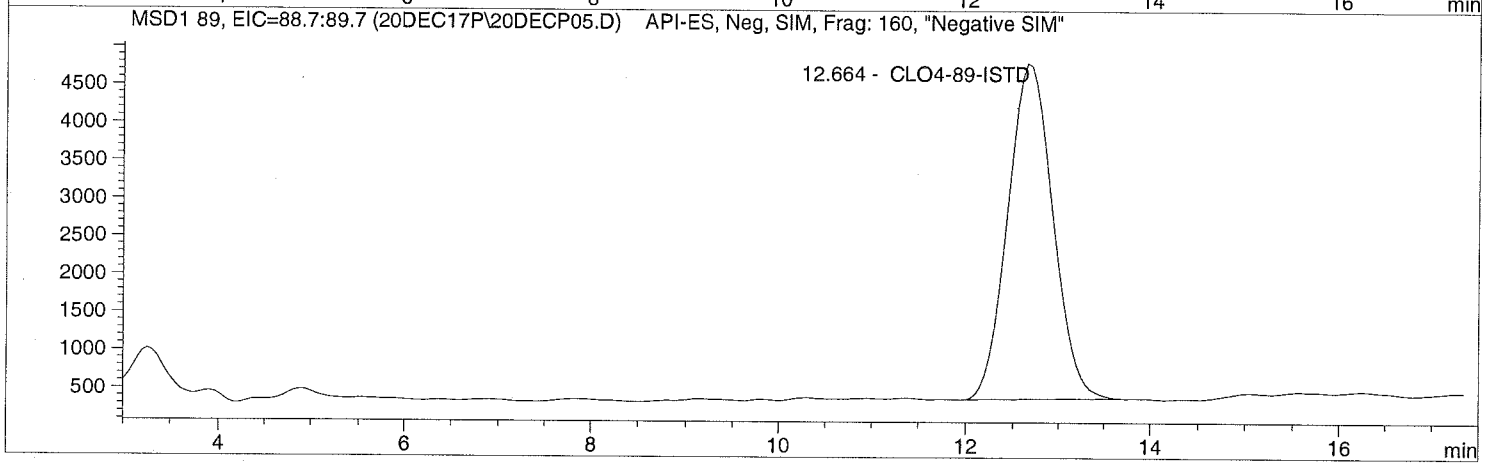
Injection Date:	12/20/2017 10:40:30	Seq Line:	5
Sample Name:	580016 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\20DEC17P\20DECP05.D Sample Name: 580016 CCV@25

Injection Date:	12/20/2017 10:40:30	Seq Line:	5
Sample Name:	580016 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
12.639	BBA	1013571.4	27.1410	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.656	PBA	316516.8	26.9282	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.664	PBA	151519.0	5.0000	CLO4-89-ISTD

*** End of Report ***

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Raw Data

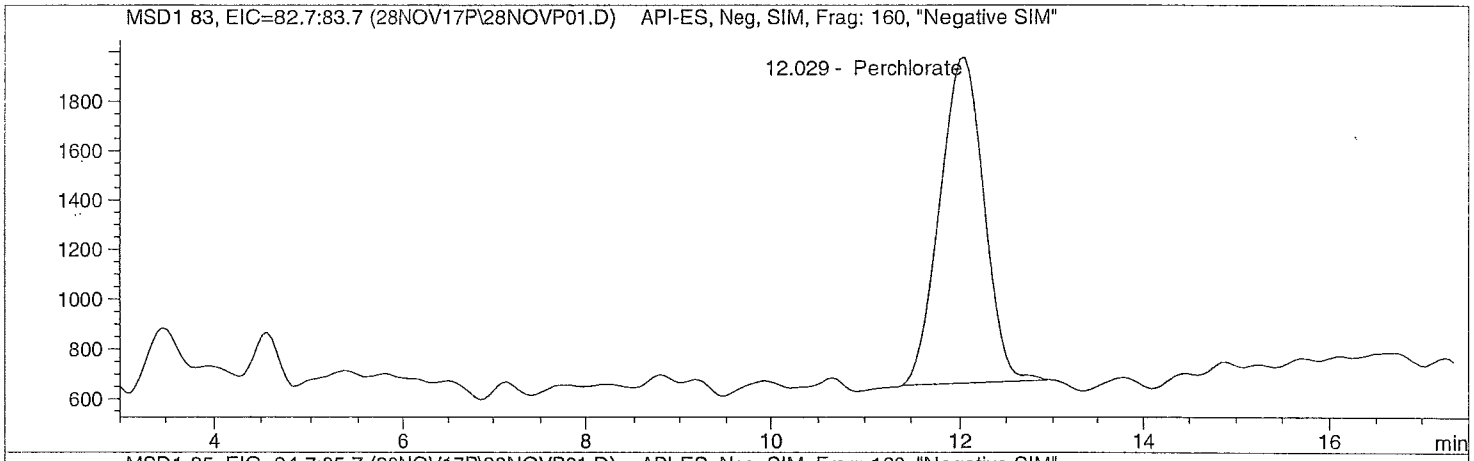
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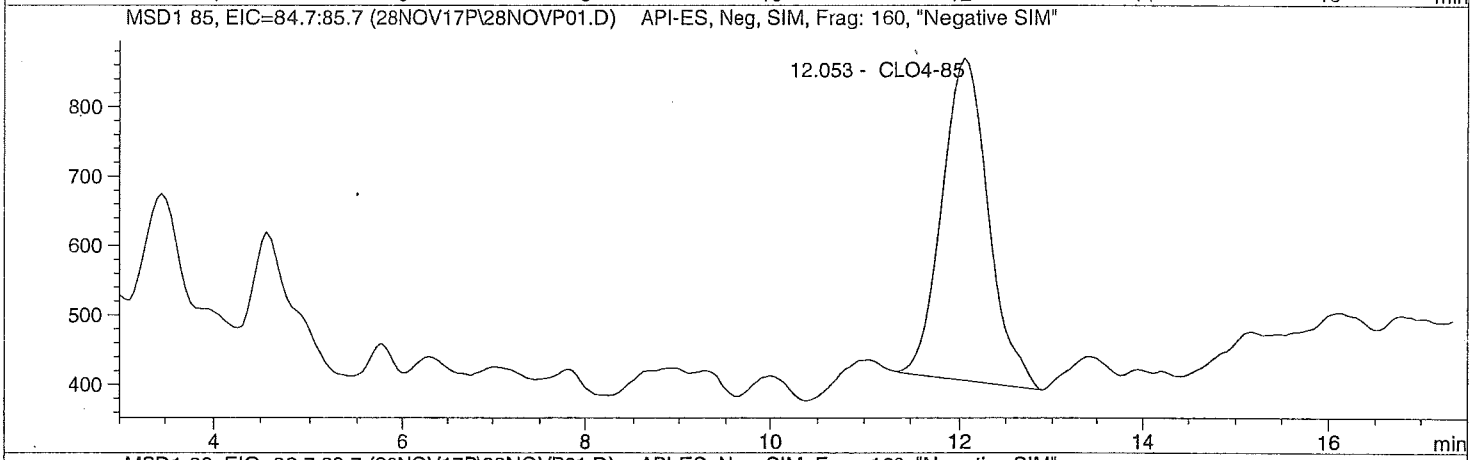
Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP01.D Sample Name: ICAL1@ 1.0ug/L

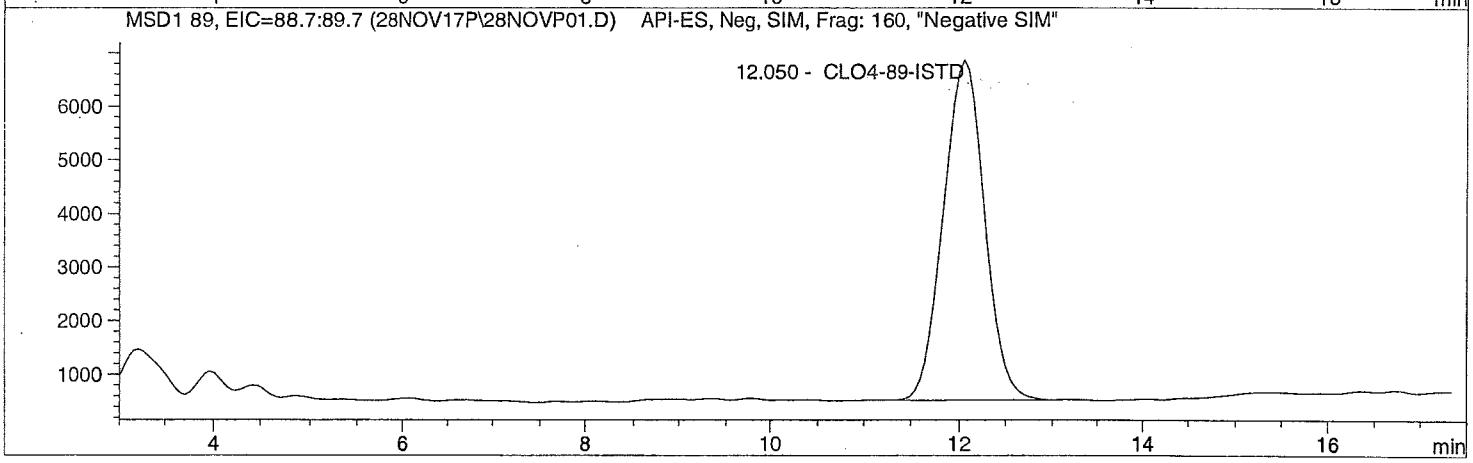
Injection Date:	11/28/2017 09:08:10	Seq Line:	1
Sample Name:	ICAL1@ 1.0ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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

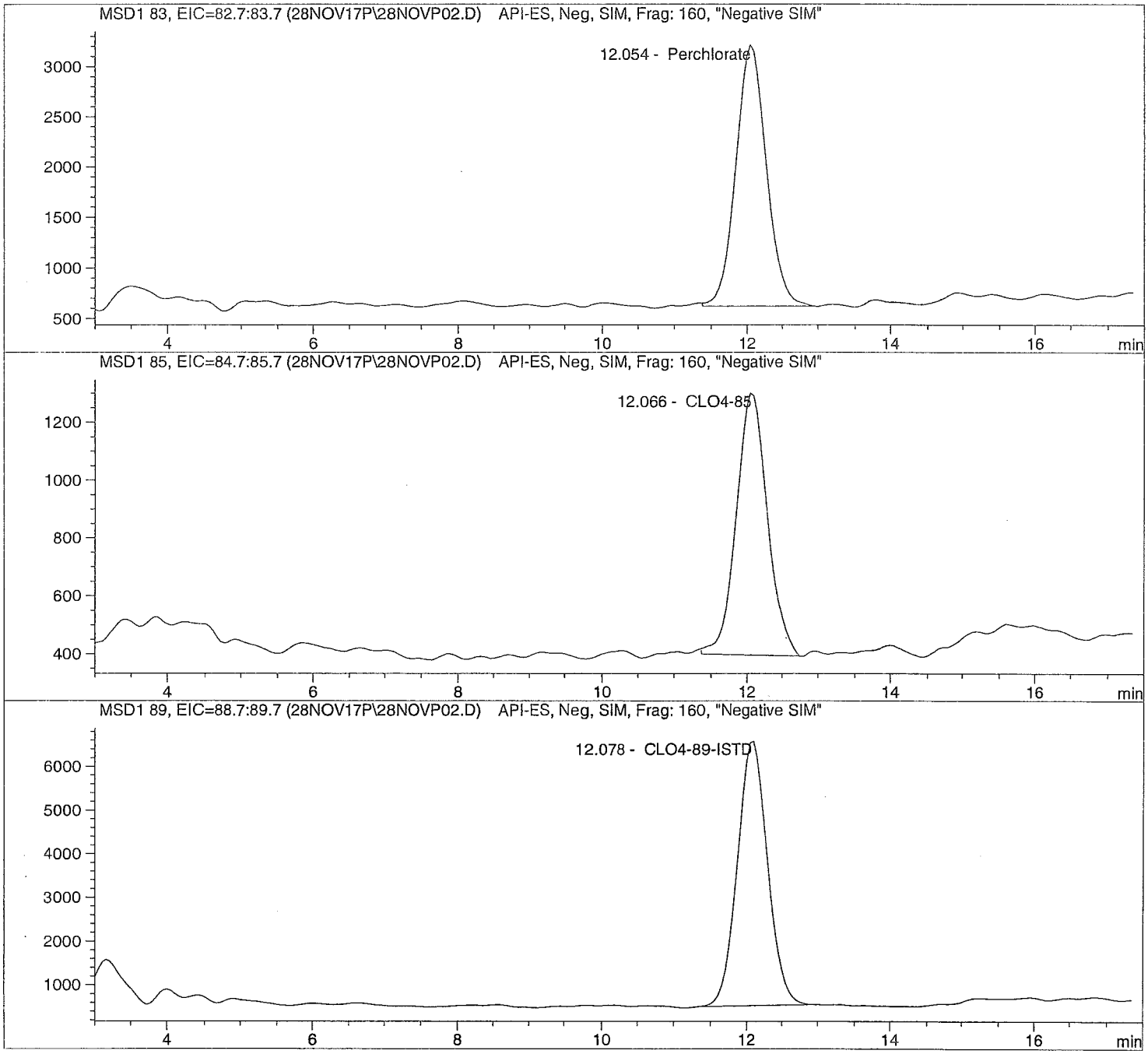
*** End of Report ***

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

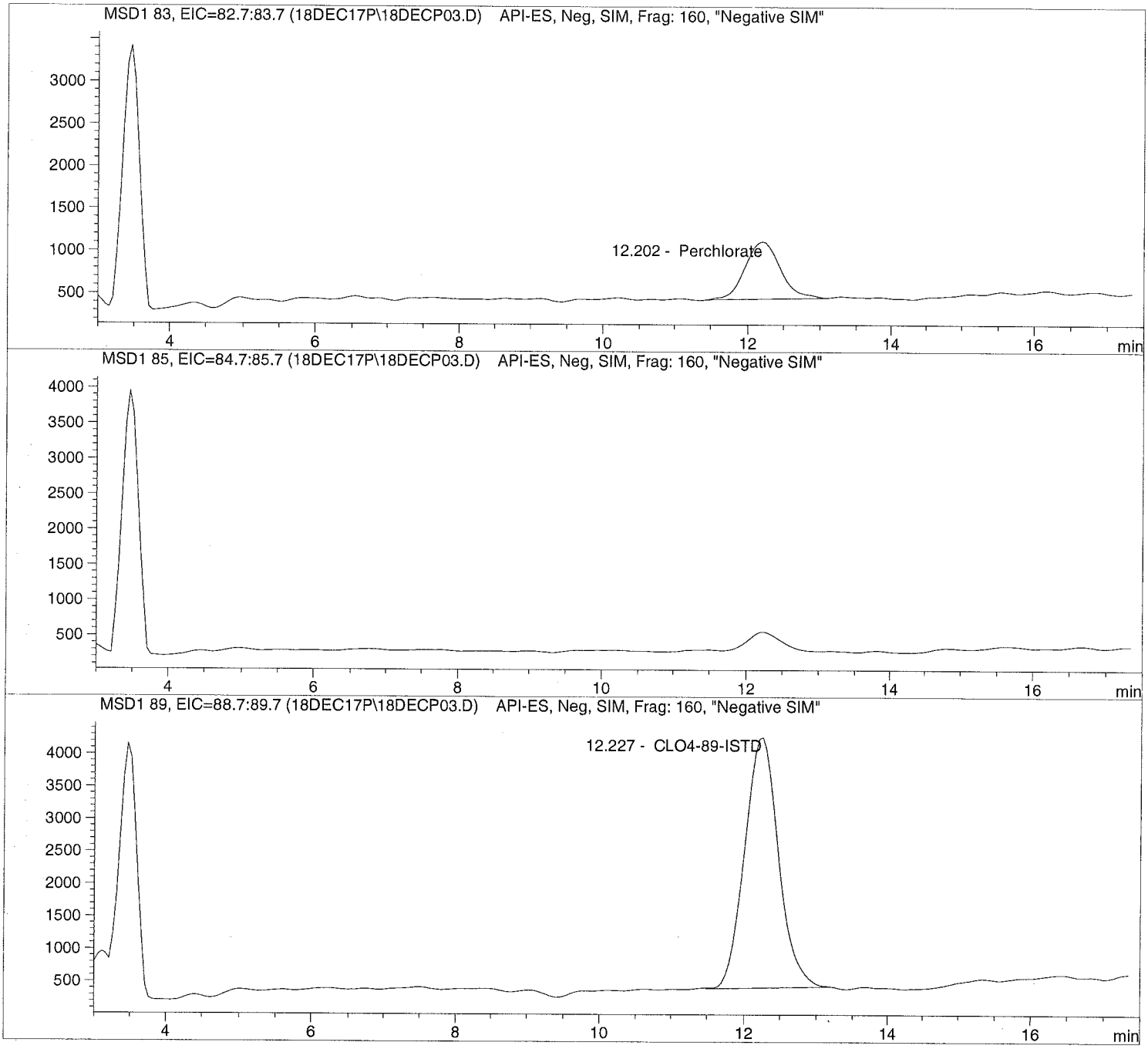
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP03.D Sample Name: 579515 ICS@1.

Injection Date:	12/18/2017 09:39:00	Seq Line:	3
Sample Name:	579515 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\18DEC17P\18DECP03.D Sample Name: 579515 ICS@1.

Injection Date:	12/18/2017 09:39:00	Seq Line:	3
Sample Name:	579515 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
12.202	PBA	22893.8	0.8658	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
12.227	BBA	125694.8	5.0000	CLO4-89-ISTD

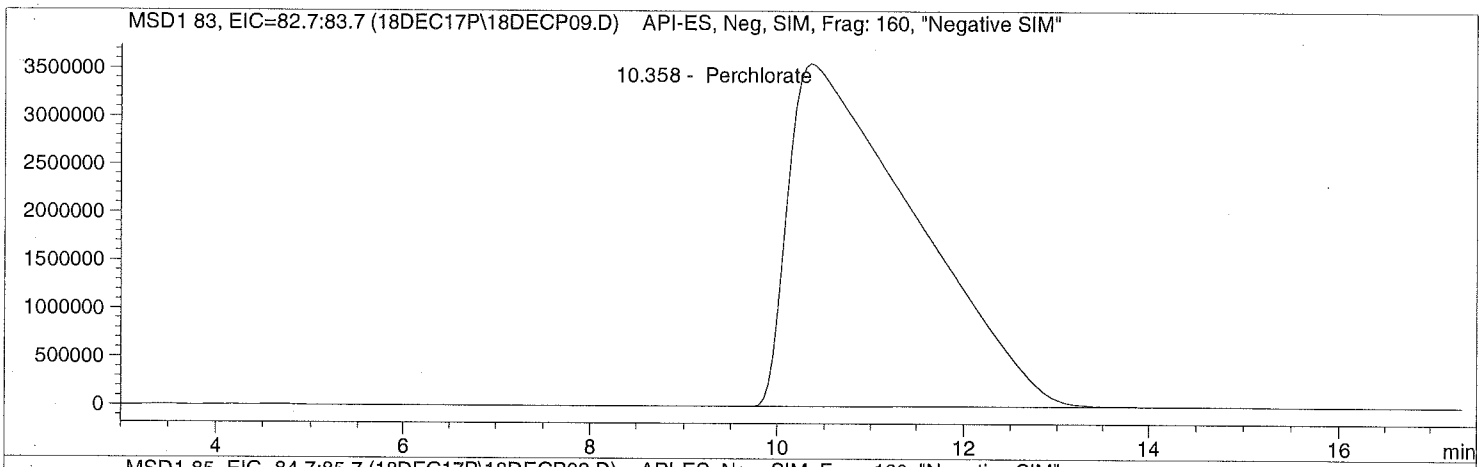
*** End of Report ***

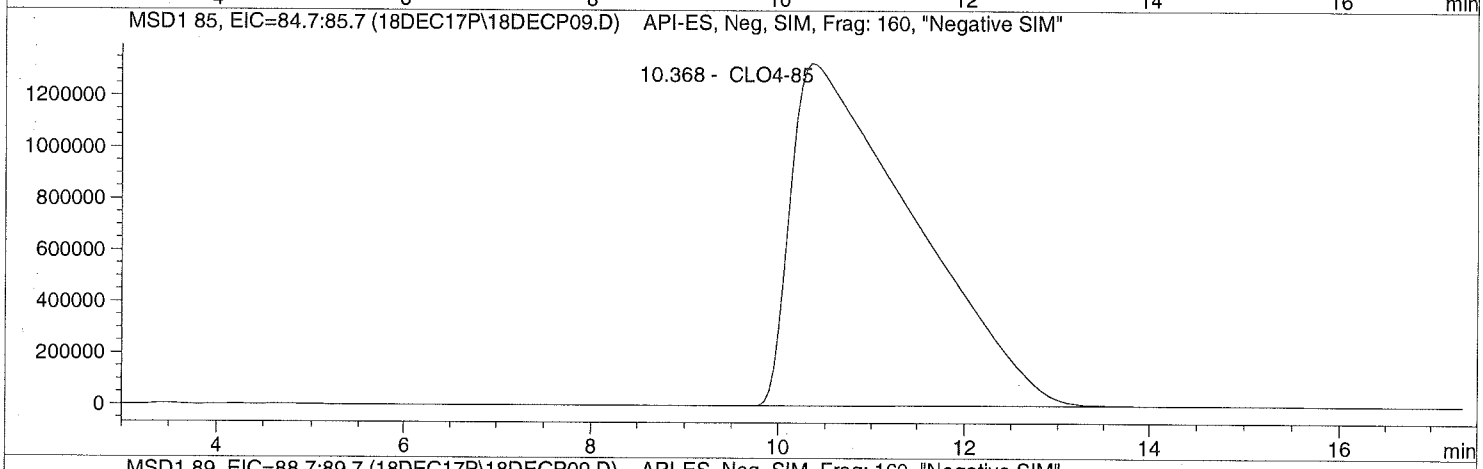
Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP09.D Sample Name: 1734273001

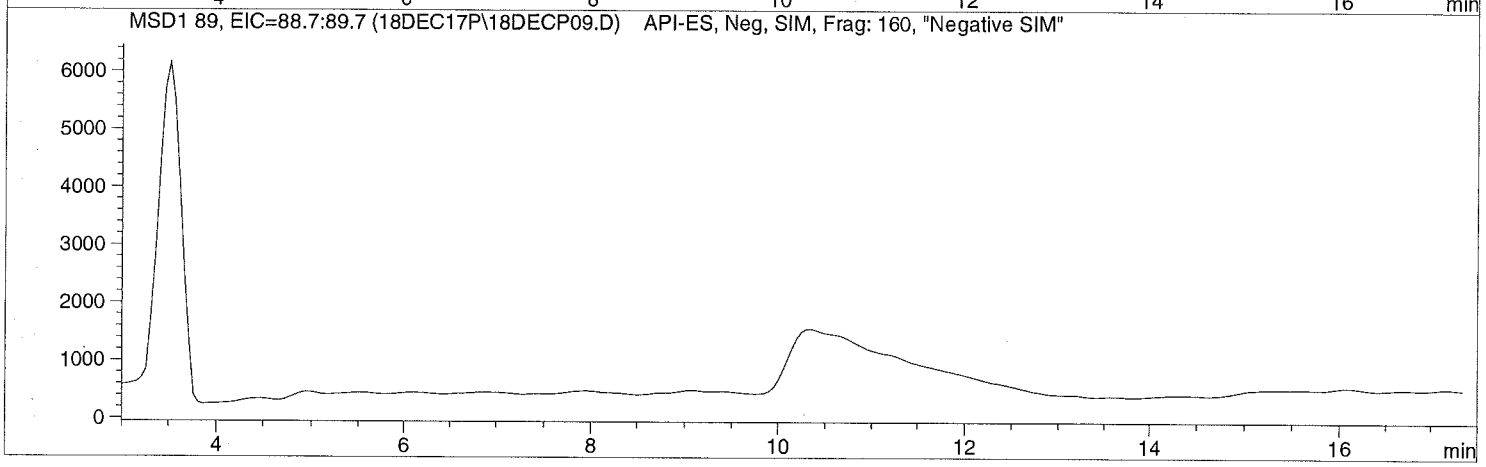
Injection Date:	12/18/2017 11:36:53	Seq Line:	9
Sample Name:	1734273001	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP09.D Sample Name: 1734273001

Injection Date:	12/18/2017 11:36:53	Seq Line:	9
Sample Name:	1734273001	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.358	PBA	334489216.0	0.0243	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.368	PBA	121188464.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-89-ISTD

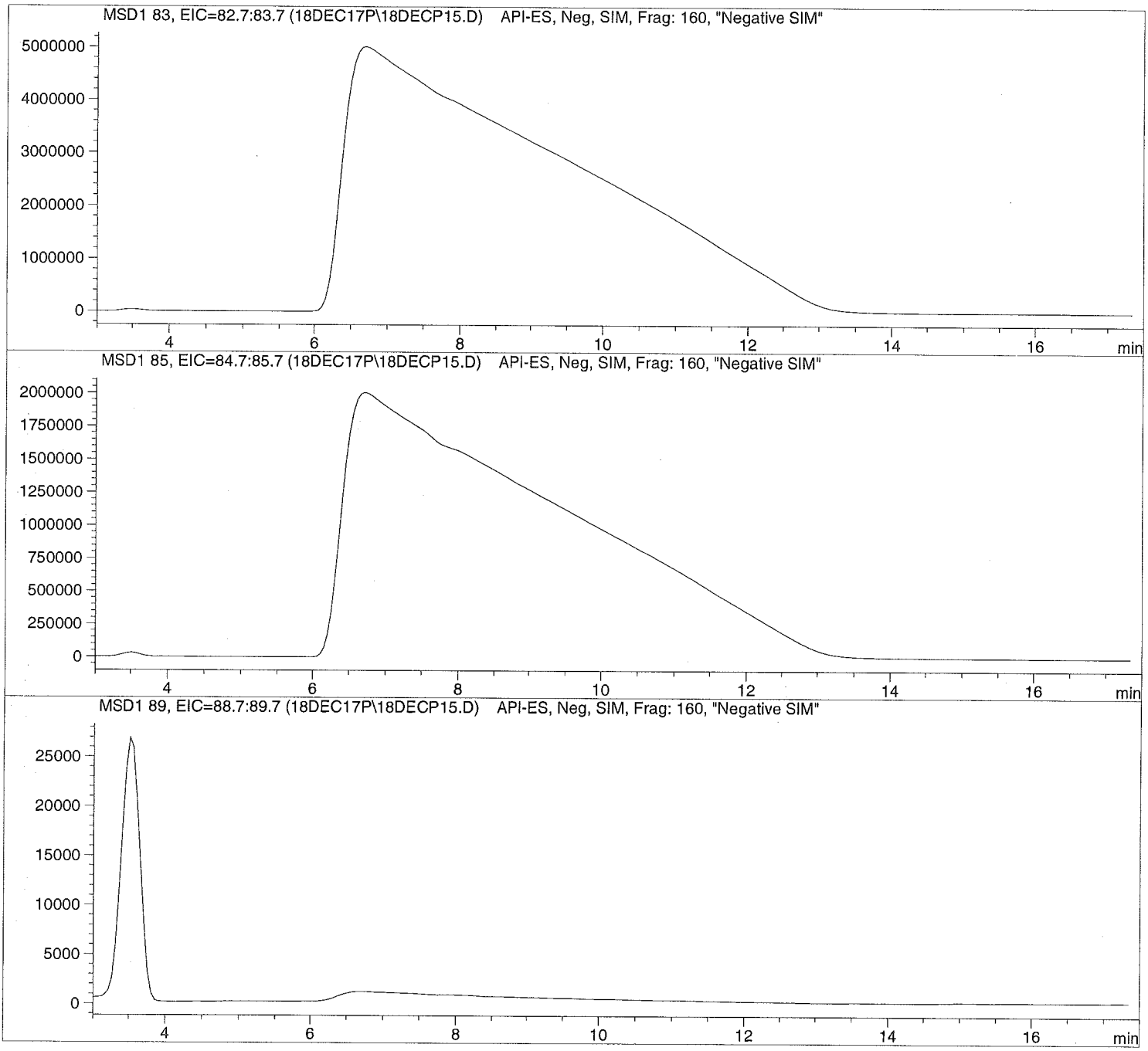
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP15.D Sample Name: 1734528004

Injection Date:	12/18/2017 13:31:48	Seq Line:	15
Sample Name:	1734528004	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\18DEC17P\18DECP15.D Sample Name: 1734528004

Injection Date:	12/18/2017 13:31:48	Seq Line:	15
Sample Name:	1734528004	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
0.000		0.0	0.0000	CLO4-89-ISTD

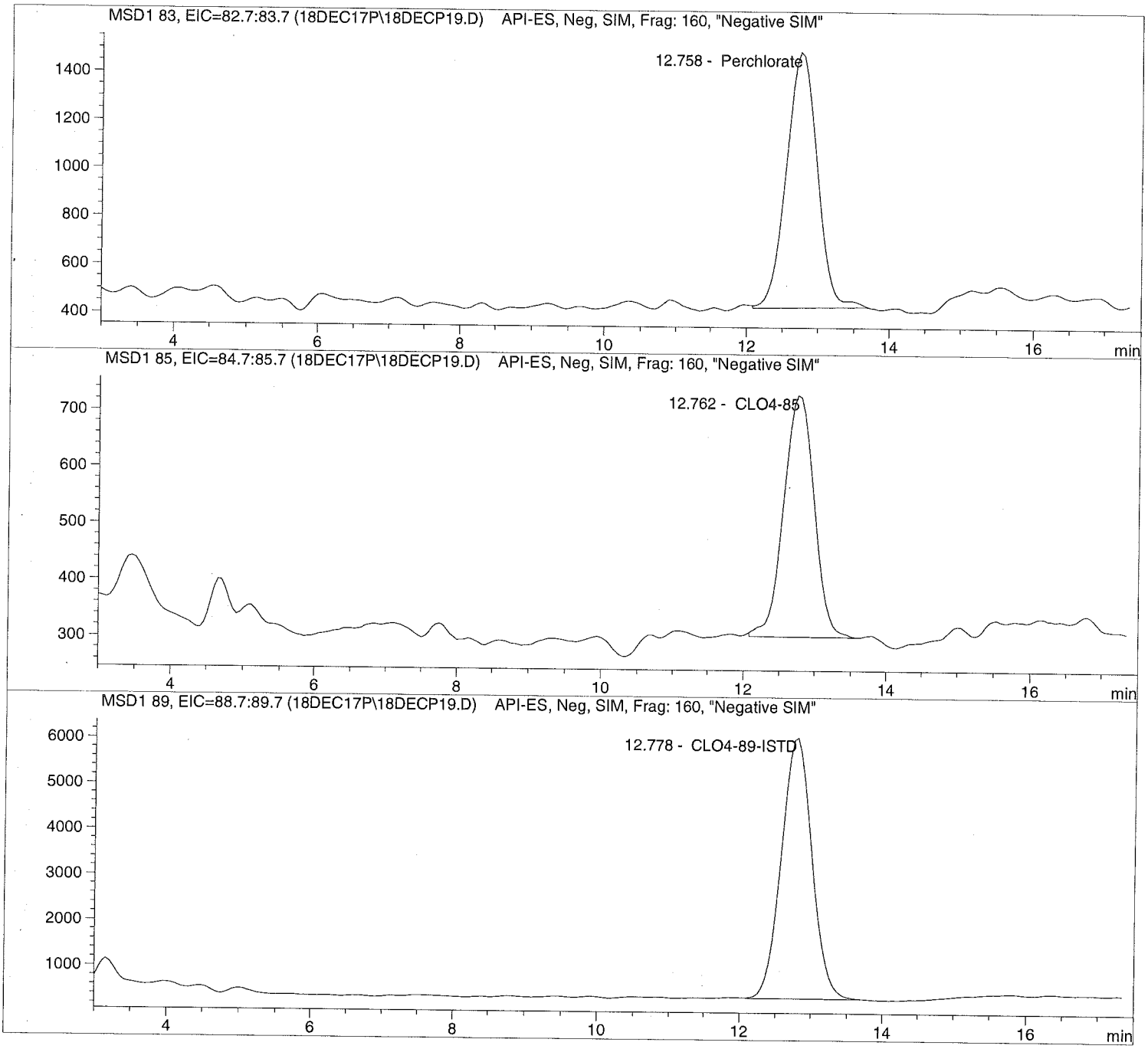
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP19.D Sample Name: 579521 LODV@1.

Injection Date:	12/18/2017 16:02:52	Seq Line:	19
Sample Name:	579521 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\18DEC17P\18DECP19.D Sample Name: 579521 LODV@1.

Injection Date:	12/18/2017 16:02:52	Seq Line:	19
Sample Name:	579521 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
12.758	BBA	32129.8	0.8893	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.762	BBA	12832.9	0.8695	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.778	BBA	171597.3	5.0000	CLO4-89-ISTD

*** End of Report ***

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

WorkOrder: HS17120367

Groundwater Treatment Plant Weekly Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

28-Dec-2017

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

December 28, 2017

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

Work Order: **HS17120367**

Laboratory Results for: **Groundwater Treatment Plant Weekly Samples**

Dear Marcia,

ALS Environmental received 1 sample(s) on Dec 07, 2017 for the analysis presented in the following report.

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

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

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

Sincerely,

Sonia West

Generated By: Jumoke.Lawal
Sonia West
Project Manager

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Weekly Samples
Work Order: HS17120367

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS17120367-01	LH18/24-SP650_120617	Water		06-Dec-2017 14:00	07-Dec-2017 08:50	☐

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Weekly Samples
Work Order: HS17120367

CASE NARRATIVE

Work Order Comments

- The analysis for Perchlorate was subcontracted to ALS Environmental in Salt Lake City, UT. Final Report attached.

WetChemistry by Method E350.3

Batch ID: R307285

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

WetChemistry by Method E415.1

Batch ID: R306940

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

WetChemistry by Method E365.3

Batch ID: R306902

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

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

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Groundwater Treatment Plant Weekly Samples
WorkOrder:HS17120367
Sample ID: LH18/24-SP650_120617
Lab ID:HS17120367-01
Collection Date: 06-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: KMU
Nitrogen, Ammonia (As N)	**15**		**0.20**	**0.20**	**0.20**	**mg/L**	1	14-Dec-2017 13:30
ORTHO PHOSPHATE (PO4) AS P BY E365.3		**Method:E365.3**						Analyst: JHD
Phosphorus, Total Orthophosphate (As P)	**2.73**		**0.100**	**0.125**	**0.250**	**mg/L**	10	08-Dec-2017 12:16
TOTAL ORGANIC CARBON BY E415.1		**Method:E415.1**						Analyst: KMU
Organic Carbon, Total	**23.8**		**0.500**	**0.500**	**1.00**	**mg/L**	1	08-Dec-2017 19:40
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	28-Dec-2017 10:59

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

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Weekly Samples
WorkOrder: HS17120367

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R306902	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3			**Matrix:** Water		
HS17120367-01	LH18/24-SP650_120617	06 Dec 2017 14:00			08 Dec 2017 12:16	10
Batch ID R306940	**Test Name :** TOTAL ORGANIC CARBON BY E415.1			**Matrix:** Water		
HS17120367-01	LH18/24-SP650_120617	06 Dec 2017 14:00			08 Dec 2017 19:40	1
Batch ID R307285	**Test Name :** AMMONIA AS N BY E350.3(ISE)			**Matrix:** Water		
HS17120367-01	LH18/24-SP650_120617	06 Dec 2017 14:00			14 Dec 2017 13:30	1
Batch ID R308041	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)			**Matrix:** Water		
HS17120367-01	LH18/24-SP650_120617	06 Dec 2017 14:00			28 Dec 2017 10:59	1

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Weekly Samples
WorkOrder: HS17120367

QC BATCH REPORT

Batch ID: R306902 **Instrument: UV-2450** **Method: E365.3**

MBLK Sample ID: **MBLK-306902** Units: **mg/L** Analysis Date: **08-Dec-2017 12:16**
Client ID: Run ID: **UV-2450_306902** SeqNo: **4343974** 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-306902** Units: **mg/L** Analysis Date: **08-Dec-2017 12:16**
Client ID: Run ID: **UV-2450_306902** SeqNo: **4343975** 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)	0.255	0.0250	0.25	0	102	80 - 120				

LCSD Sample ID: **LCSD-306902** Units: **mg/L** Analysis Date: **08-Dec-2017 12:16**
Client ID: Run ID: **UV-2450_306902** SeqNo: **4343976** 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)	0.257	0.0250	0.25	0	103	80 - 120	0.255	0.781	20	

MS Sample ID: **HS17120360-01MS** Units: **mg/L** Analysis Date: **08-Dec-2017 12:16**
Client ID: Run ID: **UV-2450_306902** SeqNo: **4343978** 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)	0.244	0.0250	0.25	0	97.6	80 - 120				

MSD Sample ID: **HS17120360-01MSD** Units: **mg/L** Analysis Date: **08-Dec-2017 12:16**
Client ID: Run ID: **UV-2450_306902** SeqNo: **4343979** 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)	0.247	0.0250	0.25	0	98.8	80 - 120	0.244	1.22	20	

The following samples were analyzed in this batch: HS17120367-01

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

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Weekly Samples
WorkOrder: HS17120367

QC BATCH REPORT

Batch ID: R306940 **Instrument: TOC_02** **Method: E415.1**

MBLK Sample ID: **WBLKW3-120817** Units: **mg/L** Analysis Date: **08-Dec-2017 18:42**
Client ID: Run ID: **TOC_02_306940** SeqNo: **4344646** 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: **WLCSW3-120817** Units: **mg/L** Analysis Date: **08-Dec-2017 18:55**
Client ID: Run ID: **TOC_02_306940** SeqNo: **4344647** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.821	1.00	10	0	98.2	80 - 120				

LCSD Sample ID: **WLCSDW3-120817** Units: **mg/L** Analysis Date: **08-Dec-2017 19:11**
Client ID: Run ID: **TOC_02_306940** SeqNo: **4344648** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	9.591	1.00	10	0	95.9	80 - 120	9.821	2.37	20	

MS Sample ID: **HS17120141-01MS** Units: **mg/L** Analysis Date: **08-Dec-2017 20:09**
Client ID: Run ID: **TOC_02_306940** SeqNo: **4344652** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	24.35	1.00	10	14.55	98.0	80 - 120				

The following samples were analyzed in this batch: HS17120367-01

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

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Weekly Samples
WorkOrder: HS17120367

QC BATCH REPORT

Batch ID: R307285 **Instrument: WetChem_HS** **Method: E350.3**

MBLK Sample ID: **MBLK-R307285** Units: **mg/L** Analysis Date: **14-Dec-2017 13:30**
Client ID: Run ID: **WetChem_HS_307285** SeqNo: **4352461** 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-R307285** Units: **mg/L** Analysis Date: **14-Dec-2017 13:30**
Client ID: Run ID: **WetChem_HS_307285** SeqNo: **4352460** 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)	9.883	0.20	10	0	98.8	80 - 120				

MS Sample ID: **HS17120367-01MS** Units: **mg/L** Analysis Date: **14-Dec-2017 13:30**
Client ID: **LH18/24-SP650_120617** Run ID: **WetChem_HS_307285** SeqNo: **4352463** 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)	25.91	0.20	10	15.44	105	80 - 120				

MSD Sample ID: **HS17120367-01MSD** Units: **mg/L** Analysis Date: **14-Dec-2017 13:30**
Client ID: **LH18/24-SP650_120617** Run ID: **WetChem_HS_307285** SeqNo: **4352462** 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)	25.71	0.20	10	15.44	103	80 - 120	25.91	0.775	20	

The following samples were analyzed in this batch: HS17120367-01

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

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Weekly Samples
WorkOrder: **HS17120367**

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 Carolina	624-2017	31-Dec-2017
North Dakota	R193 2017-2017	30-Apr-2018
Oklahoma	2017-088	31-Aug-2018
Texas	T104704231-17-19	30-Apr-2018

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

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Weekly Samples
Work Order: HS17120367

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS17120367-01	LH18/24-SP650_120617	Login	12/7/2017 11:22:51 AM	CL	EXT034
HS17120367-01	LH18/24-SP650_120617	Login	12/7/2017 11:22:51 AM	CL	MET017
HS17120367-01	LH18/24-SP650_120617	Login	12/7/2017 11:22:51 AM	CL	WET114
HS17120367-01	LH18/24-SP650_120617	Login	12/7/2017 11:22:51 AM	CL	Sub
HS17120367-01	LH18/24-SP650_120617	Login	12/7/2017 11:22:51 AM	CL	VOA066

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

Sample Receipt Checklist

Client Name: Bhate Environmental
Work Order: HS17120367
Date/Time Received: **07-Dec-2017 08:50**
Received by: **JRM**

Checklist completed by: *Cesar A. Lira* eSignature 7-Dec-2017 Date
Reviewed by: *Sonia West* eSignature 8-Dec-2017 Date

Matrices: **WATER**
Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	0.8C/0.5C UC/C	IR30	
Cooler(s)/Kit(s):	43448		
Date/Time sample(s) sent to storage:	12/7/2017 1200		
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

HS17120367

Bhate Environmental Associates, Inc.
Groundwater Treatment Plant Monthly 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_120617	Water	12/06/17 / 14:00		2	X	X			H2SO4	
LH18/24-SP650_120617	Water	12/06/17 / 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	12/06/17	14:30	JM	12.7.17	0850						

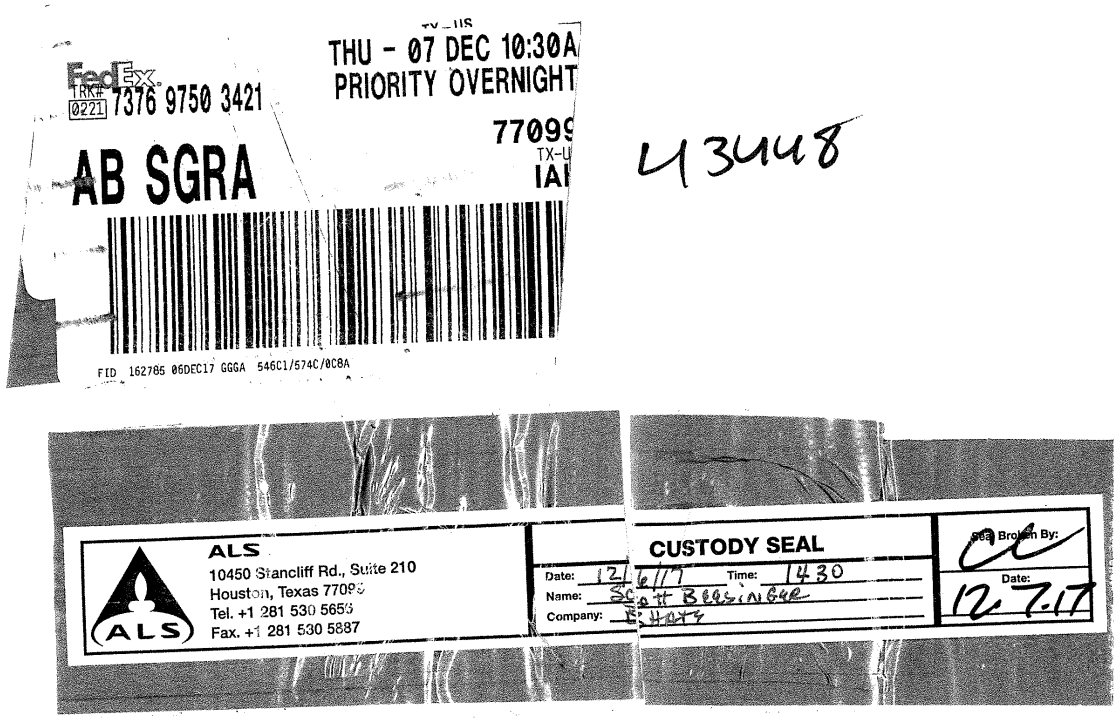
For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
JM	12.7.17	0850		CL			0.8		

Remarks:

M=30
CEC-03

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


FedEx
TRK# 0221 7376 9750 3421
AB SGRA
THU - 07 DEC 10:30A
PRIORITY OVERNIGHT
77099
TX-U
IA
FID 162785 06DEC17 GGGA 546C1/574C/0C8A
43448
ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
CUSTODY SEAL
Date: 12/6/17
Time: 1430
Name: Scott Beasinger
Company: ALS Hou
Seal Broken By:
Date: 12.7.17

Wet Chemistry Raw Data

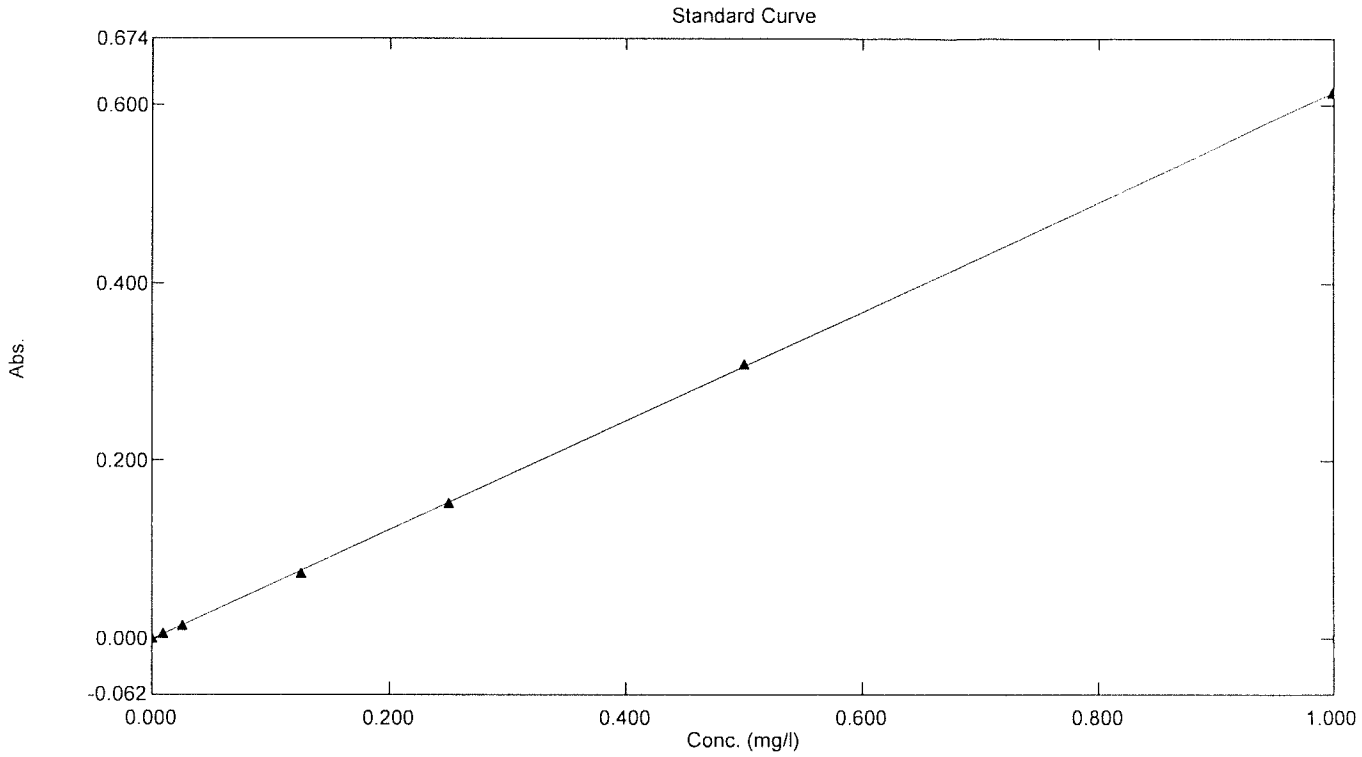
Bhate Environmental Associates, Inc. Project:
Groundwater Treatment Plant Weekly Samples
ALS WO# HS17120367

HS17120367

Standard Table Report

12/27/2017 04:04:44 PM

File Name: Q:\UVProbe\O_PO4_UNKNOWN\171208_P_ORTHO_W.pho



Correlation Coefficient r2 = 0.99997

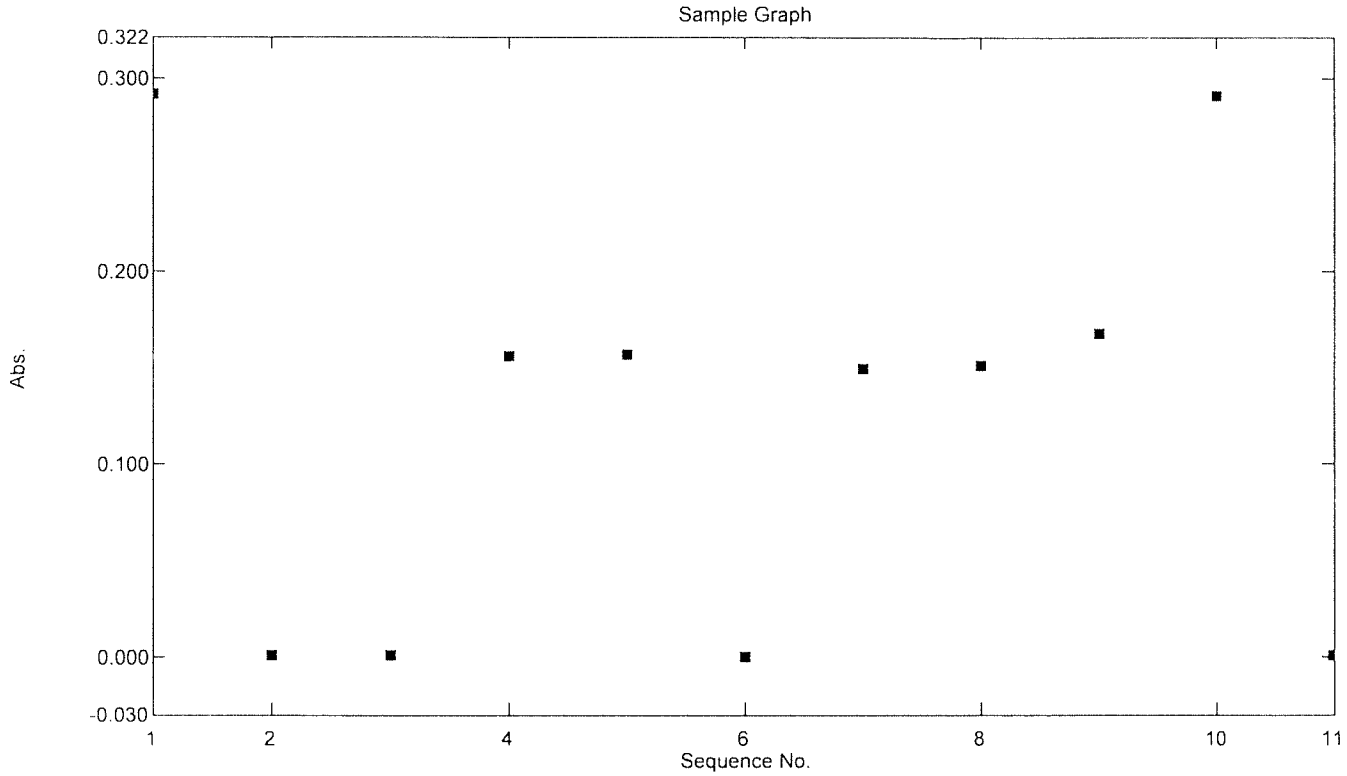
Standard Table

	Sample ID	Type	Ex	Conc	WL:880.0	Wgt.Facto	Comments
1	STD1	Standard		0.000	0.000	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	0.074	1.000	
5	STD5	Standard		0.250	0.152	1.000	
6	STD6	Standard		0.500	0.308	1.000	
7	STD7	Standard		1.000	0.613	1.000	
8							

Sample Table Report

12/27/2017 04:04:47 PM

File Name: Q:\UVProbe\O_PO4_UNKNOWN\171208_P_ORTHO_W.pho



Sample Table

	Sample ID	Type	Ex	Conc	WL880.0	Comments
1	CCV	Unknown		0.477	0.292	
2	CCB	Unknown		0.002	0.000	
3	MBLK	Unknown		0.001	0.000	
4	LCS	Unknown		0.255	0.156	
5	LCSD	Unknown		0.257	0.157	
6	17120360.01	Unknown		-0.000	-0.001	12:15PM
7	17120360.01MS	Unknown		0.244	0.149	
8	17120360.01MSD	Unknown		0.247	0.151	
9	17120367.01	Unknown		0.273	0.167	PF-10X,12:16PM
10	CCV2	Unknown		0.475	0.291	
11	CCB2	Unknown		0.002	0.001	
12						

HS17120367

	Ty	Analysi	Sample Name	Sample ID	Origin	Result	Status	Date / Time
1	Un	NPOC	CCV	304.180.601	10-16-2017_W	NPOC:25.60mg/L	Completed	12/8/2017 10:37:11 AM
2	Un	NPOC	CCB	Untitled	10-16-2017_W	NPOC:0.2768mg/L	Completed	12/8/2017 10:50:24 AM
3	Un	NPOC	WBLKW1-120817	DISS_5310B	10-16-2017_W	NPOC:0.2470mg/L	Completed	12/8/2017 11:03:37 AM
4	Un	NPOC	WLCSW1-120817	297.020.4418	10-16-2017_W	NPOC:10.16mg/L	Completed	12/8/2017 11:18:55 AM
5	Un	NPOC	WLCSDW1-120817	Untitled	10-16-2017_W	NPOC:9.998mg/L	Completed	12/8/2017 11:34:17 AM
6	Un	NPOC	HS17111242-01	DISS 1/2	10-16-2017_W	NPOC:3.851mg/L	Completed	12/8/2017 11:49:38 AM
7	Un	NPOC	HS17111242-01MS	DISS 1/2	10-16-2017_W	NPOC:14.03mg/L	Completed	12/8/2017 12:06:20 PM
8	Un	NPOC	HS17111242-02	DISS 1/2	10-16-2017_W	NPOC:0.3928mg/L	Completed	12/8/2017 12:19:28 PM
9	Un	NPOC	WBLKW2-120817	5310B	10-16-2017_W	NPOC:0.3409mg/L	Completed	12/8/2017 12:32:41 PM
10	Un	NPOC	WLCSW2-120817	Untitled	10-16-2017_W	NPOC:9.482mg/L	Completed	12/8/2017 12:47:59 PM
11	Un	NPOC	WLCSDW2-120817	Untitled	10-16-2017_W	NPOC:9.849mg/L	Completed	12/8/2017 1:01:07 PM
12	Un	NPOC	HS17111467-01	1/1	10-16-2017_W	NPOC:9.417mg/L	Completed	12/8/2017 1:14:20 PM
13	Un	NPOC	CCV	Untitled	10-16-2017_W	NPOC:24.58mg/L	Completed	12/8/2017 1:28:07 PM
14	Un	NPOC	CCB	Untitled	10-16-2017_W	NPOC:0.4405mg/L	Completed	12/8/2017 1:43:25 PM
15	Un	NPOC	HS17120186-01	1/1	10-16-2017_W	NPOC:0.2917mg/L	Completed	12/8/2017 1:56:33 PM
16	Un	NPOC	HS17120263-01	1/2	10-16-2017_W	NPOC:0.3102mg/L	Completed	12/8/2017 2:09:46 PM
17	Un	NPOC	HS17120268-01	1/2	10-16-2017_W	NPOC:0.2821mg/L	Completed	12/8/2017 2:22:59 PM
18	Un	NPOC	HS17120038-01	1/2	10-16-2017_W	NPOC:13.07mg/L	Completed	12/8/2017 2:36:12 PM
19	Un	NPOC	HS17111434-01	1/2	10-16-2017_W	NPOC:8.353mg/L	Completed	12/8/2017 2:51:30 PM
20	Un	NPOC	HS17111434-02	1/2	10-16-2017_W	NPOC:8.564mg/L	Completed	12/8/2017 3:09:53 PM
21	Un	NPOC	HS17111434-03	1/2	10-16-2017_W	NPOC:5.738mg/L	Completed	12/8/2017 3:25:06 PM
22	Un	NPOC	HS17111150-01	TOC_W 1/2	10-16-2017_W	NPOC:11.71mg/L	Completed	12/8/2017 3:40:19 PM
23	Un	NPOC	HS17120016-01	TOC_W 1/1	10-16-2017_W	NPOC:25.52mg/L	Completed	12/8/2017 3:55:32 PM
24	Un	NPOC	CCV	Untitled	10-16-2017_W	NPOC:24.62mg/L	Completed	12/8/2017 4:11:48 PM
25	Un	NPOC	CCB	Untitled	10-16-2017_W	NPOC:0.3695mg/L	Completed	12/8/2017 4:27:01 PM
26	Un	NPOC	HS17111467-01MS	1/1	10-16-2017_W	NPOC:19.89mg/L	Completed	12/8/2017 5:37:16 PM
27	Un	NPOC	CCV	Untitled	10-16-2017_W	NPOC:24.22mg/L	Completed	12/8/2017 5:53:56 PM
28	Un	NPOC	CCB	Untitled	10-16-2017_W	NPOC:0.4124mg/L	Completed	12/8/2017 6:09:10 PM
29	Un	NPOC	WBLKW3-120817	5310B	10-16-2017_W	NPOC:0.3237mg/L	Completed	12/8/2017 6:46:29 PM
30	Un	NPOC	WLCSW3-120817	Untitled	10-16-2017_W	NPOC:9.821mg/L	Completed	12/8/2017 7:02:21 PM
31	Un	NPOC	WLCSDW3-120817	Untitled	10-16-2017_W	NPOC:9.591mg/L	Completed	12/8/2017 7:17:49 PM
32	Un	NPOC	HS17120037-01	TOC_W 1/2	10-16-2017_W	NPOC:11.96mg/L	Completed	12/8/2017 7:30:57 PM
33	Un	NPOC	HS17120367-01	TOC_W 1/1	10-16-2017_W	NPOC:23.75mg/L	Completed	12/8/2017 7:46:21 PM
34	Un	NPOC	HS17120141-01	1/2	10-16-2017_W	NPOC:14.55mg/L	Completed	12/8/2017 7:59:29 PM
35	Un	NPOC	HS17120141-01MS	1/2	10-16-2017_W	NPOC:24.35mg/L	Completed	12/8/2017 8:15:22 PM
36	Un	NPOC	HS17120171-01DF5	HI SALT 1/1	10-16-2017_W	NPOC:9.521mg/L	Completed	12/8/2017 8:30:35 PM
37	Un	NPOC	HS17120171-02DF5	HI SALT 1/1	10-16-2017_W	NPOC:3.133mg/L	Completed	12/8/2017 8:45:48 PM
38	Un	NPOC	HS17120171-03DF5	HI SALT 1/1	10-16-2017_W	NPOC:0.8851mg/L	Completed	12/8/2017 9:01:01 PM
39	Un	NPOC	CCV	Untitled	10-16-2017_W	NPOC:24.22mg/L	Completed	12/8/2017 9:16:14 PM
40	Un	NPOC	CCB	Untitled	10-16-2017_W	NPOC:0.3626mg/L	Completed	12/8/2017 9:31:27 PM
41	Un	NPOC	HS17120171-04DF5	HI SALT 1/1	10-16-2017_W	NPOC:1.428mg/L	Completed	12/8/2017 9:44:35 PM
42	Un	NPOC	HS17120171-05DF5	HI SALT 1/1	10-16-2017_W	NPOC:1.106mg/L	Completed	12/8/2017 9:57:48 PM
43	Un	NPOC	HS17120171-06DF5	HI SALT 1/1	10-16-2017_W	NPOC:3.072mg/L	Completed	12/8/2017 10:11:01 PM
44	Un	NPOC	HS17120171-07DF5	HI SALT 1/1	10-16-2017_W	NPOC:3.479mg/L	Completed	12/8/2017 10:26:19 PM
45	Un	NPOC	CCV	Untitled	10-16-2017_W	NPOC:24.31mg/L	Completed	12/8/2017 10:41:32 PM
46	Un	NPOC	CCB	Untitled	10-16-2017_W	NPOC:0.3533mg/L	Completed	12/8/2017 10:54:40 PM
47	Un	NPOC	FLUSH	Untitled	10-16-2017_W	NPOC:0.3009mg/L	Completed	12/8/2017 11:09:57 PM
48	Un	NPOC	FLUSH	Untitled	10-16-2017_W	NPOC:0.2820mg/L	Completed	12/8/2017 11:23:05 PM

	Vial
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	1
30	2
31	3
32	4
33	5
34	6
35	7
36	8
37	9
38	10
39	11
40	12
41	13
42	14
43	15
44	16
45	17
46	18
47	19
48	20

Instr.Information

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

Cal. Curve

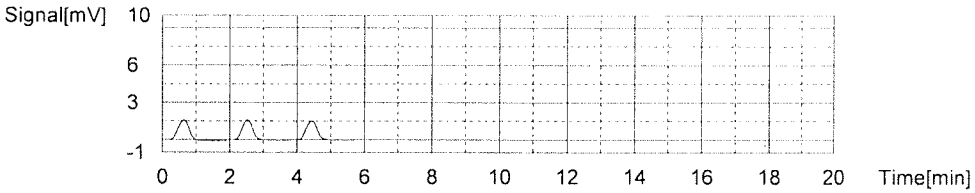
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Sample ID:	304146903
Cal. Curve:	10-16-2017_W.2017_10_16_17_39_41.cal
Status	Completed

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

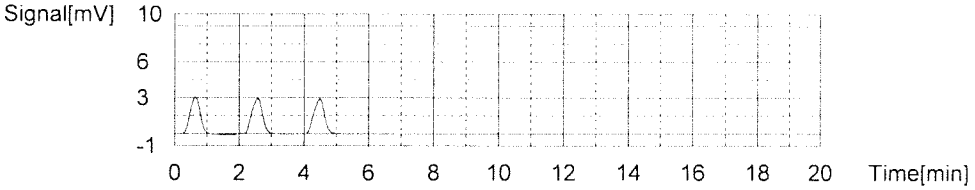
Acid Add. 0.000%
Sp. Time 180.0sec
Mean Area 3.340



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

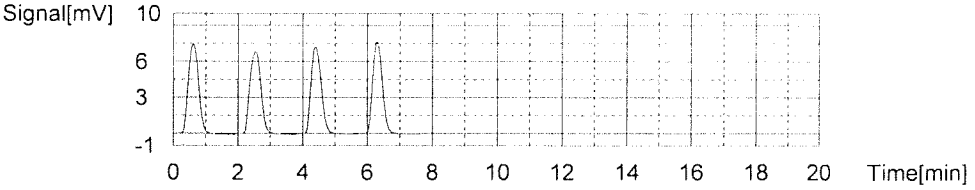
Acid Add. 0.000%
Sp. Time 180.0sec
Mean Area 6.551



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

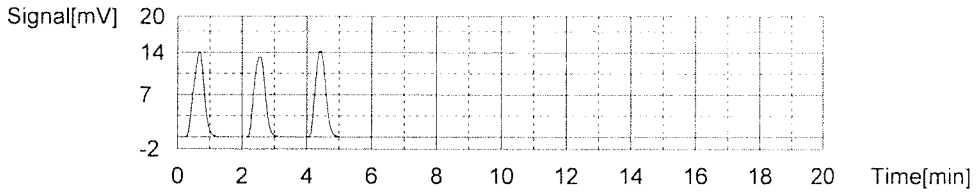
Acid Add. 0.000%
Sp. Time 180.0sec
Mean Area 15.86



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

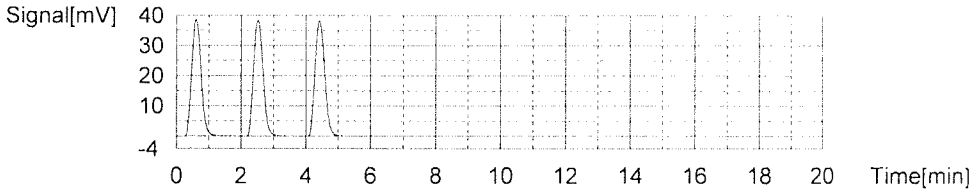
Acid Add. 0.000%
Sp. Time 180.0sec
Mean Area 31.59



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

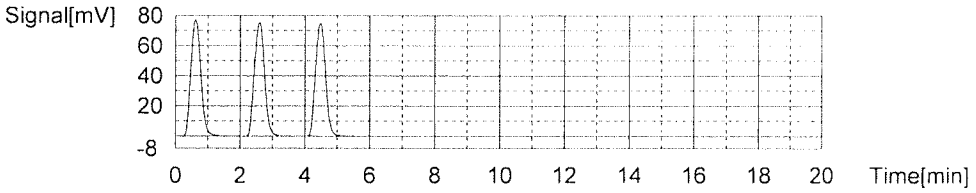
Acid Add. 0.000%
Sp. Time 180.0sec
Mean Area 78.77



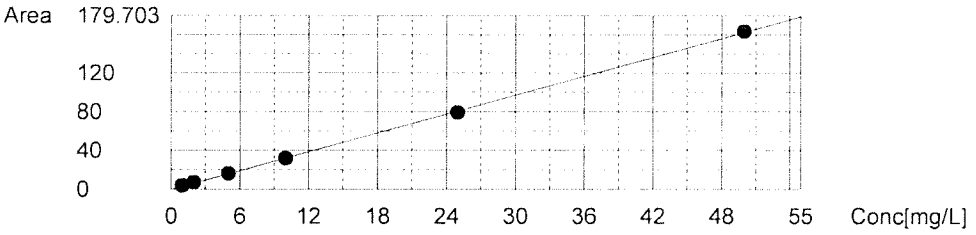
Conc: 50.00mg/l

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

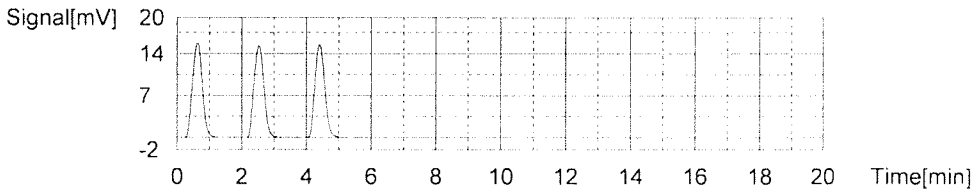
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.16mg/l

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	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

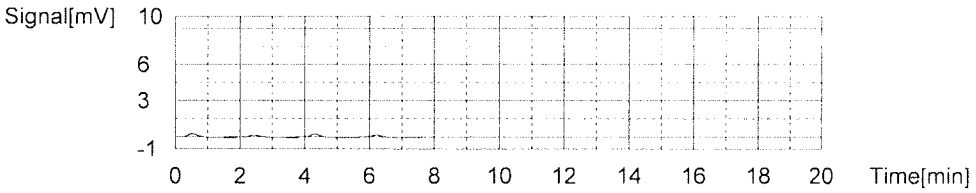
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2618mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.4693	0.3217mg/L	50ul	1	E	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:	Untitled
Origin:	10-16-2017_W.cal
Status	Completed
Chk. Result	

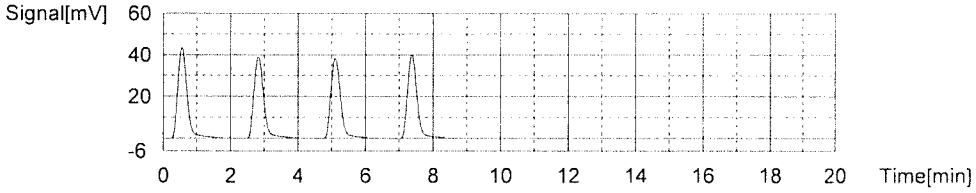
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:24.22mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	82.30	25.44mg/L	50ul	1	E	10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 5:46:35 PM
2	78.66	24.33mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 5:49:03 PM
3	78.01	24.13mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 5:51:30 PM
4	78.29	24.21mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 5:53:56 PM

Mean Area	78.32
Mean Conc.	24.22mg/L



Sample

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

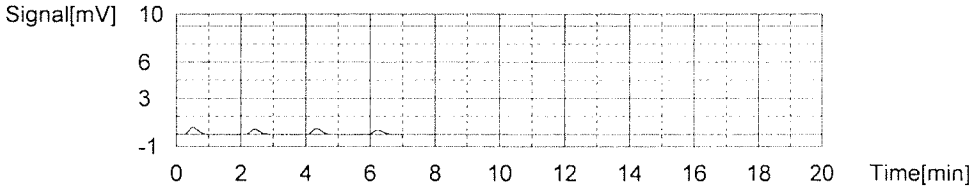
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.4124mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.007	0.4868mg/L	50ul	1	E	10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 6:02:55 PM
2	0.7330	0.4027mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 6:05:00 PM
3	0.9048	0.4554mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 6:07:05 PM
4	0.6559	0.3790mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 6:09:10 PM

Mean Area 0.7646
Mean Conc. 0.4124mg/L



Sample

Sample Name: WBLKW3-120817
Sample ID: 53108
Origin: 10-16-2017_W.cal
Status Completed
Chk. Result

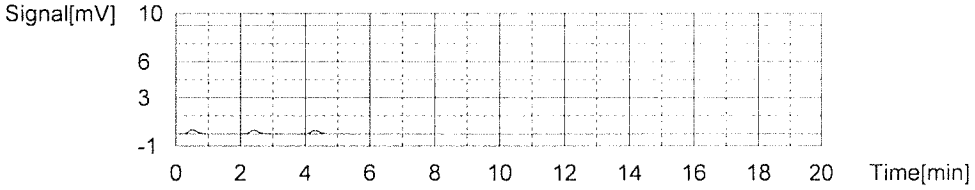
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3237mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.5594	0.3494mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 6:42:19 PM
2	0.4455	0.3144mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 6:44:24 PM
3	0.4220	0.3072mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 6:46:29 PM

Mean Area 0.4756
Mean Conc. 0.3237mg/L



Sample

Sample Name: WLCSW3-120817
Sample ID: Untitled
Origin: 10-16-2017_W.cal
Status Completed
Chk. Result

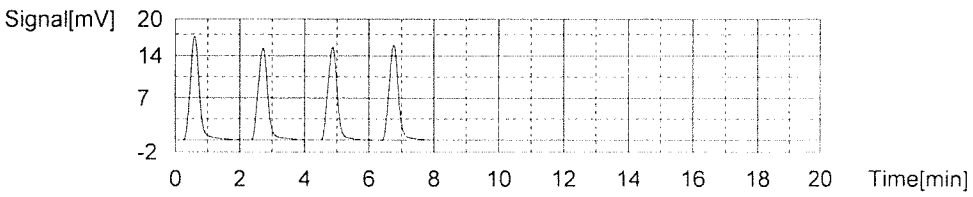
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:9.821mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	33.05	10.32mg/L	50ul	1	E	10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 6:55:44 PM
2	31.36	9.805mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 6:58:04 PM
3	31.36	9.805mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 7:00:09 PM
4	31.52	9.854mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 7:02:21 PM

Mean Area 31.41
Mean Conc. 9.821mg/L



Sample

Sample Name: WLCSDW3-120817
Sample ID: Untitled
Origin: 10-16-2017_W.cal
Status Completed
Chk. Result

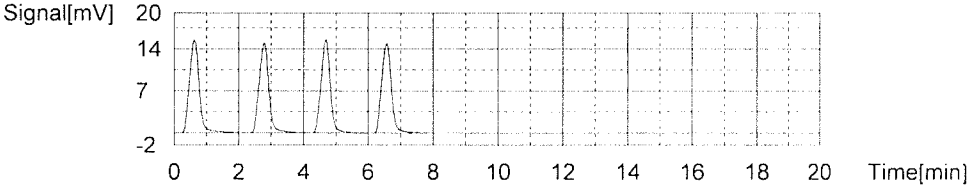
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:9.591mg/l

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	31.90	9.971mg/L	50ul	1	E	10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 7:11:34 PM
2	30.64	9.584mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 7:13:39 PM
3	30.55	9.556mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 7:15:44 PM
4	30.80	9.633mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 7:17:49 PM

Mean Area 30.66
Mean Conc. 9.591mg/L



Sample

Sample Name: HS17120367-01
Sample ID: TOC_W 1/1
Origin: 10-16-2017_W.cal
Status Completed
Chk. Result

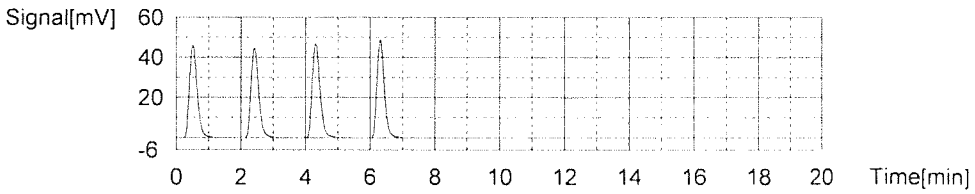
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:23.75mg/l

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	75.07	23.22mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 7:40:00 PM
2	73.38	22.70mg/L	50ul	1	E	10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 7:42:05 PM
3	78.14	24.17mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 7:44:16 PM
4	77.19	23.87mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 7:46:21 PM

Mean Area 76.80
Mean Conc. 23.75mg/L



Sample

Sample Name: HS17120141-01
Sample ID: 1/2
Origin: 10-16-2017_W.cal
Status Completed
Chk. Result

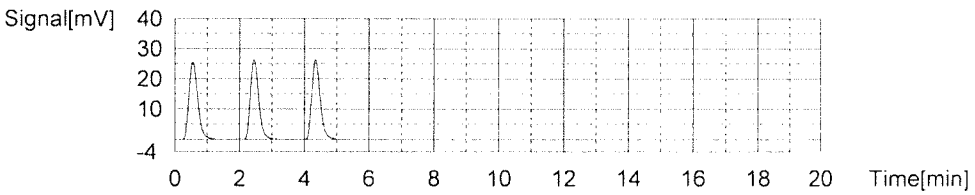
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:14.55mg/l

1, Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	47.48	14.75mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 7:55:19 PM
2	46.15	14.35mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 7:57:24 PM
3	46.79	14.54mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 7:59:29 PM

Mean Area 46.81
Mean Conc. 14.55mg/L



Sample

Sample Name: HS17120141-01MS
Sample ID: 1/2
Origin: 10-16-2017_W.cal
Status Completed
Chk. Result

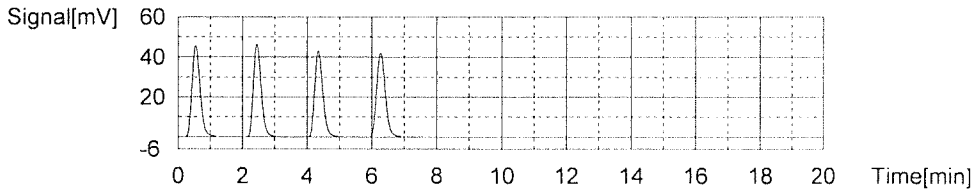
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:24.35mg/l

1, Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	79.50	24.58mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 8:09:01 PM
2	77.80	24.06mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 8:11:06 PM
3	74.71	23.11mg/l	50ul	1	E	10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 8:13:11 PM
4	78.89	24.40mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 8:15:22 PM

Mean Area 78.73
Mean Conc. 24.35mg/L



Sample

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

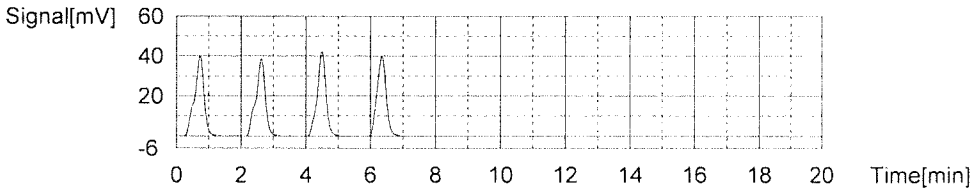
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:24.22mg/l

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	81.25	25.12mg/l	50ul	1	E	10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 9:09:59 PM
2	77.83	24.07mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 9:12:04 PM
3	78.47	24.27mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 9:14:09 PM
4	78.68	24.33mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 9:16:14 PM

Mean Area 78.33
Mean Conc. 24.22mg/L



Sample

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

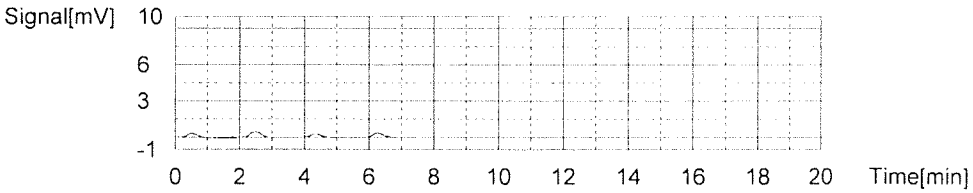
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3626mg/l

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.6030	0.3628mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 9:25:12 PM
2	0.9685	0.4750mg/l	50ul	1	E	10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 9:27:17 PM
3	0.5475	0.3457mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 9:29:22 PM
4	0.6569	0.3793mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/8/2017 9:31:27 PM

Mean Area	0.6025
Mean Conc.	0.3626mg/L



HS1712036 7

00878951

Logbook **30509**

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Ion Selective Electrode Logbook

Analyst: KMH	Date: 12/14/17 @ 1:30pm
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		Cal Std ID:	Prep'd: 12/12/17
Cal Parameters: 304.181(301-305)			
Std Level		mV	Conc., mg/L:
STD 1 (mg/L):	0.2	107.0	0.2000
STD 2 (mg/L):	1.0	~~80.4~~ 70.7	1.000
STD 3 (mg/L):	5.0	30.7	5.007
LSC / MS Spike ID: 297-020-4123 / ICV Spike: 304.181-206			

Probe ID: SR1-~~1599~~ 1591 0		
Matrix: Water / Soil (1: 10 -- soil -gm : DI Water -ml)		
Std Level	mV	Conc., mg/L:
STD 4 (mg/L): 10	13.4	9.995
STD 5 (mg/L): 50	-26.6	50.07
Ical Slope: KMH ~~97.0~~ 97.0 / -57.2mV	Ical Date:	12/19/17

WO # / SX #	Bottle #	Initial g or ml	Final Vol. ml	Dilution Factor	Initial Conc. mg/L	Final Conc. mg/L	Comments
ICV		50	50	1	9.810.09		NH4-AMM-W-E350.3-ISE
ICB/CCB-1					0.04849		
WMKW-171214					0.03779		
WLCSW1-171214					9.883		
HS1712036 7-01	1				15.44		ODOR
367-01MS	1				25.41		
367-01MSD	1				25.71		
HS1712074 6-01	1				11.71		ODOR
HS1712067 0-02	1				0.04315	0.04315	NH4-AMM-W-ISE
674-02	1				0.1121		
600-01	1				0.03641		HCl treated
HS1712072 3-01 KMH ~~672-01~~ 723-01 KMH 12/14/17		10 mL		5X	0.7869		HCl - DF due to matrix effect HS1712072 3-C HCl treated KMH
CCV-2		50		1	10.16		
CCB-2		50		1	0.02544		
HS1712073 6-01	1	10 mL		5X	8.406		HCl - DF due to matrix effect
HS1712073 7-01	1	10 mL		5X	3.644		HCl
719-15		50		1	0.2074		Dup 1 of 2 -ALS
719-17				1	0.02176		Dup 1 of 2 -ALS
CCV-3				1	10.44		
CCB-3				1	0.03172		
HS1712062 6-01				1	~~0.04940~~ 0.04940	0.04940	KMH
CCV-4				1	9.857		
CCB-4				1	0.03854		

Batch ID: 350.3 ISE 307285 / NH4-AMM-W-ISE 307287	Reported By KMH	Reviewed By: 12/14/17

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Sub Contract Data (Perchlorate)

Bhate Environmental Associates, Inc. Project:
Groundwater Treatment Plant Weekly Samples
ALS WO# HS17120367

Case Narrative

Method: 6850
Analysis: Perchlorate
Analysis SOP: LC-MS-CLO4
ALS WO ID(s): 1734272; 1734273; 1734274; 1734528

Client: ALS Laboratories (Houston, TX)
Matrix: Water
ELMS Batch (HBN): 2013 (205263)

General Set Information: There were fifteen 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: These field samples were analyzed and reported at the following dilutions. The reporting limits have been adjusted accordingly.

Sample #	Dilution
1732473001	1,000
1734528004	10,000
1734528005	10
1734528010	100

Method QC data: The method blank (LMB 579516) was less than 1/2 the CRDL. The recovery for the LCS (579517) was within acceptable parameters.

MS/MSD Analysis: The matrix spike and matrix spike duplicate (MS/MSD) was performed on sample 1734272001 (Client ID: LH18/24-SP650_120617). 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 18DECP03/09/15/19.

Thomas Bosch December 21, 2017
Date

ANALYTICAL REPORT

Report Date: December 22, 2017

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

Phone: (281) 530-5656

E-mail: Sonia.West@alsglobal.com

Workorder: **34-1734272**
Project ID: HS17120367 120617
Purchase Order: HS17120367
Project Manager Kevin W. Griffiths

Client Sample ID	Lab ID	Collect Date	Receive Date	Sampling Site
LH18/24-SP650_120617	1734272001	12/06/17	12/08/17	

ANALYTICAL REPORT

Workorder: 34-1734272
Client: ALS Environmental (Houston)
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **LH18/24-SP650_120617** | Sampling Site: NA | Collected: 12/06/2017
Lab ID: 1734272001 | Media: 125 mL Nalgene | Received: 12/08/2017
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/2013 (HBN: 205263) | **Percent Solid:** NA
Analyzed: 12/18/2017 10:39 | **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

Comments

Quality Control: EPA 6850, DoD QSM - (HBN: 205263)

These field samples were analyzed and reported at the following dilutions.

1732473001 – 1:1,000.

1734528004 – 1:10,000.

1734528005 – 1:10.

1734528010 – 1:100.

The reporting limits have been adjusted accordingly.

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

Method	Analyst	Peer Review
EPA 6850, DoD QSM	/S/ Thomas Bosch 12/20/2017 14:31	/S/ Stephen Brose 12/22/2017 09:13

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: 34-1734272
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: 34-1734272
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: 1734272

Limits:	Client SOW/Contract Specified	**Preparation:**	NA	**Analysis:**	EPA 6850
Basis:	DoD QSM	**Batch:**	NA	**Batch:**	ELMS/2013 (HBN: 205263)
		Prepared By:	NA	**Analyzed By:**	Thomas Bosch

Blank

LMB: 579516
Analyzed: 12/18/2017 09:59
Units: ug/L

Analyte	Result	MDL	RL
Perchlorate	ND	1	2.00

Laboratory Control Sample

LCS: 579517
Analyzed: 12/18/2017 10:18
Dilution: 1
Units: ug/L

Analyte	Result	Target	% Rec	QC Limits	
Perchlorate	4.94	5.00	98.8	78.8	123.8

Matrix Spike - Matrix Spike Duplicate

Sample:	1734272001	**MS:**	579518				**MSD:**	579519			
Analyzed:	12/18/2017 10:39	**Analyzed:**	12/18/2017 11:56				**Analyzed:**	12/18/2017 11:17			
Dilution:	1	**Dilution:**	1				**Dilution:**	1			
Units:	ug/L	**Units:**	ug/L				**Units:**	ug/L			

Analyte	Result	Result	Target	% Rec	QC Limits		Result	% Rec	RPD	QC Limits	
Perchlorate	ND	5.3	5	106	78.8	123.8	5.32	106	0.341	0.0	20.0

Continuing Calibration Verification

CCV:	579513			**CCV:**	579520			**CCV:**	579522		
Analyzed:	12/18/2017 08:58			**Analyzed:**	12/18/2017 14:10			**Analyzed:**	12/18/2017 19:35		
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	22.6	25.0	90.5	24.0	25.0	96.0	25.7	25.0	103

CCV:	580015			**CCV:**	580016				
Analyzed:	12/20/2017 09:14			**Analyzed:**	12/20/2017 10:40				
Units:	ug/L			**Units:**	ug/L				
Criteria:	± 15%			**Criteria:**	± 15%				

Analyte	Result	Target	% Rec.	Result	Target	% Rec.
Perchlorate	27.4	25.0	110	27.1	25.0	109

Interference Check Sample

ICSA: 579515
Analyzed: 12/18/2017 09:39
Units: ug/L
Criteria: ± 30%

Analyte	Result	Target	% Rec.
Perchlorate	0.866	1.00	86.6

Quality Control Sample
Batch Report

Analysis Information

Workorder: 1734272

Limits:	Client SOW/Contract Specified	**Preparation:**	NA	**Analysis:**	EPA 6850
Basis:	DoD QSM	**Batch:**	NA	**Batch:**	ELMS/2013 (HBN: 205263)
		Prepared By:	NA	**Analyzed By:**	Thomas Bosch

Limit of Detection Verification

LODV:	579514			**LODV:**	579521			**LODV:**	579523		
Analyzed:	12/18/2017 09:19			**Analyzed:**	12/18/2017 16:02			**Analyzed:**	12/18/2017 19:54		
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	0.858	1.00	85.8	0.883	1.00	88.3		1.05	1.00	105

Comments

These field samples were analyzed and reported at the following dilutions.

1732473001 – 1:1,000.

1734528004 – 1:10,000.

1734528005 – 1:10.

1734528010 – 1:100.

The reporting limits have been adjusted accordingly.

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

Analyst	Peer Review
/S/ Thomas Bosch	/S/ Stephen Brose
12/20/2017 14:31	12/22/2017 09:13

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

W 1734272

ontract Chain of Custody

COC ID: 8176

1734272

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:	HS17120367
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS17120367-01**	**LH18/24-SP650_120617**	**Water**	**06 Dec 2017 14:00**
	SUB_Perch-6850			14 Dec 2017

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

QC Level: DOD IV (DoD Data Package)

Relinquished By:	J. [illegible]	Date/Time:	12/7/17 18:00
Received By:	[illegible]	Date/Time:	12/8/17 0915
Cooler ID(s):	893	Temperature(s):	2°

ALS Environmental

CHAIN-OF-CUSTODY

Project / Job / Task: HS17120367	*Split:*	**Workorder ID:** 1734272	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	12/06/2017 14:00	LH18/24-SP650_120617	1734272001		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	12/08/2017 09:35	ALS Sample Receiving	Sample Login
Julie Warath 12/8/17 1600		UB	Storage
R.33.1 12.18.17/09:20		T. Bard	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

00878962

Fri, 12/08/17 1:50 PM

ALSCOCV3.1

ALS - Salt Lake City-Related Information Report (CRIR)

Cooler or Container Information Checklist (Fill In or Circle)

Client Name: ALS Houston

Project/Task/Site: 1734272

Date/Time of Receipt: 12/8/17 9:05

Number of Coolers Received:

Condition of Coolers:	Acceptable/Unacceptable	Temperature Control:	Present/Not Included
Cooler Custody Seals:	Present/Absent/NA Intact/Broken/NA	Location Temp Taken:	Control/Between Samples
Container Custody Seals:	Present/Absent/NA Intact/Broken/NA	Are all temperatures within project specific guidelines?	Yes/No/NA
Ice Present:	Yes/No/NA Frozen/Melted/NA	VOA Headspace Present?	Yes/No/NA

pH Check Performed:	Metals	Yes/No/NA	Total Phenolics	Yes/No/NA	NO3/NO2	Yes/No/NA
	Cyanide	Yes/No/NA	TPH – 418.1	Yes/No/NA	Oil & Grease	Yes/No/NA
	Sulfide	Yes/No/NA	COD	Yes/No/NA	Total Phosphorous	Yes/No/NA
	Ammonia	Yes/No/NA	TKN	Yes/No/NA	TOC Preserved	Yes/No/NA

Cooler Received	ALS Cooler No.	Temp.	Cooler Received	ALS Cooler No.	Temp.	Cooler Received	ALSL Cooler No.	Temp.
1	C17- 873	2 °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: _____ (Signature) _____ (Printed Name) 12/8/17 (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


(ALS)
BILL SENDER
PAUL POPE
ALS ENVIRONMENTAL
960 W. LEVOY DRIVE
SALT LAKE CITY UT 84123
REF: HS17120365/366/367 SW
FedEx
Express
FRI – 08 DEC 3:00P
STANDARD OVERNIGHT
TRK# 0201 7376 9750 8640
X11 BTFA
84123
SLC
UT–US
SD
Saturday Delivery
151966 10/04 MWI
Fed
43 of 150

Batch Worklist

Batch: ELMS/ 2013 **Created:** 12/18/2017 08:45 **Instrument:** HBN: 205263

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

Workorder: 1734272 [ENV_LVL4]
Workorder: 1734273 [ENV_LVL4]
Workorder: 1734274 [ENV_LVL4]
Workorder: 1734528 [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	579513	CCV for HBN 205263 [ELMS/2013]				CCV	3		E685041C3Q	5311		12/22/2017	
2	579514	LODV for HBN 205263 [ELMS/2013				LODV	3		E6850..D3Q	5311		12/22/2017	
3	579515	ICS for HBN 205263 [ELMS/2013]				ICS	3		E6850..D3Q	5311		12/22/2017	
4	579516	LMB for HBN 205263 [ELMS/2013]				LMB	3		E6850Q413Q	5311		12/22/2017	
5	579517	LCS for HBN 205263 [ELMS/2013]				LCS	3		E6850Q413Q	5311		12/22/2017	
6	1734272001	LH18/24-SP650_120617				SAMPLE	3	1734272001-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
7	579518	LH18/24-SP650...(1734272001MS)				MS	3		E6850Q413Q	5311		12/22/2017	
8	579519	LH18/24-SP65...(1734272001MSD)				MSD	3		E6850Q413Q	5311		12/22/2017	
9	1734273001	LH18/24-SP140_120617				SAMPLE	3	1734273001-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
10	1734274001	LH18/24-SP650_120617				SAMPLE	3	1734274001-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
11	1734528001	C09_120517				SAMPLE	3	1734528001-A	E6850Q41.3	5480	1/2/2018	12/22/2017	
12	1734528002	126_120517				SAMPLE	3	1734528002-A	E6850Q41.3	5480	1/2/2018	12/22/2017	
13	1734528003	C08_120517				SAMPLE	3	1734528003-A	E6850Q41.3	5480	1/2/2018	12/22/2017	
14	1734528004	18WW17_120517				SAMPLE	3	1734528004-A	E6850Q41.3	5480	1/2/2018	12/22/2017	
15	1734528005	C03_120517				SAMPLE	3	1734528005-A	E6850Q41.3	5480	1/2/2018	12/22/2017	
16	579520	CCV for HBN 205263 [ELMS/2013]				CCV	3		E685041C3Q	5311		12/22/2017	
17	579521	LODV for HBN 205263 [ELMS/2013				LODV	3		E6850..D3Q	5311		12/22/2017	
18	1734528006	18CPTMW18_120517				SAMPLE	3	1734528006-A	E6850Q41.3	5480	1/2/2018	12/22/2017	
19	1734528007	18WW22_120617				SAMPLE	3	1734528007-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
20	1734528008	18CPTMW19_120617				SAMPLE	3	1734528008-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
21	1734528009	18CPTMW19_120617_a				SAMPLE	3	1734528009-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
22	1734528010	18WW08_120617				SAMPLE	3	1734528010-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
23	1734528011	18CPTMW15_120617				SAMPLE	3	1734528011-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
24	1734528012	18CPTMW07_120617				SAMPLE	3	1734528012-A	E6850Q41.3	5480	1/3/2018	12/22/2017	
25	579522	CCV for HBN 205263 [ELMS/2013]				CCV	3		E685041C3Q	5311		12/22/2017	
26	579523	LODV for HBN 205263 [ELMS/2013				LODV	3		E6850..D3Q	5311		12/22/2017	

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Batch Worklist

Pos	Lab ID	Sample ID	Prep Initial	Prep Final	Dust Weight	Type	Mx	Container	Procedure	Mgr	Expire Date	Due Date	Run Date
27	580015	CCV for HBN 205263 [ELMS/2013]				CCV	3		E685041C3Q	5311		12/22/2017	
28	580016	CCV for HBN 205263 [ELMS/2013]				CCV	3		E685041C3Q	5311		12/22/2017	

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ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Analytical Documentation

Sequence: C:\HPCHEM\1\SEQUENCE\CLO4\2017\DEC\18DEC17P.S

Sequence Table:

Method and Injection Info Part:

Line	Location	SampleName		Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	579513	CCV@25	CLO4-DOD	1	Ctrl Samp		
2	Vial 72	579514	LODV@1.	CLO4-DOD	1	Ctrl Samp		
3	Vial 73	579515	ICS@1.	CLO4-DOD	1	Ctrl Samp		
4	Vial 74	579516	LMB	CLO4-DOD	1	Ctrl Samp		
5	Vial 75	579517	LCS@5.	CLO4-DOD	1	Ctrl Samp		
6	Vial 76	1734272001		CLO4-DOD	1	Sample		
7	Vial 77	579518	342721S	CLO4-DOD	1	Sample		
8	Vial 78	579519	342721D	CLO4-DOD	1	Sample		
9	Vial 79	1734273001		CLO4-DOD	1	Sample		
10	Vial 77	579518	342721S	CLO4-DOD	1	Sample		
11	Vial 80	1734274001		CLO4-DOD	1	Sample		
12	Vial 81	1734528001		CLO4-DOD	1	Sample		
13	Vial 82	1734528002		CLO4-DOD	1	Sample		
14	Vial 83	1734528003		CLO4-DOD	1	Sample		
15	Vial 84	1734528004		CLO4-DOD	1	Sample		
16	Vial 85	1734528005		CLO4-DOD	1	Sample		
17	Vial 71	579520	CCV@25	CLO4-DOD	1	Ctrl Samp		
18	Vial 72	579521	LODV@1.	CLO4-DOD	1	Ctrl Samp		
19	Vial 72	579521	LODV@1.	CLO4-DOD	1	Ctrl Samp		
20	Vial 86	1734528006		CLO4-DOD	1	Sample		
21	Vial 87	1734528007		CLO4-DOD	1	Sample		
22	Vial 88	1734528008		CLO4-DOD	1	Sample		
23	Vial 89	1734528009		CLO4-DOD	1	Sample		
24	Vial 90	1734528010		CLO4-DOD	1	Sample		
25	Vial 91	1734528011		CLO4-DOD	1	Sample		
26	Vial 92	1734528012		CLO4-DOD	1	Sample		
27	Vial 93	1734273001	1K	CLO4-DOD	1	Sample		
28	Vial 94	1734528004	1K	CLO4-DOD	1	Sample		
29	Vial 95	1734528005	10X	CLO4-DOD	1	Sample		
30	Vial 71	579522	CCV@25	CLO4-DOD	1	Ctrl Samp		
31	Vial 72	579523	LODV@1.	CLO4-DOD	1	Ctrl Samp		

ALS Work Order #'s & Sample #( )'s: 1734272 (001); 1734273 (001); 1734274 (001); 1734528 (001-12)
ELMS Batch/HBN ID: 2013 (205263)
Prep Date: 12/18/2017 Analysis Date: 12/18;20/2017 Analyst: T. Bosch
Analyte: **Perchlorate** Matrix: **Water** Method: **6850**
Sequence:\\HPCHEM\1\SEQUENCE\CLO4\2017\DEC\18DEC17P.s & 20DEC17P.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 579517; Target = 5.0µg/L. ASTM type II water was used for LMB 579516.

MS/MSD: MS/MSD was performed on sample 1734272001 (Client ID: LH18/24-SP650_120617). 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. These field samples were analyzed and reported at the following dilutions. The reporting limits have been adjusted accordingly.

Sample #	Dilution
1732473001	1,000
1734528004	10,000
1734528005	10
1734528010	100

2) All QC, Blank, CCV, and MS/MSD results were within method parameters.
3) Sample data can be viewed at two directories within the ALS system: \\ALSLTWS013\LCMS\LCMS04\2017\DEC\HBN# or through NuGenesis\Tree\PrintData\LCMS\DefaultView.
4) Due to limitations of the Chemstation Software, many of the chromatographic peaks require manual integration. Manual Integrations were performed for some of the Initial Calibration analyses (datafiles: 28NOVP01,02) along with datafiles 18DECP03/09/15/19.
5) Notebook: \\alsltws013\ORGANIC\BOSCH\LCMS\Perchlorates\Waters\2017\CLO4-205263-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
MFG: ALS/SLC
MFG Lot: TNB: 05/11/2017
Part ID:

Created By: T. Bosch
Create Date: 05/11/2017
Lab Lot: CLO4 QC INT 10.ug/mL

Amount: 10 mL
Expires: 05/11/2018
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	10 ug/mL

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
109	ASTM H2O	ASTM Type II Water	LAB 109	9.9 mL	11/07/2025
36748	CLO4 QCSTOCK	6850 QC Stock STD 1,000ug/mL	CLO4 QC STOCK	0.1 mL	03/31/2020

STANDARD REPORT

Constituent

Solvent Standard - ASTM H2O

ASTM H2O		Description - ASTM Type II Water
Standard: 109	Created By: ALS Support (Lims)	Amount: 1000 L
MFG: DCL In House	Create Date: 10/6/2005	Expires: 11/7/2025
MFG Lot:	Lab Lot: LAB 109	Usable: Yes
Part ID:		

Pos.	Analyte	Name	Concentration
Solvent - Analyte(s) not applicable			

STANDARD REPORT

Constituent

Stock Standard - CLO4 QCSTOCK

CLO4 QCSTOCK Description - 6850 QC Stock STD 1,000ug/mL

Standard: 36748
MFG: Ultra Scientific
MFG Lot: CP-0860
Part ID: ICC-013

Created By: T. Bosch
Create Date: 5/11/2017
Lab Lot: CLO4 QC STOCK

Amount: 100 mL
Expires: 3/31/2020
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	1000 ug/mL

STANDARD REPORT

Working Standard - CLO4ISTDWRK

CLO4ISTDWRK		Description - Perchlorate ISTD Wrk 1,000ug/L
Standard: 38780	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

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

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

TRIPLE ISO CERTIFICATION ISO 9001:2008 ISO GUIDE 34:2009 ISO/IEC 17025:2005 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
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www.AccuStandard.com

CERTIFICATE OF ANALYSIS

AccuTrace™ Reference Standard

Catalog No: IC-PER-10X-1
Description: Perchlorate Standard
Element: Perchlorate (ClO_4)
SRM: Ind. Std.
Lot: 216095148
Matrix: Water
Hazards: *Refer to SDS for complete safety information*

Signal Word: Warning

Date Certified: Oct 4, 2016
Expiration: Oct 4, 2018
Sample Size: 100 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes

Component		SRM #	Prepared Concentration (µg/mL)
ClO_4	Perchlorate	Ind. Std.	1000

The gravimetric uncertainty for this product is ±0.2%. See reverse side for details.

The final solution was checked against an independent standard to verify its concentration.

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as ASTM Type I 18 megohm deionized water.

All solutions are filtered through a 0.2 µm filter prior to being bottled.

All glassware used in preparation is Class A and calibrated regularly.

All weights are traceable through NIST, Test No. 822-275872-11

All bottles are triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware.

We certify the accuracy of this standard to be ±0.5% of the stated value until its expiration date provided it is kept tightly capped and stored under the conditions stated above.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

OR-ORG/IND-001
Rev. 5/16

Cambridge Isotope Laboratories, Inc.

Certificate of Analysis

Quality Standards:
ISO Guide 34 • ISO/IEC 17025 • ISO 13485 • cGMP

23118

Product Name: (Isotopic Label & Enrichment Specification)	PERCHLORIC ACID, SODIUM SALT (18O4, 90%+) 100 UG/ML IN WATER
Lot Number:	SDDG-013
Catalog Number:	OLM-7310-S

Product Information

Chemical Purity Specification:	≥98%
Labeled CAS Number:	NA
Unlabeled CAS Number:	7601-89-0
MW*:	130.4
Chemical Formula:	NaCl*O4
Storage:	Store at room temperature away from light and moisture.
Stability:	See storage and expiration date.

Certification

Cambridge Isotope Laboratories, Inc. guarantees that this material meets or exceeds the specifications stated. Absolute identity as well as chemical and isotopic purities are assured by the use of unambiguous synthetic routes and multiple chemical analyses whenever possible. Results are representative of QC testing at time of release from Quality Control unless otherwise stated.

Volumetric measurements were made with Class A glassware. Gravimetry is traceable to the NIST through calibrated balances and certified, calibrated, standard weights. The calibrations are traceable to the NIST under Test No. 822/270236-04. The calibrations also meet specifications outlined in ISO 9001, ISO/IEC 17025, ANSI/NSCL Z540-1-1994, NCR Document 10CFR50 Appendix B, and applicable subdocuments.

This COA references the bulk catalog number before packaging. The COA also applies to the CIL finished good catalog number. Some possible packaging sizes and their corresponding suffix are -1.2, -1, -0.5, -10, or -0.1.

* *For isotopically labeled compounds, MW listed is for the fully enriched product.*

Approved by: T. J. Eckersley

Timothy J. Eckersley, Ph.D., Quality Assurance

Quality Control Tests and Results

QC Release Date	2/27/2014
Expiration Date	2/27/2024
Concentration Based on Gravimetry	102 µg/mL
Chemical Purity of Neat Material(s)	98%
LC/MS for Concentration	109.4 ± 2.8 µg/mL (k=2)

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Raw Data

Batch Report: C:\HPCHEM\1\DATA\18DEC17P\18DEC17P.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
#	*	579513	CCV@25	Vial 71	1	Control	1	8.19513e5	12.270	22.61557
#	*	579514	LODV@1.	Vial 72	1	Control	2	2.99723e4	12.414	8.57599e-1
#	*	579515	ICS@1.	Vial 73	1	Control	3	2.28938e4	12.202	8.65794e-1
#		579516	LMB	Vial 74	1	Control	4	0.00000	0.000	0.00000
#	*	579517	LCS@5.	Vial 75	1	Control	5	1.72923e5	12.304	4.94133
#		1734272001		Vial 76	1	Sample	6	0.00000	0.000	0.00000
#	*	579519	342721D	Vial 78	1	Sample	8	1.70836e5	12.497	5.32002
#		1734273001		Vial 79	1	Sample	9	3.34489e8	10.358	1644.58694 D:1/5
#	*	579518	342721S	Vial 77	1	Sample	10	1.71421e5	12.597	5.30192
#		1734274001		Vial 80	1	Sample	11	0.00000	0.000	0.00000
#		1734528001		Vial 81	1	Sample	12	0.00000	0.000	0.00000
#		1734528002		Vial 82	1	Sample	13	0.00000	0.000	0.00000
#		1734528003		Vial 83	1	Sample	14	0.00000	0.000	0.00000
#		1734528004		Vial 84	1	Sample	15	0.00000	0.000	0.00000 D:1/5
#		1734528005		Vial 85	1	Sample	16	6.13484e6	12.265	137.24631 D:1/5
#	*	579520	CCV@25	Vial 71	1	Control	17	7.71231e5	12.572	23.99556
#	*	579521	LODV@1.	Vial 72	1	Control	18	6.02035e4	12.741	1.93940 N.R.
#	*	579521	LODV@1.	Vial 72	1	Control	19	3.19782e4	12.758	8.83370e-1
#		1734528006		Vial 86	1	Sample	20	5.11133e4	12.122	2.04849
#		1734528007		Vial 87	1	Sample	21	0.00000	0.000	0.00000
#		1734528008		Vial 88	1	Sample	22	1.40651e6	12.759	35.44352
#		1734528009		Vial 89	1	Sample	23	1.50139e6	12.641	35.94367
#		1734528010		Vial 90	1	Sample	24	1.03788e8	11.575	783.79545 D:1/5
#		1734528011		Vial 91	1	Sample	25	5.36376e4	12.428	1.85996
#		1734528012		Vial 92	1	Sample	26	0.00000	0.000	0.00000
#	*	1734273001	1K	Vial 93	1	Sample	27	2.96423e5	12.816	7998.96138
#	*	1734528004	1K	Vial 94	1	Sample	28	4.10797e6	12.777	7.71227e4 D:1/5
#	*	1734528005	10X	Vial 95	1	Sample	29	7.03474e5	12.664	171.80316
#	*	579522	CCV@25	Vial 71	1	Control	30	1.03284e6	12.662	25.66192
*		579523	LODV@1.	Vial 72	1	Control	31	4.11635e4	12.811	1.05307

N.R. - NOT REPORTED, RERUN

#	*	Sample	Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
#	*	579513	CCV@25	Vial 71	1	Control	1	2.73170e5	12.287	23.70026
#	*	579514	LODV@1.	Vial 72	1	Control	2	1.37695e4	12.427	9.84936e-1
#	*	579515	ICS@1.	Vial 73	1	Control	3	8384.95508	12.231	7.53800e-1
#		579516	LMB	Vial 74	1	Control	4	0.00000	0.000	0.00000
#	*	579517	LCS@5.	Vial 75	1	Control	5	6.35733e4	12.316	5.43577
#		1734272001		Vial 76	1	Sample	6	0.00000	0.000	0.00000
#	*	579519	342721D	Vial 78	1	Sample	8	5.96372e4	12.512	5.57190
#		1734273001		Vial 79	1	Sample	9	1.21188e8	10.368	1980.88358
#	*	579518	342721S	Vial 77	1	Sample	10	6.02931e4	12.608	5.59454
#		1734274001		Vial 80	1	Sample	11	0.00000	0.000	0.00000
#		1734528001		Vial 81	1	Sample	12	0.00000	0.000	0.00000
#		1734528002		Vial 82	1	Sample	13	0.00000	0.000	0.00000
#		1734528003		Vial 83	1	Sample	14	0.00000	0.000	0.00000
#		1734528004		Vial 84	1	Sample	15	0.00000	12.225	0.00000
#		1734528005		Vial 85	1	Sample	16	2.00064e6	12.279	149.19548
#	*	579520	CCV@25	Vial 71	1	Control	17	2.66561e5	12.598	26.03933
#	*	579521	LODV@1.	Vial 72	1	Control	18	2.41168e4	12.726	2.18233
#	*	579521	LODV@1.	Vial 72	1	Control	19	1.26778e4	12.762	8.54268e-1
#		1734528006		Vial 86	1	Sample	20	2.10850e4	12.132	2.39278
#		1734528007		Vial 87	1	Sample	21	0.00000	0.000	0.00000
#		1734528008		Vial 88	1	Sample	22	4.55259e5	12.783	36.62958
#		1734528009		Vial 89	1	Sample	23	4.76179e5	12.662	36.49676
#		1734528010		Vial 90	1	Sample	24	3.64636e7	11.594	924.32429
#		1734528011		Vial 91	1	Sample	25	2.03285e4	12.422	1.96094
#		1734528012		Vial 92	1	Sample	26	0.00000	0.000	0.00000
#	*	1734273001	1K	Vial 93	1	Sample	27	1.02865e5	12.825	8462.65308
#	*	1734528004	1K	Vial 94	1	Sample	28	1.28486e6	12.793	7.95428e4

Batch Report: C:\HPCHEM\1\DATA\18DEC17P\18DEC17P.B

#	Sample	Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
#*	1734528005	10X	Vial 95	1	Sample	29	2.33472e5	12.682	177.99797
#*	579522	CCV@25	Vial 71	1	Control	30	3.36885e5	12.677	26.45174
*	579523	LODV@1.	Vial 72	1	Control	31	1.50817e4	12.805	9.67895e-1

#	Sample	Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
#*	579513	CCV@25	Vial 71	1	Control	1	1.50222e5	12.291	5.00000
#*	579514	LODV@1.	Vial 72	1	Control	2	1.66184e5	12.442	5.00000
#*	579515	ICS@1.	Vial 73	1	Control	3	1.25695e5	12.227	5.00000
#*	579516	LMB	Vial 74	1	Control	4	1.78027e5	12.525	5.00000
#*	579517	LCS@5.	Vial 75	1	Control	5	1.59033e5	12.328	5.00000
#*	1734272001		Vial 76	1	Sample	6	1.28204e5	12.458	5.00000
#*	579519	342721D	Vial 78	1	Sample	8	1.45591e5	12.522	5.00000
#*	1734273001		Vial 79	1	Sample	9	9.64717e4	10.331	5.00000
#*	579518	342721S	Vial 77	1	Sample	10	1.46605e5	12.617	5.00000
#*	1734274001		Vial 80	1	Sample	11	1.32893e5	12.657	5.00000
#*	1734528001		Vial 81	1	Sample	12	1.12509e5	12.134	5.00000
#*	1734528002		Vial 82	1	Sample	13	8.14045e4	12.135	5.00000
#*	1734528003		Vial 83	1	Sample	14	7.98631e4	12.223	5.00000
#*	1734528004		Vial 84	1	Sample	15	0.00000	0.000	0.00000
#*	1734528005		Vial 85	1	Sample	16	1.19726e5	12.288	5.00000
#*	579520	CCV@25	Vial 71	1	Control	17	1.32362e5	12.602	5.00000
#*	579521	LODV@1.	Vial 72	1	Control	18	1.44412e5	12.735	5.00000
#*	579521	LODV@1.	Vial 72	1	Control	19	1.71963e5	12.778	5.00000
#*	1734528006		Vial 86	1	Sample	20	1.15933e5	12.136	5.00000
#*	1734528007		Vial 87	1	Sample	21	1.30647e5	12.655	5.00000
#*	1734528008		Vial 88	1	Sample	22	1.54970e5	12.775	5.00000
#*	1734528009		Vial 89	1	Sample	23	1.62755e5	12.662	5.00000
#*	1734528010		Vial 90	1	Sample	24	1.18491e5	11.602	5.00000
#*	1734528011		Vial 91	1	Sample	25	1.34288e5	12.447	5.00000
#*	1734528012		Vial 92	1	Sample	26	1.56764e5	12.490	5.00000
#*	1734273001	1K	Vial 93	1	Sample	27	1.65455e5	12.842	5000.00000
#*	1734528004	1K	Vial 94	1	Sample	28	1.75146e5	12.796	5000.00000
#*	1734528005	10X	Vial 95	1	Sample	29	1.74320e5	12.696	50.00000
#*	579522	CCV@25	Vial 71	1	Control	30	1.64442e5	12.683	5.00000
*	579523	LODV@1.	Vial 72	1	Control	31	1.84677e5	12.840	5.00000

*** End of Report ***

Batch Report: C:\HPCHEM\1\DATA\20DEC17P\20DEC17P.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
	*	580015	CCV@25	Vial 71	1	Control	1	1.01810e6	12.642	27.41290
	*	1734528010	10X	Vial 96	1	Sample	2	1.08442e7	12.531	1772.19164
	*	1734528004	10K	Vial 97	1	Sample	3	3.29576e5	12.818	9.35585e4
	*	1734528010	100	Vial 98	1	Sample	4	9.33493e5	12.776	2386.90132
	*	580016	CCV@25	Vial 71	1	Control	5	1.01357e6	12.639	27.14098

#	*	Sample	Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
	*	580015	CCV@25	Vial 71	1	Control	1	3.19294e5	12.650	27.31357
	*	1734528010	10X	Vial 96	1	Sample	2	3.38019e6	12.545	1881.86812
	*	1734528004	10K	Vial 97	1	Sample	3	1.09810e5	12.834	9.55831e4
	*	1734528010	100	Vial 98	1	Sample	4	2.95219e5	12.800	2386.21800
	*	580016	CCV@25	Vial 71	1	Control	5	3.16517e5	12.656	26.92819

#	*	Sample	Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
	*	580015	CCV@25	Vial 71	1	Control	1	1.50493e5	12.665	5.00000
	*	1734528010	10X	Vial 96	1	Sample	2	1.45913e5	12.542	50.00000
	*	1734528004	10K	Vial 97	1	Sample	3	1.56125e5	12.834	5.00000e4
	*	1734528010	100	Vial 98	1	Sample	4	1.61157e5	12.799	500.00000
	*	580016	CCV@25	Vial 71	1	Control	5	1.51519e5	12.664	5.00000

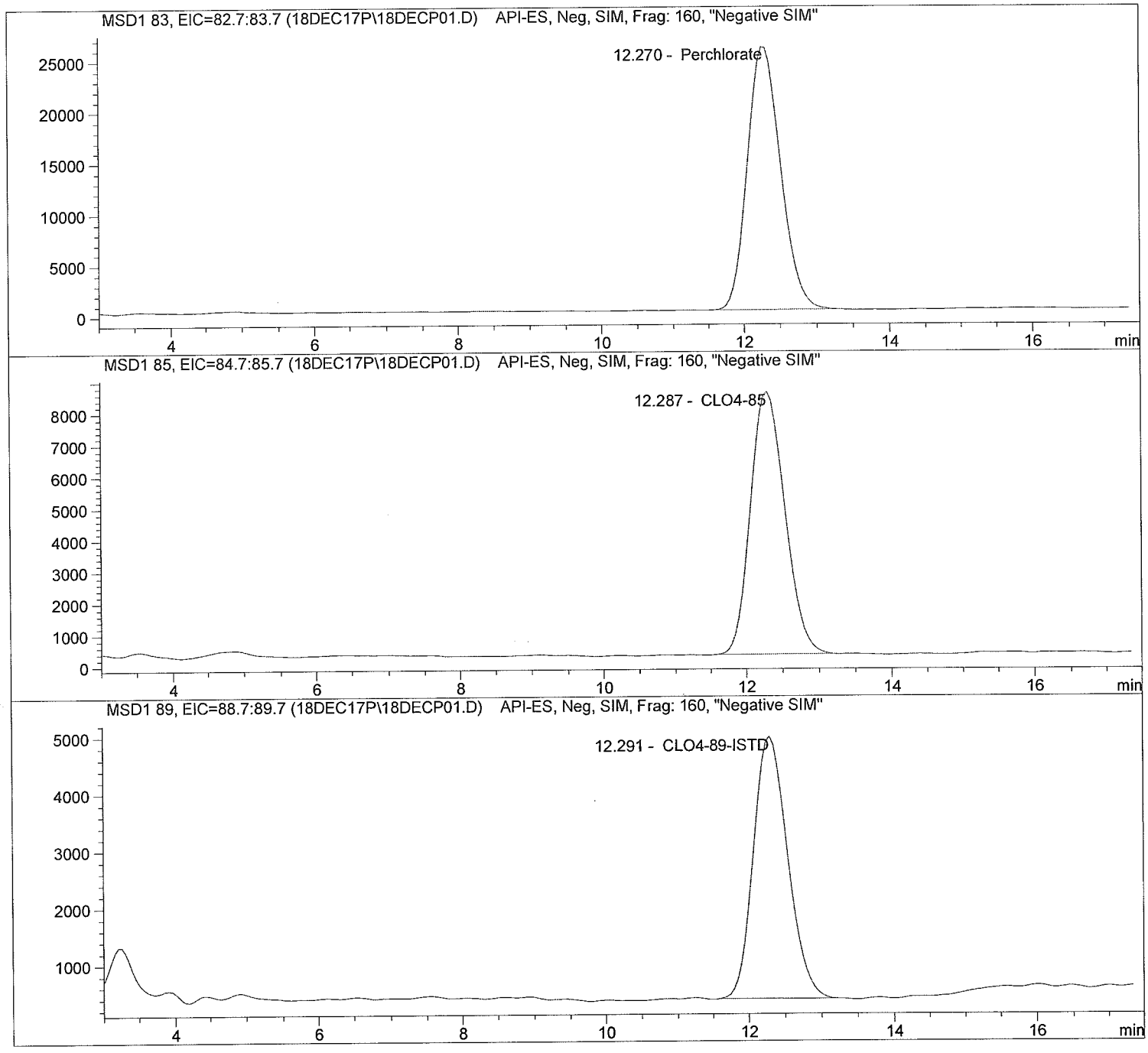
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP01.D Sample Name: 579513 CCV@25

Injection Date:	12/18/2017 08:58:15	Seq Line:	1
Sample Name:	579513 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\18DEC17P\18DECP01.D Sample Name: 579513 CCV@25

Injection Date:	12/18/2017 08:58:15	Seq Line:	1
Sample Name:	579513 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
12.270	BBA	819513.3	22.6156	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.287	PBA	273170.0	23.7003	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.291	PBA	150221.5	5.0000	CLO4-89-ISTD

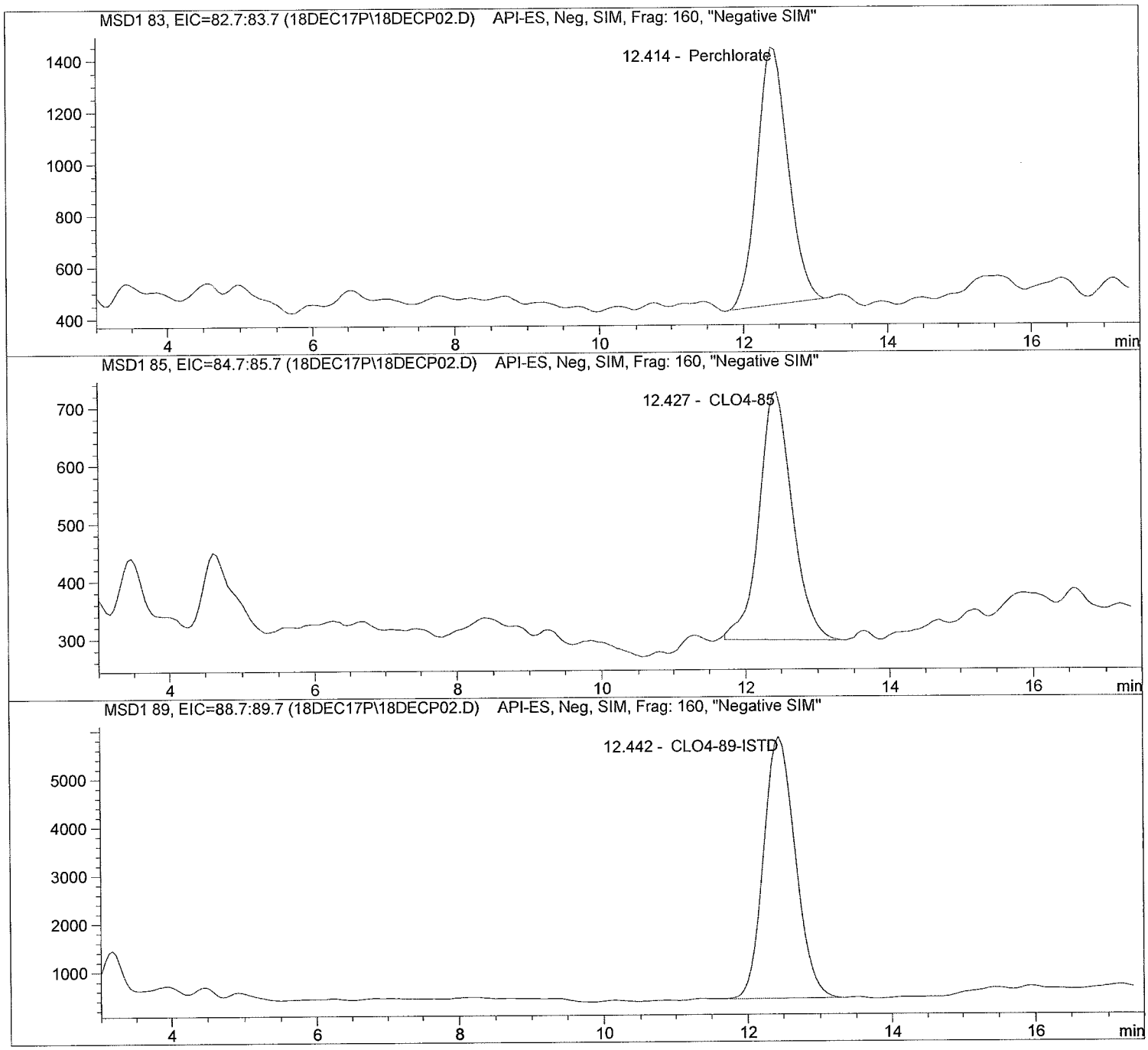
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP02.D Sample Name: 579514 LODV@1.

Injection Date:	12/18/2017 09:19:50	Seq Line:	2
Sample Name:	579514 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\18DEC17P\18DECP02.D Sample Name: 579514 LODV@1.

Injection Date:	12/18/2017 09:19:50	Seq Line:	2
Sample Name:	579514 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
12.414	PBA	29972.3	0.8576	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.427	BBA	13769.5	0.9849	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.442	BBA	166183.7	5.0000	CLO4-89-ISTD

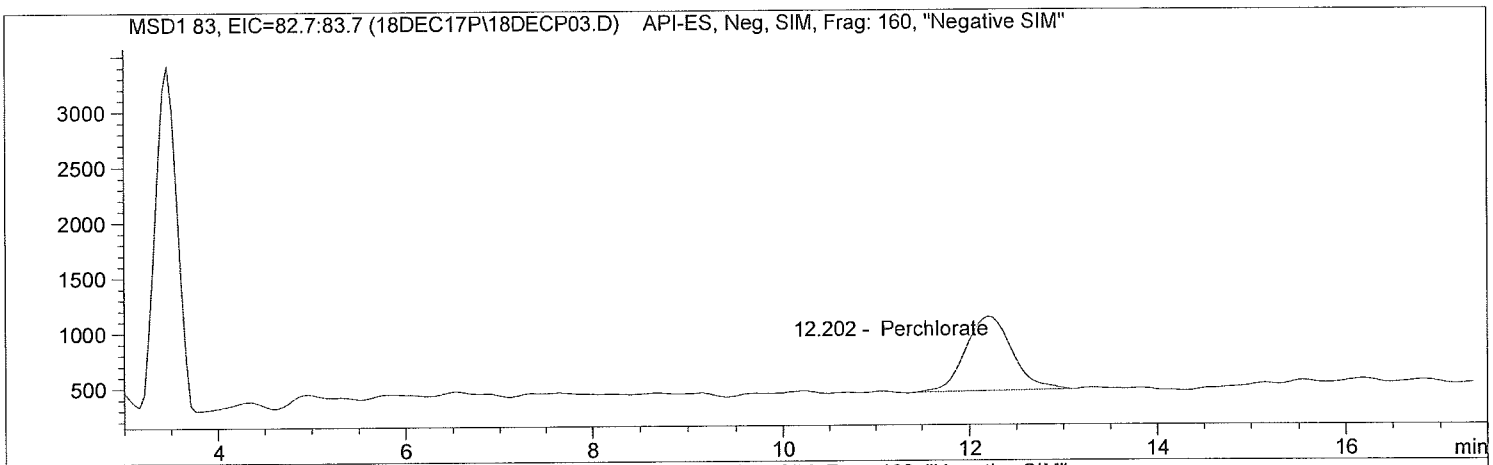
*** End of Report ***

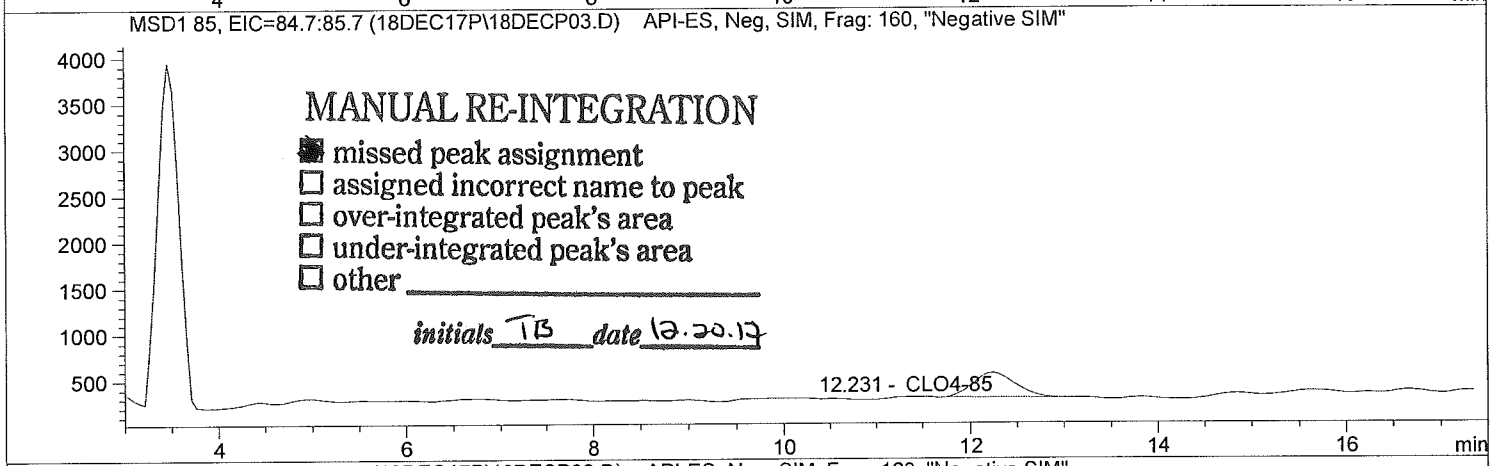
Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP03.D Sample Name: 579515 ICS@1.

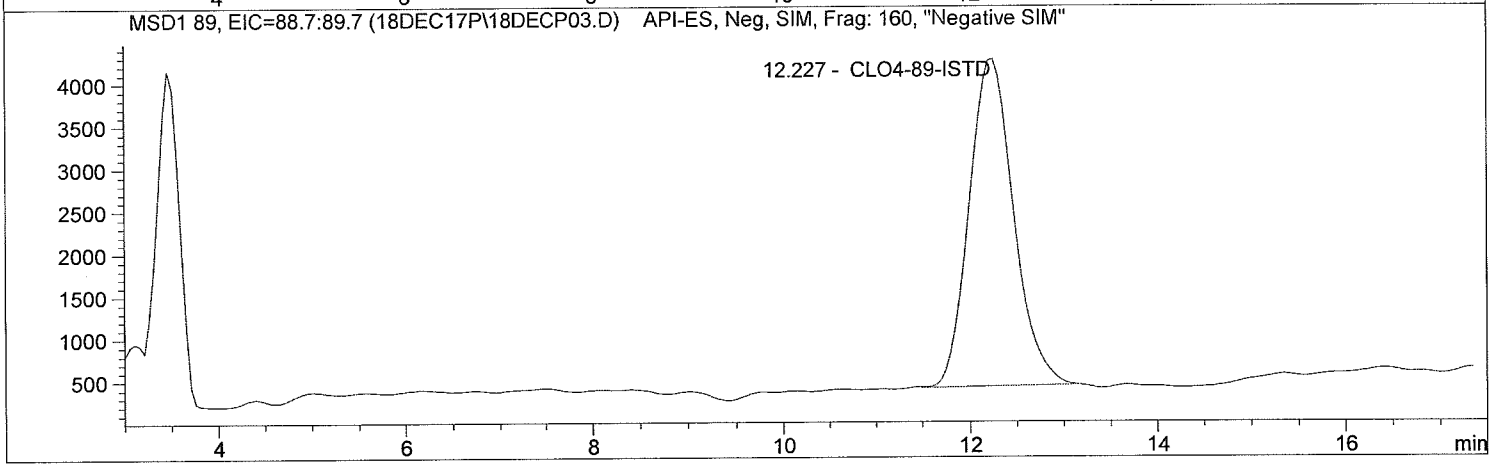
Injection Date:	12/18/2017 09:39:00	Seq Line:	3
Sample Name:	579515 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP03.D Sample Name: 579515 ICS@1.

Injection Date:	12/18/2017 09:39:00	Seq Line:	3
Sample Name:	579515 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
12.202	PBA	22893.8	0.8658	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.231	MM	8385.0	0.7538	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.227	BBA	125694.8	5.0000	CLO4-89-ISTD

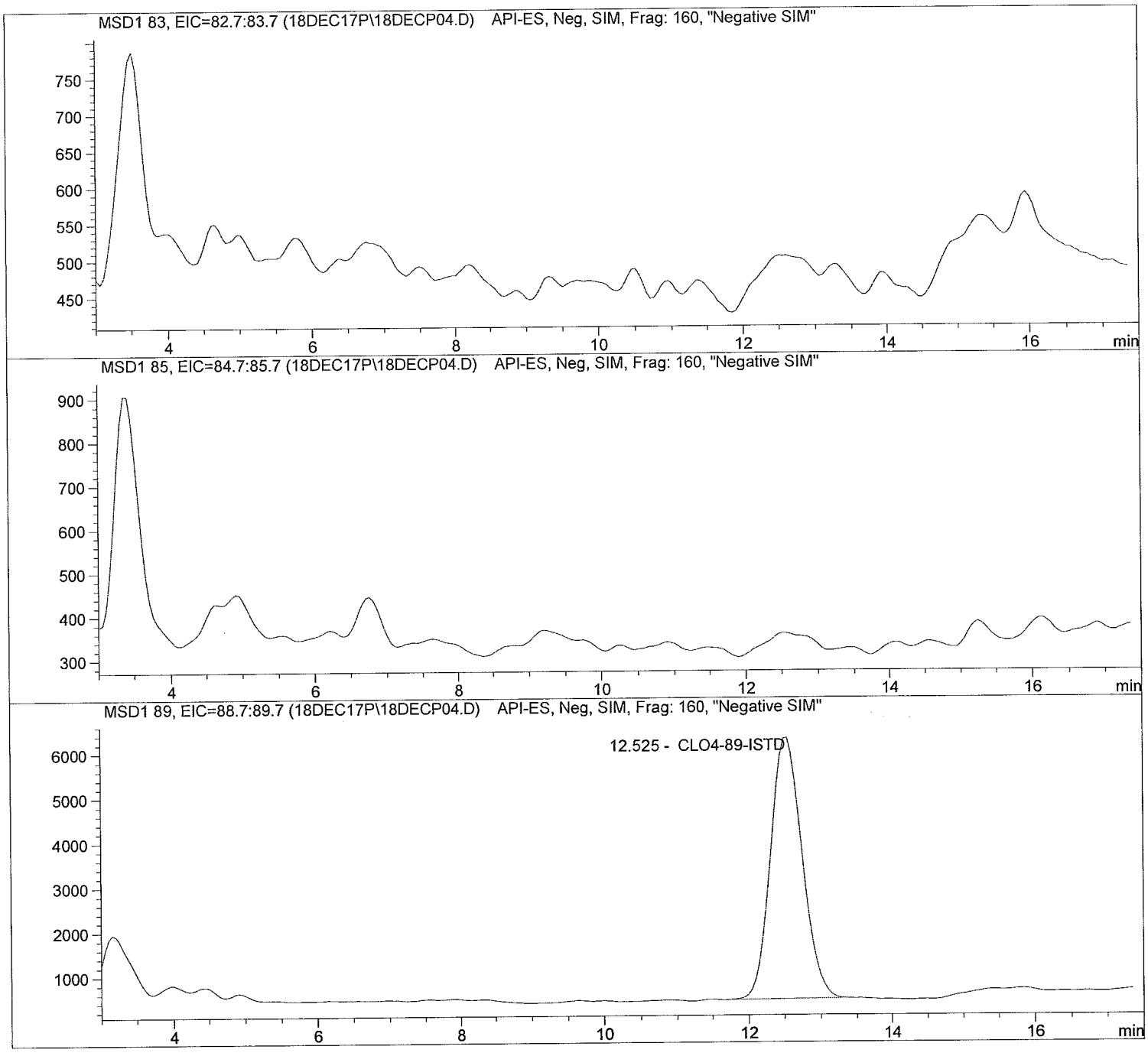
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP04.D Sample Name: 579516 LMB

Injection Date:	12/18/2017 09:59:19	Seq Line:	4
Sample Name:	579516 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\18DEC17P\18DECP04.D Sample Name: 579516 LMB

Injection Date:	12/18/2017 09:59:19	Seq Line:	4
Sample Name:	579516 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
12.525	BBA	178027.5	5.0000	CLO4-89-ISTD

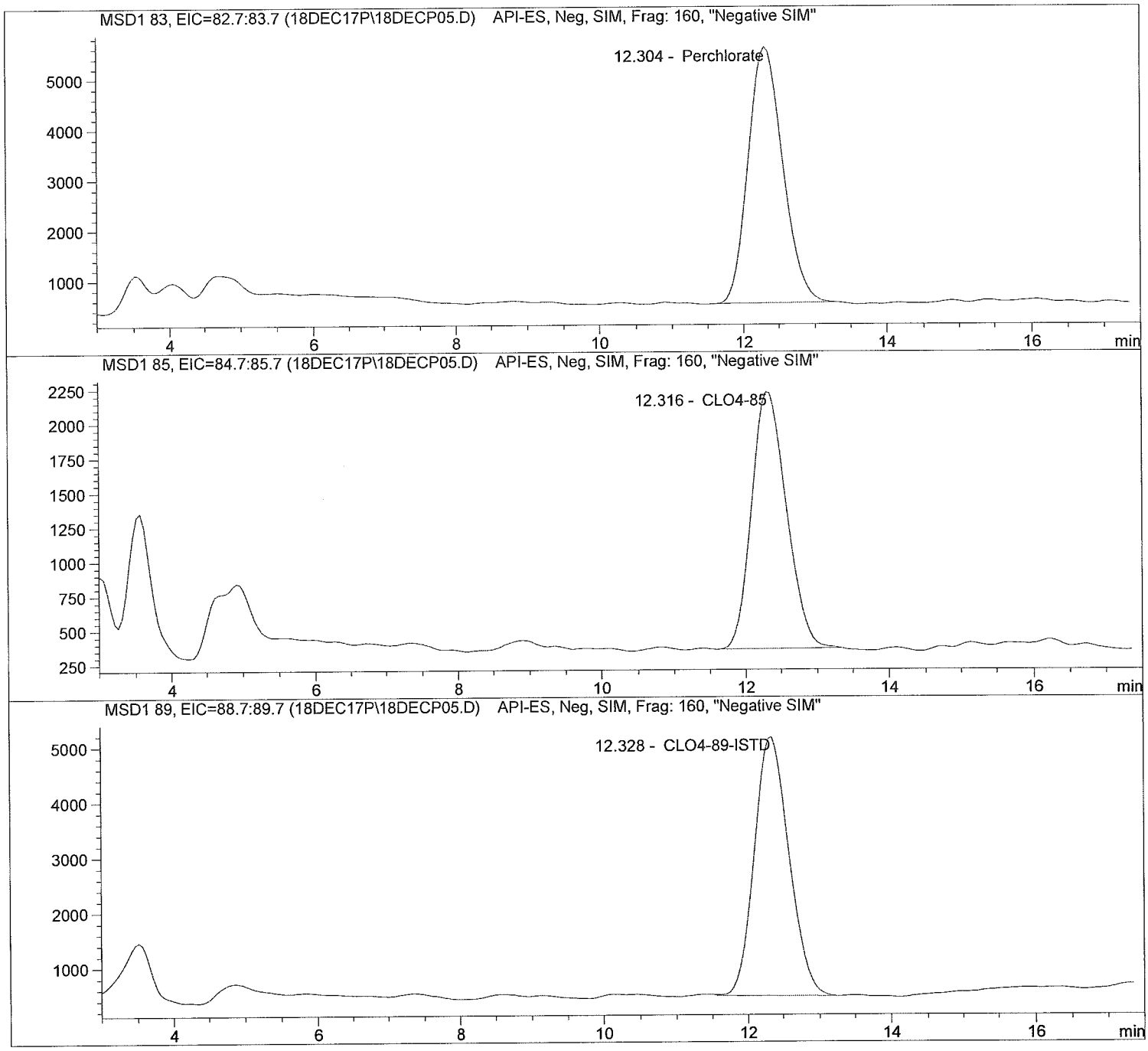
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP05.D Sample Name: 579517 LCS@5.

Injection Date:	12/18/2017 10:18:30	Seq Line:	5
Sample Name:	579517 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\18DEC17P\18DECP05.D Sample Name: 579517 LCS@5.

Injection Date:	12/18/2017 10:18:30	Seq Line:	5
Sample Name:	579517 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
12.304	PBA	172923.4	4.9413	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.316	PBA	63573.3	5.4358	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.328	BBA	159032.7	5.0000	CLO4-89-ISTD

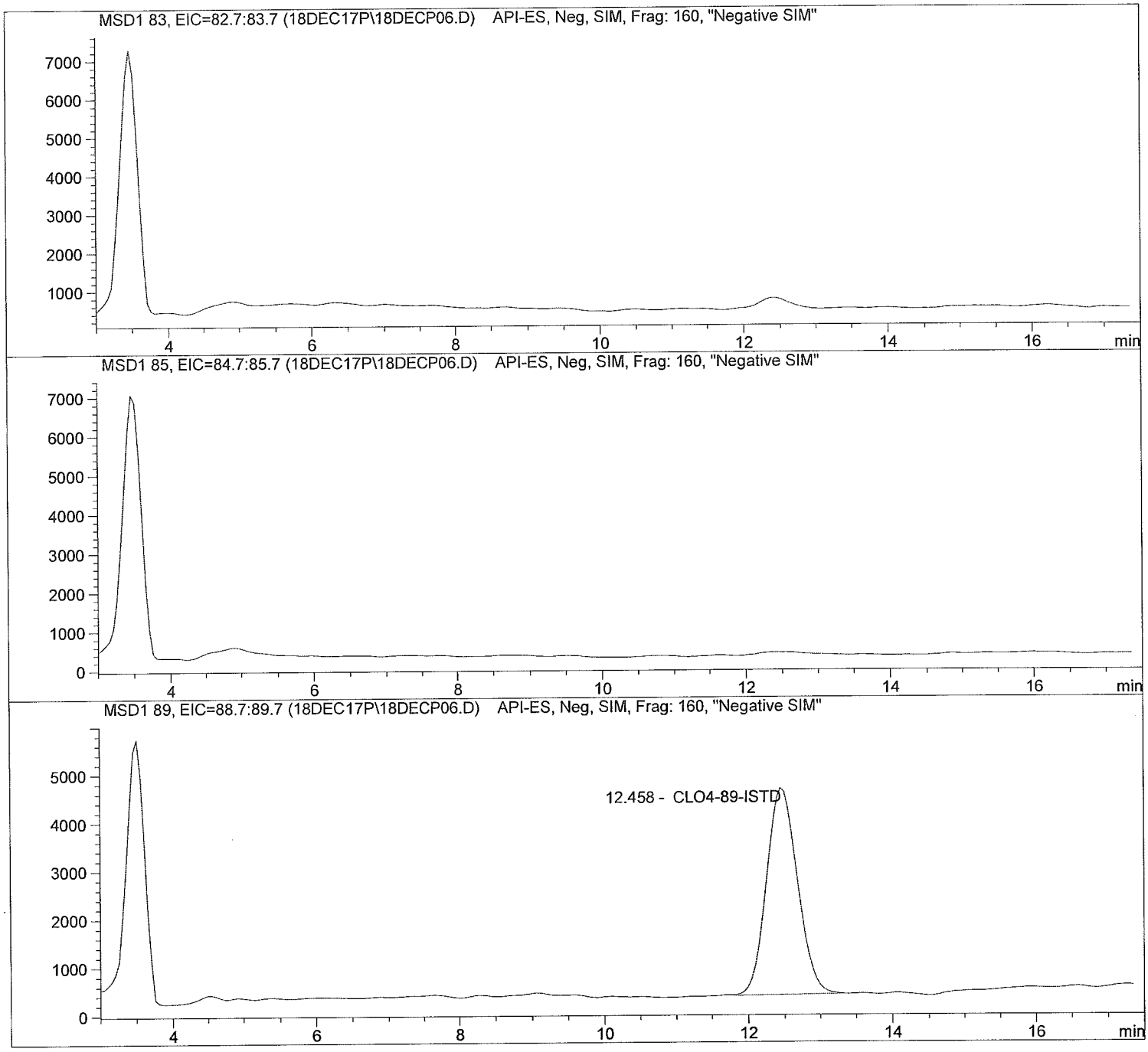
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP06.D Sample Name: 1734272001

Injection Date:	12/18/2017 10:39:17	Seq Line:	6
Sample Name:	1734272001	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\18DEC17P\18DECP06.D Sample Name: 1734272001

Injection Date:	12/18/2017 10:39:17	Seq Line:	6
Sample Name:	1734272001	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.458	BBA	128203.7	5.0000	CLO4-89-ISTD

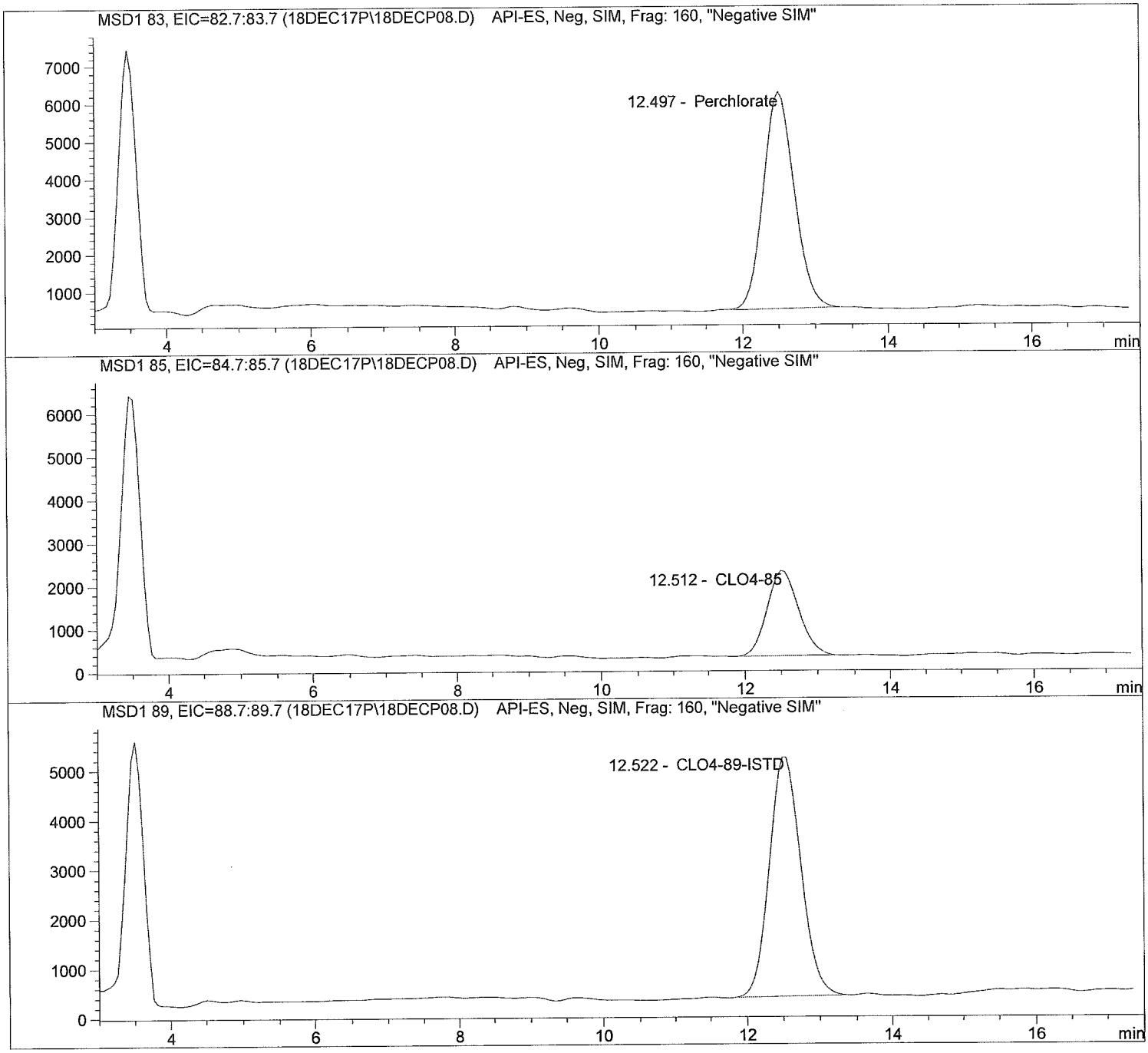
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP08.D Sample Name: 579519 342721D

Injection Date:	12/18/2017 11:17:39	Seq Line:	8
Sample Name:	579519 342721D	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\18DEC17P\18DECP08.D Sample Name: 579519 342721D

Injection Date:	12/18/2017 11:17:39	Seq Line:	8
Sample Name:	579519 342721D	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
12.497	BBA	170836.3	5.3200	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.512	PBA	59637.2	5.5719	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.522	PBA	145591.5	5.0000	CLO4-89-ISTD

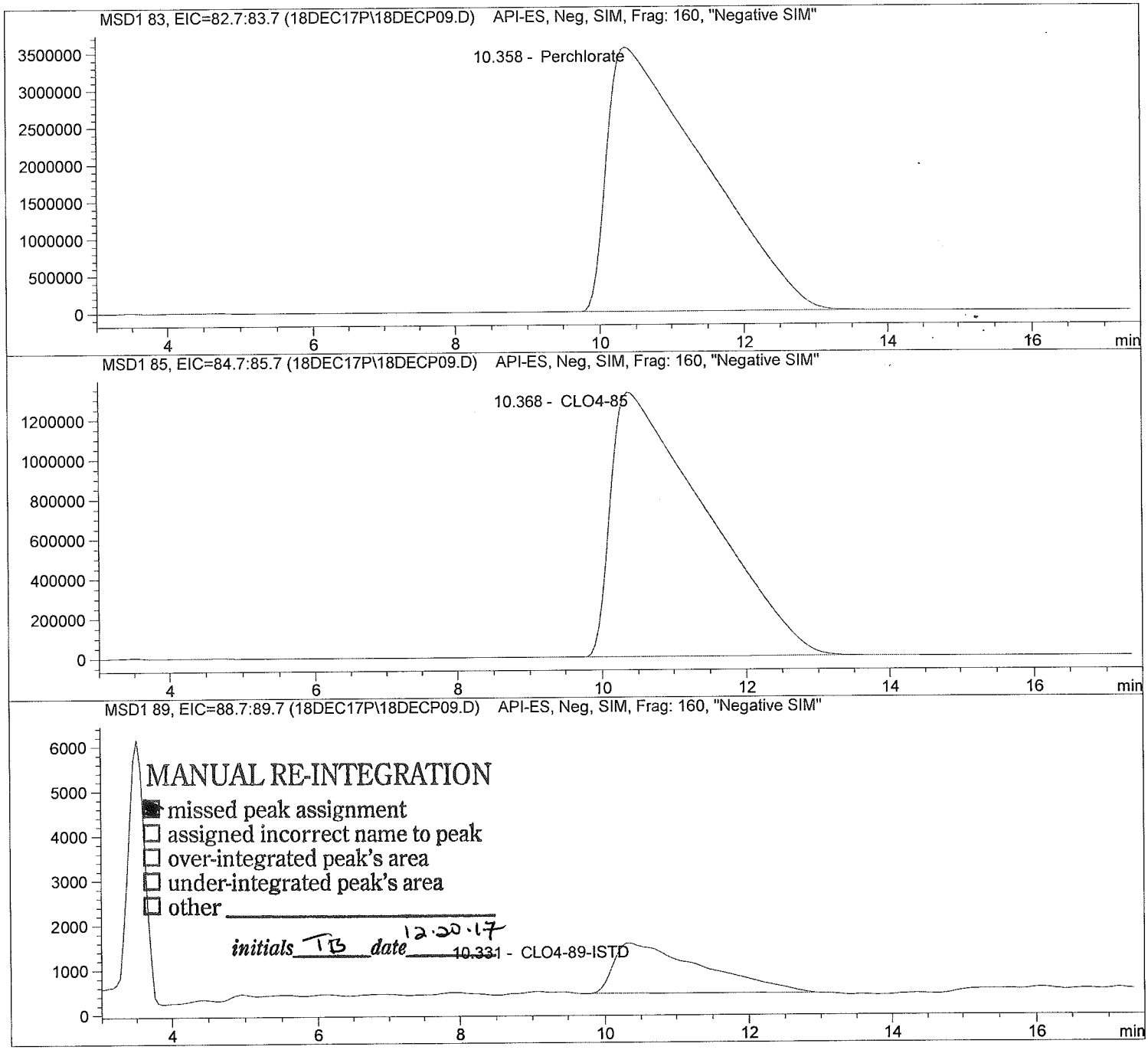
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP09.D Sample Name: 1734273001

Injection Date:	12/18/2017 11:36:53	Seq Line:	9
Sample Name:	1734273001	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\18DEC17P\18DECP09.D Sample Name: 1734273001

Injection Date:	12/18/2017 11:36:53	Seq Line:	9
Sample Name:	1734273001	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.358	PBA	334489216.0	1644.5869	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.368	PBA	121188464.0	1980.8836	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.331	MM	96471.7	5.0000	CLO4-89-ISTD

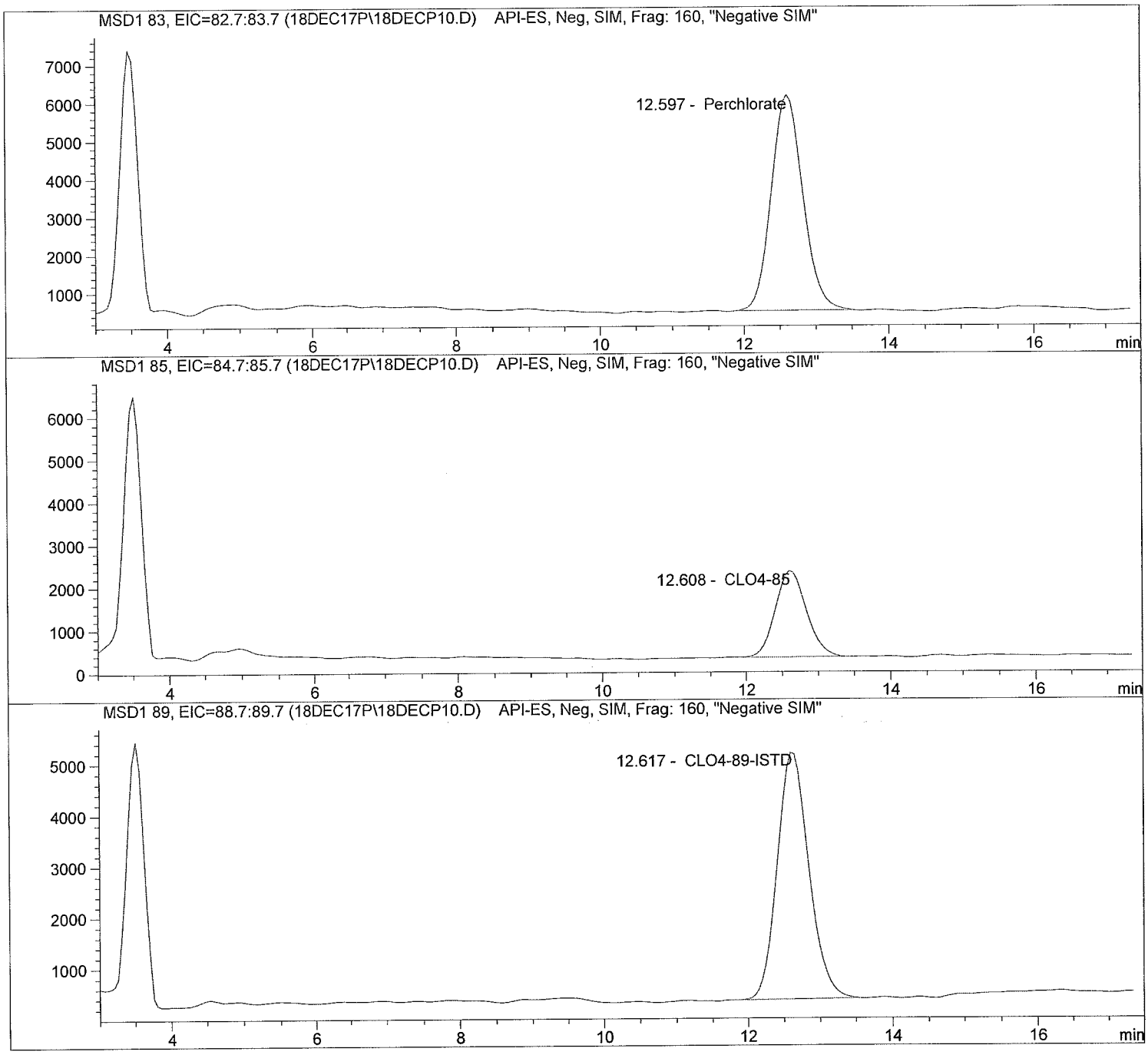
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP10.D Sample Name: 579518 342721S

Injection Date:	12/18/2017 11:56:04	Seq Line:	10
Sample Name:	579518 342721S	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\18DEC17P\18DECP10.D Sample Name: 579518 342721S

Injection Date:	12/18/2017 11:56:04	Seq Line:	10
Sample Name:	579518 342721S	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
12.597	BBA	171421.4	5.3019	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.608	BBA	60293.1	5.5945	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.617	BBA	146604.7	5.0000	CLO4-89-ISTD

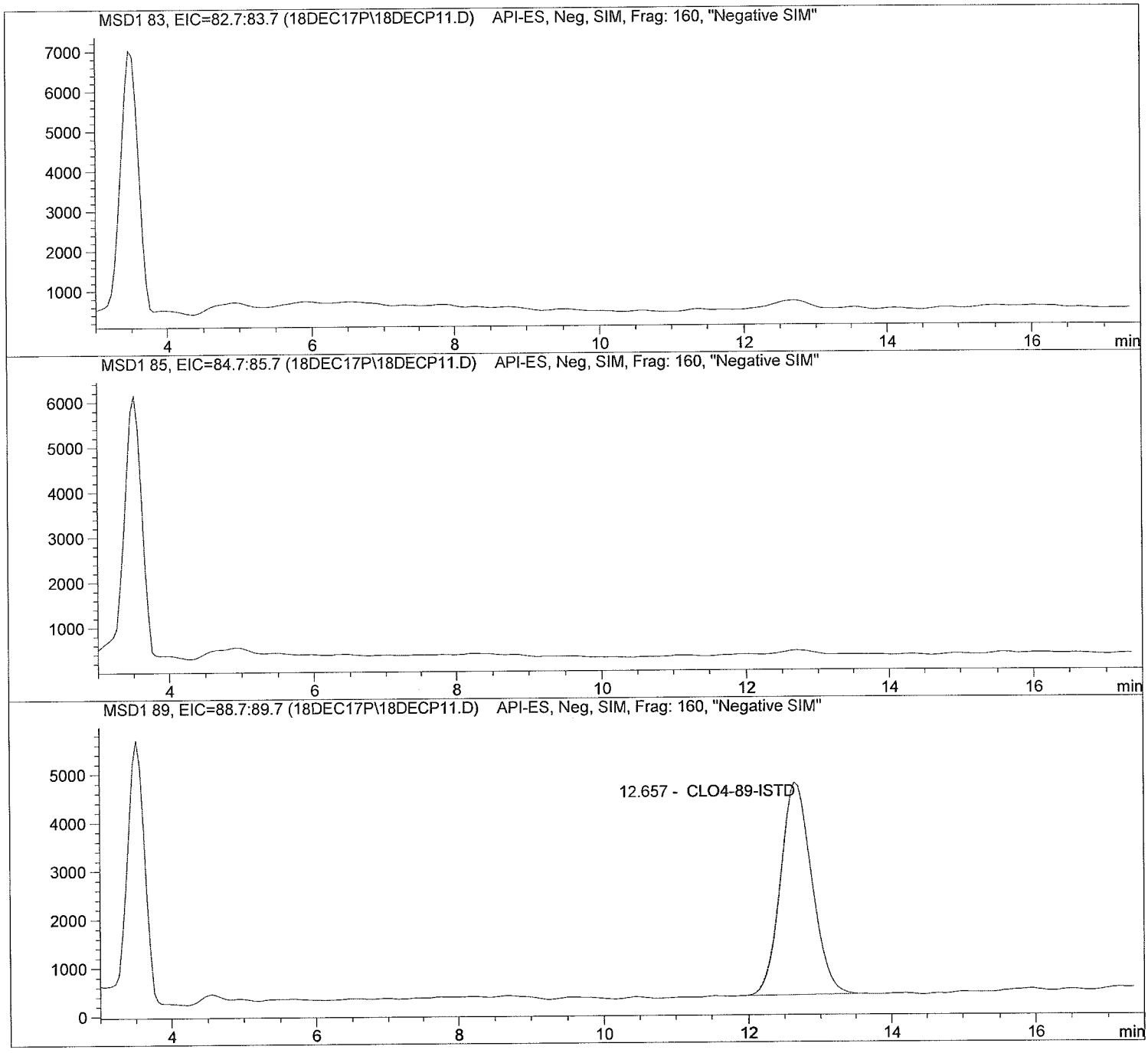
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP11.D Sample Name: 1734274001

Injection Date:	12/18/2017 12:15:14	Seq Line:	11
Sample Name:	1734274001	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\18DEC17P\18DECP11.D Sample Name: 1734274001

Injection Date:	12/18/2017 12:15:14	Seq Line:	11
Sample Name:	1734274001	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.657	BBA	132893.4	5.0000	CLO4-89-ISTD

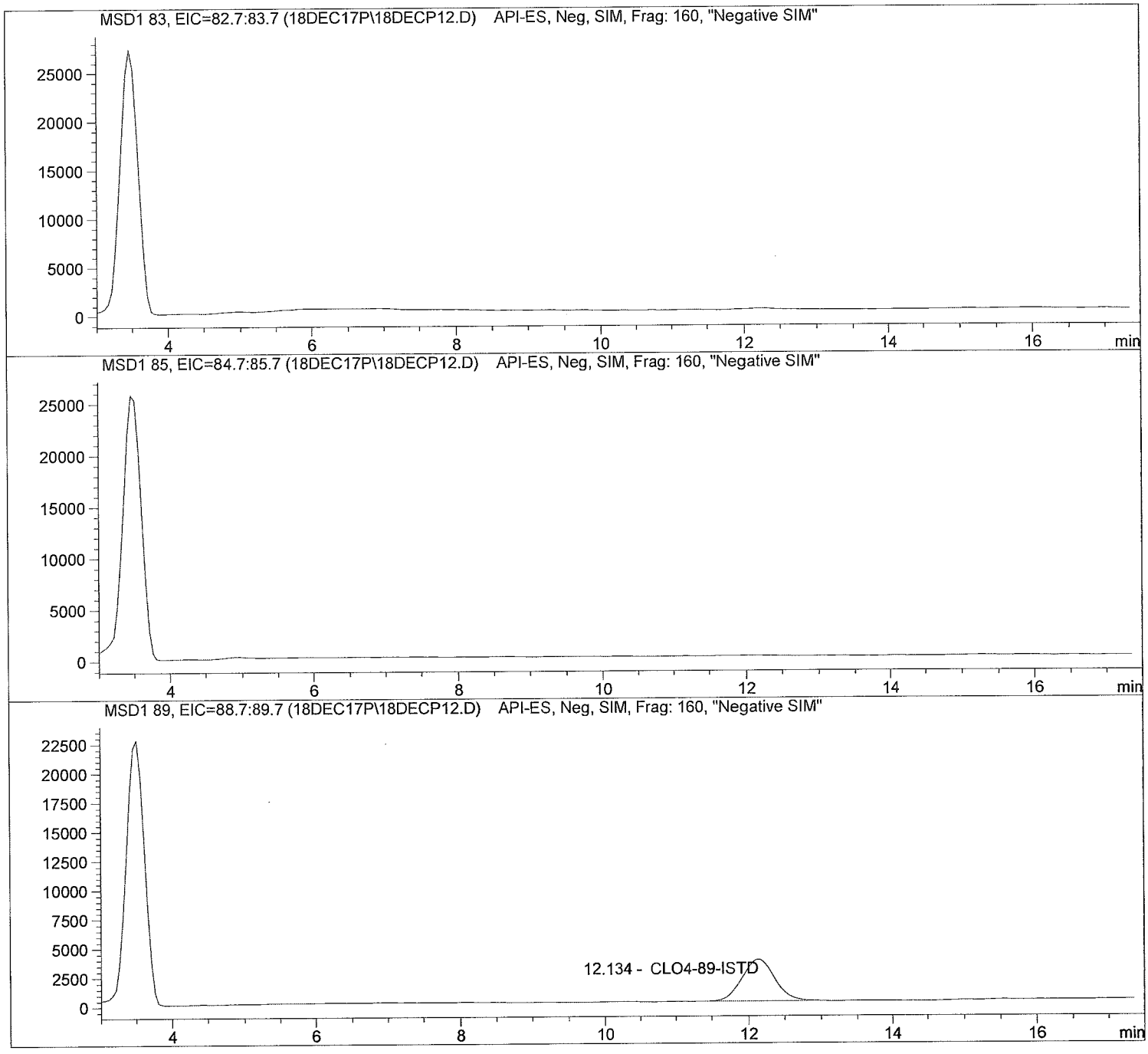
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP12.D Sample Name: 1734528001

Injection Date:	12/18/2017 12:34:23	Seq Line:	12
Sample Name:	1734528001	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\18DEC17P\18DECP12.D Sample Name: 1734528001

Injection Date:	12/18/2017 12:34:23	Seq Line:	12
Sample Name:	1734528001	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
12.134	BBA	112508.5	5.0000	CLO4-89-ISTD

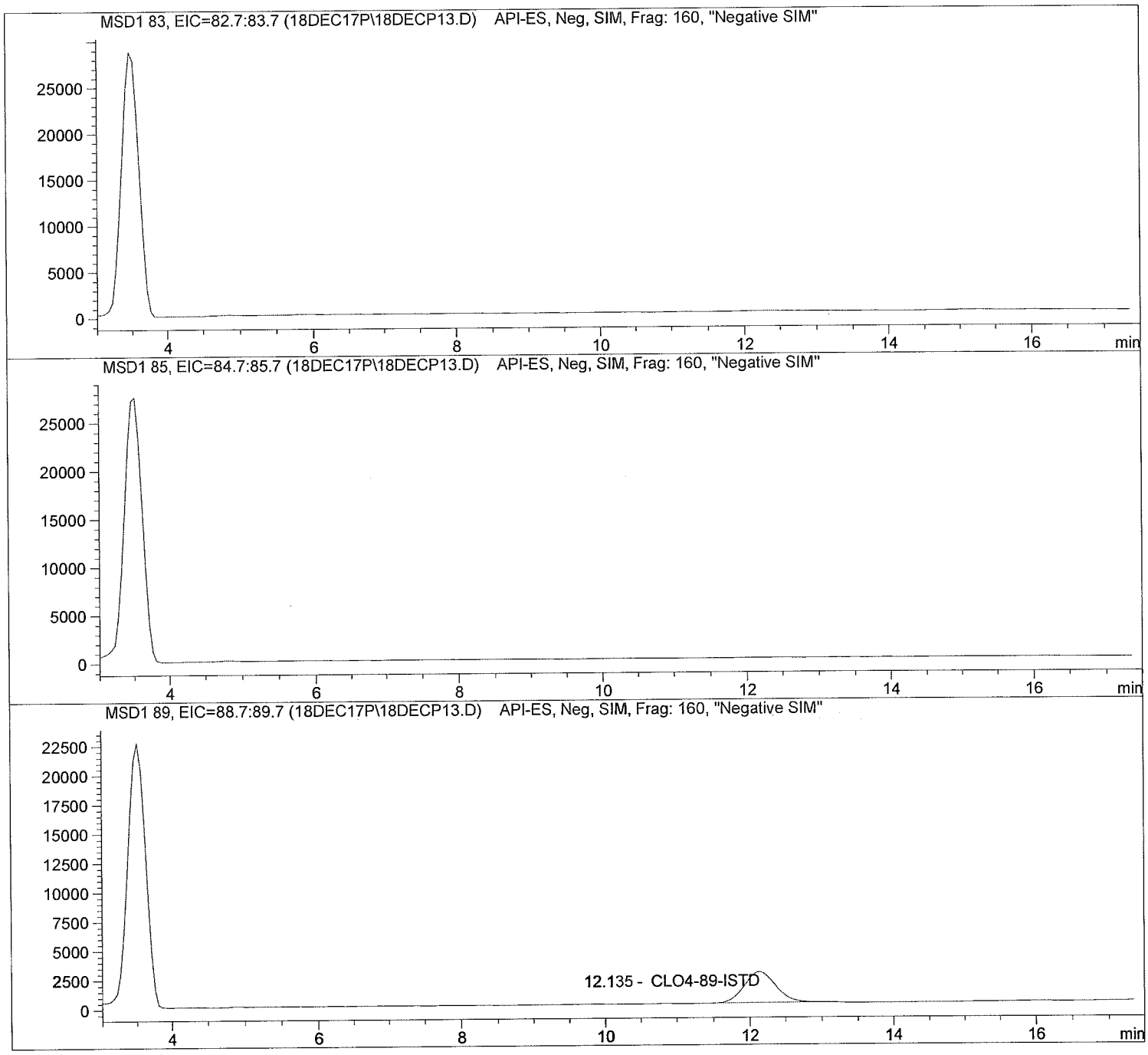
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP13.D Sample Name: 1734528002

Injection Date:	12/18/2017 12:53:32	Seq Line:	13
Sample Name:	1734528002	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\18DEC17P\18DECP13.D Sample Name: 1734528002

Injection Date:	12/18/2017 12:53:32	Seq Line:	13
Sample Name:	1734528002	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
12.135	PBA	81404.5	5.0000	CLO4-89-ISTD

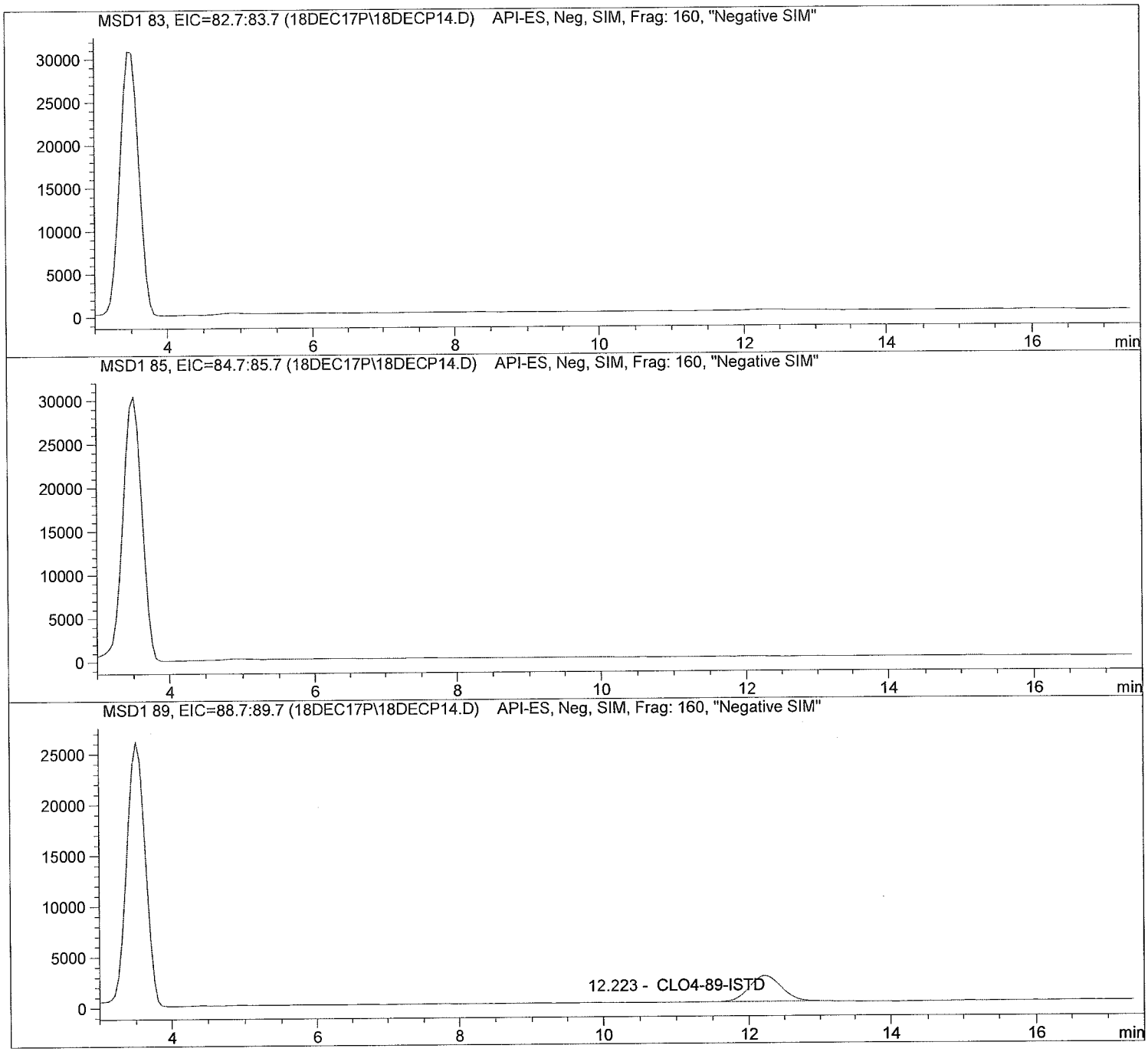
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP14.D Sample Name: 1734528003

Injection Date:	12/18/2017 13:12:40	Seq Line:	14
Sample Name:	1734528003	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\18DEC17P\18DECP14.D Sample Name: 1734528003

Injection Date:	12/18/2017 13:12:40	Seq Line:	14
Sample Name:	1734528003	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
12.223	BBA	79863.1	5.0000	CLO4-89-ISTD

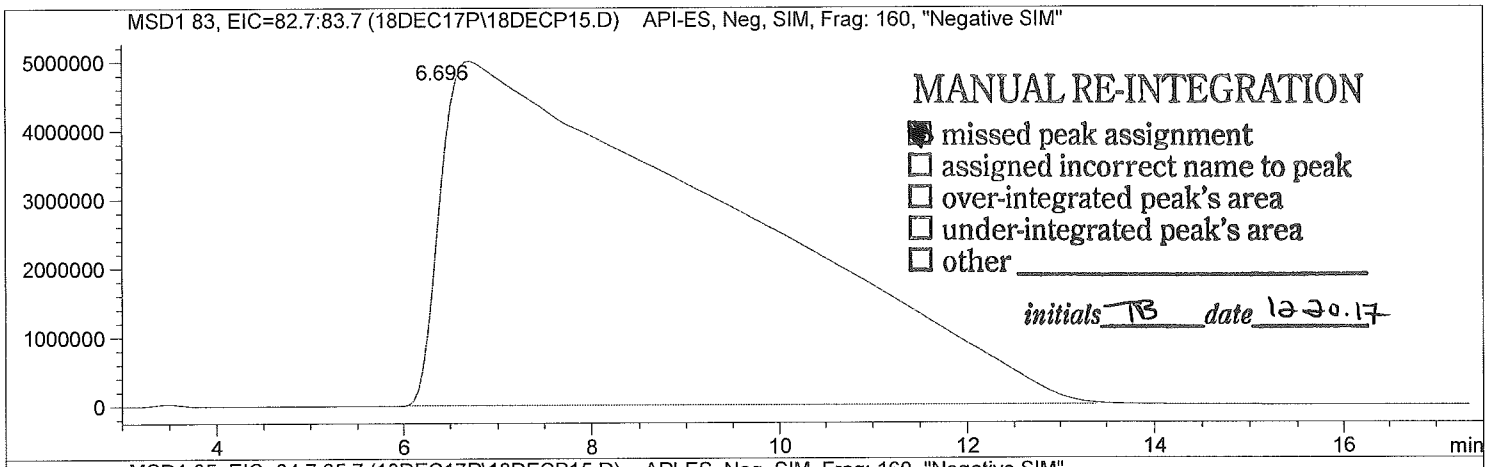
*** End of Report ***

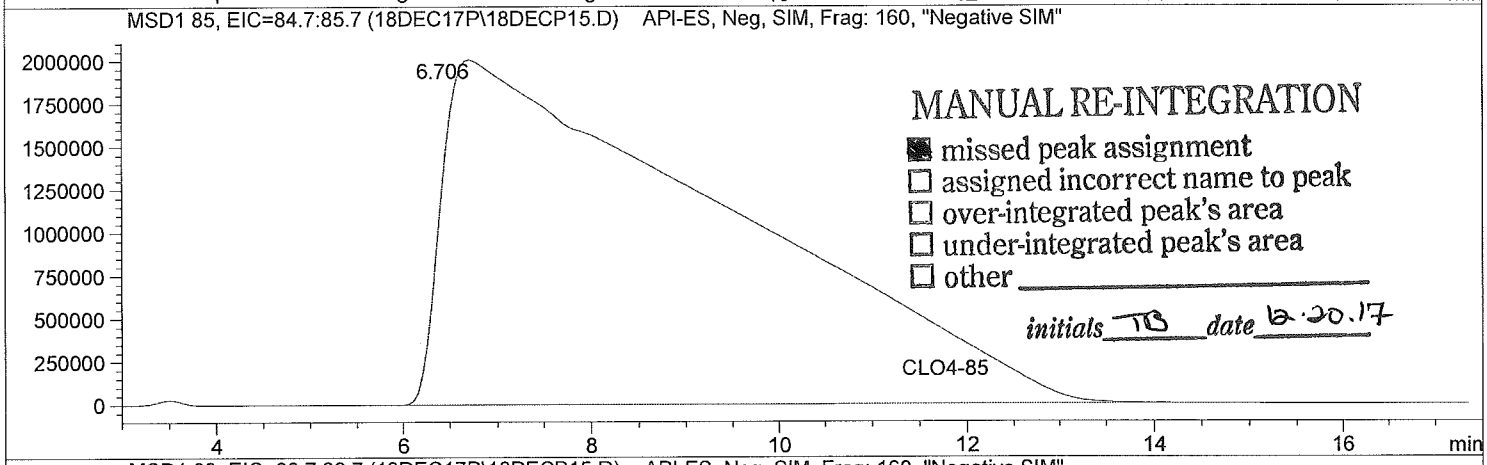
Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP15.D Sample Name: 1734528004

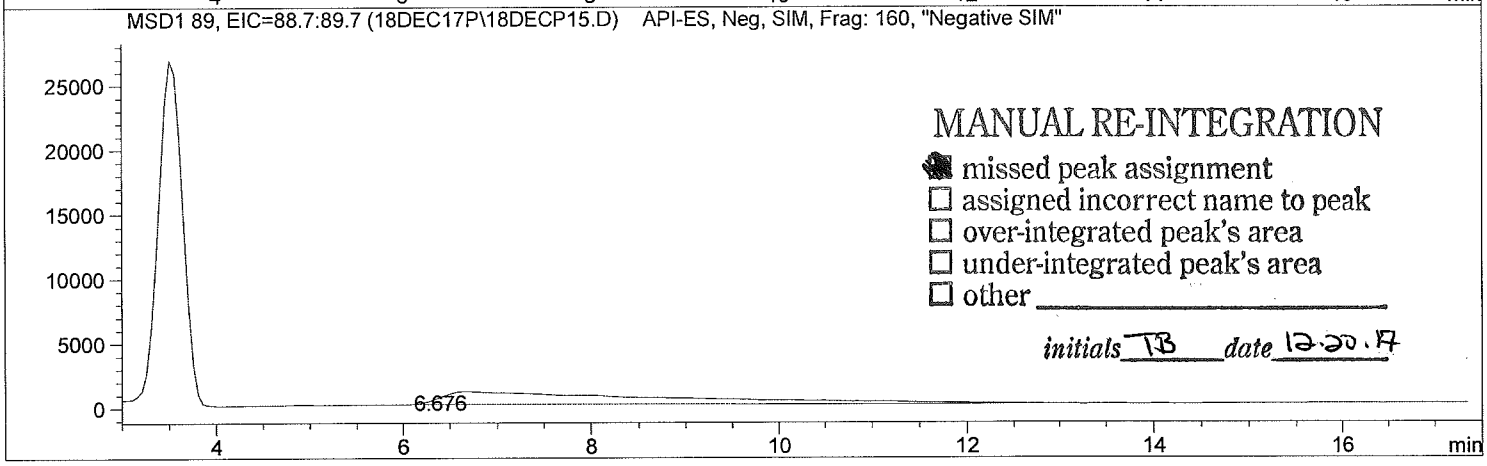
Injection Date:	12/18/2017 13:31:48	Seq Line:	15
Sample Name:	1734528004	Location:	Vial 84
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP15.D Sample Name: 1734528004

Injection Date:	12/18/2017 13:31:48	Seq Line:	15
Sample Name:	1734528004	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
6.696	MM	1071827904.0	0.0000	
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
6.706	MM	423853856.0	0.0000	
7.356	Rsho	0.0	0.0000	
7.872	Rsho	0.0	0.0000	
8.804	Rsho	0.0	0.0000	
9.803	Rsho	0.0	0.0000	
10.409	Rsho	0.0	0.0000	
10.779	Rsho	0.0	0.0000	
11.176	Rsho	0.0	0.0000	
11.684	Rsho	0.0	0.0000	
12.225	Rsho	0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
6.676	MM	168329.7	0.0000	
0.000		0.0	0.0000	CLO4-89-ISTD

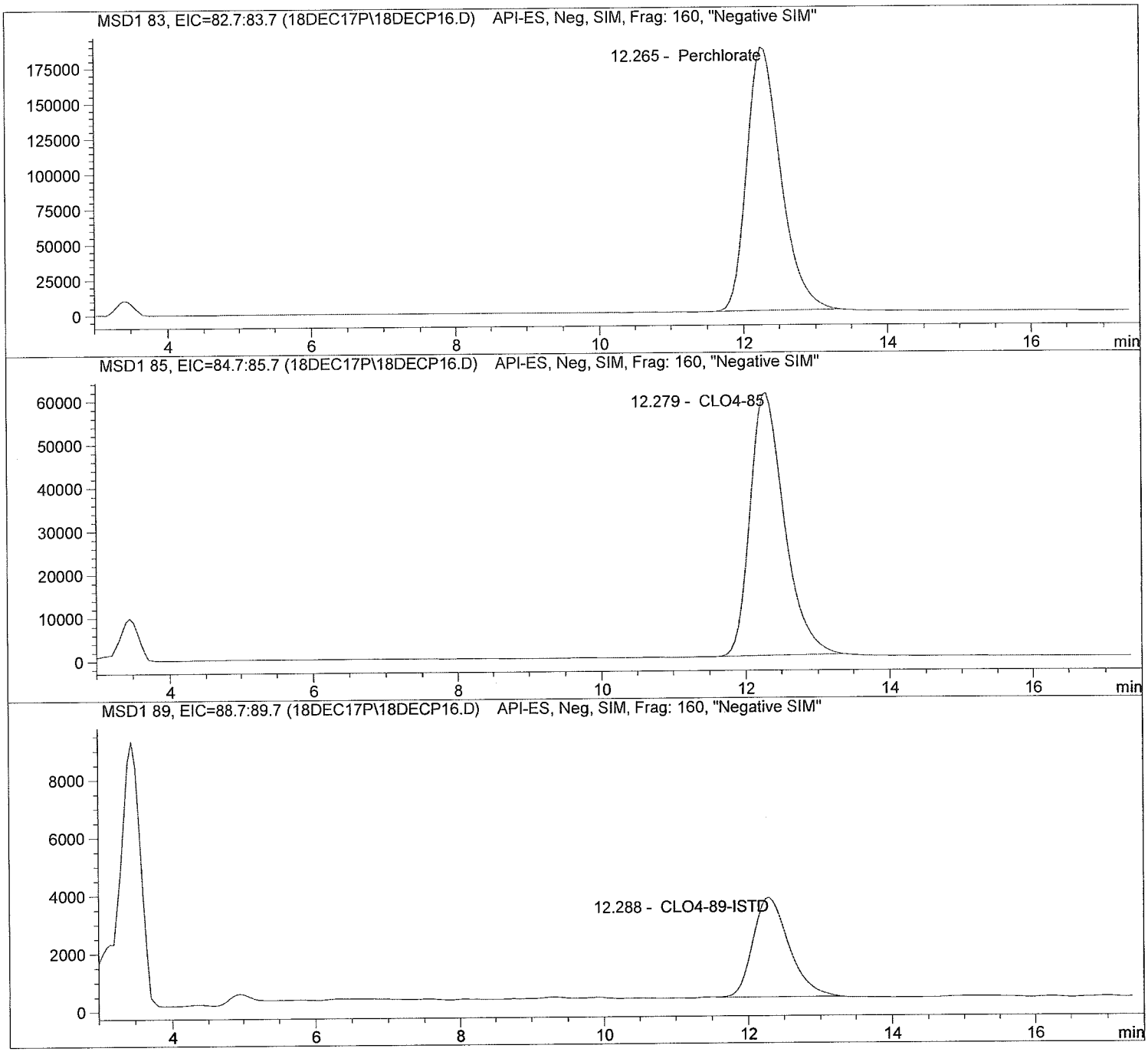
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP16.D Sample Name: 1734528005

Injection Date:	12/18/2017 13:50:58	Seq Line:	16
Sample Name:	1734528005	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\18DEC17P\18DECP16.D Sample Name: 1734528005

Injection Date:	12/18/2017 13:50:58	Seq Line:	16
Sample Name:	1734528005	Location:	Vial 85
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.265	PBA	6134840.0	137.2463	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.279	PBA	2000638.1	149.1955	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.288	BBA	119725.5	5.0000	CLO4-89-ISTD

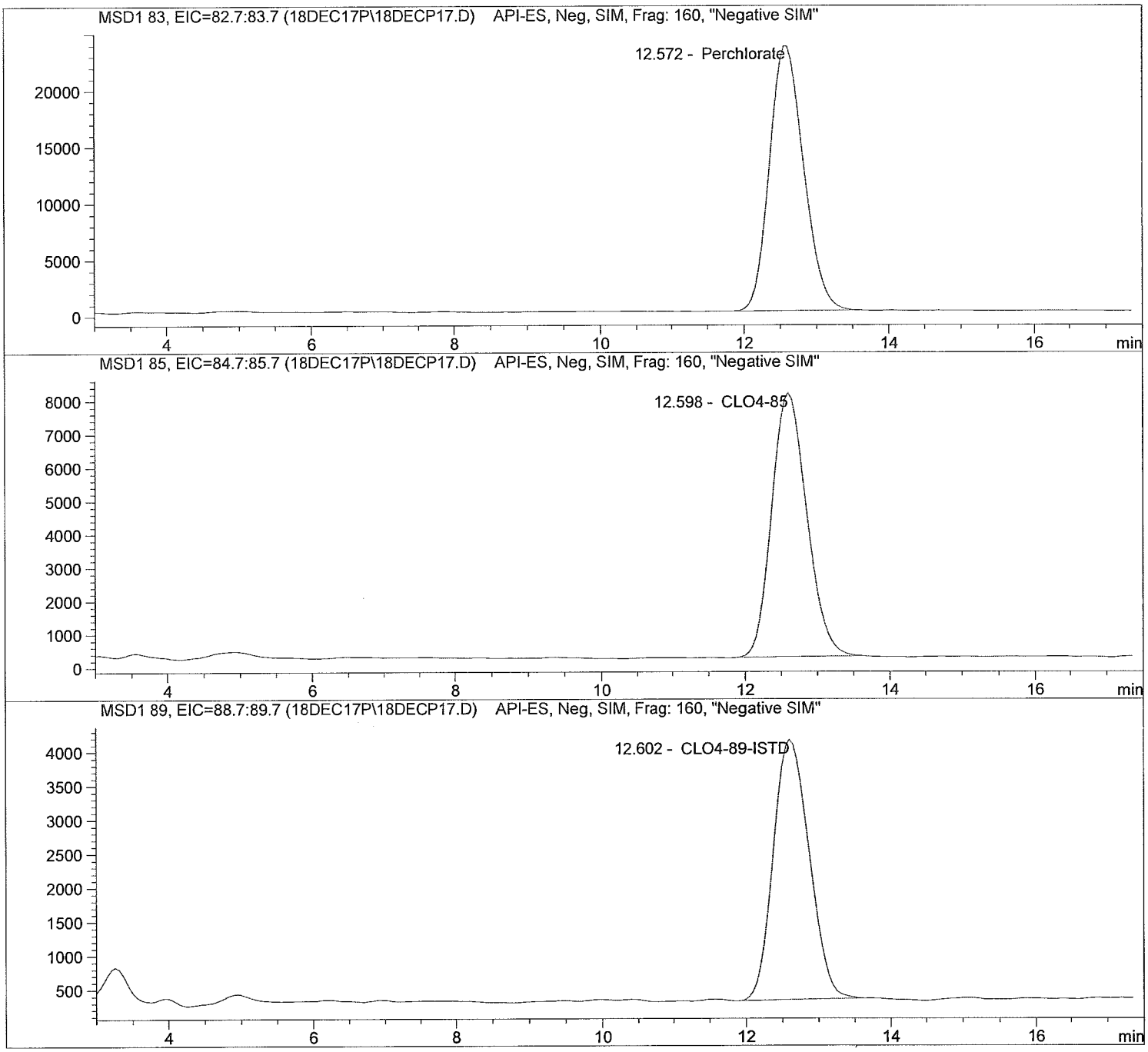
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP17.D Sample Name: 579520 CCV@25

Injection Date:	12/18/2017 14:10:07	Seq Line:	17
Sample Name:	579520 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\18DEC17P\18DECP17.D Sample Name: 579520 CCV@25

Injection Date:	12/18/2017 14:10:07	Seq Line:	17
Sample Name:	579520 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
12.572	PBA	771230.9	23.9956	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.598	PBA	266560.7	26.0393	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.602	PBA	132362.0	5.0000	CLO4-89-ISTD

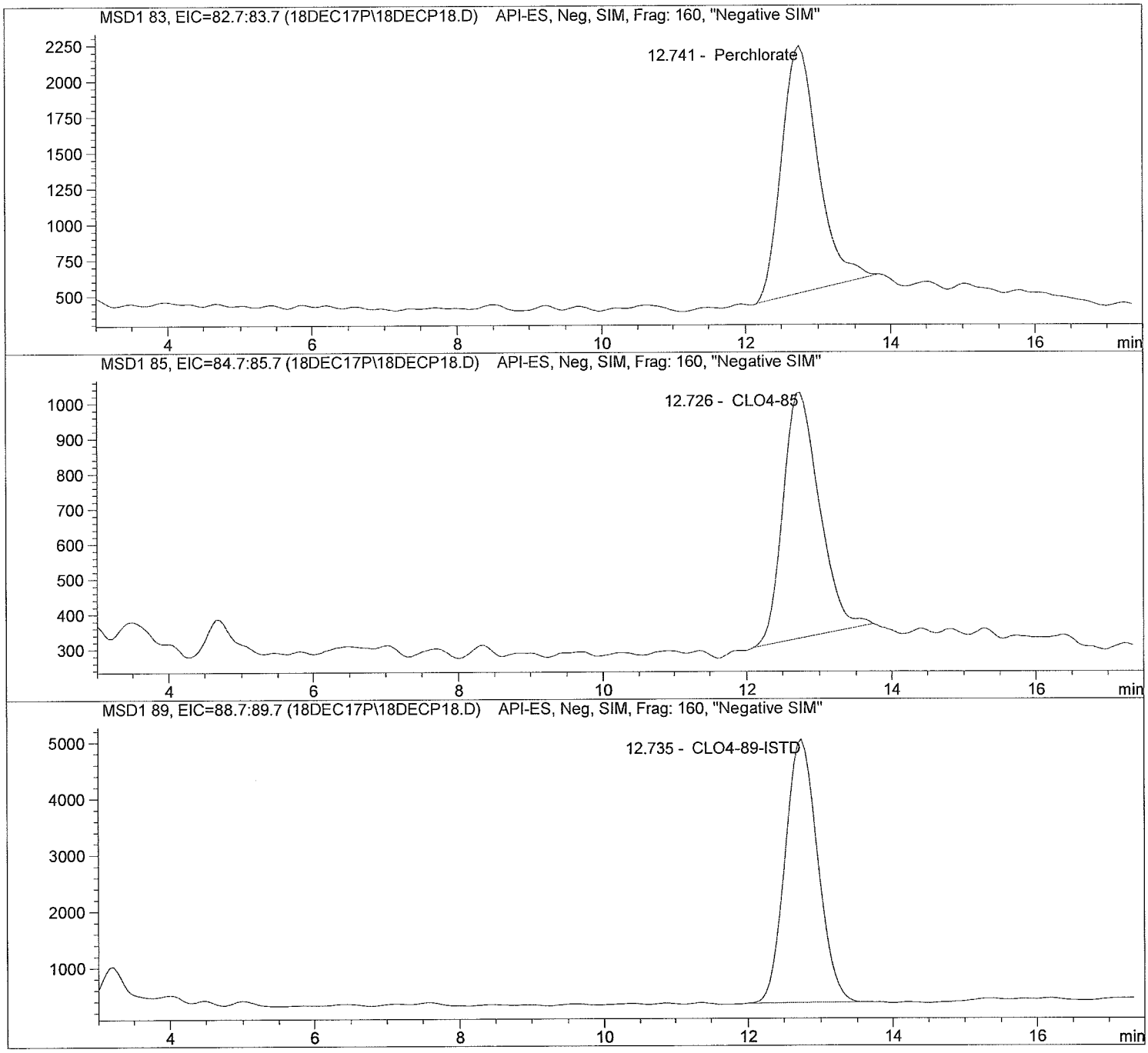
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP18.D Sample Name: 579521 LODV@1.

Injection Date:	12/18/2017 14:29:17	Seq Line:	18
Sample Name:	579521 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\18DEC17P\18DECP18.D Sample Name: 579521 LODV@1.

Injection Date:	12/18/2017 14:29:17	Seq Line:	18
Sample Name:	579521 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
12.741	PBA	60203.5	1.9394	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.726	BBA	24116.8	2.1823	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.735	PBA	144412.5	5.0000	CLO4-89-ISTD

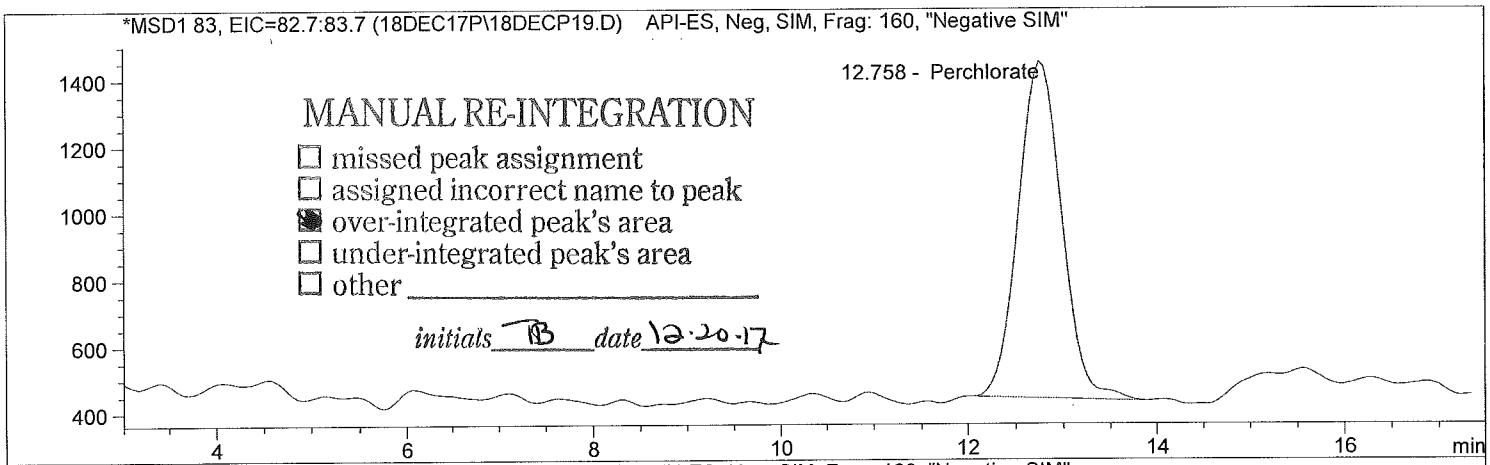
*** End of Report ***

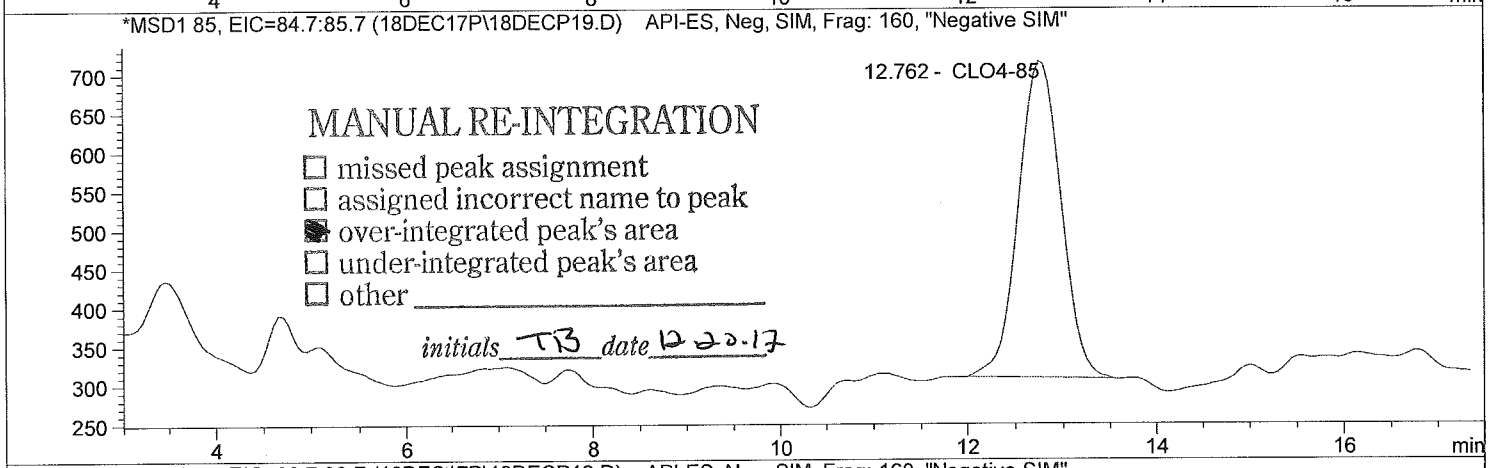
Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP19.D Sample Name: 579521 LODV@1.

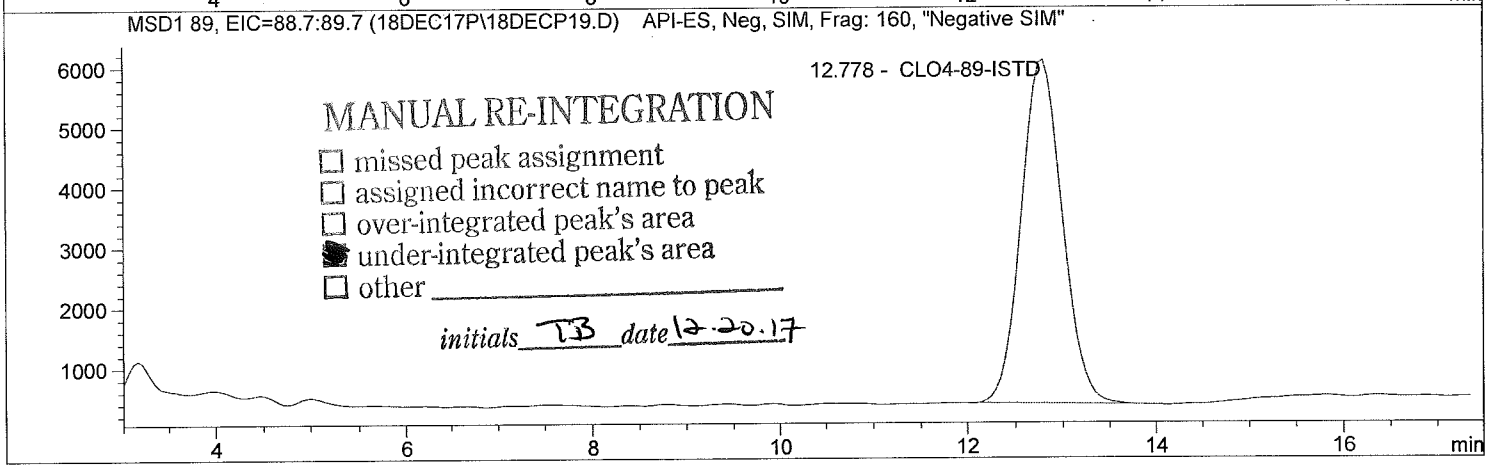
Injection Date:	12/18/2017 16:02:52	Seq Line:	19
Sample Name:	579521 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP19.D Sample Name: 579521 LODV@1.

Injection Date:	12/18/2017 16:02:52	Seq Line:	19
Sample Name:	579521 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
12.758	MM	31978.2	0.8834	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.762	MM	12677.8	0.8543	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.778	MM	171963.0	5.0000	CLO4-89-ISTD

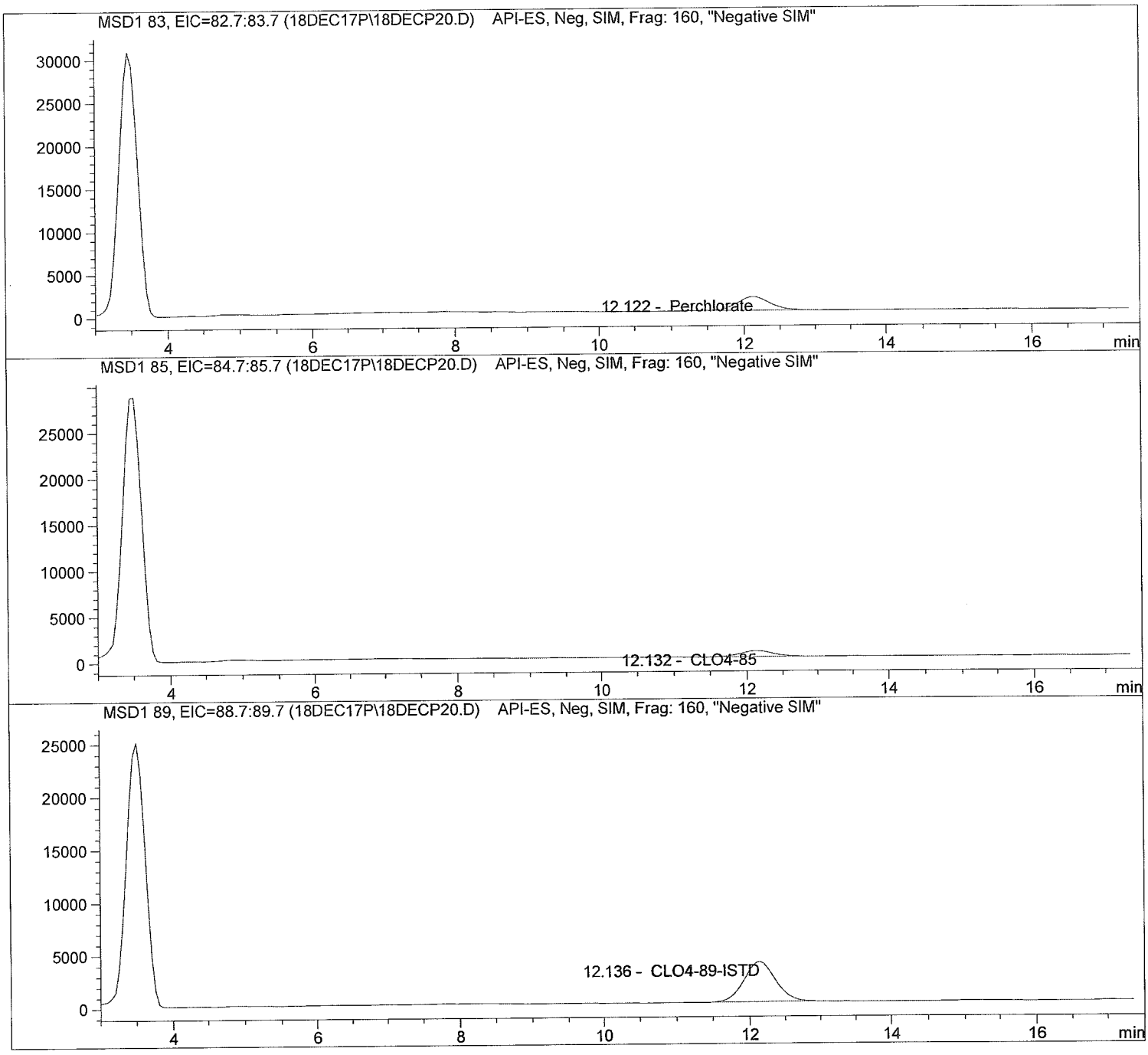
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP20.D Sample Name: 1734528006

Injection Date:	12/18/2017 16:23:47	Seq Line:	20
Sample Name:	1734528006	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\18DEC17P\18DECP20.D Sample Name: 1734528006

Injection Date:	12/18/2017 16:23:47	Seq Line:	20
Sample Name:	1734528006	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
12.122	BBA	51113.3	2.0485	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.132	PBA	21085.0	2.3928	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.136	BBA	115933.3	5.0000	CLO4-89-ISTD

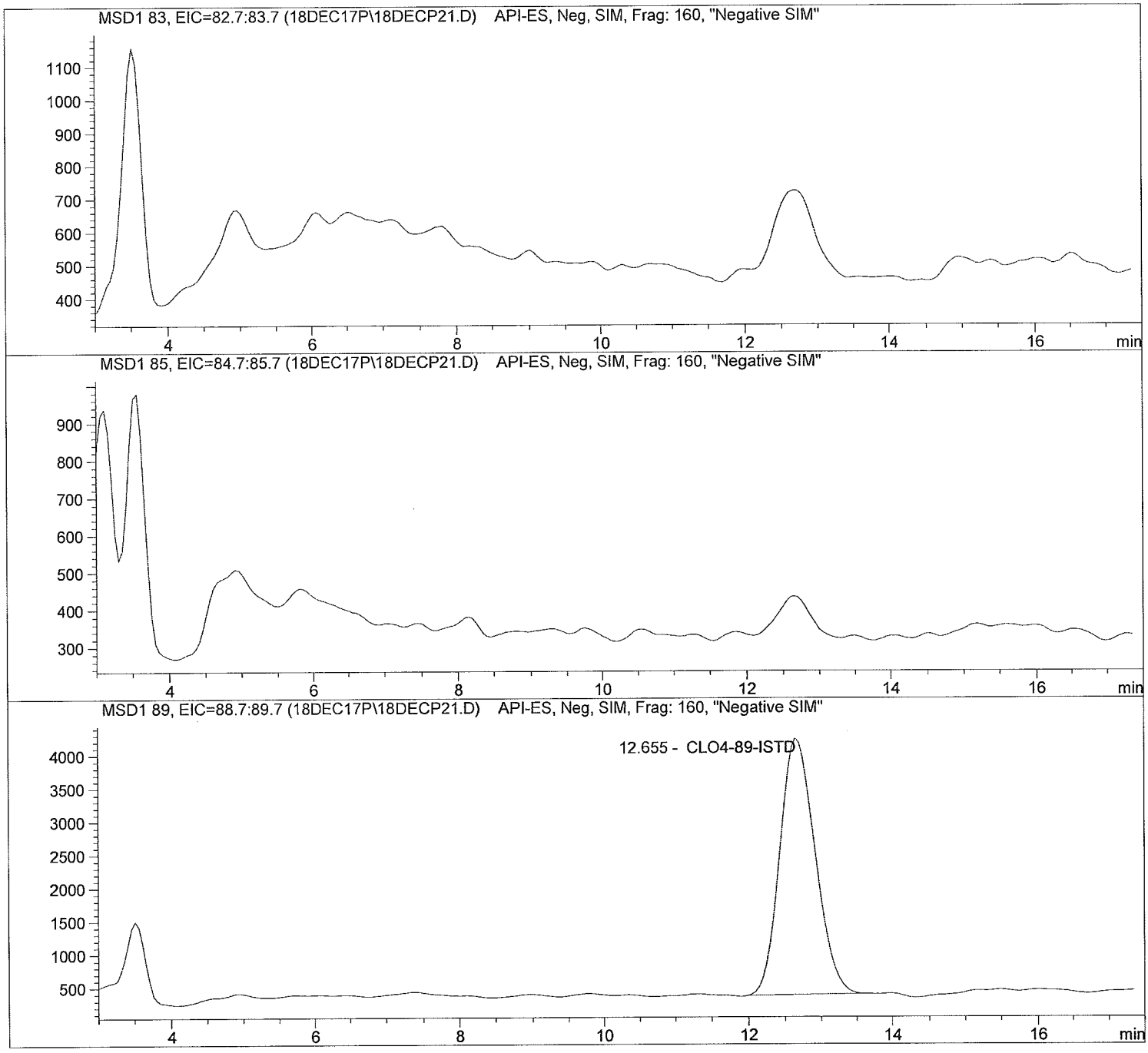
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP21.D Sample Name: 1734528007

Injection Date:	12/18/2017 16:42:56	Seq Line:	21
Sample Name:	1734528007	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\18DEC17P\18DECP21.D Sample Name: 1734528007

Injection Date:	12/18/2017 16:42:56	Seq Line:	21
Sample Name:	1734528007	Location:	Vial 87
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.655	PBA	130647.1	5.0000	CLO4-89-ISTD

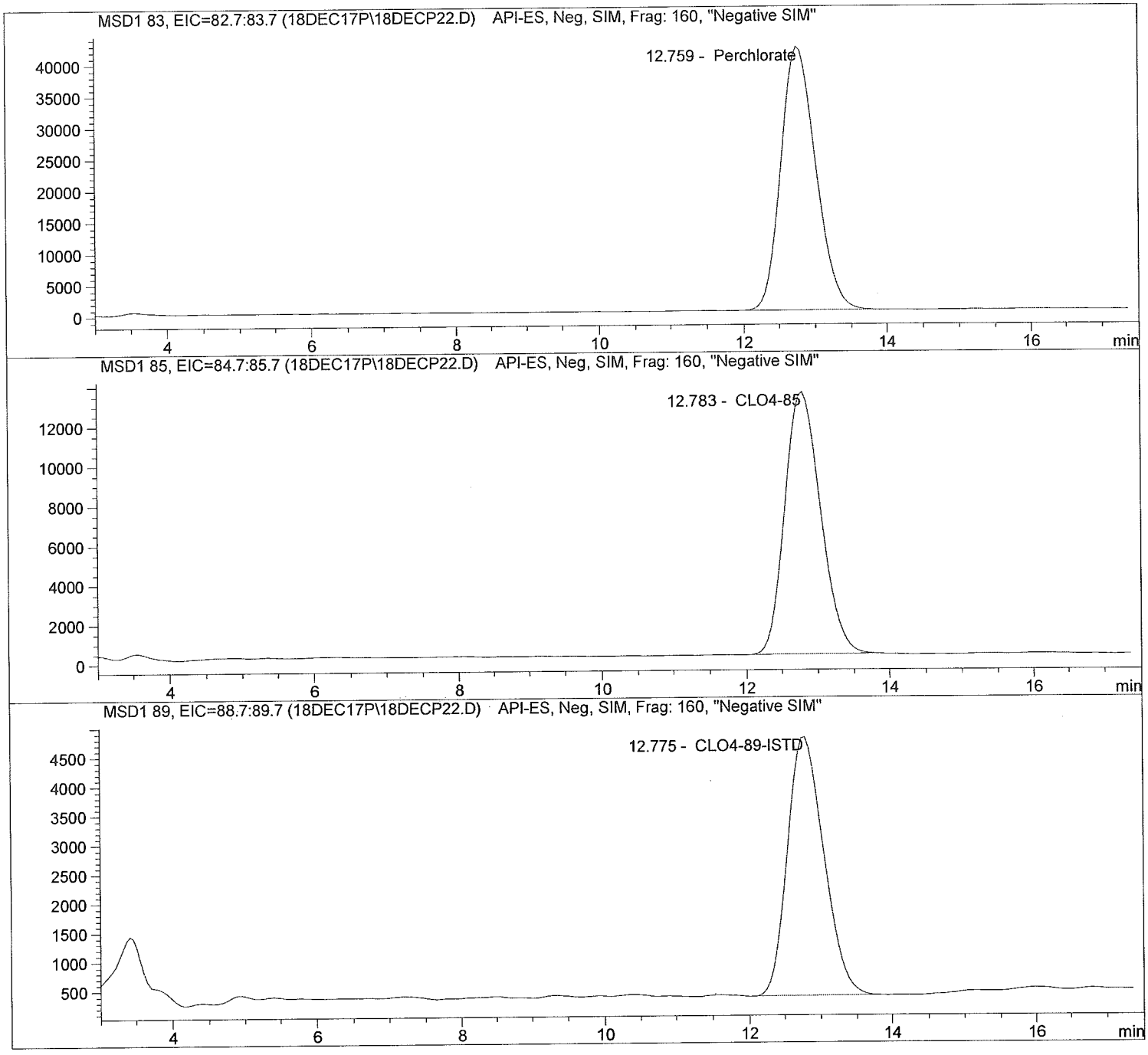
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP22.D Sample Name: 1734528008

Injection Date:	12/18/2017 17:02:04	Seq Line:	22
Sample Name:	1734528008	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\18DEC17P\18DECP22.D Sample Name: 1734528008

Injection Date:	12/18/2017 17:02:04	Seq Line:	22
Sample Name:	1734528008	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
12.759	BBA	1406507.4	35.4435	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.783	PBA	455258.8	36.6296	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.775	PBA	154969.8	5.0000	CLO4-89-ISTD

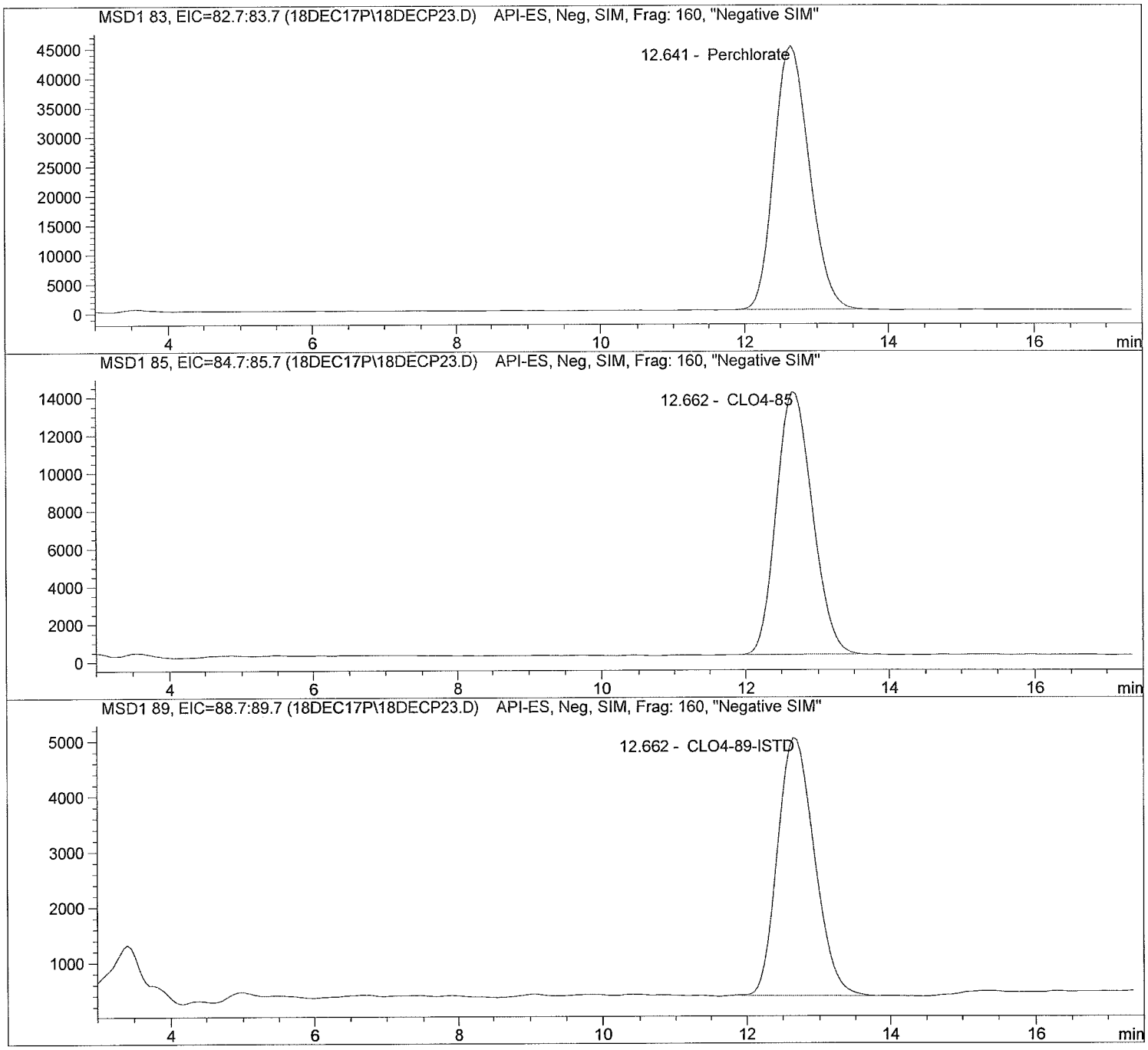
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP23.D Sample Name: 1734528009

Injection Date:	12/18/2017 17:21:17	Seq Line:	23
Sample Name:	1734528009	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\18DEC17P\18DECP23.D Sample Name: 1734528009

Injection Date:	12/18/2017 17:21:17	Seq Line:	23
Sample Name:	1734528009	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
12.641	BBA	1501387.5	35.9437	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.662	BBA	476178.7	36.4968	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.662	BBA	162754.7	5.0000	CLO4-89-ISTD

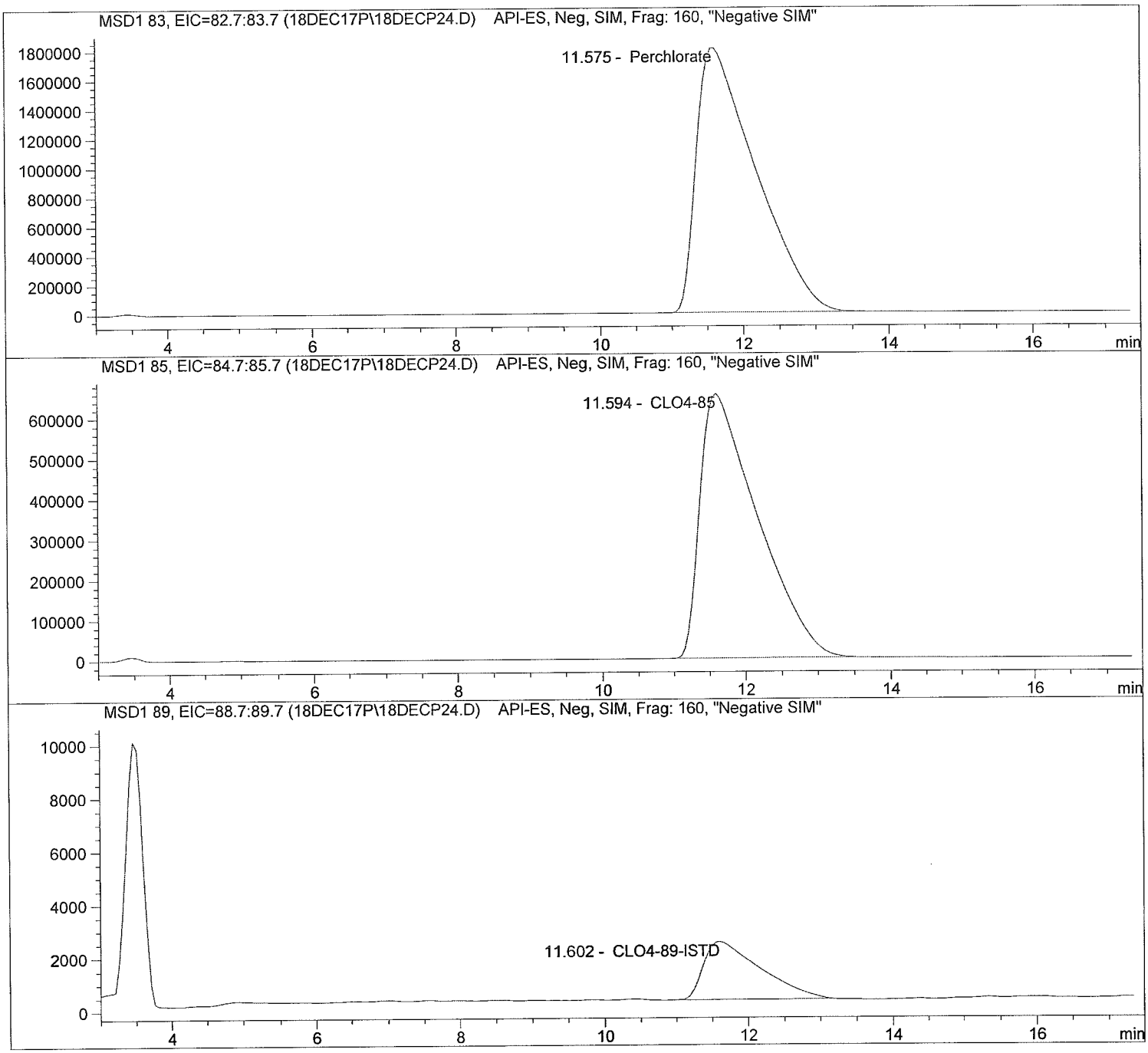
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP24.D Sample Name: 1734528010

Injection Date:	12/18/2017 17:40:29	Seq Line:	24
Sample Name:	1734528010	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\18DEC17P\18DECP24.D Sample Name: 1734528010

Injection Date:	12/18/2017 17:40:29	Seq Line:	24
Sample Name:	1734528010	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
11.575	PBA	103788384.0	783.7955	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.594	PBA	36463644.0	924.3243	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.602	PBA	118491.4	5.0000	CLO4-89-ISTD

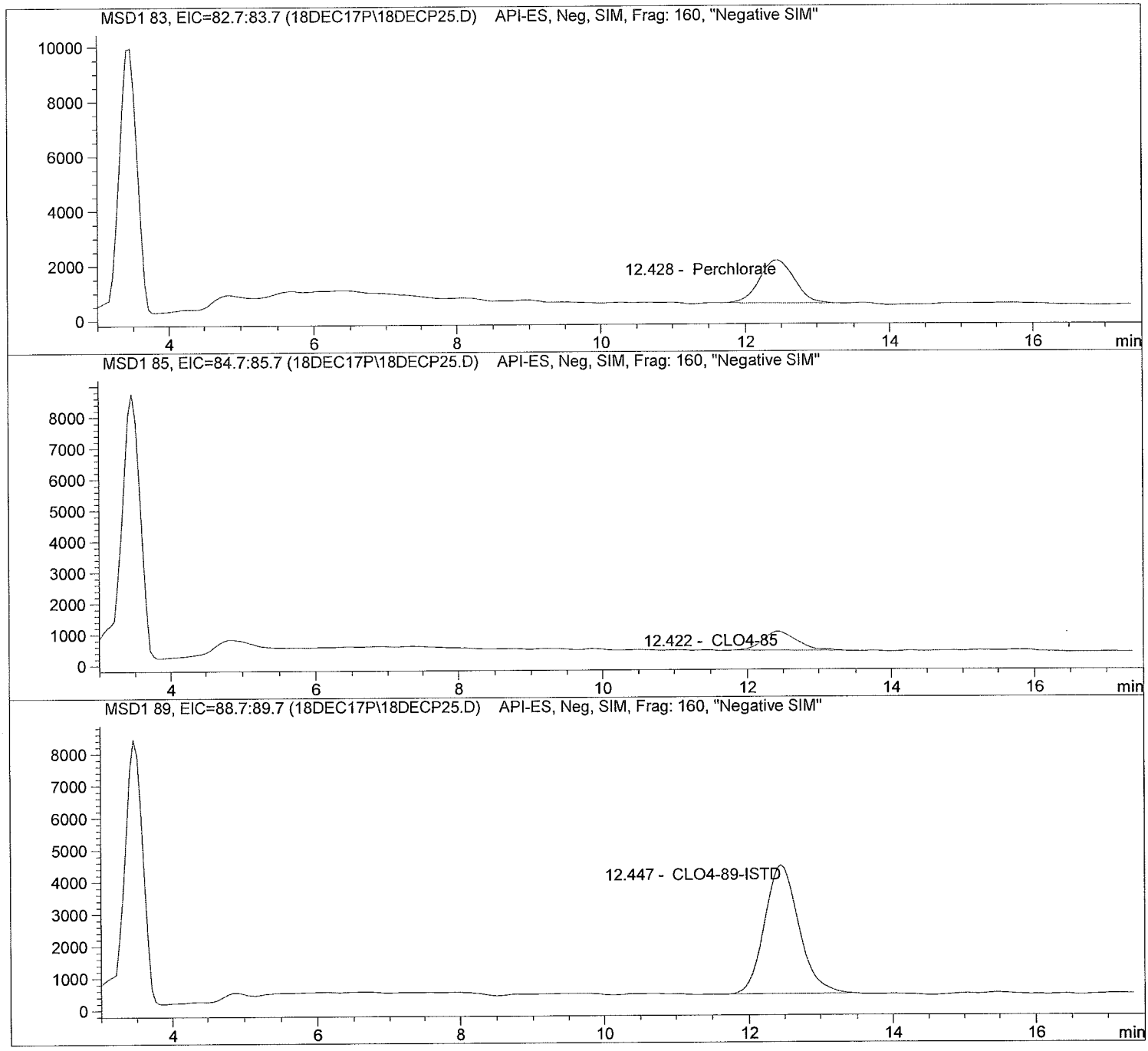
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP25.D Sample Name: 1734528011

Injection Date:	12/18/2017 17:59:42	Seq Line:	25
Sample Name:	1734528011	Location:	Vial 91
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP25.D Sample Name: 1734528011

Injection Date:	12/18/2017 17:59:42	Seq Line:	25
Sample Name:	1734528011	Location:	Vial 91
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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
12.428	BBA	53637.6	1.8600	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.422	PBA	20328.5	1.9609	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.447	PBA	134287.7	5.0000	CLO4-89-ISTD

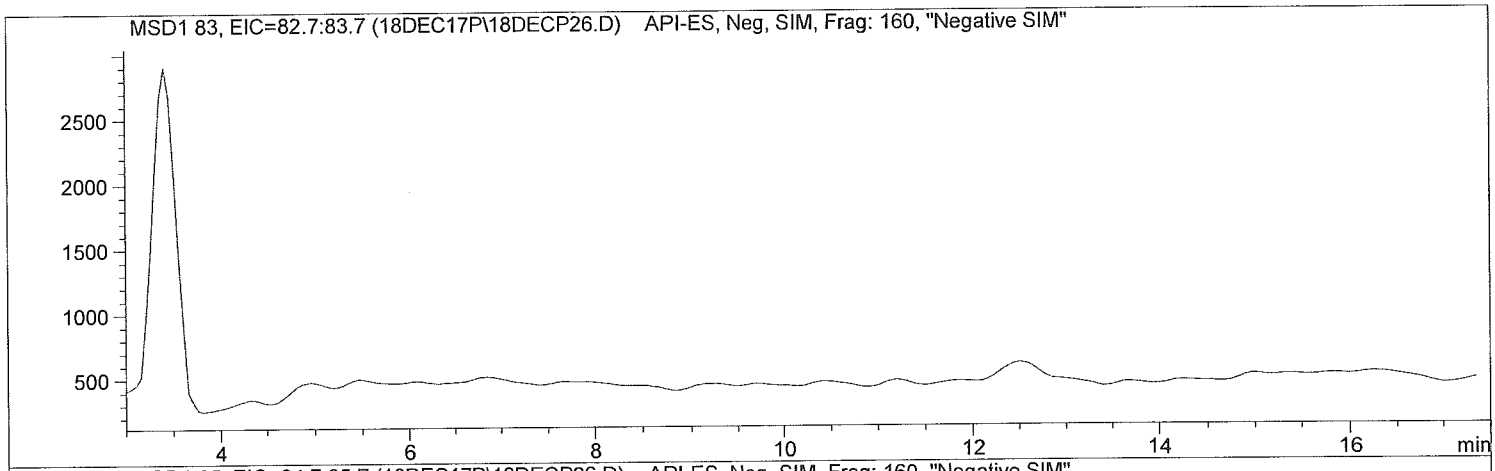
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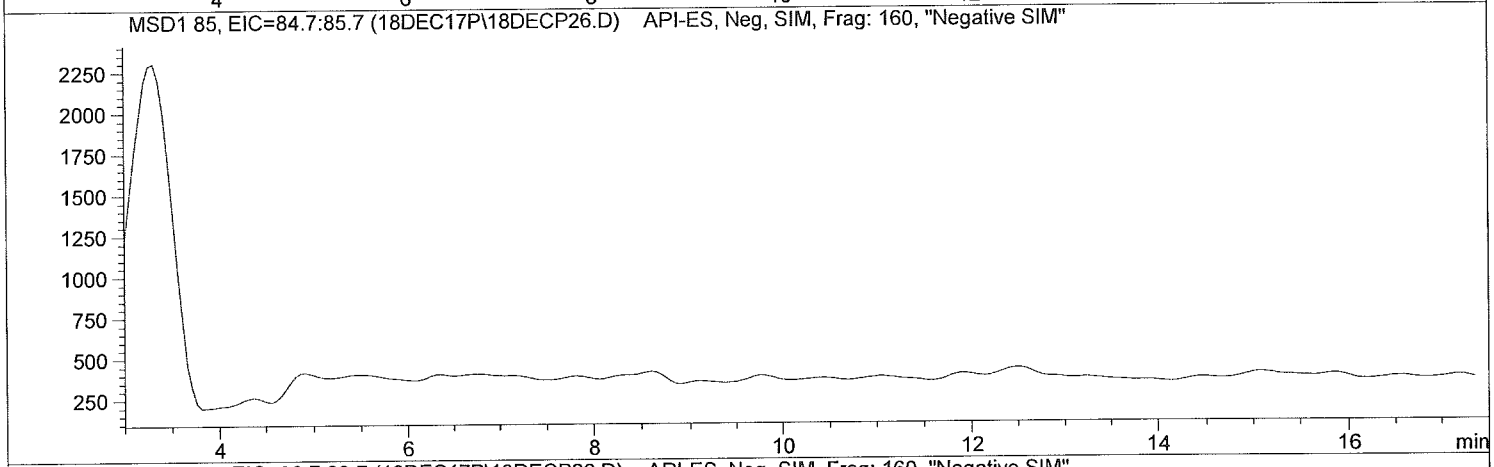
Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP26.D Sample Name: 1734528012

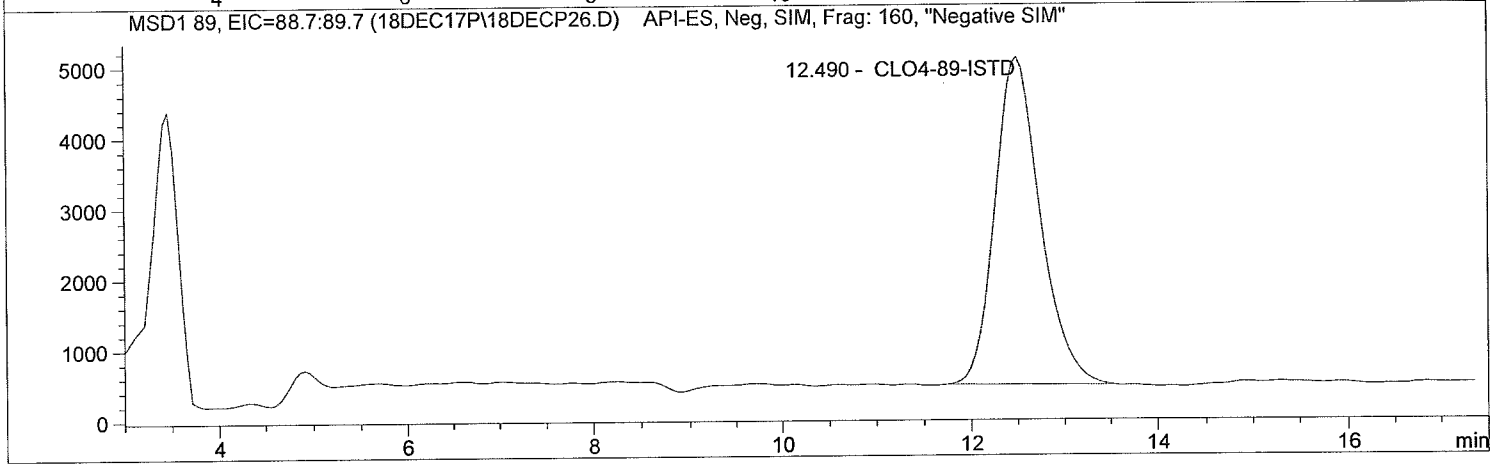
Injection Date:	12/18/2017 18:18:50	Seq Line:	26
Sample Name:	1734528012	Location:	Vial 92
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP26.D Sample Name: 1734528012

Injection Date:	12/18/2017 18:18:50	Seq Line:	26
Sample Name:	1734528012	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
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
12.490	BBA	156763.8	5.0000	CLO4-89-ISTD

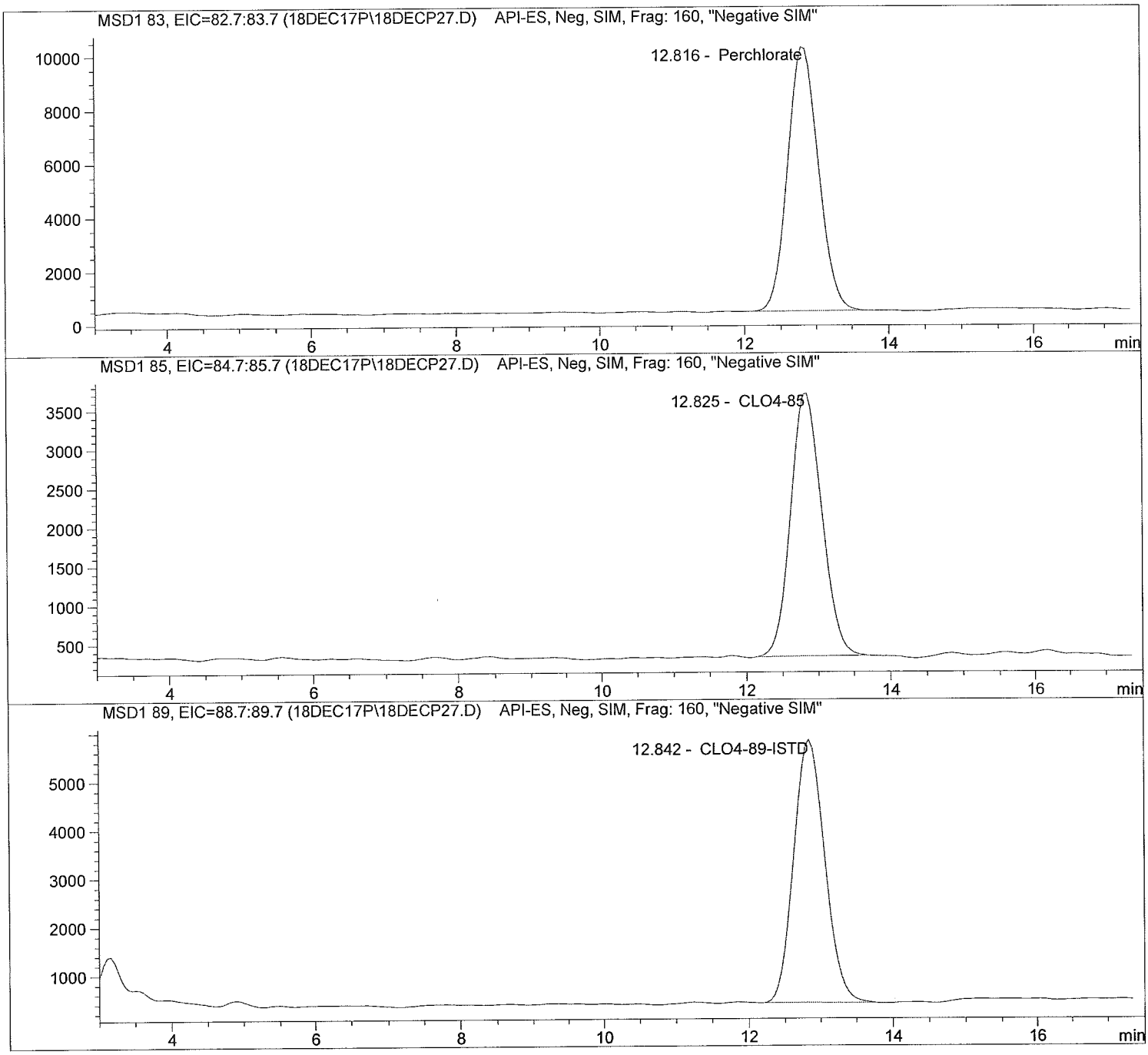
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP27.D Sample Name: 1734273001 1K

Injection Date:	12/18/2017 18:38:01	Seq Line:	27
Sample Name:	1734273001 1K	Location:	Vial 93
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP27.D Sample Name: 1734273001 1K

Injection Date:	12/18/2017 18:38:01	Seq Line:	27
Sample Name:	1734273001 1K	Location:	Vial 93
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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
12.816	BBA	296423.4	7998.9614	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.825	PBA	102865.2	8462.6531	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.842	PBA	165454.5	5000.0000	CLO4-89-ISTD

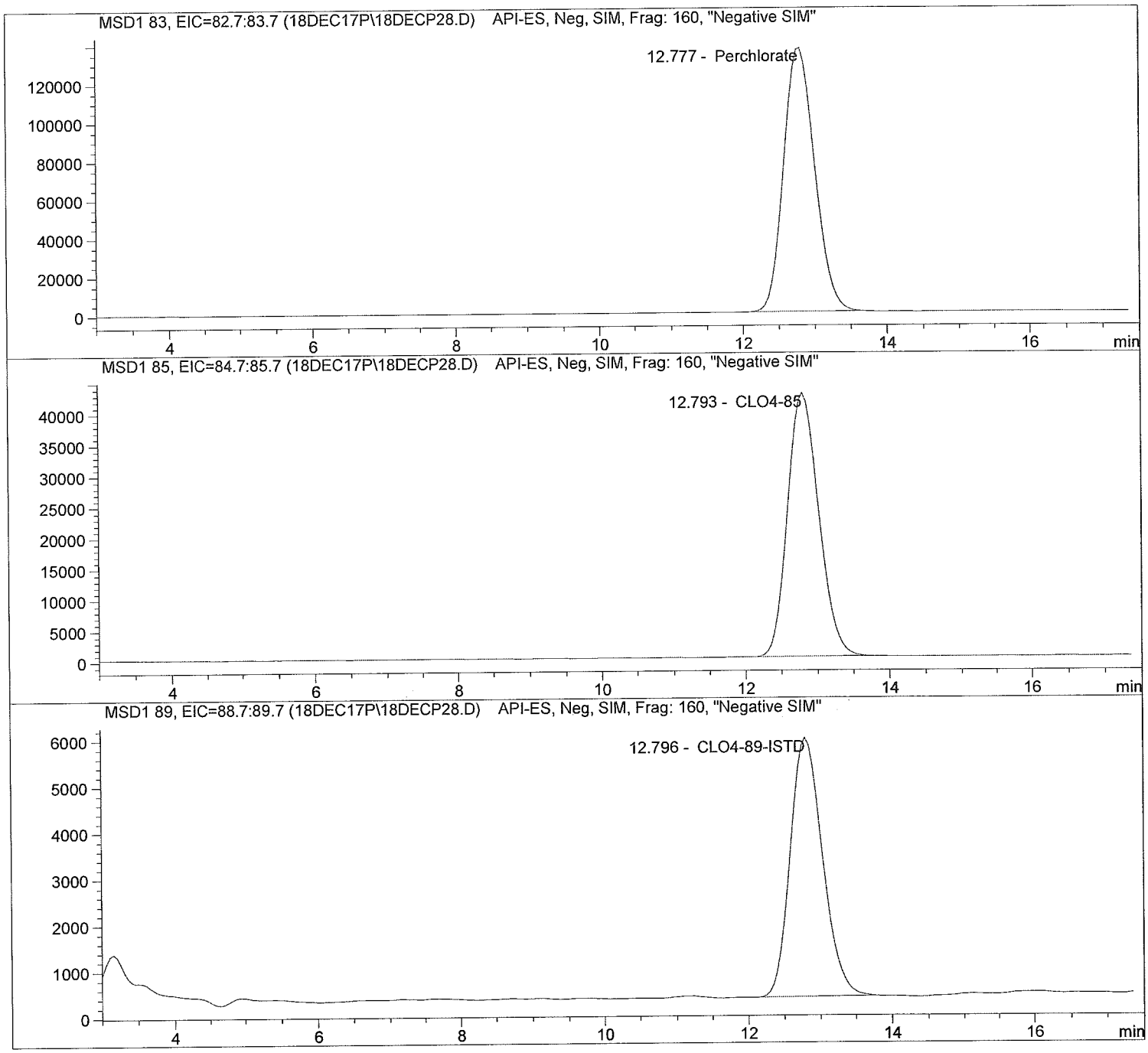
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP28.D Sample Name: 1734528004 1K

Injection Date:	12/18/2017 18:57:10	Seq Line:	28
Sample Name:	1734528004 1K	Location:	Vial 94
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP28.D Sample Name: 1734528004 1K

Injection Date:	12/18/2017 18:57:10	Seq Line:	28
Sample Name:	1734528004 1K	Location:	Vial 94
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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
12.777	BBA	4107968.5	77122.6692	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.793	PBA	1284860.0	79542.8295	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.796	PBA	175145.7	5000.0000	CLO4-89-ISTD

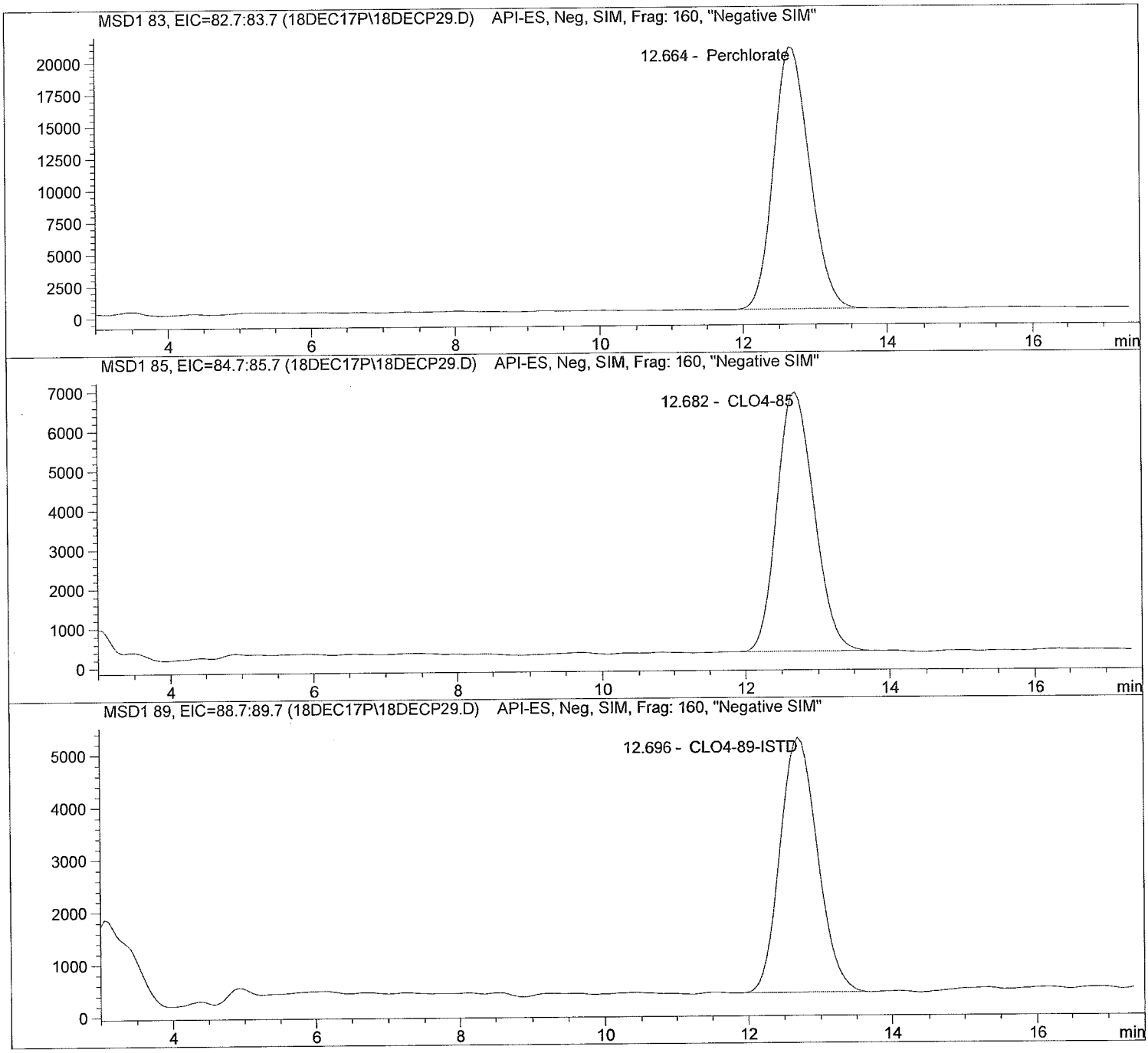
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP29.D Sample Name: 1734528005 10X

Injection Date:	12/18/2017 19:16:19	Seq Line:	29
Sample Name:	1734528005 10X	Location:	Vial 95
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP29.D Sample Name: 1734528005 10X

Injection Date:	12/18/2017 19:16:19	Seq Line:	29
Sample Name:	1734528005 10X	Location:	Vial 95
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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
12.664	PBA	703473.7	171.8032	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.682	BBA	233471.7	177.9980	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.696	PBA	174320.1	50.0000	CLO4-89-ISTD

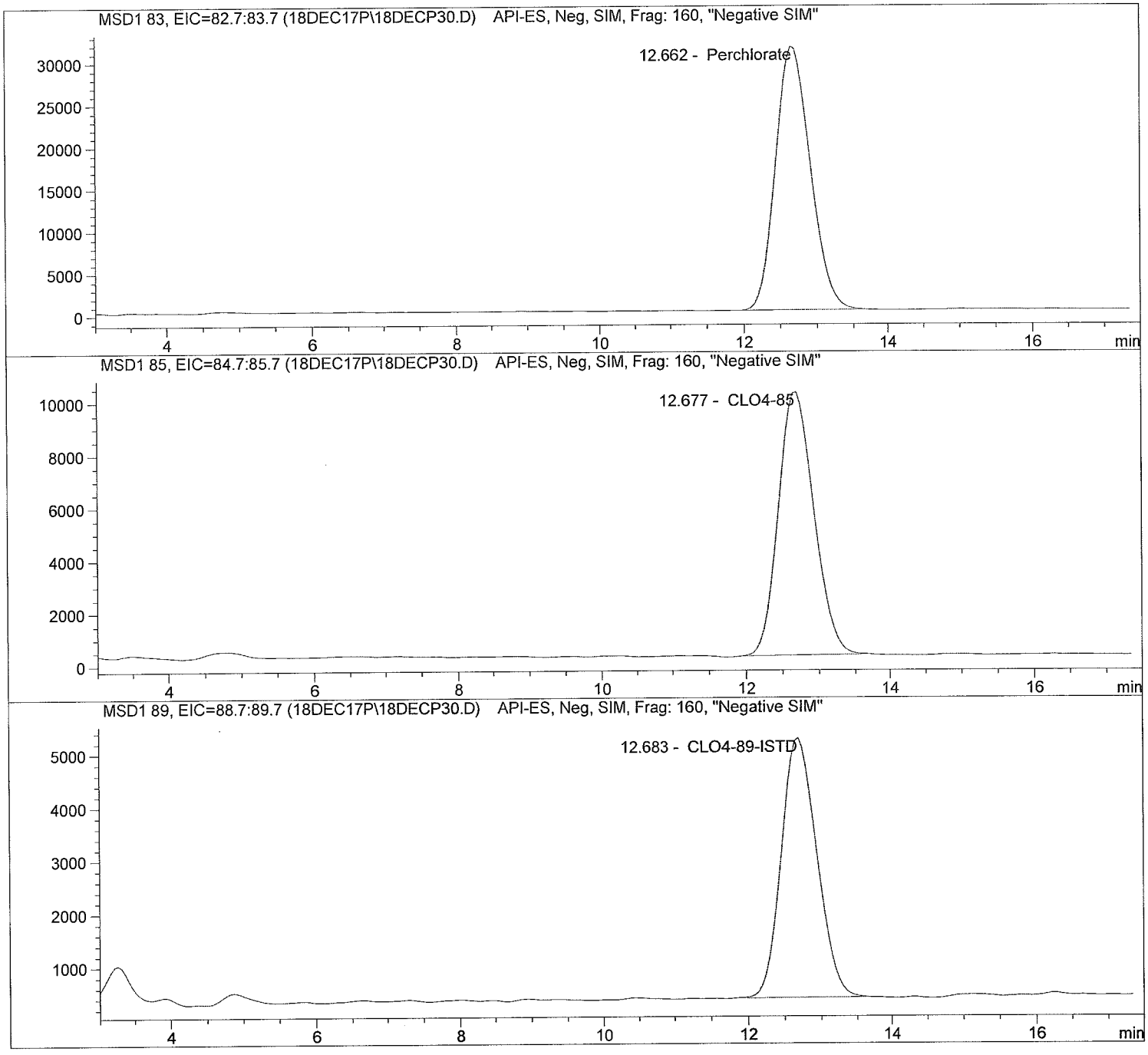
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP30.D Sample Name: 579522 CCV@25

Injection Date:	12/18/2017 19:35:27	Seq Line:	30
Sample Name:	579522 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\18DEC17P\18DECP30.D Sample Name: 579522 CCV@25

Injection Date:	12/18/2017 19:35:27	Seq Line:	30
Sample Name:	579522 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
12.662	PBA	1032842.7	25.6619	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.677	PBA	336885.3	26.4517	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.683	BBA	164442.1	5.0000	CLO4-89-ISTD

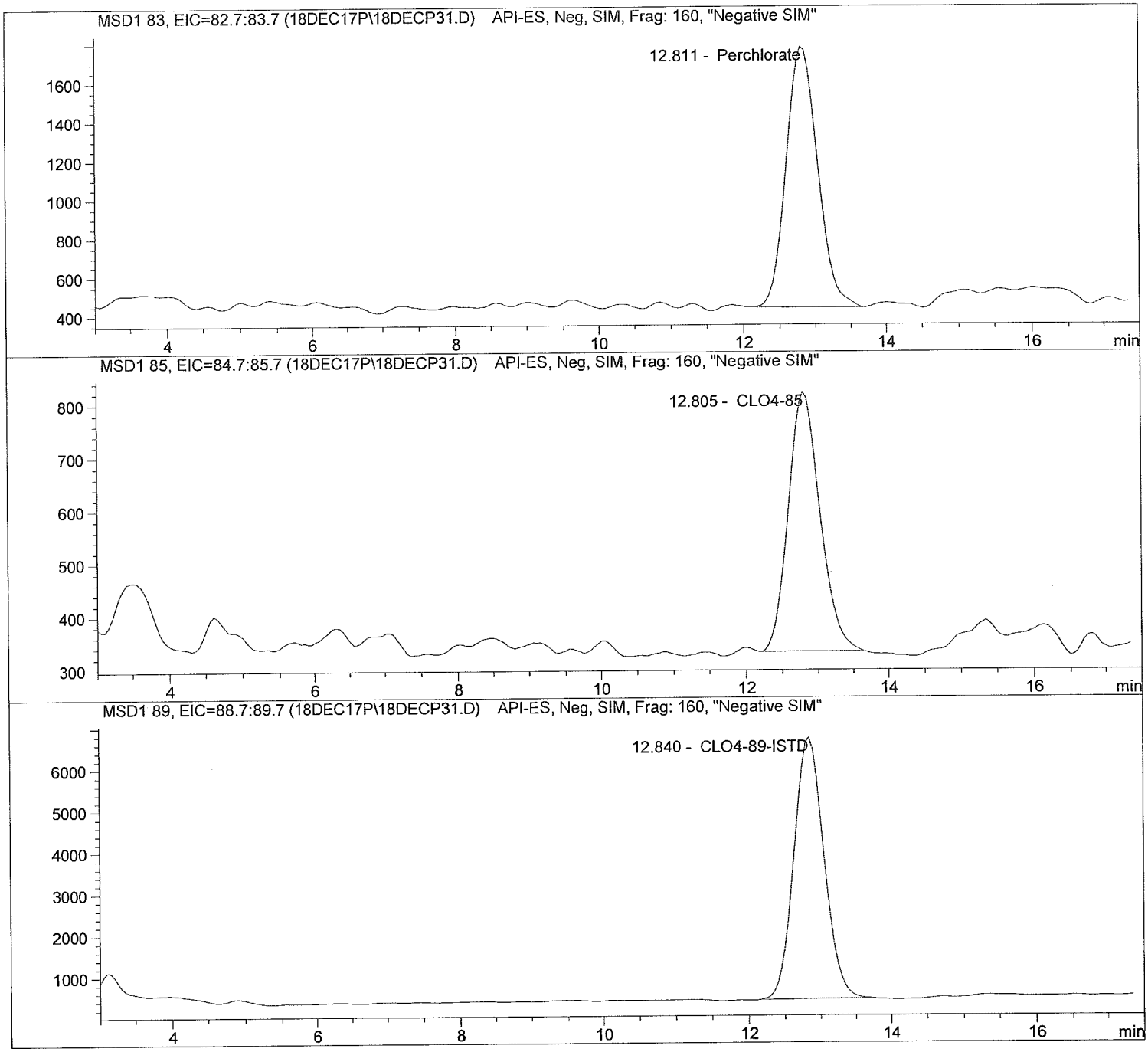
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP31.D Sample Name: 579523 LODV@1.

Injection Date:	12/18/2017 19:54:35	Seq Line:	31
Sample Name:	579523 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\18DEC17P\18DECP31.D Sample Name: 579523 LODV@1.

Injection Date:	12/18/2017 19:54:35	Seq Line:	31
Sample Name:	579523 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
12.811	BBA	41163.5	1.0531	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.805	BBA	15081.7	0.9679	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.840	PBA	184676.8	5.0000	CLO4-89-ISTD

*** End of Report ***

Sequence: C:\HPCHEM\1\SEQUENCE\CLO4\2017\DEC\20DEC17P.S

Sequence Table:

Method and Injection Info Part:

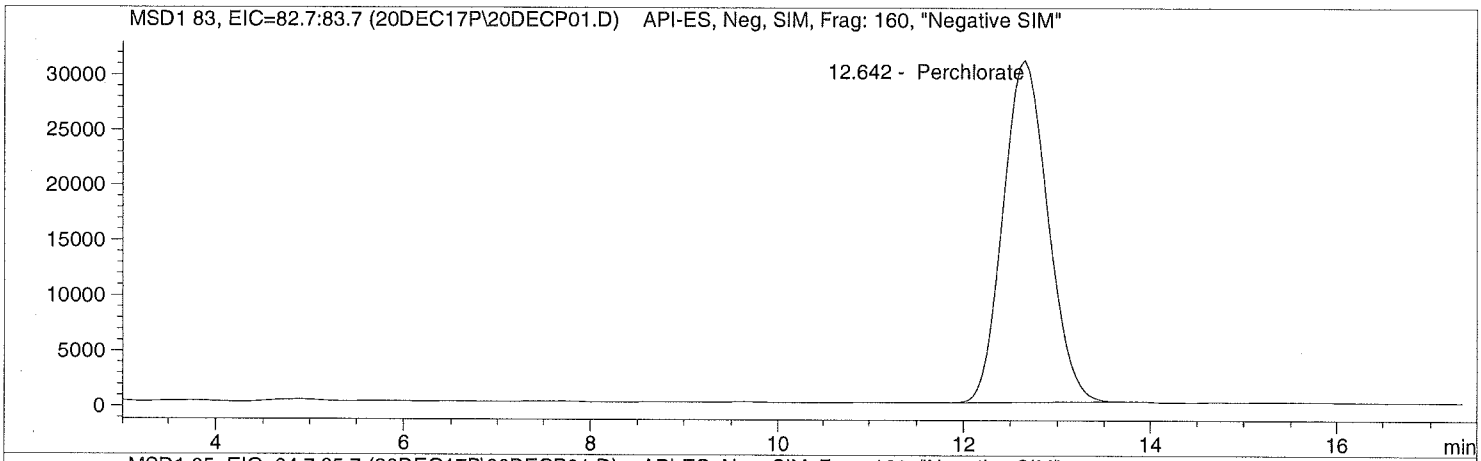
Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	580015 CCV@25	CLO4-DOD	1	Ctrl Samp		
2	Vial 96	1734528010 10X	CLO4-DOD	1	Sample		
3	Vial 97	1734528004 10K	CLO4-DOD	1	Sample		
4	Vial 98	1734528010 100	CLO4-DOD	1	Sample		
5	Vial 71	580016 CCV@25	CLO4-DOD	1	Ctrl Samp		

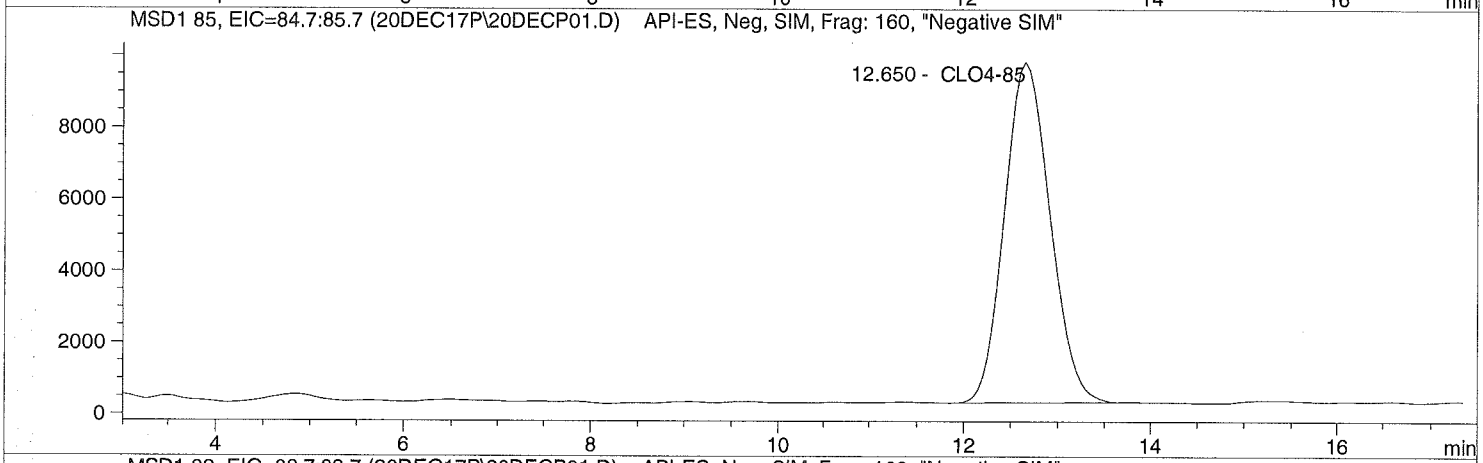
Data file: C:\HPCHEM\1\DATA\20DEC17P\20DECP01.D Sample Name: 580015 CCV@25

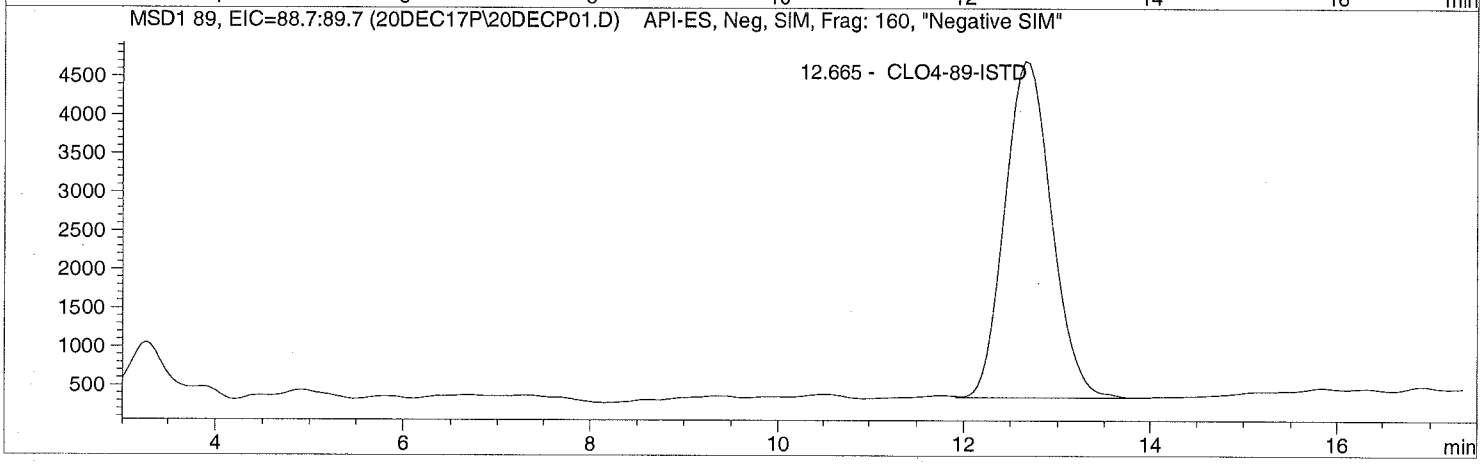
Injection Date:	12/20/2017 09:14:54	Seq Line:	1
Sample Name:	580015 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\20DEC17P\20DECP01.D Sample Name: 580015 CCV@25

Injection Date:	12/20/2017 09:14:54	Seq Line:	1
Sample Name:	580015 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
12.642	PBA	1018095.5	27.4129	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.650	PBA	319294.4	27.3136	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.665	BBA	150493.3	5.0000	CLO4-89-ISTD

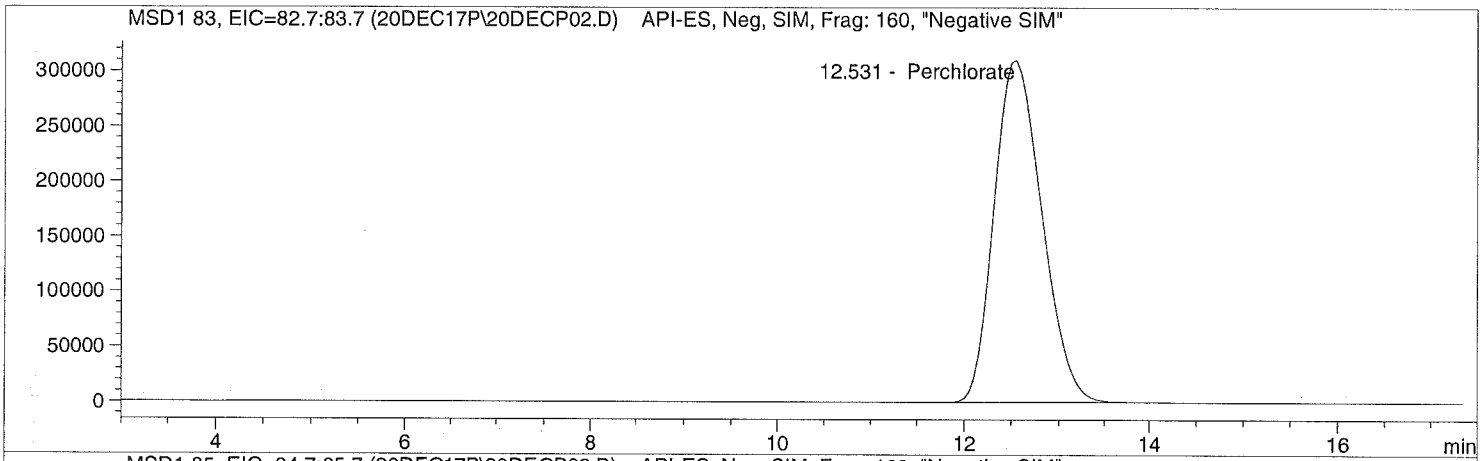
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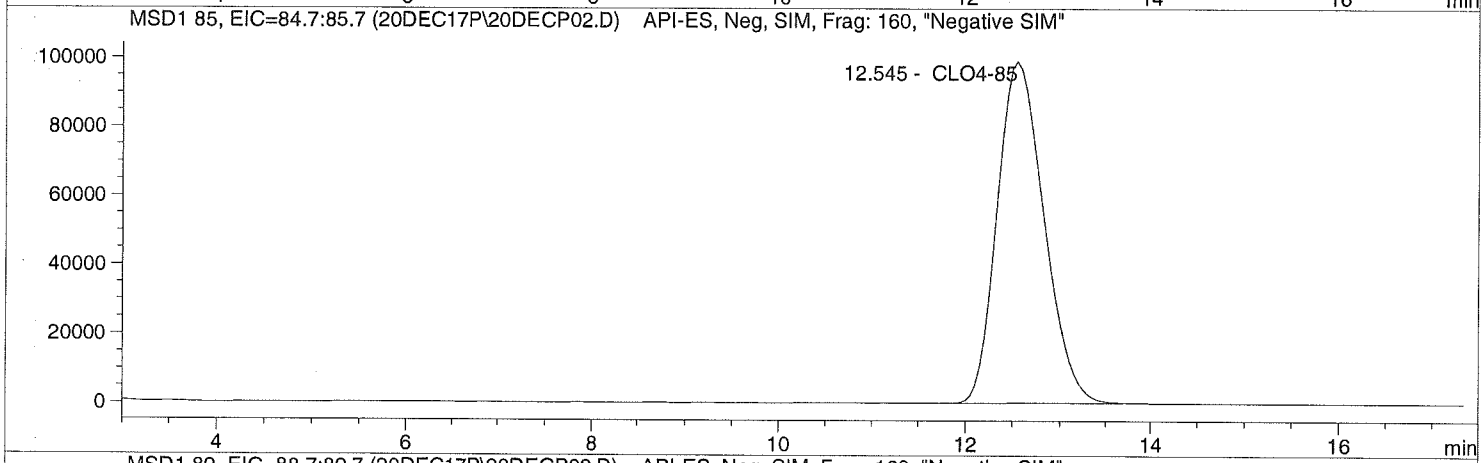
Data file: C:\HPCHEM\1\DATA\20DEC17P\20DECP02.D Sample Name: 1734528010 10X

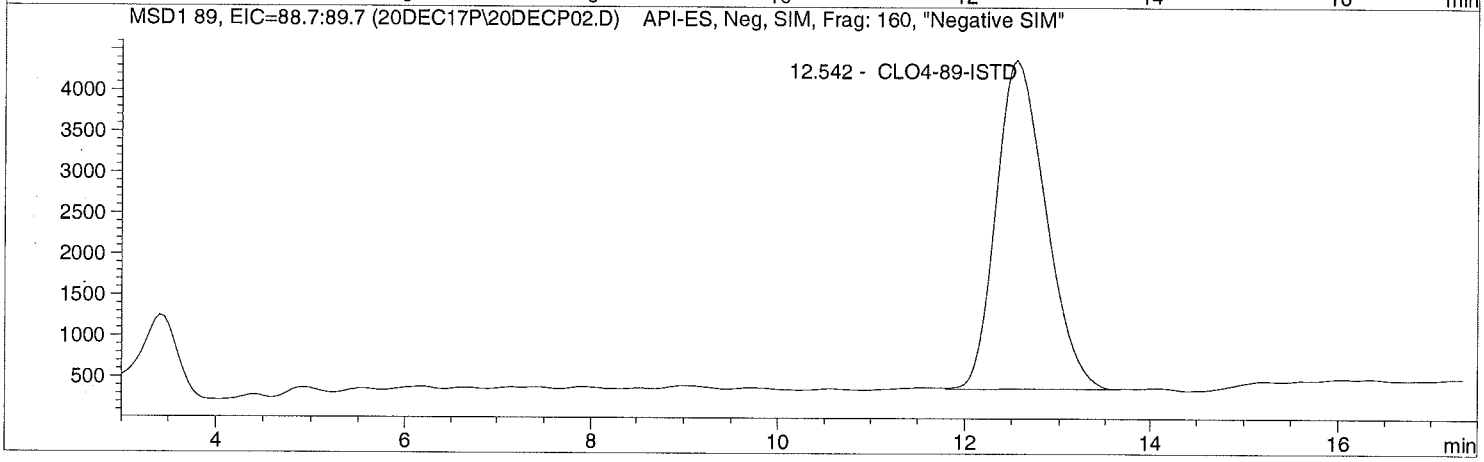
Injection Date:	12/20/2017 09:35:33	Seq Line:	2
Sample Name:	1734528010 10X	Location:	Vial 96
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\20DEC17P\20DECP02.D Sample Name: 1734528010 10X

Injection Date:	12/20/2017 09:35:33	Seq Line:	2
Sample Name:	1734528010 10X	Location:	Vial 96
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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
12.531	PBA	10844225.0	1772.1916	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.545	PBA	3380188.5	1881.8681	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.542	BBA	145913.5	50.0000	CLO4-89-ISTD

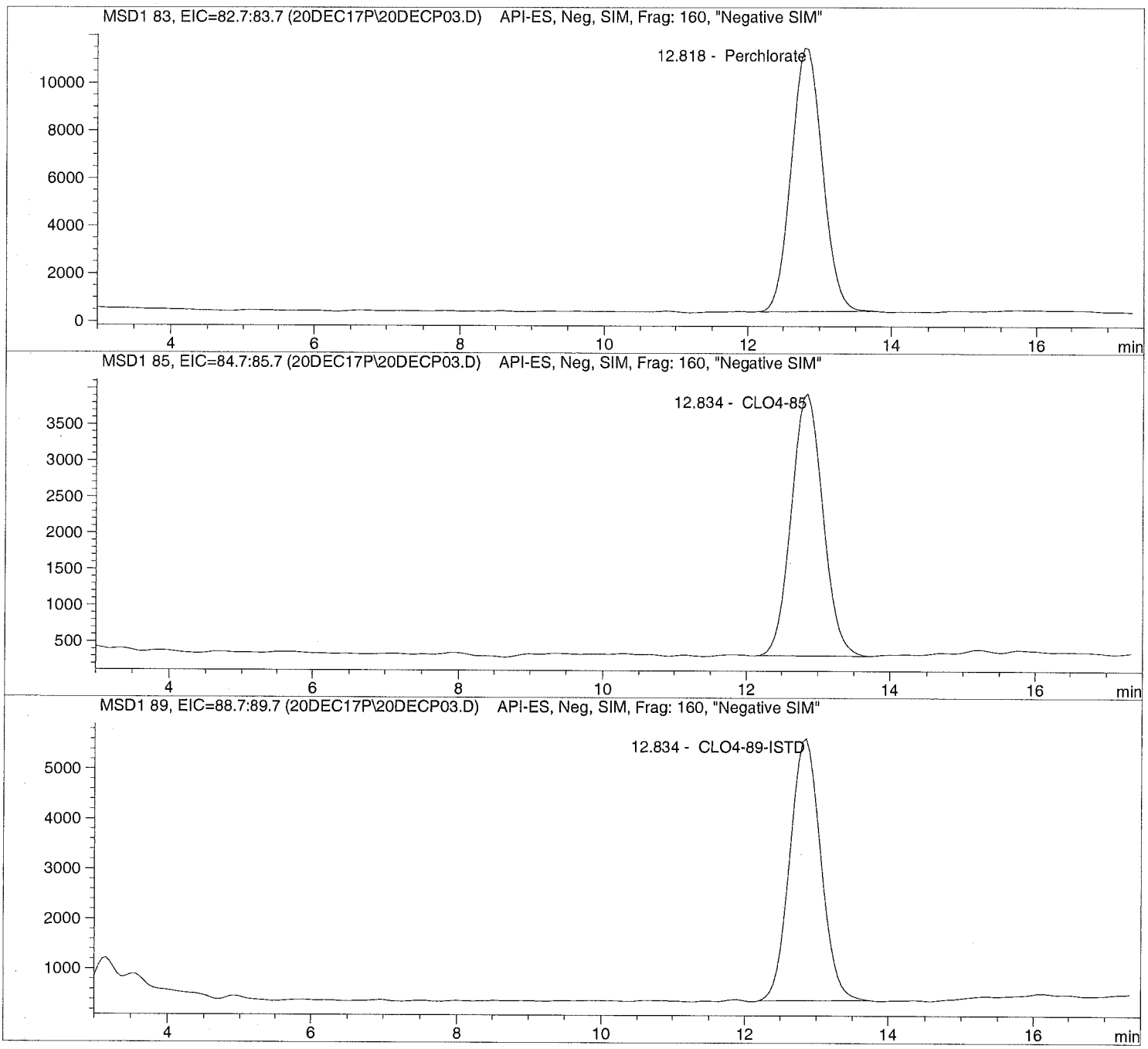
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Data file: C:\HPCHEM\1\DATA\20DEC17P\20DECP03.D Sample Name: 1734528004 10K

Injection Date:	12/20/2017 09:54:43	Seq Line:	3
Sample Name:	1734528004 10K	Location:	Vial 97
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\20DEC17P\20DECP03.D Sample Name: 1734528004 10K

Injection Date:	12/20/2017 09:54:43	Seq Line:	3
Sample Name:	1734528004 10K	Location:	Vial 97
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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
12.818	BBA	329575.6	93558.4549	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.834	PBA	109809.7	95583.1366	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.834	BBA	156124.6	50000.0000	CLO4-89-ISTD

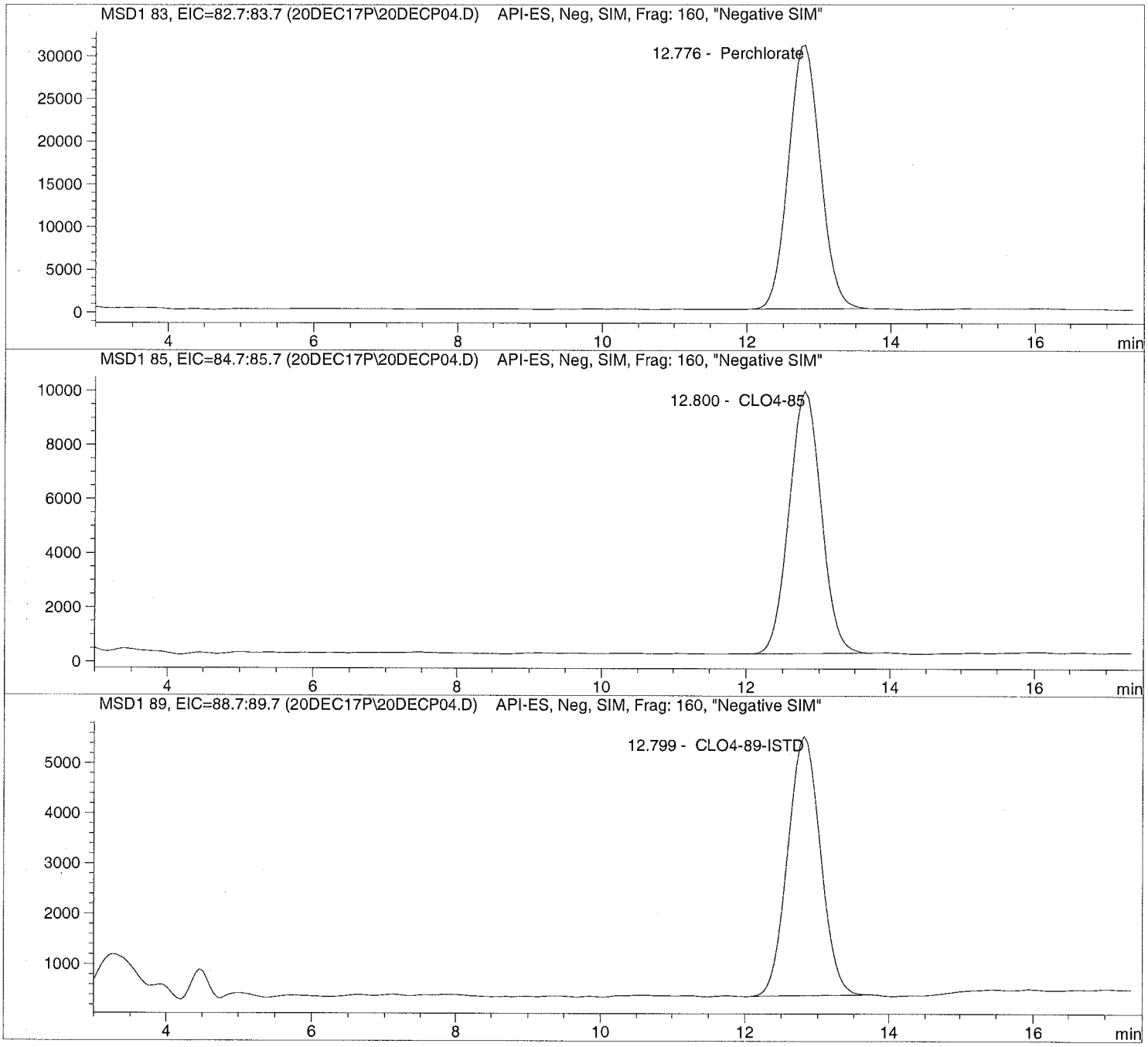
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\20DEC17P\20DECP04.D Sample Name: 1734528010 100

Injection Date:	12/20/2017 10:13:52	Seq Line:	4
Sample Name:	1734528010 100	Location:	Vial 98
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\20DEC17P\20DECP04.D Sample Name: 1734528010 100

Injection Date:	12/20/2017 10:13:52	Seq Line:	4
Sample Name:	1734528010 100	Location:	Vial 98
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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
12.776	BBA	933493.1	2386.9013	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.800	PBA	295219.5	2386.2180	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.799	PBA	161157.0	500.0000	CLO4-89-ISTD

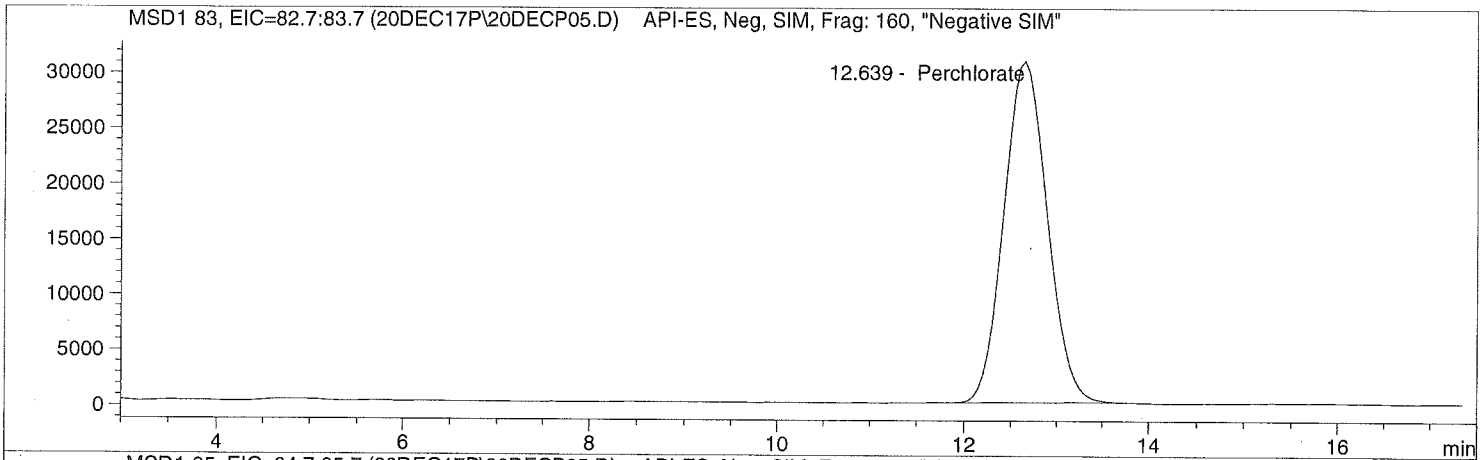
*** End of Report ***

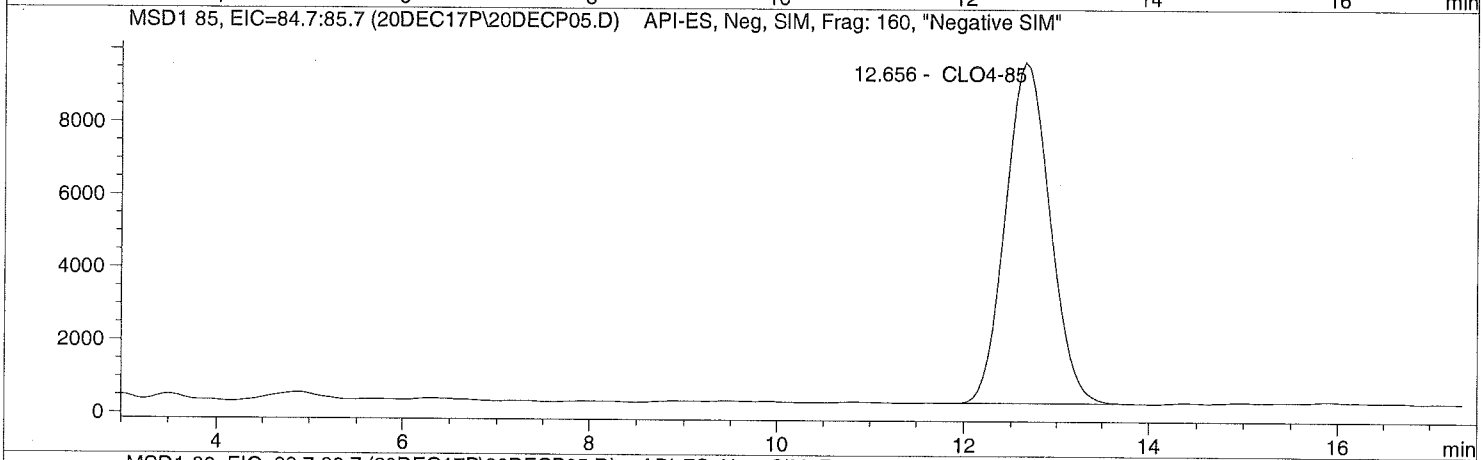
Data file: C:\HPCHEM\1\DATA\20DEC17P\20DECP05.D Sample Name: 580016 CCV@25

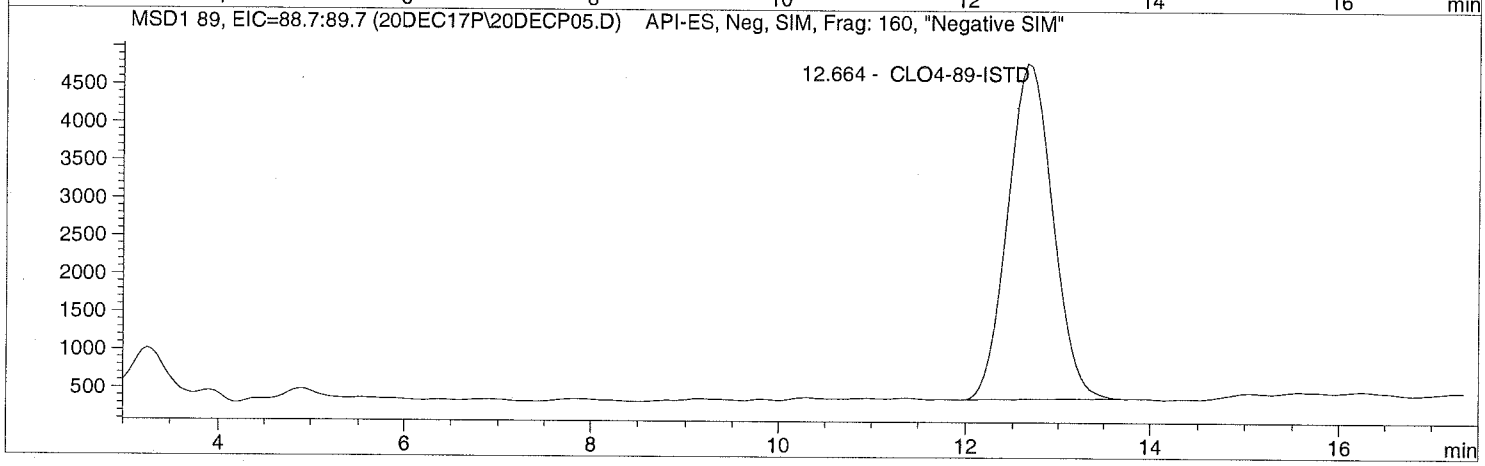
Injection Date:	12/20/2017 10:40:30	Seq Line:	5
Sample Name:	580016 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\20DEC17P\20DECP05.D Sample Name: 580016 CCV@25

Injection Date:	12/20/2017 10:40:30	Seq Line:	5
Sample Name:	580016 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
12.639	BBA	1013571.4	27.1410	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.656	PBA	316516.8	26.9282	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.664	PBA	151519.0	5.0000	CLO4-89-ISTD

*** End of Report ***

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Raw Data

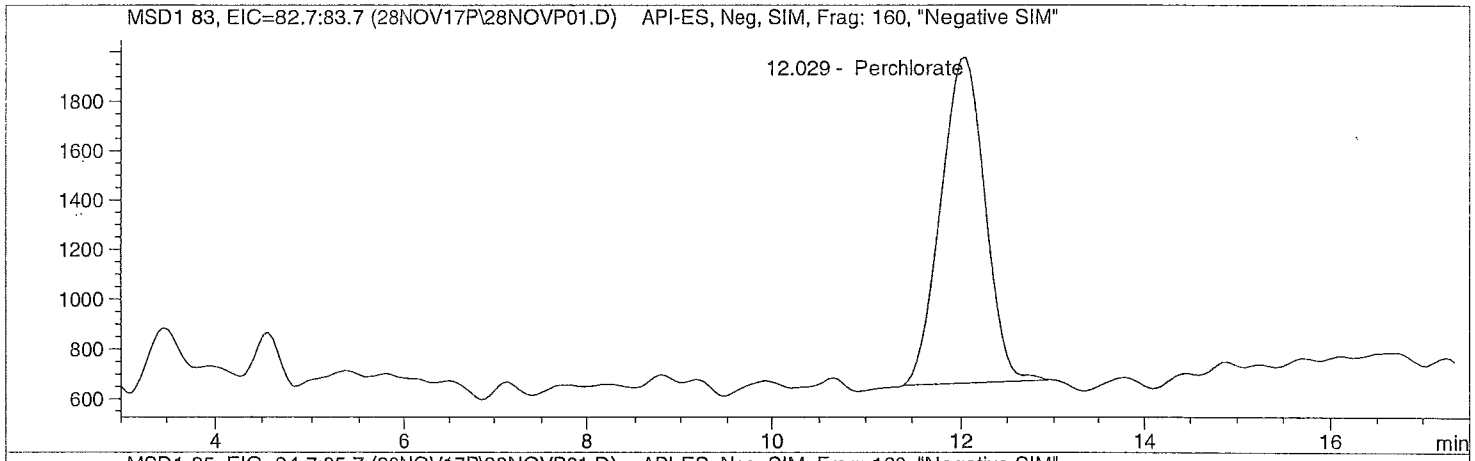
Unmodified

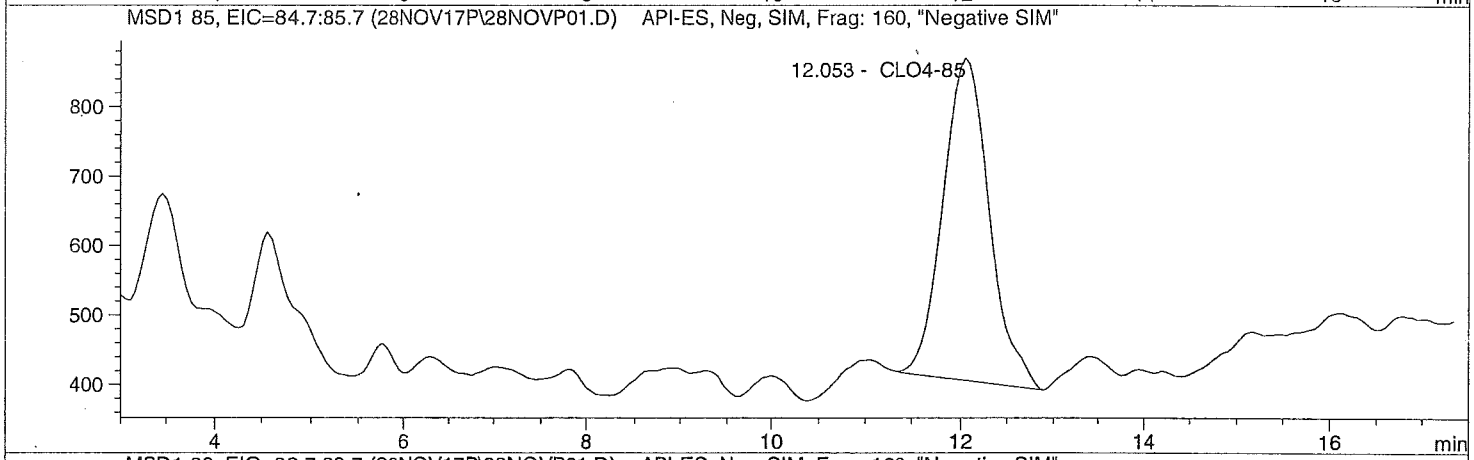
Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP01.D Sample Name: ICAL1@ 1.0ug/L

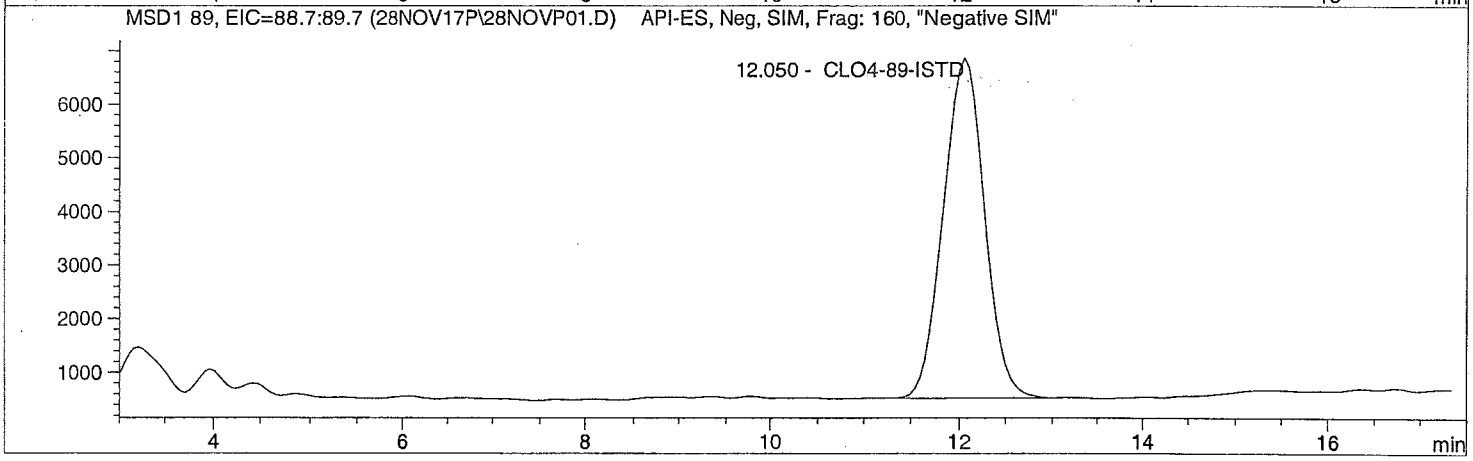
Injection Date:	11/28/2017 09:08:10	Seq Line:	1
Sample Name:	ICAL1@ 1.0ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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

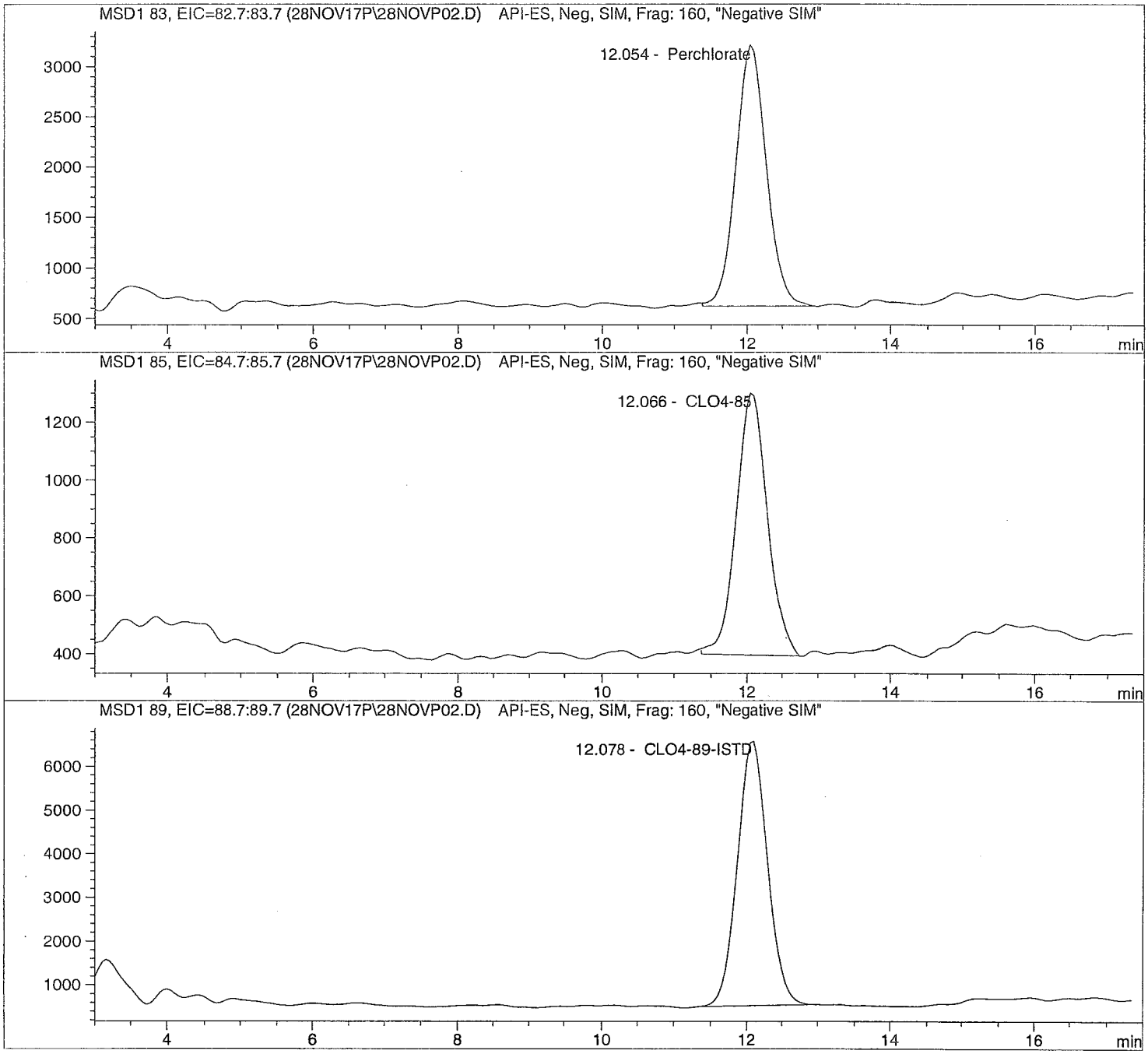
*** End of Report ***

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

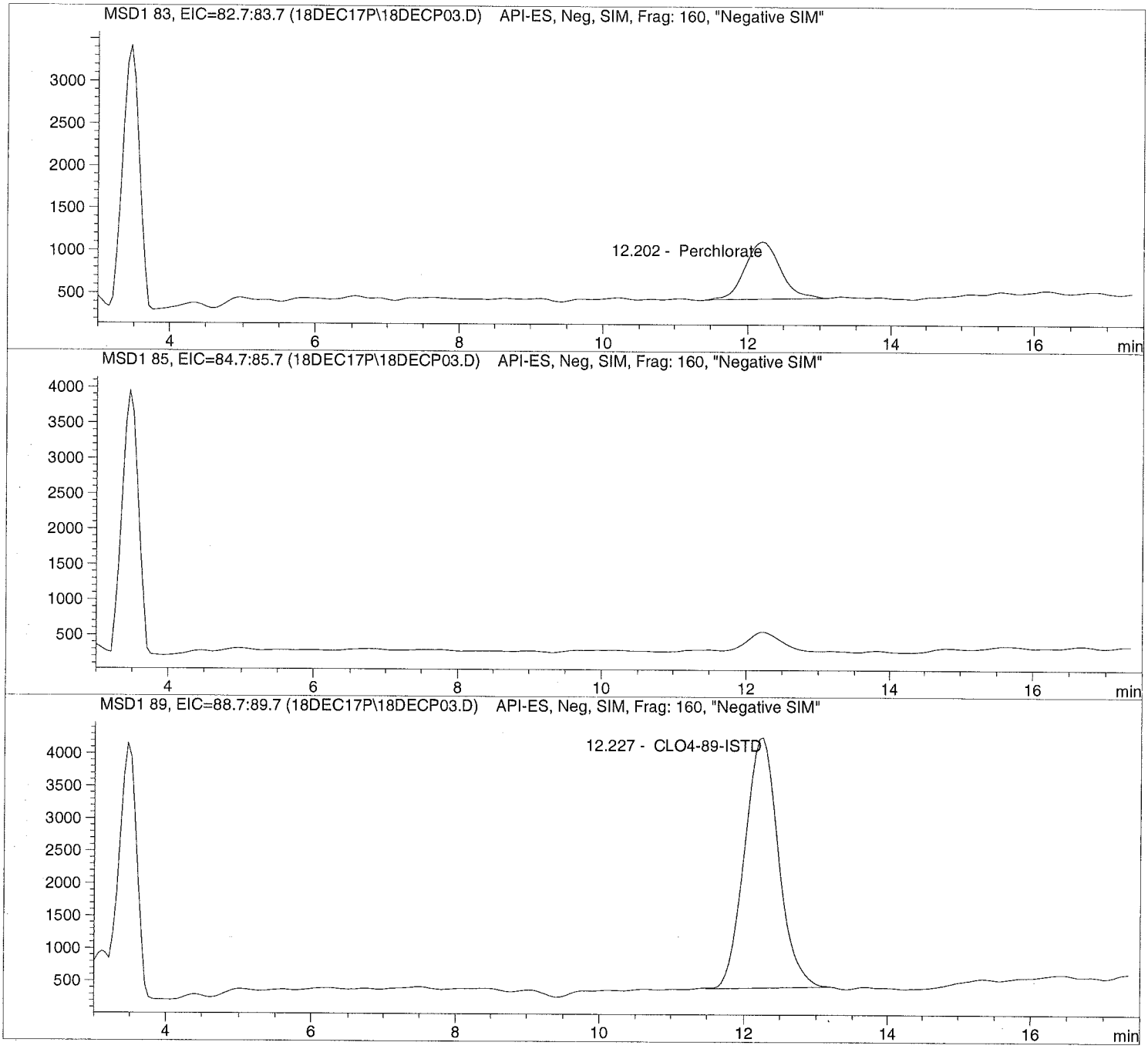
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP03.D Sample Name: 579515 ICS@1.

Injection Date:	12/18/2017 09:39:00	Seq Line:	3
Sample Name:	579515 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\18DEC17P\18DECP03.D Sample Name: 579515 ICS@1.

Injection Date:	12/18/2017 09:39:00	Seq Line:	3
Sample Name:	579515 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
12.202	PBA	22893.8	0.8658	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
12.227	BBA	125694.8	5.0000	CLO4-89-ISTD

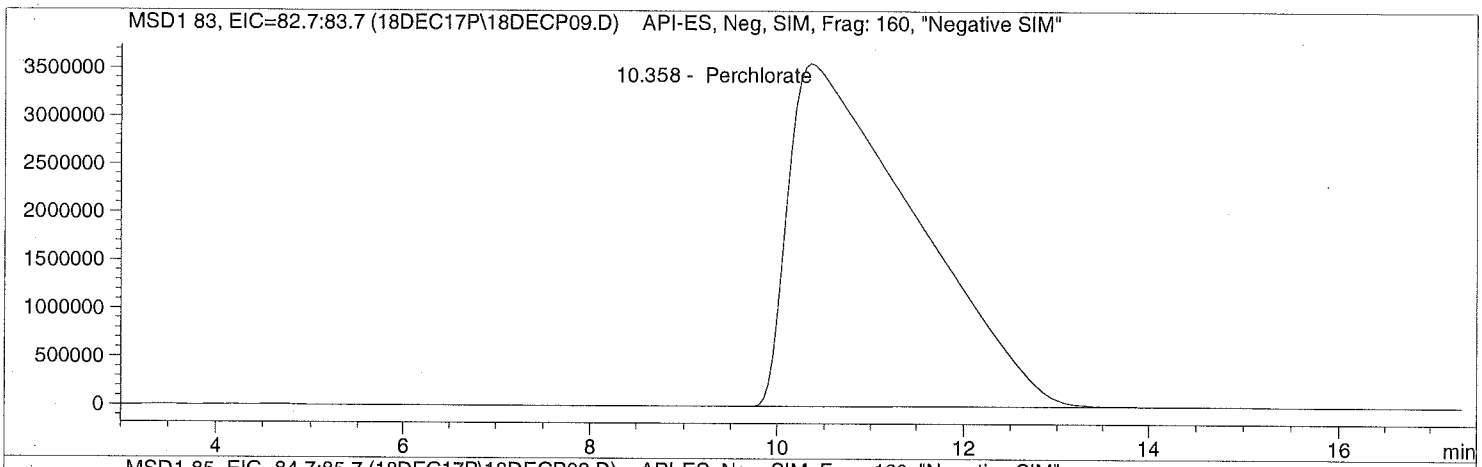
*** End of Report ***

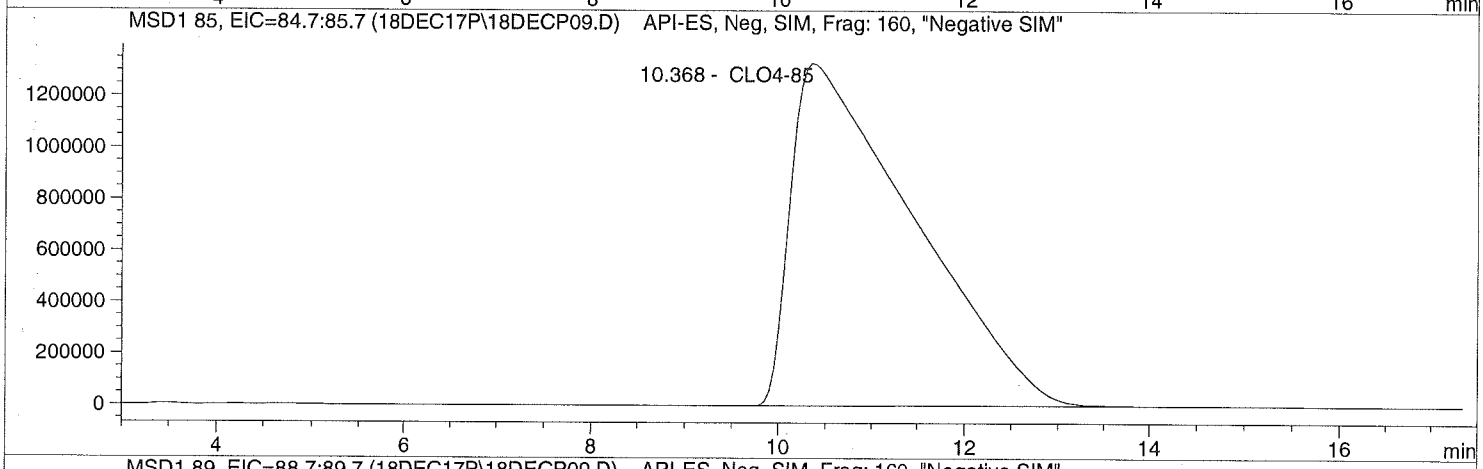
Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP09.D Sample Name: 1734273001

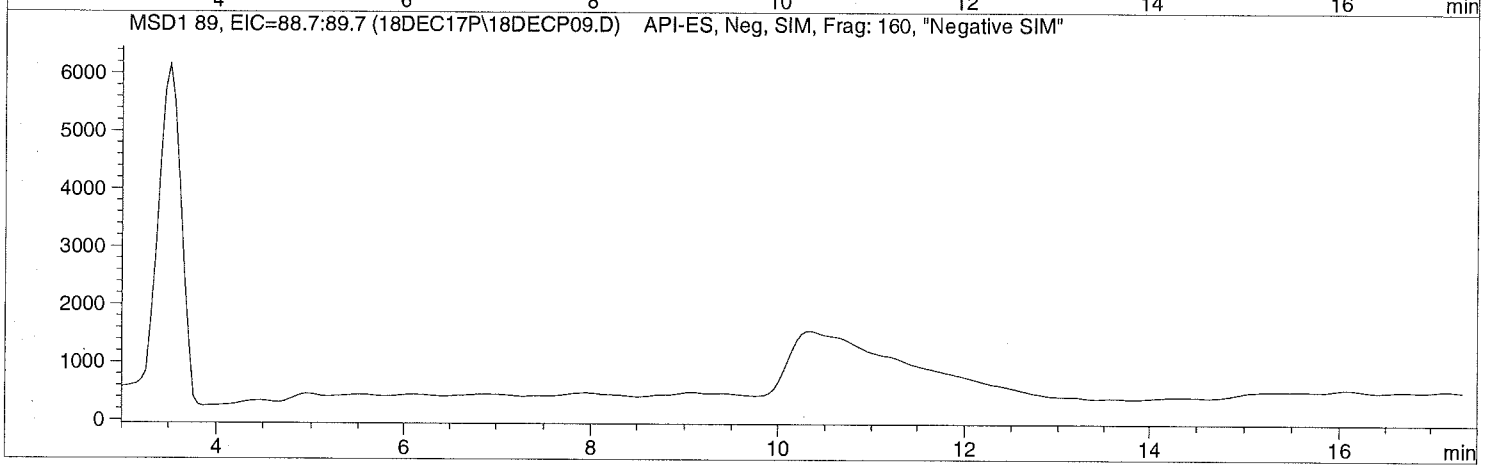
Injection Date:	12/18/2017 11:36:53	Seq Line:	9
Sample Name:	1734273001	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP09.D Sample Name: 1734273001

Injection Date:	12/18/2017 11:36:53	Seq Line:	9
Sample Name:	1734273001	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.358	PBA	334489216.0	0.0243	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.368	PBA	121188464.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-89-ISTD

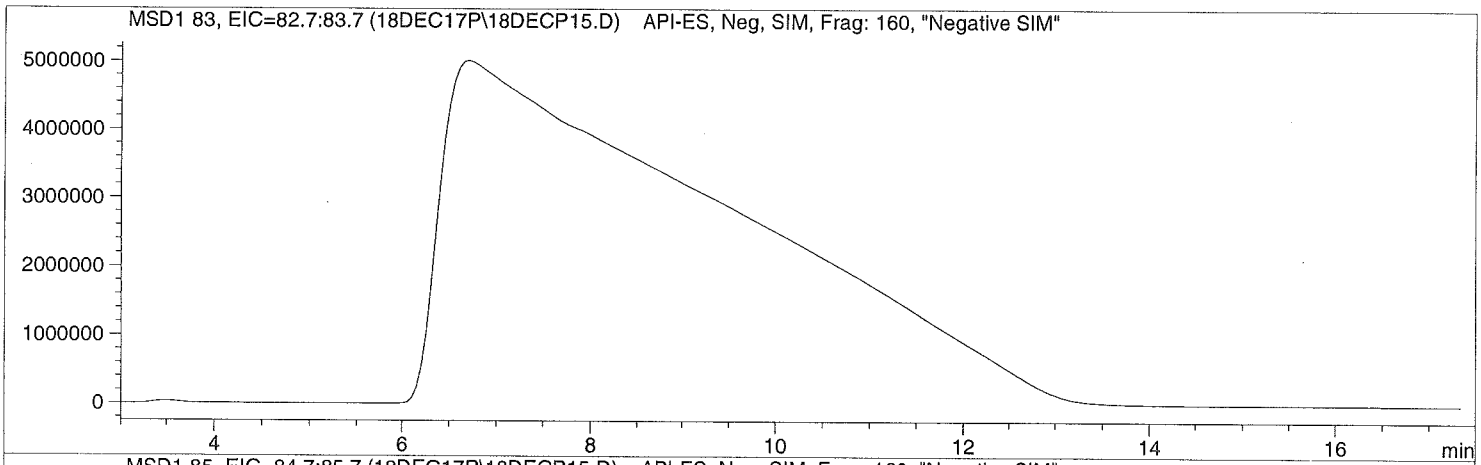
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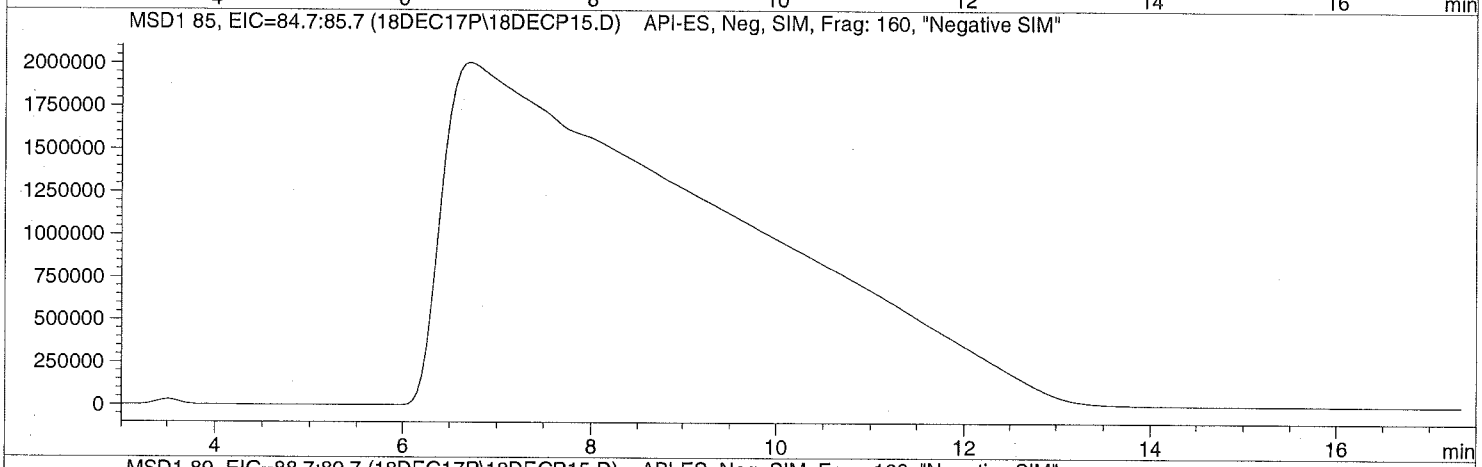
Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP15.D Sample Name: 1734528004

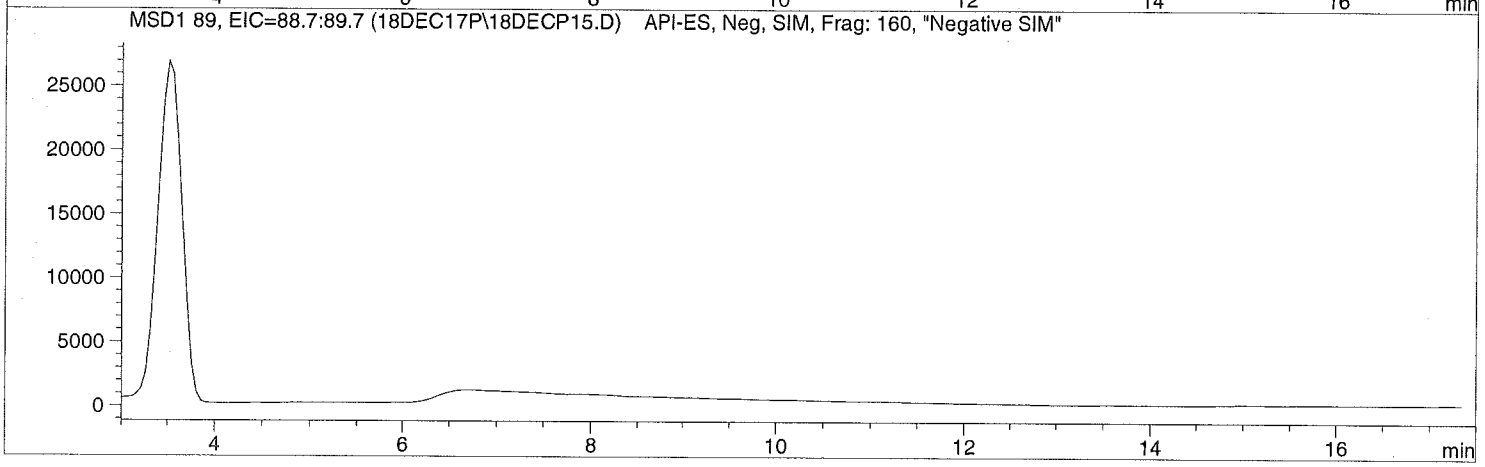
Injection Date:	12/18/2017 13:31:48	Seq Line:	15
Sample Name:	1734528004	Location:	Vial 84
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

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\18DEC17P\18DECP15.D Sample Name: 1734528004

Injection Date:	12/18/2017 13:31:48	Seq Line:	15
Sample Name:	1734528004	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
0.000		0.0	0.0000	CLO4-89-ISTD

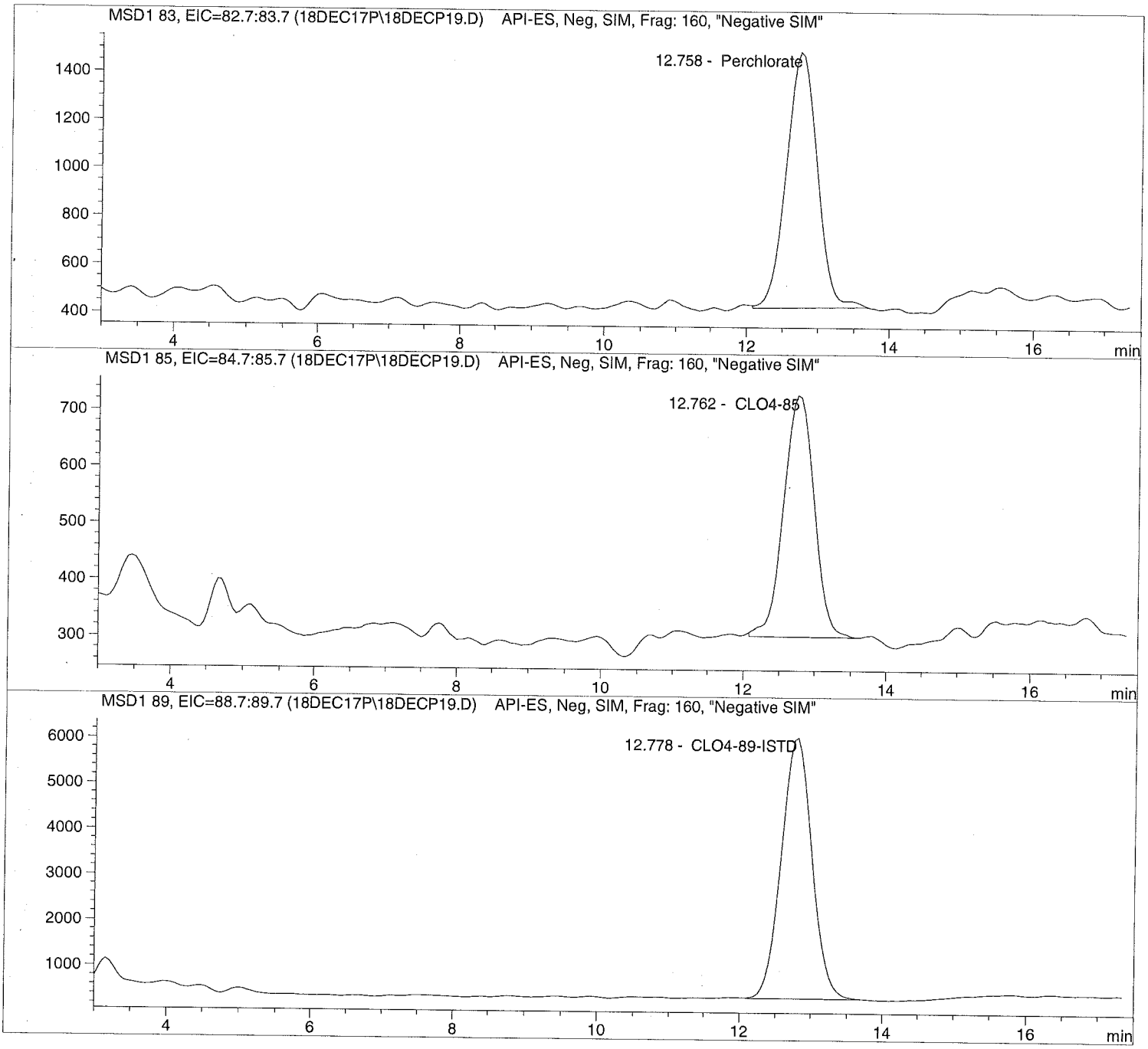
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\18DEC17P\18DECP19.D Sample Name: 579521 LODV@1.

Injection Date:	12/18/2017 16:02:52	Seq Line:	19
Sample Name:	579521 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\18DEC17P\18DECP19.D Sample Name: 579521 LODV@1.

Injection Date:	12/18/2017 16:02:52	Seq Line:	19
Sample Name:	579521 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
12.758	BBA	32129.8	0.8893	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.762	BBA	12832.9	0.8695	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.778	BBA	171597.3	5.0000	CLO4-89-ISTD

*** End of Report ***

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WorkOrder: HS17120746

Longhorn GW Treatment Plant Weekly Samples

Bhate Environmental Associates, Inc.

Marcia Olive
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Lakewood CO 80228

08-Jan-2018

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January 02, 2018

Marcia Olive
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445 Union Blvd Ste 129
Lakewood, CO 80228

Work Order: **HS17120746**

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

Dear Marcia,

ALS Environmental received 1 sample(s) on Dec 14, 2017 for the analysis presented in the following report.

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

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

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

Sincerely,

Sonia West

Generated By: Jumoke.Lawal
Sonia West
Project Manager

ALS Group USA, Corp Date: 02-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS17120746

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS17120746-01	LH18/24-SP650_121317	Water		13-Dec-2017 14:00	14-Dec-2017 09:00	☐

ALS Group USA, Corp Date: 02-Jan-18

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS17120746

Work Order Comments

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

Subcontracted by Method NA

Batch ID: R308041

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

WetChemistry by Method E415.1

Batch ID: R308280

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

WetChemistry by Method E365.3

Batch ID: R307348

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

WetChemistry by Method E350.3

Batch ID: R307285

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

ALS Group USA, Corp Date: 02-Jan-18

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS17120746
Sample ID: LH18/24-SP650_121317
Lab ID:HS17120746-01
Collection Date: 13-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: KMU
Nitrogen, Ammonia (As N)	**12**		**0.20**	**0.20**	**0.20**	**mg/L**	1	14-Dec-2017 13:30
ORTHO PHOSPHATE (PO4) AS P BY E365.3		**Method:E365.3**						Analyst: JHD
Phosphorus, Total Orthophosphate (As P)	**2.24**		**0.100**	**0.125**	**0.250**	**mg/L**	10	15-Dec-2017 13:35
TOTAL ORGANIC CARBON BY E415.1		**Method:E415.1**						Analyst: KMU
Organic Carbon, Total	**27.7**		**0.500**	**0.500**	**1.00**	**mg/L**	1	02-Jan-2018 12:34
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	28-Dec-2017 10:59

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

ALS Group USA, Corp Date: 02-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS17120746

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R307285	**Test Name :** AMMONIA AS N BY E350.3(ISE)			**Matrix:** Water		
HS17120746-01	LH18/24-SP650_121317	13 Dec 2017 14:00			14 Dec 2017 13:30	1
Batch ID R307348	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3			**Matrix:** Water		
HS17120746-01	LH18/24-SP650_121317	13 Dec 2017 14:00			15 Dec 2017 13:35	10
Batch ID R308041	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)			**Matrix:** Water		
HS17120746-01	LH18/24-SP650_121317	13 Dec 2017 14:00			28 Dec 2017 10:59	1
Batch ID R308280	**Test Name :** TOTAL ORGANIC CARBON BY E415.1			**Matrix:** Water		
HS17120746-01	LH18/24-SP650_121317	13 Dec 2017 14:00			02 Jan 2018 12:34	1

ALS Group USA, Corp Date: 02-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS17120746

QC BATCH REPORT

Batch ID: R307285 **Instrument: WetChem_HS** **Method: E350.3**

MBLK Sample ID: **MBLK-R307285** Units: **mg/L** Analysis Date: **14-Dec-2017 13:30**
Client ID: Run ID: **WetChem_HS_307285** SeqNo: **4352461** 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-R307285** Units: **mg/L** Analysis Date: **14-Dec-2017 13:30**
Client ID: Run ID: **WetChem_HS_307285** SeqNo: **4352460** 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)	9.883	0.20	10	0	98.8	80 - 120				

MS Sample ID: **HS17120367-01MS** Units: **mg/L** Analysis Date: **14-Dec-2017 13:30**
Client ID: Run ID: **WetChem_HS_307285** SeqNo: **4352463** 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)	25.91	0.20	10	15.44	105	80 - 120				

MSD Sample ID: **HS17120367-01MSD** Units: **mg/L** Analysis Date: **14-Dec-2017 13:30**
Client ID: Run ID: **WetChem_HS_307285** SeqNo: **4352462** 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)	25.71	0.20	10	15.44	103	80 - 120	25.91	0.775	20	

The following samples were analyzed in this batch: HS17120746-01

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

ALS Group USA, Corp Date: 02-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS17120746

QC BATCH REPORT

Batch ID: R307348 **Instrument: UV-2450** **Method: E365.3**

MBLK Sample ID: **MBLK-307348** Units: **mg/L** Analysis Date: **15-Dec-2017 13:35**
Client ID: Run ID: **UV-2450_307348** SeqNo: **4354024** 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-307348** Units: **mg/L** Analysis Date: **15-Dec-2017 13:35**
Client ID: Run ID: **UV-2450_307348** SeqNo: **4354025** 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)	0.256	0.0250	0.25	0	102	80 - 120				

LCSD Sample ID: **LCSD-307348** Units: **mg/L** Analysis Date: **15-Dec-2017 13:35**
Client ID: Run ID: **UV-2450_307348** SeqNo: **4354026** 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)	0.255	0.0250	0.25	0	102	80 - 120	0.256	0.391	20	

MS Sample ID: **HS17120746-01MS** Units: **mg/L** Analysis Date: **15-Dec-2017 13:35**
Client ID: **LH18/24-SP650_121317** Run ID: **UV-2450_307348** SeqNo: **4354028** 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)	4.7	0.250	2.5	2.24	98.4	80 - 120				

MSD Sample ID: **HS17120746-01MSD** Units: **mg/L** Analysis Date: **15-Dec-2017 13:35**
Client ID: **LH18/24-SP650_121317** Run ID: **UV-2450_307348** SeqNo: **4354029** 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)	4.79	0.250	2.5	2.24	102	80 - 120	4.7	1.9	20	

The following samples were analyzed in this batch: HS17120746-01

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

ALS Group USA, Corp Date: 02-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS17120746

QC BATCH REPORT

Batch ID: R308280 **Instrument: TOC_02** **Method: E415.1**

MBLK Sample ID: **WBLKW1-010218** Units: **mg/L** Analysis Date: **02-Jan-2018 11:11**
Client ID: Run ID: **TOC_02_308280** SeqNo: **4376484** 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: **WLCSW1-010218** Units: **mg/L** Analysis Date: **02-Jan-2018 11:24**
Client ID: Run ID: **TOC_02_308280** SeqNo: **4376485** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.86	1.00	10	0	109	80 - 120				

LCSD Sample ID: **WLCSDW1-010218** Units: **mg/L** Analysis Date: **02-Jan-2018 11:37**
Client ID: Run ID: **TOC_02_308280** SeqNo: **4376486** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.58	1.00	10	0	106	80 - 120	10.86	2.61	20	

MS Sample ID: **HS17120770-01MS** Units: **mg/L** Analysis Date: **02-Jan-2018 13:04**
Client ID: Run ID: **TOC_02_308280** SeqNo: **4376489** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	20.31	1.00	10	11.62	86.9	80 - 120				

The following samples were analyzed in this batch: HS17120746-01

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

ALS Group USA, Corp Date: 02-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: **HS17120746**

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

ALS Group USA, Corp Date: 02-Jan-18

Sample Receipt Checklist

Client Name: Bhate Environmental
Work Order: HS17120746
Date/Time Received: **14-Dec-2017 09:00**
Received by: **JRM**

Checklist completed by: *Cesar A. Lira* eSignature 14-Dec-2017 Date
Reviewed by: *Sonia West* eSignature 15-Dec-2017 Date

Matrices: **WATER**
Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.7C/2.0C UC/C	IR25	
Cooler(s)/Kit(s):	43052		
Date/Time sample(s) sent to storage:	12/14/2017 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

HS17120746

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_121317	Water	12/13/17 / 14:00		2	X	X									H2SO4	
LH18/24-SP650_121317	Water	12/13/17 / 14:00		2			X	X							NONE	

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

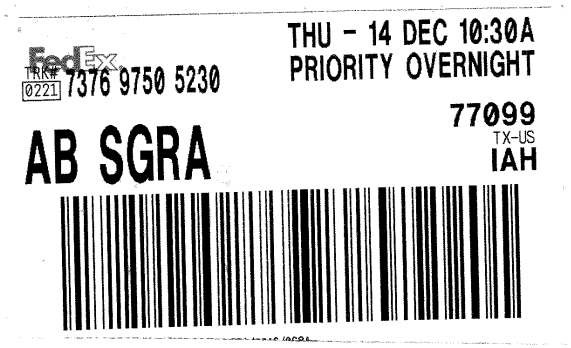
Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	12/13/17	14:30	JM	12/14/17	09:00						

For Lab Use Only

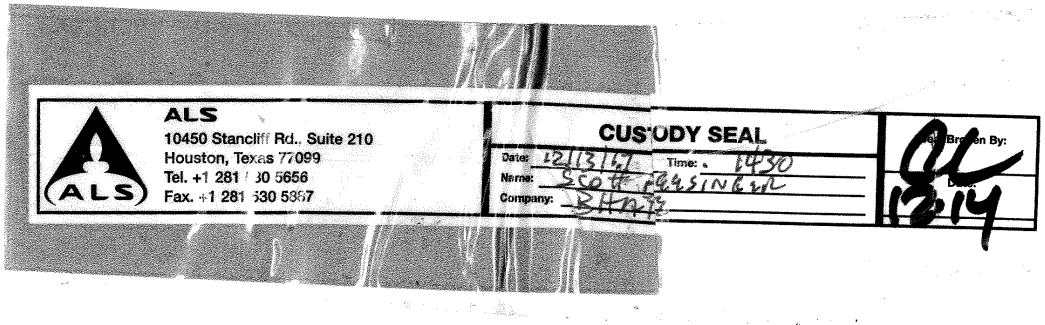
Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks: Cooler 43092 1425
Temp 1.7 CF0.3

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


FedEx
TRK# 0221 7376 9750 5230
THU - 14 DEC 10:30A
PRIORITY OVERNIGHT
77099
TX-US
IAH
AB SGRA

43052


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5667
CUSTODY SEAL
Date: 12/13/14
Time: 1430
Name: SCOTT GESSINGER
Company: BHAS
Broken By:
12/14

Wet Chemistry Raw Data

Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
ALS WO# HS17120746

Sequence: 121417
Operator: alshs.nouser

HS17120844

Title: Temporary sequence for manual data acquisition
Datasource: HP0307B_local
Location: ICS3000_2\2_Data\08-2017
Timebase: ICS3000_2
#Samples: 133

Created: 12/14/2017 4:59:19 PM by alshs.nouser
Last Update: 1/4/2018 9:54:37 AM by alshs.nouser

No.	Name	Comment	Pos.	Type	Dil. Factor	Program	Inj. Vol.
1	STD1		22	Standard	1.0000	anions3	20.0
2	STD2		23	Standard	1.0000	anions3	20.0
3	STD3		24	Standard	1.0000	anions3	20.0
4	STD4		25	Standard	1.0000	anions3	20.0
5	STD5		26	Standard	1.0000	anions3	20.0
6	STD6		27	Standard	1.0000	anions3	20.0
7	ICV		28	Unknown	1.0000	anions3	20.0
8	ICB		29	Unknown	1.0000	anions3	20.0
9	CCV		1	Unknown	1.0000	anions3	20.0
10	CCB		2	Unknown	1.0000	anions3	20.0
11	WBLKW3-121417		5	Unknown	1.0000	anions3	20.0
12	WLCSW3-121417		6	Unknown	1.0000	anions3	20.0
13	WLCSDW3-121417		7	Unknown	1.0000	anions3	20.0
14	HS17120353-03		8	Unknown	1.0000	anions3	20.0
15	HS17120353-06		9	Unknown	1.0000	anions3	20.0
16	HS17120353-07		10	Unknown	1.0000	anions3	20.0
17	HS17120353-09		11	Unknown	1.0000	anions3	20.0
18	HS17120353-10		12	Unknown	1.0000	anions3	20.0
19	HS17120353-11		13	Unknown	1.0000	anions3	20.0
20	HS17120353-11DF10		14	Unknown	10.0000	anions3	20.0
21	CCV1		3	Unknown	1.0000	anions3	20.0
22	CCB		4	Unknown	1.0000	anions3	20.0
23	HS17120785-04		15	Unknown	1.0000	anions3	20.0
24	HS17120785-04MS		16	Unknown	1.0000	anions3	20.0
25	HS17120785-04MSD		17	Unknown	1.0000	anions3	20.0
26	HS17120785-04DF20		18	Unknown	20.0000	anions3	20.0
27	HS17120785-05		19	Unknown	1.0000	anions3	20.0
28	HS17120785-05DF20		20	Unknown	10.0000	anions3	20.0
29	HS17120785-06		21	Unknown	1.0000	anions3	20.0
30	HS17120785-06DF20		22	Unknown	20.0000	anions3	20.0
31	DIH2O		23	Unknown	1.0000	anions3	20.0
32	DIH2O		24	Unknown	1.0000	anions3	20.0
33	CCV		1	Unknown	1.0000	anions3	20.0
34	CCB		2	Unknown	1.0000	anions3	20.0

Sequence: 121417
Operator: alshs.nouser

Title: Temporary sequence for manual data acquisition
Datasource: HP0307B_local
Location: ICS3000_2\2_Data\08-2017
Timebase: ICS3000_2
#Samples: 133

Created: 12/14/2017 4:59:19 PM by alshs.nouser
Last Update: 1/4/2018 9:54:37 AM by alshs.nouser

No.	Name	Method	Status	Inj. Date/Time	Weight	ISTD Amount
1	STD1	090417	Finished	9/4/2017 1:42:45 PM	1.0000	1.0000
2	STD2	090417	Finished	9/4/2017 2:04:27 PM	1.0000	1.0000
3	STD3	090417	Finished	9/4/2017 2:26:09 PM	1.0000	1.0000
4	STD4	090417	Finished	9/4/2017 2:47:51 PM	1.0000	1.0000
5	STD5	090417	Finished	9/4/2017 3:09:33 PM	1.0000	1.0000
6	STD6	090417	Finished	9/4/2017 3:31:14 PM	1.0000	1.0000
7	ICV	090417	Finished	9/4/2017 3:52:56 PM	1.0000	1.0000
8	ICB	090417	Finished	9/4/2017 4:14:38 PM	1.0000	1.0000
9	CCV	090417	Finished	12/14/2017 5:37:31 PM	1.0000	1.0000
10	CCB	090417	Finished	12/14/2017 5:59:14 PM	1.0000	1.0000
11	WBLKW3-121417	090417	Finished	12/14/2017 6:20:55 PM	1.0000	1.0000
12	WLCSW3-121417	090417	Finished	12/14/2017 6:42:37 PM	1.0000	1.0000
13	WLCSDW3-121417	090417	Finished	12/14/2017 7:04:18 PM	1.0000	1.0000
14	HS17120353-03	090417	Finished	12/14/2017 10:21:39 PM	1.0000	1.0000
15	HS17120353-06	090417	Finished	12/14/2017 10:43:20 PM	1.0000	1.0000
16	HS17120353-07	090417	Finished	12/14/2017 11:05:02 PM	1.0000	1.0000
17	HS17120353-09	090417	Finished	12/14/2017 11:26:44 PM	1.0000	1.0000
18	HS17120353-10	090417	Finished	12/14/2017 11:48:26 PM	1.0000	1.0000
19	HS17120353-11	090417	Finished	12/15/2017 12:10:07 AM	1.0000	1.0000
20	HS17120353-11DF10	090417	Finished	12/15/2017 12:31:49 AM	1.0000	1.0000
21	CCV1	090417	Finished	12/15/2017 12:53:31 AM	1.0000	1.0000
22	CCB	090417	Finished	12/15/2017 1:15:13 AM	1.0000	1.0000
23	HS17120785-04	090417	Finished	12/15/2017 1:36:54 AM	1.0000	1.0000
24	HS17120785-04MS	090417	Finished	12/15/2017 1:58:36 AM	1.0000	1.0000
25	HS17120785-04MSD	090417	Finished	12/15/2017 2:20:18 AM	1.0000	1.0000
26	HS17120785-04DF20	090417	Finished	12/15/2017 2:42:00 AM	1.0000	1.0000
27	HS17120785-05	090417	Finished	12/15/2017 3:03:42 AM	1.0000	1.0000
28	HS17120785-05DF20	090417	Finished	12/15/2017 3:25:23 AM	1.0000	1.0000
29	HS17120785-06	090417	Finished	12/15/2017 3:47:05 AM	1.0000	1.0000
30	HS17120785-06DF20	090417	Finished	12/15/2017 4:08:47 AM	1.0000	1.0000
31	DIH2O	090417	Finished	12/15/2017 4:30:29 AM	1.0000	1.0000
32	DIH2O	090417	Finished	12/15/2017 4:52:10 AM	1.0000	1.0000
33	CCV	090417	Finished	12/15/2017 5:13:52 AM	1.0000	1.0000
34	CCB	090417	Finished	12/15/2017 5:35:34 AM	1.0000	1.0000

Title: Temporary sequence for manual data acquisition
Datasource: HP0307B_local
Location: ICS3000_2\2_Data\08-2017
Timebase: ICS3000_2
#Samples: 133
Created: 12/14/2017 4:59:19 PM by alshs.nouser
Last Update: 1/4/2018 9:54:37 AM by alshs.nouser

No.	Name	Sample ID	Replicate ID
1	STD1		01
2	STD2		01
3	STD3		01
4	STD4		01
5	STD5		01
6	STD6		01
7	ICV		01
8	ICB		01
9	CCV		01
10	CCB		01
11	WBLKW3-121417		01
12	WLCSW3-121417		01
13	WLCSDW3-121417		01
14	HS17120353-03		01
15	HS17120353-06		01
16	HS17120353-07		01
17	HS17120353-09		01
18	HS17120353-10		01
19	HS17120353-11		01
20	HS17120353-11DF10		01
21	CCV1		01
22	CCB		01
23	HS17120785-04		01
24	HS17120785-04MS		01
25	HS17120785-04MSD		01
26	HS17120785-04DF20		01
27	HS17120785-05		01
28	HS17120785-05DF20		01
29	HS17120785-06		01
30	HS17120785-06DF20		01
31	DIH2O		01
32	DIH2O		01
33	CCV		01
34	CCB		01

Sequence: 121417
Operator: alshs.nouser

Title: Temporary sequence for manual data acquisition
Datasource: HP0307B_local
Location: ICS3000_2\2_Data\08-2017
Timebase: ICS3000_2
#Samples: 133

Created: 12/14/2017 4:59:19 PM by alshs.nouser
Last Update: 1/4/2018 9:54:37 AM by alshs.nouser

No.	Name	Comment	Pos.	Type	Dil. Factor	Program	Inj. Vol.
35	HS17120792-04		25	Unknown	1.0000	anions3	20.0
36	HS17120792-04DF20		26	Unknown	20.0000	anions3	20.0
37	HS17120792-06		27	Unknown	1.0000	anions3	20.0
38	HS17120792-06DF400		28	Unknown	400.0000	anions3	20.0
39	HS17120792-01		29	Unknown	1.0000	anions3	20.0
40	HS17120792-01DF800		30	Unknown	800.0000	anions3	20.0
41	CCV1		3	Unknown	1.0000	anions3	20.0
42	CCB		4	Unknown	1.0000	anions3	20.0
43	WBLKW1-121517		31	Unknown	1.0000	anions3	20.0
44	WLCSW1-121517		32	Unknown	1.0000	anions3	20.0
45	WLCSDW1-121517		33	Unknown	1.0000	anions3	20.0
46	HS17120792-04MS		34	Unknown	1.0000	anions3	20.0
47	HS17120792-04MSD		35	Unknown	1.0000	anions3	20.0
48	HS17120808-02	9056	36	Unknown	1.0000	anions3	20.0
49	HS17120808-02DF100		37	Unknown	100.0000	anions3	20.0
50	CCB		2	Unknown	1.0000	anions3	20.0
51	CCV		1	Unknown	1.0000	anions3	20.0
52	HS17120808-02DF10		38	Unknown	10.0000	anions3	20.0
53	DIH2O		39	Unknown	1.0000	anions3	20.0
54	HS17120844-09		41	Unknown	1.0000	anions3	20.0
55	HS17120844-09DF10		42	Unknown	10.0000	anions3	20.0
56	HS17120844-11		43	Unknown	1.0000	anions3	20.0
57	HS17120844-11DF10		44	Unknown	10.0000	anions3	20.0
58	HS17120851-01	DFW	45	Unknown	1.0000	anions3	20.0
59	HS17120851-01DF40	DFW	46	Unknown	40.0000	anions3	20.0
60	DI H2O		39	Unknown	1.0000	anions3	20.0
61	WBLKW1-171517		40	Unknown	1.0000	anions3	20.0
62	CCV1		3	Unknown	1.0000	anions3	20.0
63	CCB		4	Unknown	1.0000	anions3	20.0
64	HS17120851-02	DFW reported	47	Unknown	1.0000	anions3	20.0
65	HS17120851-02DF40	DFW	48	Unknown	40.0000	anions3	20.0
66	HS17120851-03	DFW	49	Unknown	1.0000	anions3	20.0
67	HS17120851-03DF40	DFW	50	Unknown	40.0000	anions3	20.0
68	DI H2O		39	Unknown	1.0000	anions3	20.0

Sequence: 121417
Operator: alshs.nouser

Title: Temporary sequence for manual data acquisition
Datasource: HP0307B_local
Location: ICS3000_2\2_Data\08-2017
Timebase: ICS3000_2
#Samples: 133

Created: 12/14/2017 4:59:19 PM by alshs.nouser
Last Update: 1/4/2018 9:54:37 AM by alshs.nouser

No.	Name	Method	Status	Inj. Date/Time	Weight	ISTD Amount
35	HS17120792-04	090417	Finished	12/15/2017 7:43:46 AM	1.0000	1.0000
36	HS17120792-04DF20	090417	Finished	12/15/2017 8:05:28 AM	1.0000	1.0000
37	HS17120792-06	090417	Finished	12/15/2017 8:32:14 AM	1.0000	1.0000
38	HS17120792-06DF400	090417	Finished	12/15/2017 8:53:55 AM	1.0000	1.0000
39	HS17120792-01	090417	Finished	12/15/2017 9:15:38 AM	1.0000	1.0000
40	HS17120792-01DF800	090417	Finished	12/15/2017 9:37:19 AM	1.0000	1.0000
41	CCV1	090417	Finished	12/15/2017 11:27:55 AM	1.0000	1.0000
42	CCB	090417	Finished	12/15/2017 11:49:37 AM	1.0000	1.0000
43	WBLKW1-121517	090417	Finished	12/15/2017 12:11:19 PM	1.0000	1.0000
44	WLCSW1-121517	090417	Finished	12/15/2017 12:33:01 PM	1.0000	1.0000
45	WLCSDW1-121517	090417	Finished	12/15/2017 12:54:42 PM	1.0000	1.0000
46	HS17120792-04MS	090417	Finished	12/15/2017 3:14:25 PM	1.0000	1.0000
47	HS17120792-04MSD	090417	Finished	12/15/2017 3:36:06 PM	1.0000	1.0000
48	HS17120808-02	090417	Finished	12/15/2017 4:58:31 PM	1.0000	1.0000
49	HS17120808-02DF100	090417	Finished	12/15/2017 5:20:13 PM	1.0000	1.0000
50	CCB	090417	Finished	12/15/2017 5:41:55 PM	1.0000	1.0000
51	CCV	090417	Finished	12/15/2017 6:25:18 PM	1.0000	1.0000
52	HS17120808-02DF10	090417	Finished	12/15/2017 7:08:42 PM	1.0000	1.0000
53	DIH2O	090417	Finished	12/15/2017 7:30:24 PM	1.0000	1.0000
54	HS17120844-09	090417	Finished	12/15/2017 7:52:06 PM	1.0000	1.0000
55	HS17120844-09DF10	090417	Finished	12/15/2017 8:13:48 PM	1.0000	1.0000
56	HS17120844-11	090417	Finished	12/15/2017 8:35:30 PM	1.0000	1.0000
57	HS17120844-11DF10	090417	Finished	12/15/2017 8:57:12 PM	1.0000	1.0000
58	HS17120851-01	090417	Finished	12/15/2017 9:18:55 PM	1.0000	1.0000
59	HS17120851-01DF40	090417	Finished	12/15/2017 9:40:36 PM	1.0000	1.0000
60	DI H2O	090417	Finished	12/15/2017 10:02:18 PM	1.0000	1.0000
61	WBLKW1-171517	090417	Finished	12/15/2017 10:24:00 PM	1.0000	1.0000
62	CCV1	090417	Finished	12/15/2017 10:45:42 PM	1.0000	1.0000
63	CCB	090417	Finished	12/15/2017 11:07:24 PM	1.0000	1.0000
64	HS17120851-02	090417	Finished	12/15/2017 11:29:05 PM	1.0000	1.0000
65	HS17120851-02DF40	090417	Finished	12/15/2017 11:50:48 PM	1.0000	1.0000
66	HS17120851-03	090417	Finished	12/16/2017 12:12:30 AM	1.0000	1.0000
67	HS17120851-03DF40	090417	Finished	12/16/2017 12:34:11 AM	1.0000	1.0000
68	DI H2O	090417	Finished	12/16/2017 12:55:53 AM	1.0000	1.0000

Sequence: 121417
Operator: alshs.nouser

Title: Temporary sequence for manual data acquisition
Datasource: HP0307B_local
Location: ICS3000_2\2_Data\08-2017
Timebase: ICS3000_2
#Samples: 133

Created: 12/14/2017 4:59:19 PM by alshs.nouser
Last Update: 1/4/2018 9:54:37 AM by alshs.nouser

No.	Name	Sample ID	Replicate ID
35	HS17120792-04		01
36	HS17120792-04DF20		01
37	HS17120792-06		01
38	HS17120792-06DF400		01
39	HS17120792-01		01
40	HS17120792-01DF800		01
41	CCV1		01
42	CCB		01
43	WBLKW1-121517		01
44	WLCSW1-121517		01
45	WLCSDW1-121517		01
46	HS17120792-04MS		01
47	HS17120792-04MSD		01
48	HS17120808-02		01
49	HS17120808-02DF100		01
50	CCB		01
51	CCV		01
52	HS17120808-02DF10		01
53	DIH2O		01
54	HS17120844-09		01
55	HS17120844-09DF10		01
56	HS17120844-11		01
57	HS17120844-11DF10		01
58	HS17120851-01		01
59	HS17120851-01DF40		01
60	DI H2O		01
61	WBLKW1-171517		01
62	CCV1		01
63	CCB		01
64	HS17120851-02		01
65	HS17120851-02DF40		01
66	HS17120851-03		01
67	HS17120851-03DF40		01
68	DI H2O		01

Sequence: 121417
Operator: alshs.nouser

Title: Temporary sequence for manual data acquisition
Datasource: HP0307B_local
Location: ICS3000_2\2_Data\08-2017
Timebase: ICS3000_2
#Samples: 133

Created: 12/14/2017 4:59:19 PM by alshs.nouser
Last Update: 1/4/2018 9:54:37 AM by alshs.nouser

No.	Name	Comment	Pos.	Type	Dil. Factor	Program	Inj. Vol.
69	DI H2O		40	Unknown	1.0000	anions3	20.0
70	CCV		1	Unknown	1.0000	anions3	20.0
71	CCB		2	Unknown	1.0000	anions3	20.0
72	CCB		2	Unknown	1.0000	anions3	20.0
73	CCV		1	Unknown	1.0000	anions3	20.0
74	CCB		2	Unknown	1.0000	anions3	20.0
75	CCV		1	Unknown	1.0000	anions3	20.0
76	CCB		2	Unknown	1.0000	anions3	20.0
77	WBLKW1-171617		5	Unknown	1.0000	anions3	20.0
78	WLCSW1-171617		6	Unknown	1.0000	anions3	20.0
79	WLCSDW1-171617		7	Unknown	1.0000	anions3	20.0
80	HS17120885-07	9056*	8	Unknown	1.0000	anions3	20.0
81	HS17120885-07DF40		9	Unknown	40.0000	anions3	20.0
82	HS17120885-05		10	Unknown	1.0000	anions3	20.0
83	HS17120885-05DF40		11	Unknown	40.0000	anions3	20.0
84	HS17120885-04	9056	12	Unknown	1.0000	anions3	20.0
85	HS17120885-04DF40	11PM	13	Unknown	40.0000	anions3	20.0
86	DI H2O		14	Unknown	1.0000	anions3	20.0
87	CCV1	1130	3	Unknown	1.0000	anions3	20.0
88	CCB		4	Unknown	1.0000	anions3	20.0
89	HS17120891-01	300	15	Unknown	1.0000	anions3	20.0
90	HS17120891-01MS		16	Unknown	1.0000	anions3	20.0
91	HS17120891-01MSD		17	Unknown	1.0000	anions3	20.0
92	HS17120885-02	9056	18	Unknown	1.0000	anions3	20.0
93	HS17120885-02DF40		19	Unknown	40.0000	anions3	20.0
94	HS17120885-08		20	Unknown	1.0000	anions3	20.0
95	HS17120885-08DF40		21	Unknown	40.0000	anions3	20.0
96	HS17120891-02DF200	300	22	Unknown	200.0000	anions3	20.0
97	HS17120891-02DF400	0230	23	Unknown	400.0000	anions3	20.0
98	DI H2O		14	Unknown	1.0000	anions3	20.0
99	CCV		1	Unknown	1.0000	anions3	20.0
100	CCB		2	Unknown	1.0000	anions3	20.0
101	HS17120885-01	9056	24	Unknown	1.0000	anions3	20.0
102	HS17120885-01DF20		25	Unknown	20.0000	anions3	20.0

Sequence: 121417
Operator: alshs.nouser

Title: Temporary sequence for manual data acquisition
Datasource: HP0307B_local
Location: ICS3000_2\2_Data\08-2017
Timebase: ICS3000_2
#Samples: 133

Created: 12/14/2017 4:59:19 PM by alshs.nouser
Last Update: 1/4/2018 9:54:37 AM by alshs.nouser

No.	Name	Method	Status	Inj. Date/Time	Weight	ISTD Amount
69	DI H2O	090417	Finished	12/16/2017 1:17:35 AM	1.0000	1.0000
70	CCV	090417	Finished	12/16/2017 1:39:16 AM	1.0000	1.0000
71	CCB	090417	Finished	12/16/2017 2:00:58 AM	1.0000	1.0000
72	CCB	090417	Finished	12/16/2017 6:10:39 PM	1.0000	1.0000
73	CCV	090417	Finished	12/16/2017 6:32:22 PM	1.0000	1.0000
74	CCB	090417	Finished	12/16/2017 6:54:03 PM	1.0000	1.0000
75	CCV	090417	Finished	12/16/2017 7:27:48 PM	1.0000	1.0000
76	CCB	090417	Finished	12/16/2017 7:49:29 PM	1.0000	1.0000
77	WBLKW1-171617	090417	Finished	12/16/2017 8:11:11 PM	1.0000	1.0000
78	WLCSW1-171617	090417	Finished	12/16/2017 8:32:53 PM	1.0000	1.0000
79	WLCSDW1-171617	090417	Finished	12/16/2017 8:54:35 PM	1.0000	1.0000
80	HS17120885-07	090417	Finished	12/16/2017 9:16:16 PM	1.0000	1.0000
81	HS17120885-07DF40	090417	Finished	12/16/2017 9:37:58 PM	1.0000	1.0000
82	HS17120885-05	090417	Finished	12/16/2017 9:59:40 PM	1.0000	1.0000
83	HS17120885-05DF40	090417	Finished	12/16/2017 10:21:21 PM	1.0000	1.0000
84	HS17120885-04	090417	Finished	12/16/2017 10:43:03 PM	1.0000	1.0000
85	HS17120885-04DF40	090417	Finished	12/16/2017 11:04:45 PM	1.0000	1.0000
86	DI H2O	090417	Finished	12/16/2017 11:26:27 PM	1.0000	1.0000
87	CCV1	090417	Finished	12/16/2017 11:48:09 PM	1.0000	1.0000
88	CCB	090417	Finished	12/17/2017 12:09:51 AM	1.0000	1.0000
89	HS17120891-01	090417	Finished	12/17/2017 12:31:33 AM	1.0000	1.0000
90	HS17120891-01MS	090417	Finished	12/17/2017 12:53:14 AM	1.0000	1.0000
91	HS17120891-01MSD	090417	Finished	12/17/2017 1:14:56 AM	1.0000	1.0000
92	HS17120885-02	090417	Finished	12/17/2017 1:36:38 AM	1.0000	1.0000
93	HS17120885-02DF40	090417	Finished	12/17/2017 1:58:19 AM	1.0000	1.0000
94	HS17120885-08	090417	Finished	12/17/2017 2:20:01 AM	1.0000	1.0000
95	HS17120885-08DF40	090417	Finished	12/17/2017 2:41:43 AM	1.0000	1.0000
96	HS17120891-02DF200	090417	Finished	12/17/2017 3:03:26 AM	1.0000	1.0000
97	HS17120891-02DF400	090417	Finished	12/17/2017 3:25:07 AM	1.0000	1.0000
98	DI H2O	090417	Finished	12/17/2017 3:46:49 AM	1.0000	1.0000
99	CCV	090417	Finished	12/17/2017 4:08:31 AM	1.0000	1.0000
100	CCB	090417	Finished	12/17/2017 4:30:13 AM	1.0000	1.0000
101	HS17120885-01	090417	Finished	12/17/2017 4:51:55 AM	1.0000	1.0000
102	HS17120885-01DF20	090417	Finished	12/17/2017 5:13:37 AM	1.0000	1.0000

Title: Temporary sequence for manual data acquisition
Datasource: HP0307B_local
Location: ICS3000_2\2_Data\08-2017
Timebase: ICS3000_2
#Samples: 133
Created: 12/14/2017 4:59:19 PM by alshs.nouser
Last Update: 1/4/2018 9:54:37 AM by alshs.nouser

No.	Name	Sample ID	Replicate ID
69	DI H2O		01
70	CCV		01
71	CCB		01
72	CCB		01
73	CCV		01
74	CCB		01
75	CCV		01
76	CCB		01
77	WBLKW1-171617		01
78	WLCSW1-171617		01
79	WLCSDW1-171617		01
80	HS17120885-07		01
81	HS17120885-07DF40		01
82	HS17120885-05		01
83	HS17120885-05DF40		01
84	HS17120885-04		01
85	HS17120885-04DF40		01
86	DI H2O		01
87	CCV1		01
88	CCB		01
89	HS17120891-01		01
90	HS17120891-01MS		01
91	HS17120891-01MSD		01
92	HS17120885-02		01
93	HS17120885-02DF40		01
94	HS17120885-08		01
95	HS17120885-08DF40		01
96	HS17120891-02DF200		01
97	HS17120891-02DF400		01
98	DI H2O		01
99	CCV		01
100	CCB		01
101	HS17120885-01		01
102	HS17120885-01DF20		01

Sequence: 121417
Operator: alshs.nouser

Title: Temporary sequence for manual data acquisition
Datasource: HP0307B_local
Location: ICS3000_2\2_Data\08-2017
Timebase: ICS3000_2
#Samples: 133

Created: 12/14/2017 4:59:19 PM by alshs.nouser
Last Update: 1/4/2018 9:54:37 AM by alshs.nouser

No.	Name	Comment	Pos.	Type	Dil. Factor	Program	Inj. Vol.
103	HS17120891-03DF400	300	26	Unknown	400.0000	anions3	20.0
104	HS17120885-03		27	Unknown	1.0000	anions3	20.0
105	HS17120885-03DF40		28	Unknown	40.0000	anions3	20.0
106	HS17120891-04DF200	300	29	Unknown	200.0000	anions3	20.0
107	HS17120891-04DF400	0530	30	Unknown	400.0000	anions3	20.0
108	HS17120891-05DF400		31	Unknown	400.0000	anions3	20.0
109	HS17120891-07DF400		32	Unknown	400.0000	anions3	20.0
110	DI H2O		14	Unknown	1.0000	anions3	20.0
111	CCV1		3	Unknown	1.0000	anions3	20.0
112	CCB		4	Unknown	1.0000	anions3	20.0
113	HS17120618-31	300	33	Unknown	1.0000	anions3	20.0
114	HS17120618-31MS		34	Unknown	1.0000	anions3	20.0
115	HS17120618-31MSD		35	Unknown	1.0000	anions3	20.0
116	HS17120618-31DF10		36	Unknown	10.0000	anions3	20.0
117	HS17120891-06DF400		37	Unknown	400.0000	anions3	20.0
118	HS17120891-01DF10		38	Unknown	10.0000	anions3	20.0
119	HS17120814-07DF10	2100 OFF	39	Unknown	10.0000	anions3	20.0
120	HS17120814-08DF10	2100 OFF	40	Unknown	10.0000	anions3	20.0
121	HS17120814-09DF200	2100 DF	41	Unknown	200.0000	anions3	20.0
122	DI H2O		14	Unknown	1.0000	anions3	20.0
123	CCV		1	Unknown	1.0000	anions3	20.0
124	CCB		2	Unknown	1.0000	anions3	20.0
125	HS17120891-07DF200		42	Unknown	200.0000	anions3	20.0
126	HS17120891-03DF200		43	Unknown	200.0000	anions3	20.0
127	HS17120891-05DF200		44	Unknown	200.0000	anions3	20.0
128	HS17120891-06DF200		45	Unknown	200.0000	anions3	20.0
129	DI H2O		46	Unknown	1.0000	anions3	20.0
130	DI H2O		46	Unknown	1.0000	anions3	20.0
131	CCV1		3	Unknown	1.0000	anions3	20.0
132	CCB		4	Unknown	1.0000	anions3	20.0
133	CCB		4	Unknown	1.0000	anions3	20.0

Sequence: 121417
Operator: alshs.nouser

Title: Temporary sequence for manual data acquisition
Datasource: HP0307B_local
Location: ICS3000_2\2_Data\08-2017
Timebase: ICS3000_2
#Samples: 133

Created: 12/14/2017 4:59:19 PM by alshs.nouser
Last Update: 1/4/2018 9:54:37 AM by alshs.nouser

No.	Name	Method	Status	Inj. Date/Time	Weight	ISTD Amount
103	HS17120891-03DF400	090417	Finished	12/17/2017 5:35:19 AM	1.0000	1.0000
104	HS17120885-03	090417	Finished	12/17/2017 5:57:01 AM	1.0000	1.0000
105	HS17120885-03DF40	090417	Finished	12/17/2017 6:18:44 AM	1.0000	1.0000
106	HS17120891-04DF200	090417	Finished	12/17/2017 6:40:26 AM	1.0000	1.0000
107	HS17120891-04DF400	090417	Finished	12/17/2017 7:02:07 AM	1.0000	1.0000
108	HS17120891-05DF400	090417	Finished	12/17/2017 7:23:49 AM	1.0000	1.0000
109	HS17120891-07DF400	090417	Finished	12/17/2017 7:45:30 AM	1.0000	1.0000
110	DI H2O	090417	Finished	12/17/2017 8:07:12 AM	1.0000	1.0000
111	CCV1	090417	Finished	12/17/2017 8:28:55 AM	1.0000	1.0000
112	CCB	090417	Finished	12/17/2017 8:50:36 AM	1.0000	1.0000
113	HS17120618-31	090417	Finished	12/17/2017 9:12:18 AM	1.0000	1.0000
114	HS17120618-31MS	090417	Finished	12/17/2017 9:34:00 AM	1.0000	1.0000
115	HS17120618-31MSD	090417	Finished	12/17/2017 9:55:41 AM	1.0000	1.0000
116	HS17120618-31DF10	090417	Finished	12/17/2017 10:17:23 AM	1.0000	1.0000
117	HS17120891-06DF400	090417	Finished	12/17/2017 10:39:05 AM	1.0000	1.0000
118	HS17120891-01DF10	090417	Finished	12/17/2017 11:00:47 AM	1.0000	1.0000
119	HS17120814-07DF10	090417	Finished	12/17/2017 11:22:29 AM	1.0000	1.0000
120	HS17120814-08DF10	090417	Finished	12/17/2017 11:44:10 AM	1.0000	1.0000
121	HS17120814-09DF200	090417	Finished	12/17/2017 12:05:52 PM	1.0000	1.0000
122	DI H2O	090417	Finished	12/17/2017 12:27:34 PM	1.0000	1.0000
123	CCV	090417	Finished	12/17/2017 12:49:15 PM	1.0000	1.0000
124	CCB	090417	Finished	12/17/2017 1:10:57 PM	1.0000	1.0000
125	HS17120891-07DF200	090417	Finished	12/17/2017 1:32:39 PM	1.0000	1.0000
126	HS17120891-03DF200	090417	Finished	12/17/2017 1:54:20 PM	1.0000	1.0000
127	HS17120891-05DF200	090417	Finished	12/17/2017 2:16:01 PM	1.0000	1.0000
128	HS17120891-06DF200	090417	Finished	12/17/2017 2:37:43 PM	1.0000	1.0000
129	DI H2O	090417	Finished	12/17/2017 2:59:25 PM	1.0000	1.0000
130	DI H2O	090417	Finished	12/17/2017 3:21:07 PM	1.0000	1.0000
131	CCV1	090417	Finished	12/17/2017 3:42:49 PM	1.0000	1.0000
132	CCB	090417	Finished	12/17/2017 4:04:31 PM	1.0000	1.0000
133	CCB	090417	Finished	12/17/2017 4:26:13 PM	1.0000	1.0000

Sequence: 121417
Operator: alshs.nouser

Title: Temporary sequence for manual data acquisition
Datasource: HP0307B_local
Location: ICS3000_2\2_Data\08-2017
Timebase: ICS3000_2
#Samples: 133

Created: 12/14/2017 4:59:19 PM by alshs.nouser
Last Update: 1/4/2018 9:54:37 AM by alshs.nouser

No.	Name	Sample ID	Replicate ID
103	HS17120891-03DF400		01
104	HS17120885-03		01
105	HS17120885-03DF40		01
106	HS17120891-04DF200		01
107	HS17120891-04DF400		01
108	HS17120891-05DF400		01
109	HS17120891-07DF400		01
110	DI H2O		01
111	CCV1		01
112	CCB		01
113	HS17120618-31		01
114	HS17120618-31MS		01
115	HS17120618-31MSD		01
116	HS17120618-31DF10		01
117	HS17120891-06DF400		01
118	HS17120891-01DF10		01
119	HS17120814-07DF10		01
120	HS17120814-08DF10		01
121	HS17120814-09DF200		01
122	DI H2O		01
123	CCV		01
124	CCB		01
125	HS17120891-07DF200		01
126	HS17120891-03DF200		01
127	HS17120891-05DF200		01
128	HS17120891-06DF200		01
129	DI H2O		01
130	DI H2O		01
131	CCV1		01
132	CCB		01
133	CCB		01

STD	Vendor	ID	Lot	Exp	Analyte	Con (PPM)
Primary IC STD	Inorganic Ventures	2970204315	M2-MEB659406	05/19/19	Br, Fl, NO3, NO3, o-PO4	100
					CL, SO4	500
Secondary IC STD	INOrganic Ventures	2970202501	K2-MEB640014	11/01/18	Br, Fl, NO2, NO3, o-PO4	100
					Cl, SO4	500
Eluent	ThermoScientific	74532	1.71072E+11	10/31/19		

Analyst: JBA Prep Date: 09/04/2017 Inst: ICS3000-2

ICAL

Cal Levels (PPM)	STD ID	STD Exp Date	STOCK NAME	STOCK ID	STOCK EXP DATE	Vol Add (mL)	Final Vol (mL)	Analytes	Con (PPM)	Analytes	Con (PPM)
Inst STD IC	Inst STD IC 090417	~~9/5/2017~~	Primary IC STD	2970204315	5/19/2019	20	100	Br, Fl, NO3, NO3, o-PO4	20	CL, SO4	100

Cal Level	Vol Added(mL)	Final Vol (mL)	STD ID	Exp Date	STOCK Name	Stock Exp Date	Stock ID	Br, Fl, NO3, NO3, o-PO4 conc, PPM	CL, SO4 Conc, PPM
Cal 0.1/0.5 PPM	0.5	100	ICAL 0.1- 090417	~~9/5/2017~~	Inst STD IC	05/19/19	Inst STD IC 090417	0.1	0.50
Cal 0.4/2.0 ppm	2	100	ICAL 0.4- 090417	~~9/5/2017~~	Inst STD IC	05/19/19	Inst STD IC 090417	0.4	2.00
Cal 2.0/10 PPM	10	100	ICAL 2.0- 090417	~~9/5/2017~~	Inst STD IC	05/19/19	Inst STD IC 090417	2.0	10.0
Cal 4.0/20 PPM	20	100	ICAL 4.0- 090417	~~9/5/2017~~	Inst STD IC	05/19/19	Inst STD IC 090417	4.0	20.0
Cal 10/50 PPM	50	100	ICAL 10.0- 090417	~~9/5/2017~~	Inst STD IC	05/19/19	Inst STD IC 090417	10	50.0
Cal 20/100 PPM	20	100	ICAL 20.0- 090417	~~9/5/2017~~	Primary IC STD	05/19/19	2970204315	20	100
ICV	0.4	10	ICV 090417	~~9/5/2017~~	Secondary IC STD	05/19/19	2970202501	4.0	20.0
Eluent			74532		Eluent	10/31/19	74532		

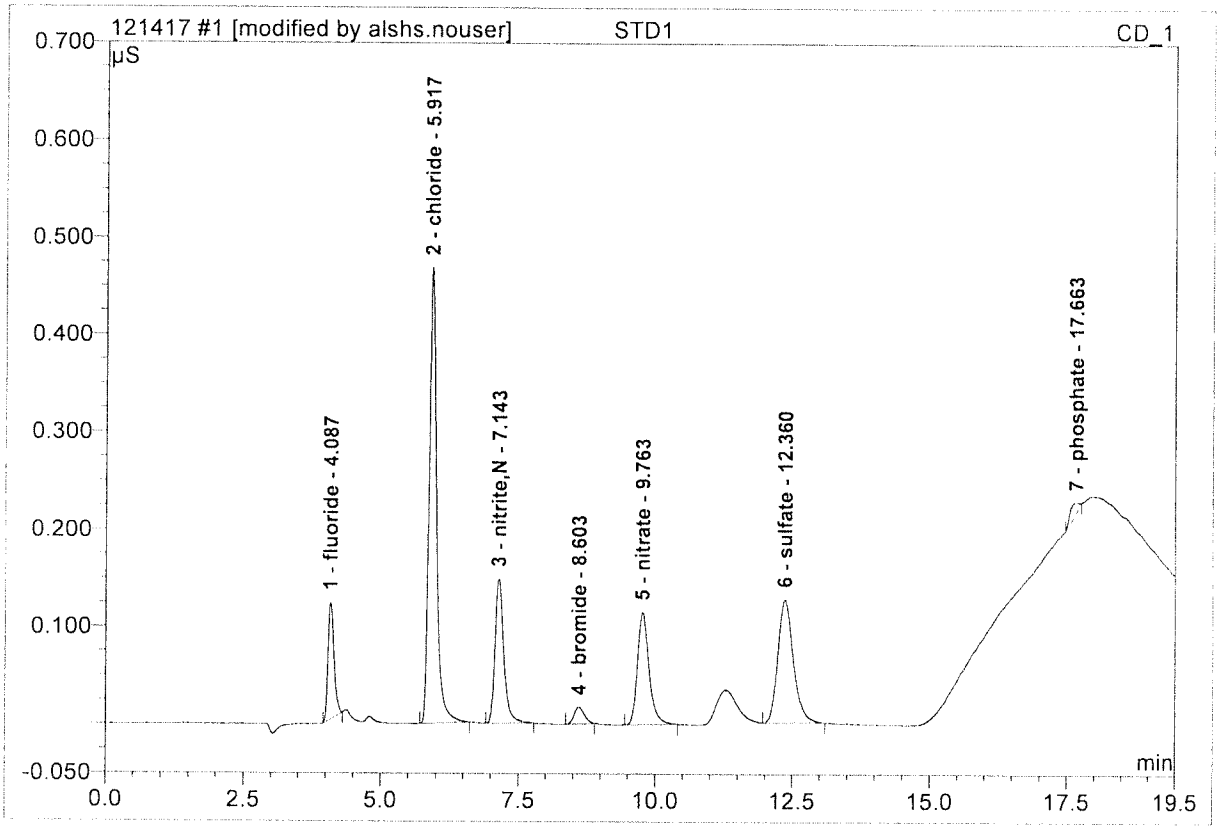
Analyst: JBA Prep Date: 12/15/2017 Inst: ICS3000-2

CCV

Cal Level	Vol Added(mL)	Final Vol (mL)	STD ID	Exp Date	STOCK Name	Stock ID	Br, Fl, NO3, NO3, o-PO4 conc, PPM	CL, SO4 Conc, PPM
CCV/LCS/LCSD	0.4	10	CCV 121517	~~12/16/2017~~	Primary IC STD	2970204315	4.0	20.0
MS/MSD	0.2	10	LCS 121517	~~12/16/2017~~	Primary IC STD	2970204315	2.0	10.0

1 STD1

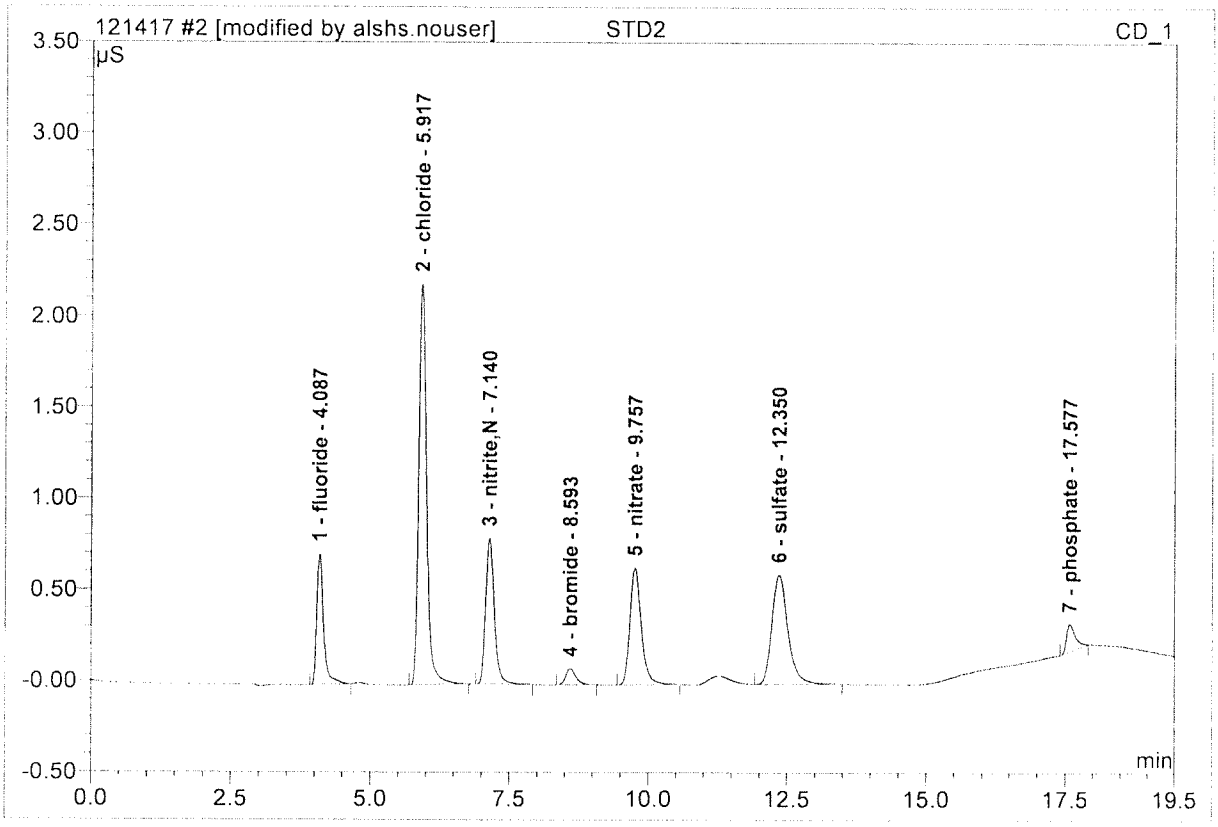
Sample Name:	**STD1**	*Injection Volume:*	**20.0**
Vial Number:	**22**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**9/4/2017 13:42**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	4.09	fluoride	0.120	0.015	7.87	0.101	1.
2	5.92	chloride	0.468	0.073	38.23	0.554	1.
3	7.14	nitrite,N	0.148	0.027	14.24	0.091	1.
4	8.60	bromide	0.017	0.004	1.95	0.384	1.
5	9.76	nitrate	0.116	0.028	14.66	0.246	1.
6	12.36	sulfate	0.127	0.042	21.80	1.629	1.
7	17.66	phosphate	0.010	0.002	1.26	0.488	1.
Total:			1.007	0.192	100.00	3.494	

2 STD2

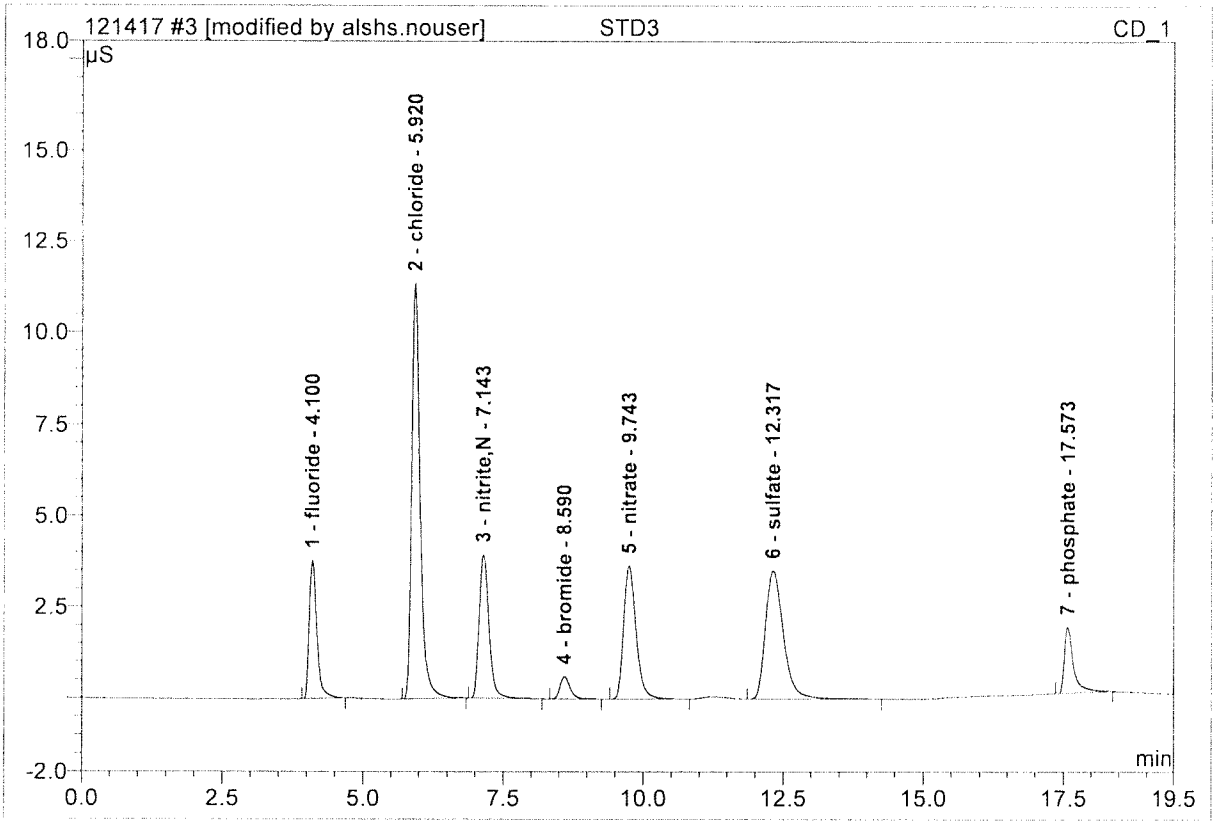
Sample Name:	**STD2**	*Injection Volume:*	**20.0**
Vial Number:	**23**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**9/4/2017 14:04**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	4.09	fluoride	0.715	0.102	10.10	0.385	1.
2	5.92	chloride	2.195	0.362	35.71	1.893	1.
3	7.14	nitrite,N	0.797	0.146	14.40	0.406	1.
4	8.59	bromide	0.090	0.019	1.92	0.569	1.
5	9.76	nitrate	0.640	0.154	15.23	0.483	1.
6	12.35	sulfate	0.600	0.202	19.91	2.634	1.
7	17.58	phosphate	0.152	0.028	2.73	0.588	1.
Total:			5.188	1.012	100.00	6.957	

3 STD3

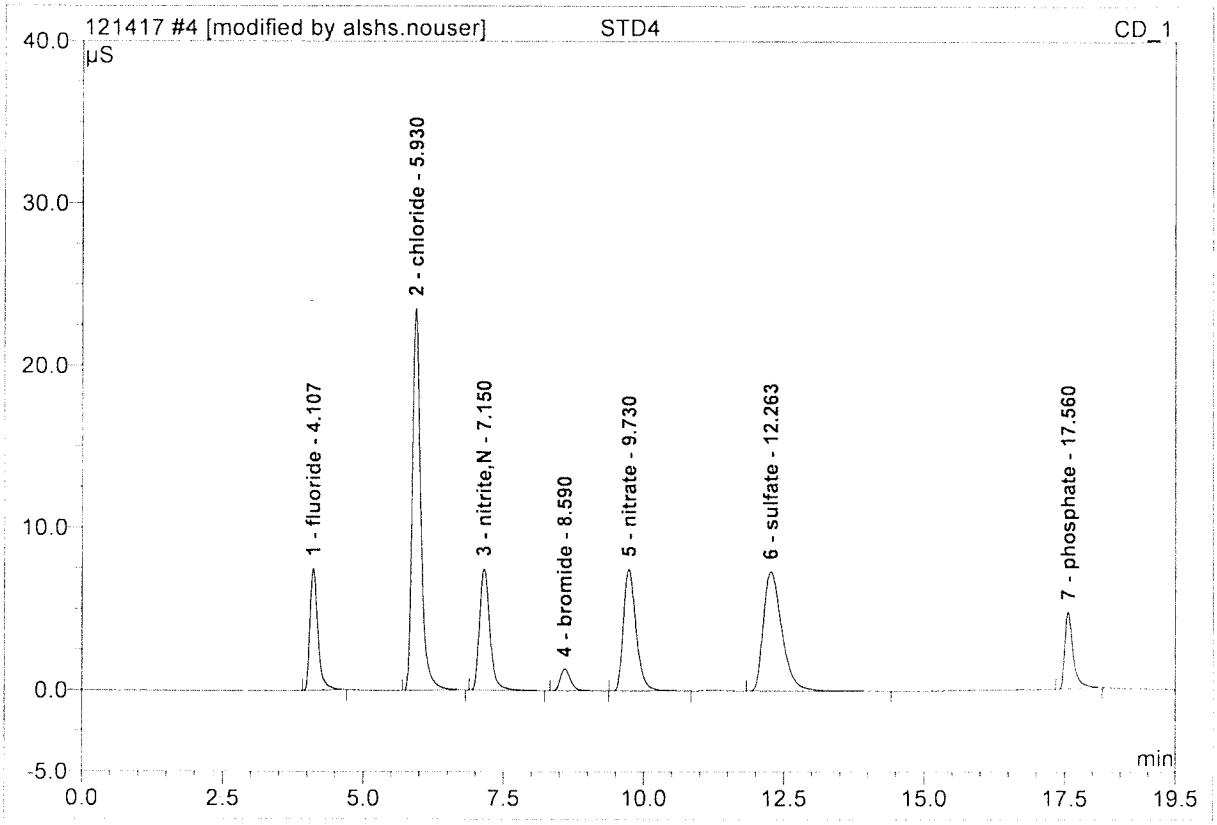
Sample Name:	**STD3**	*Injection Volume:*	**20.0**
Vial Number:	**24**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**9/4/2017 14:26**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	4.10	fluoride	3.785	0.599	9.81	2.001	1.
2	5.92	chloride	11.356	1.979	32.43	9.409	1.
3	7.14	nitrite,N	3.936	0.799	13.10	2.146	1.
4	8.59	bromide	0.616	0.129	2.11	1.867	1.
5	9.74	nitrate	3.650	0.943	15.46	1.963	1.
6	12.32	sulfate	3.517	1.307	21.43	9.586	1.
7	17.57	phosphate	1.818	0.345	5.66	1.845	1.
Total:			28.677	6.101	100.00	28.817	

4 STD4

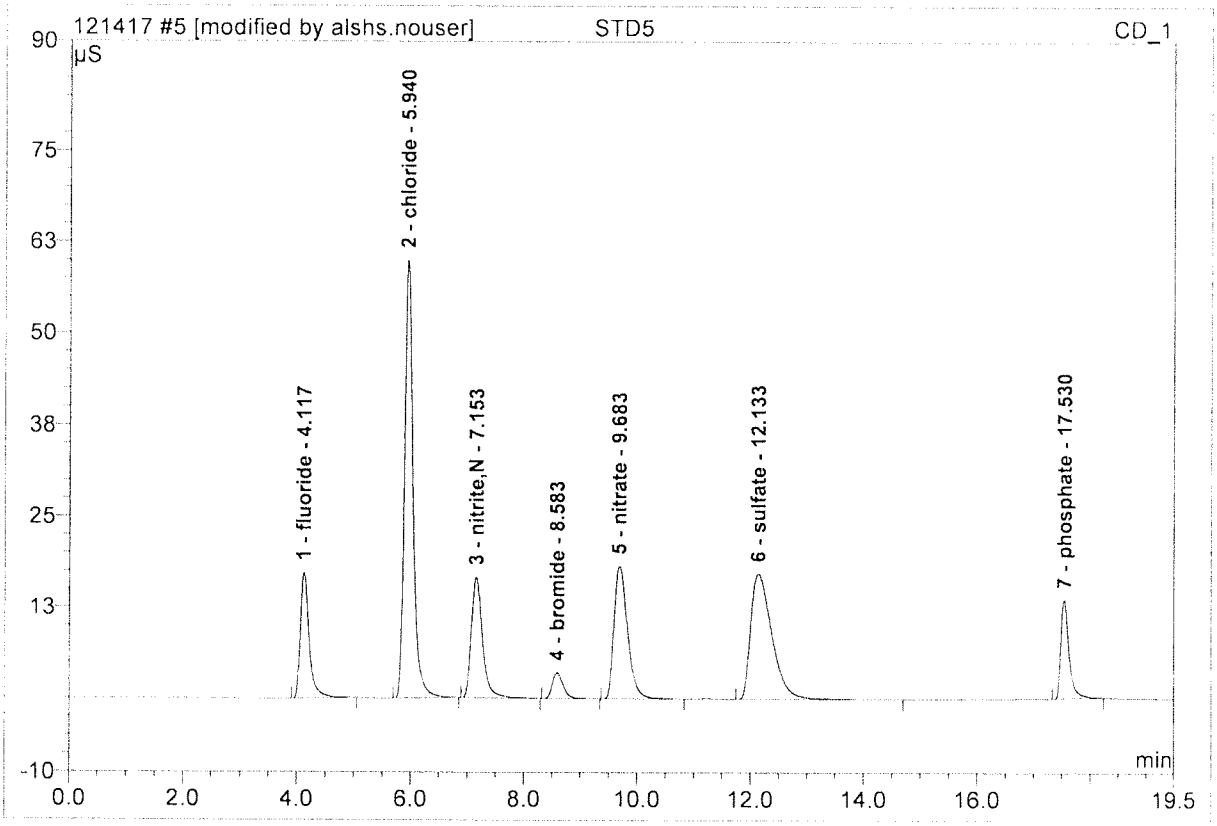
Sample Name:	**STD4**	*Injection Volume:*	**20.0**
Vial Number:	**25**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**9/4/2017 14:47**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	4.11	fluoride	7.497	1.239	9.61	4.085	1.
2	5.93	chloride	23.550	4.119	31.94	19.356	1.
3	7.15	nitrite,N	7.461	1.594	12.36	4.261	1.
4	8.59	bromide	1.368	0.292	2.26	3.790	1.
5	9.73	nitrate	7.484	1.986	15.40	3.922	1.
6	12.26	sulfate	7.348	2.850	22.10	19.287	1.
7	17.56	phosphate	4.739	0.818	6.34	3.719	1.
Total:			59.446	12.897	100.00	58.420	

5 STD5

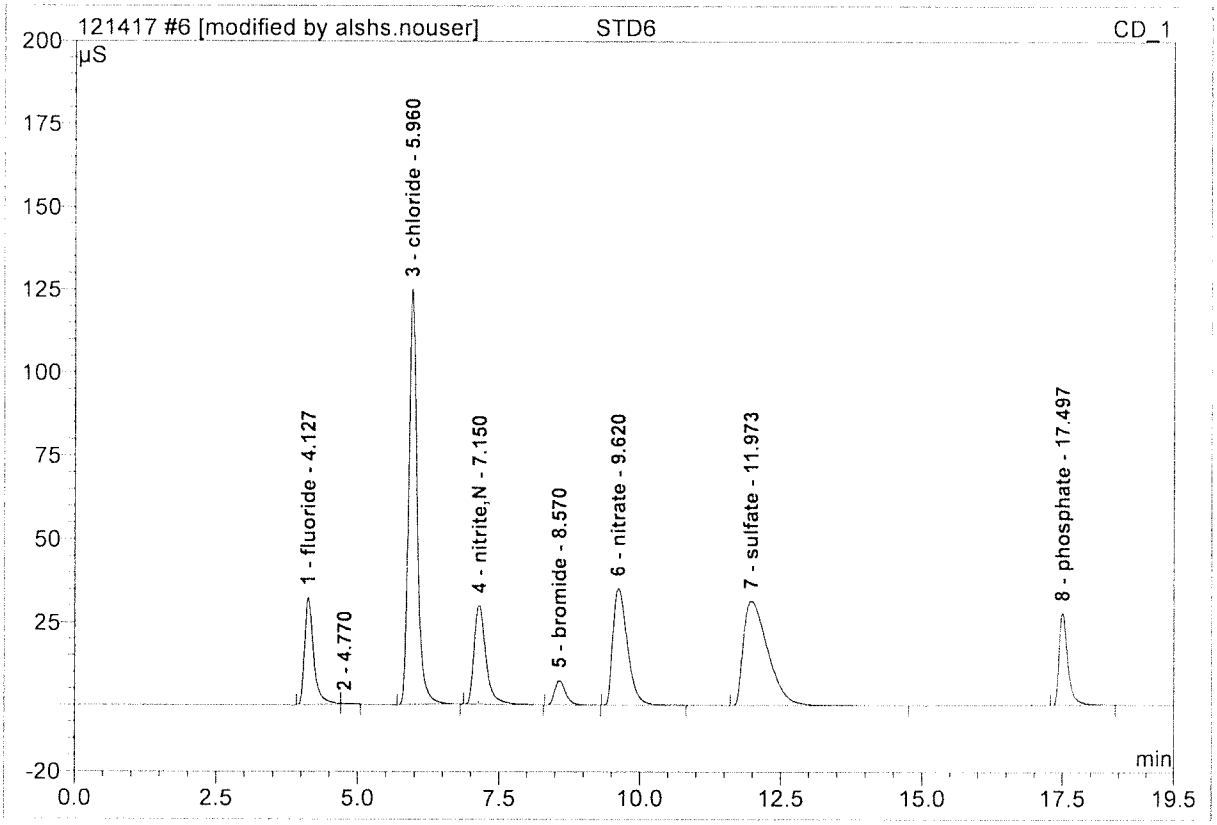
Sample Name:	**STD5**	*Injection Volume:*	**20.0**
Vial Number:	**26**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**9/4/2017 15:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	4.12	fluoride	17.261	3.097	9.37	10.134	1.
2	5.94	chloride	59.950	10.510	31.81	49.062	1.
3	7.15	nitrite,N	16.555	3.780	11.44	10.082	1.
4	8.58	bromide	3.568	0.789	2.39	9.677	1.
5	9.68	nitrate	18.208	5.085	15.39	9.738	1.
6	12.13	sulfate	17.227	7.480	22.64	48.397	1.
7	17.53	phosphate	13.559	2.299	6.96	9.587	1.
Total:			146.328	33.040	100.00	146.677	

6 STD6

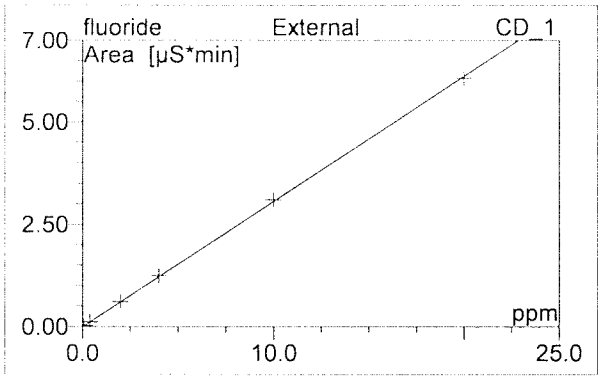
Sample Name:	**STD6**	*Injection Volume:*	**20.0**
Vial Number:	**27**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**9/4/2017 15:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**

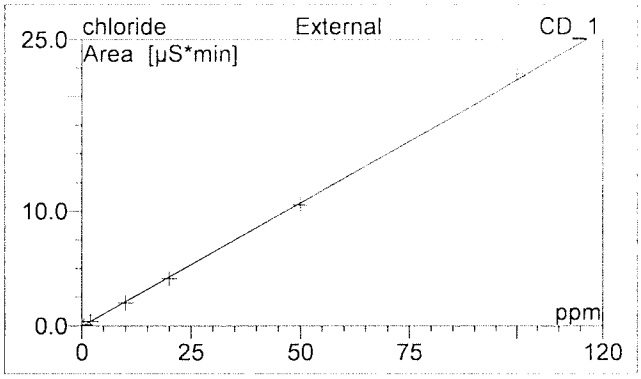


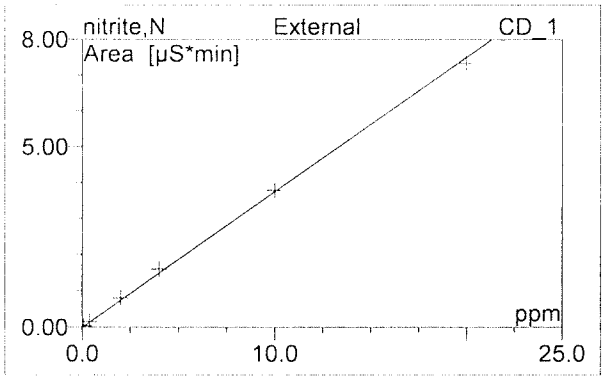
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	4.13	fluoride	32.547	6.065	8.84	19.794	1.
3	5.96	chloride	125.042	21.981	32.04	102.374	1.
4	7.15	nitrite,N	30.090	7.337	10.70	19.554	1.
5	8.57	bromide	7.471	1.679	2.45	20.212	1.
6	9.62	nitrate	35.342	10.630	15.50	20.148	1.
7	11.97	sulfate	31.668	15.840	23.09	100.967	1.
8	17.50	phosphate	27.949	4.997	7.28	20.273	1.
Total:			290.109	68.529	99.90	303.321	

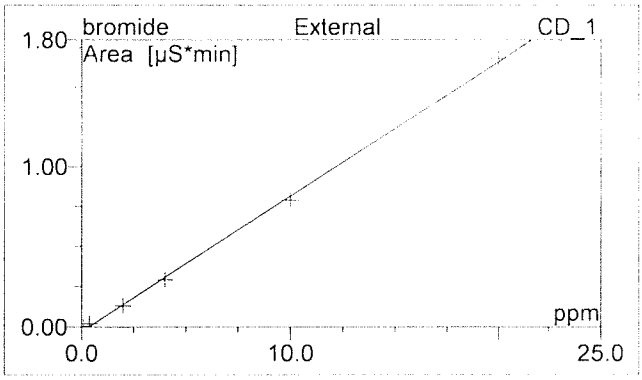
6 STD6

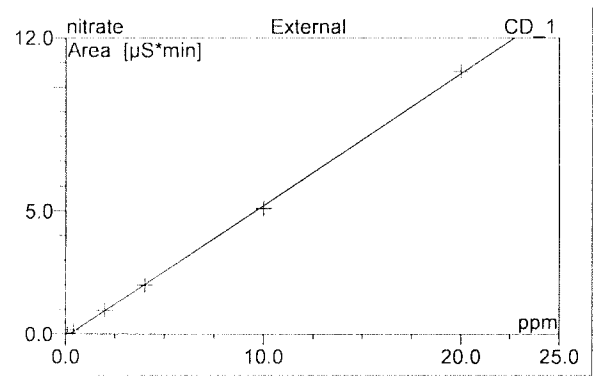
Sample Name:	**STD6**	*Injection Volume:*	**20.0**
Vial Number:	**27**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/4/2017 15:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**

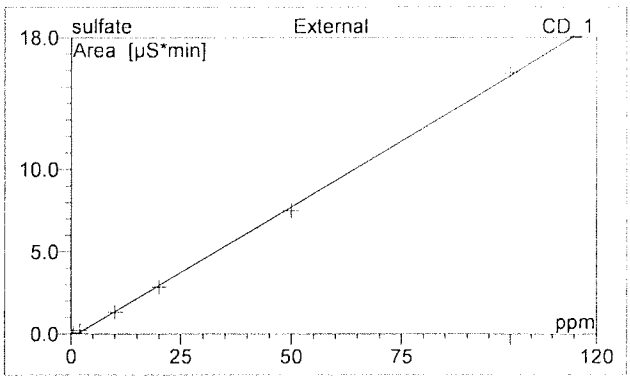


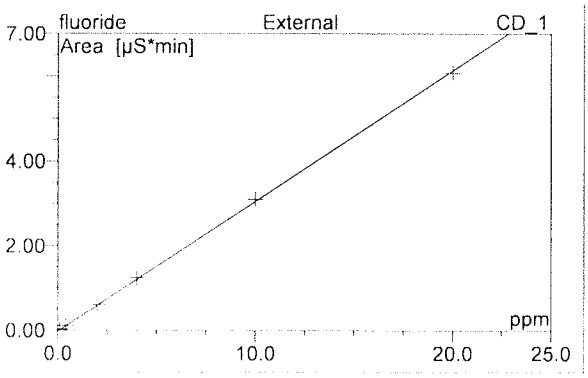


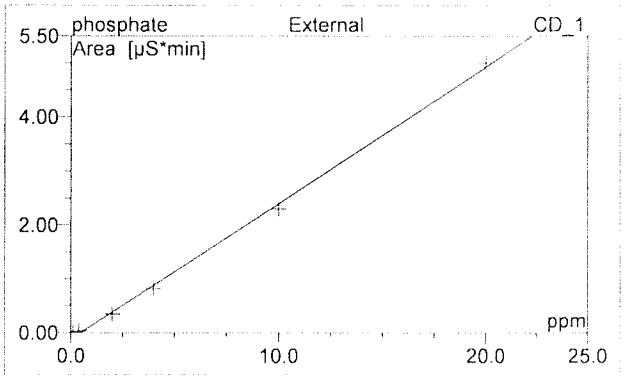










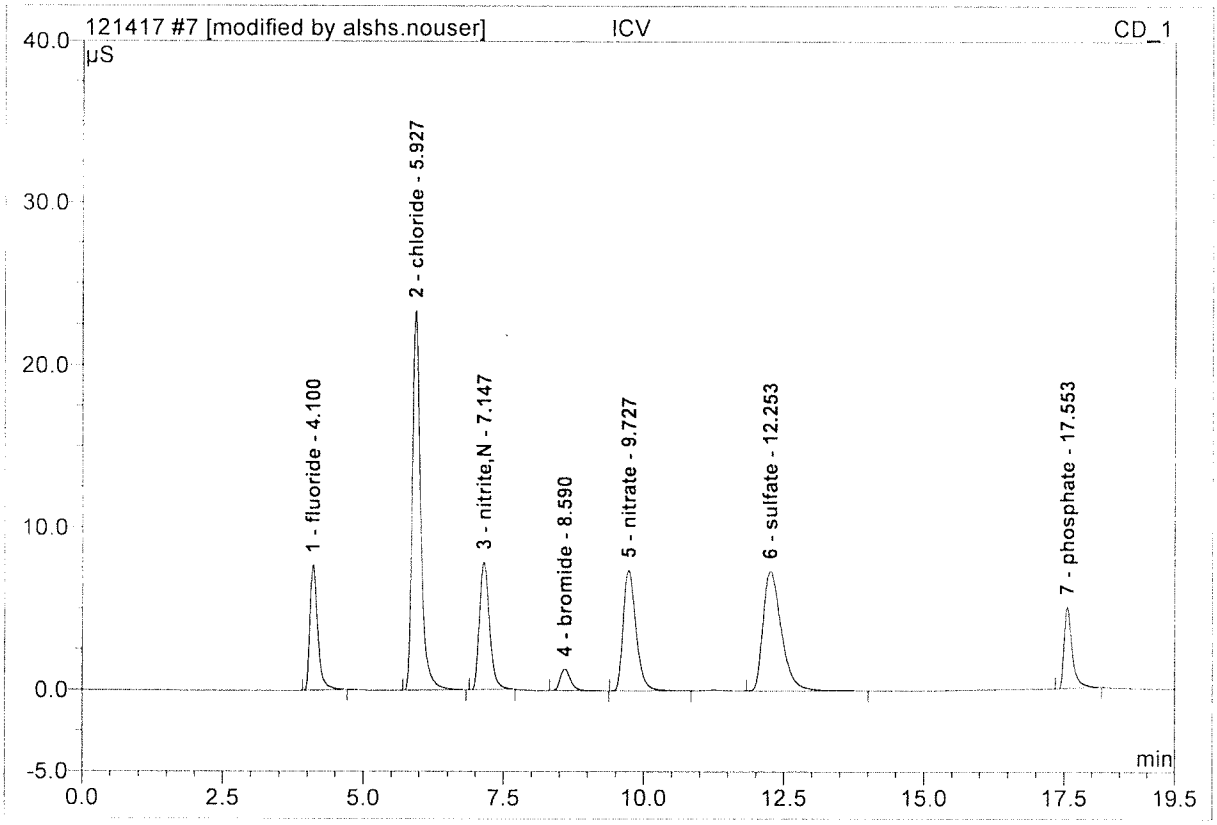


No.	Ret.Time min	Peak Name	Cal.Type	Points	Coeff.Det. %	Offset	Slope	Curve
1	4.13	fluoride	XLOff	6	99.9814	-0.0160	0.3072	0.000
3	5.96	chloride	YLOff	6	99.9137	-0.0457	0.2152	0.000
4	7.15	nitrite,N	YLOff	6	99.8887	-0.0066	0.3756	0.000
5	8.57	bromide	LOff	6	99.8928	-0.0287	0.0845	0.000
6	9.62	nitrate	LOff	6	99.9577	-0.1030	0.5327	0.000
7	11.97	sulfate	LOff	6	99.9214	-0.2172	0.1590	0.000
8	17.50	phosphate	LOff	6	99.8212	-0.1208	0.2524	0.000
Average:					99.9110	-0.0769	0.2752	0.0000

No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	RF-Value	Std.Dev.	RSD %
1	4.13	fluoride	XLOff	6	99.991	3.255	0.008	6.715
3	5.96	chloride	YLOff	6	99.957	4.648	0.053	15.142
4	7.15	nitrite,N	YLOff	6	99.944	2.663	0.022	16.526
5	8.57	bromide	LOff	6	99.946	11.835	0.024	4.925
6	9.62	nitrate	LOff	6	99.979	1.877	0.095	3.016
7	11.97	sulfate	LOff	6	99.961	6.288	0.193	4.167
8	17.50	phosphate	LOff	6	99.911	3.961	0.092	6.520
Average:					99.9555	4.9325	0.0694	8.1443

7 ICV

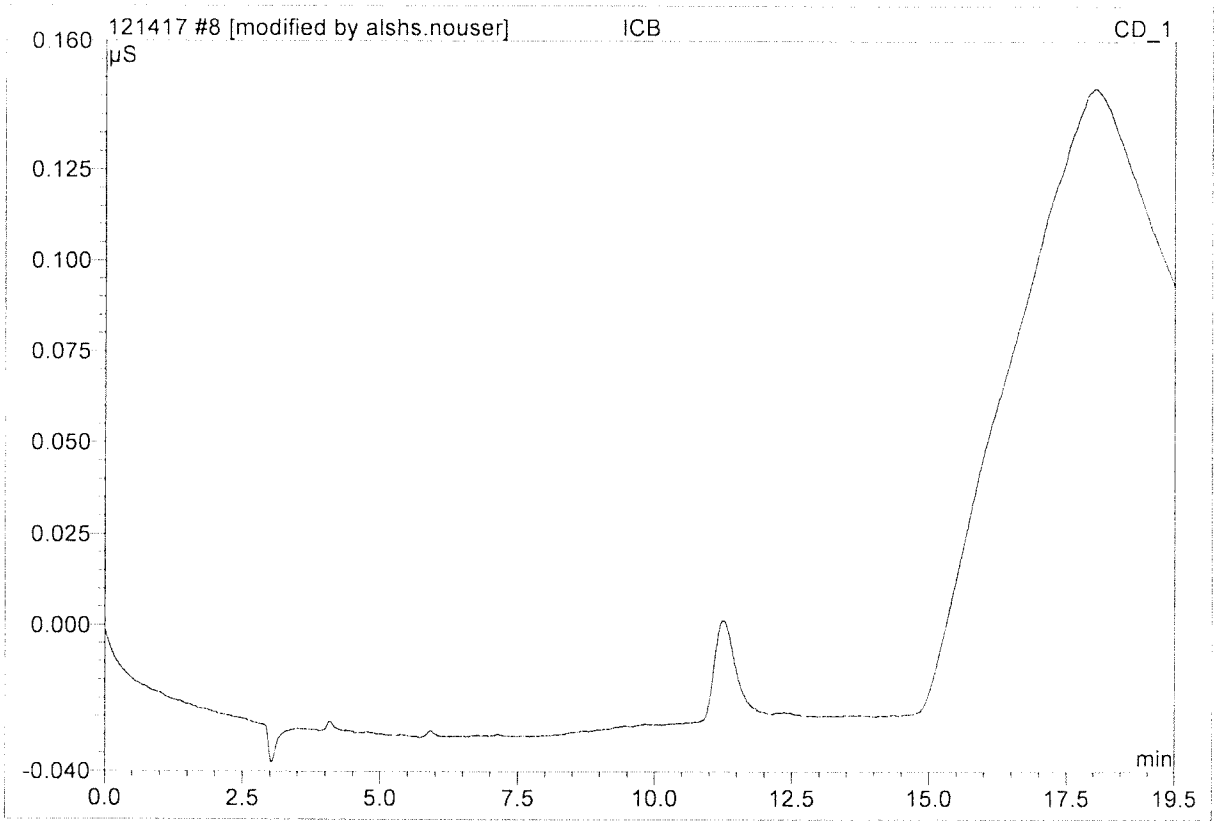
Sample Name:	**ICV**	*Injection Volume:*	**20.0**
Vial Number:	**28**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**9/4/2017 15:52**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	4.10	fluoride	7.700	1.236	9.62	4.076	1.
2	5.93	chloride	23.359	4.091	31.84	19.224	1.
3	7.15	nitrite,N	7.834	1.620	12.61	4.331	1.
4	8.59	bromide	1.345	0.285	2.22	3.708	1.
5	9.73	nitrate	7.416	1.962	15.27	3.876	1.
6	12.25	sulfate	7.367	2.805	21.84	19.002	1.
7	17.55	phosphate	5.023	0.847	6.60	3.835	1.
Total:			60.044	12.845	100.00	58.053	

8 ICB

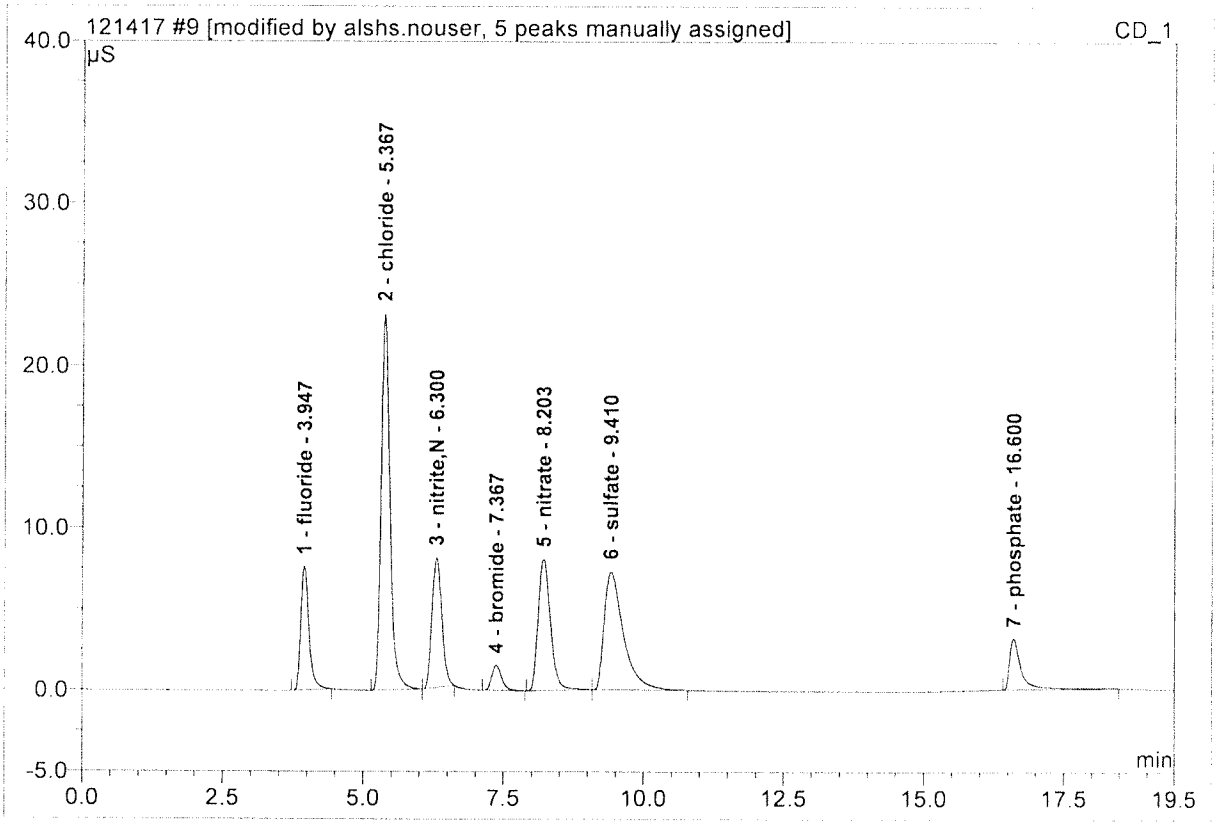
Sample Name:	**ICB**	*Injection Volume:*	**20.0**
Vial Number:	**29**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**9/4/2017 16:14**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*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	

9 CCV

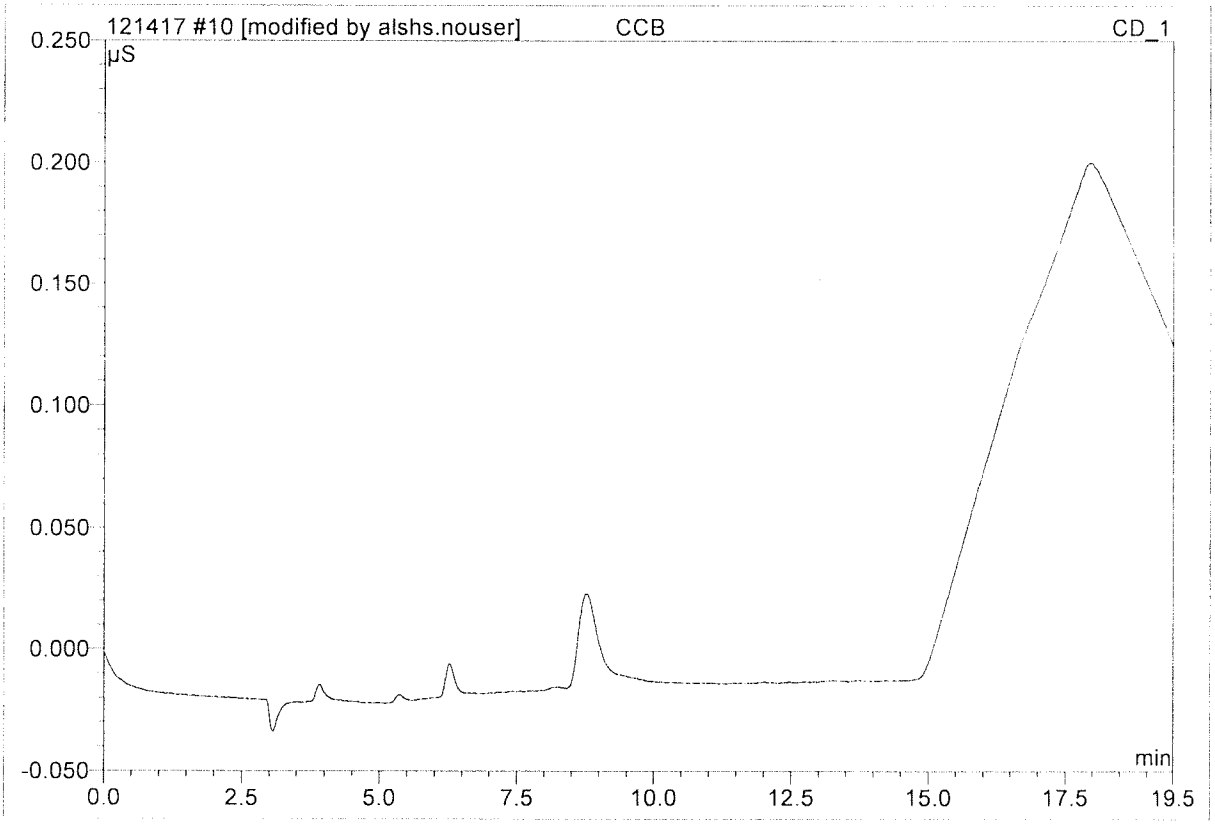
Sample Name:	**CCV**	*Injection Volume:*	**20.0**
Vial Number:	**1**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**12/14/2017 17:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	3.95	fluoride	7.591	1.285	9.73	4.236	1.
2	5.37	chloride	23.196	4.204	31.83	19.750	1.
3	6.30	nitrite,N	7.985	1.638	12.41	4.380	1.
4	7.37	bromide	1.550	0.316	2.39	4.082	1.
5	8.20	nitrate	8.081	2.078	15.73	4.093	1.
6	9.41	sulfate	7.290	2.896	21.93	19.573	1.
7	16.60	phosphate	3.125	0.790	5.98	3.608	1.
Total:			58.816	13.207	100.00	59.721	

10 CCB

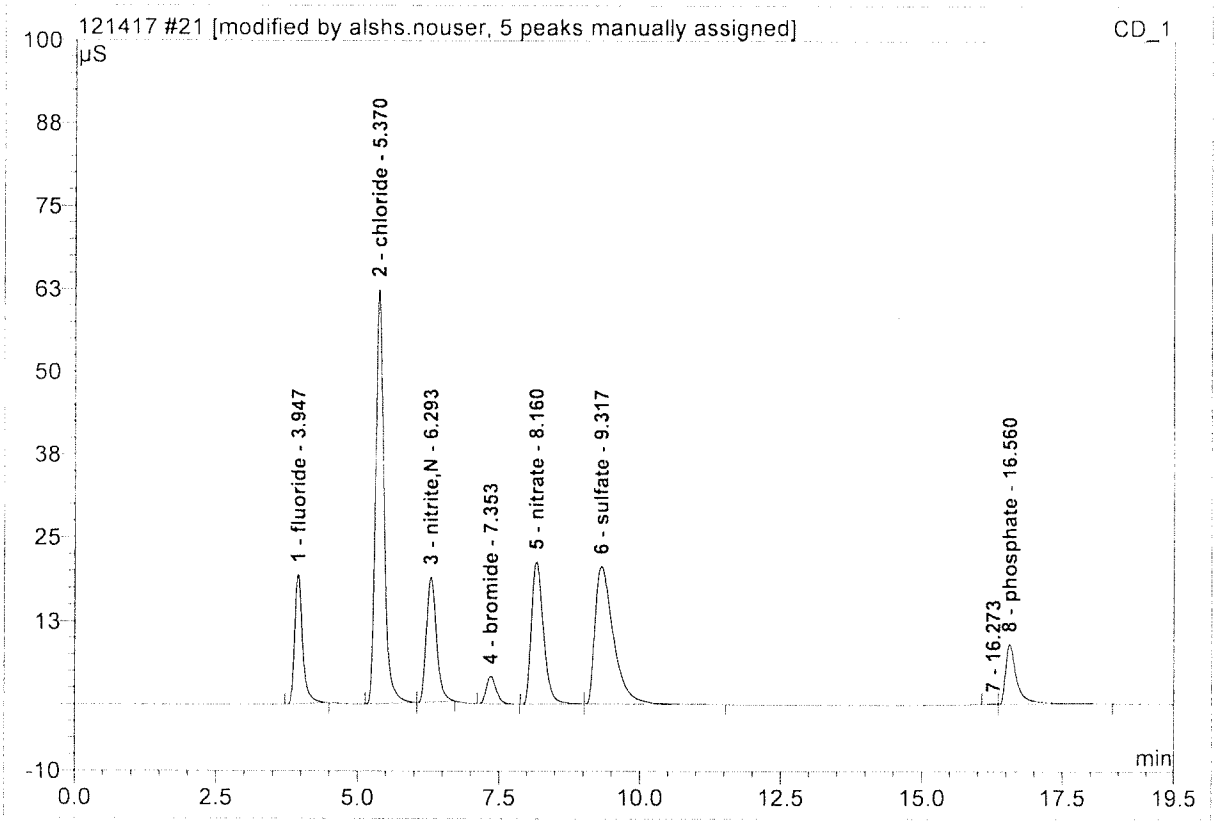
Sample Name:	**CCB**	*Injection Volume:*	**20.0**
Vial Number:	**2**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**12/14/2017 17:59**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*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	

21 CCV1

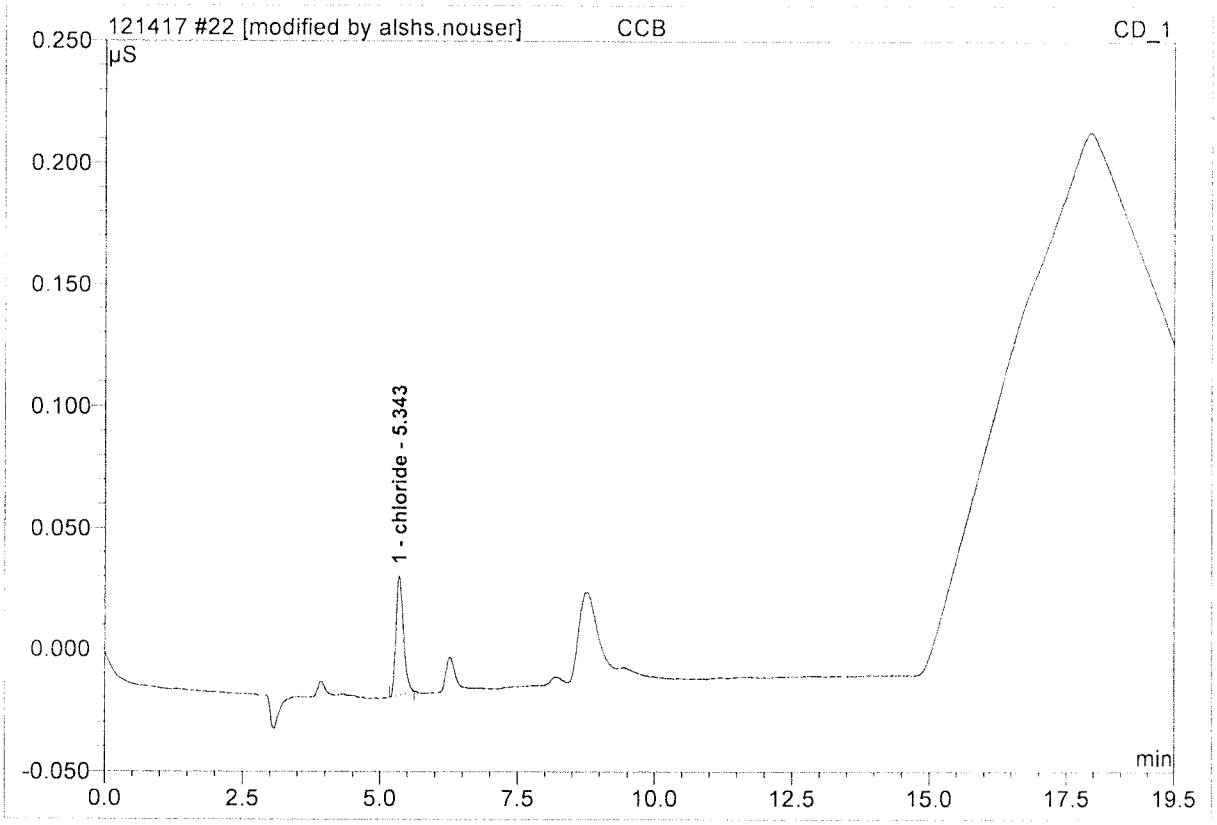
Sample Name:	**CCV1**	*Injection Volume:*	**20.0**
Vial Number:	**3**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**12/15/2017 0:53**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	3.95	fluoride	19.370	3.219	9.41	10.530	1.
2	5.37	chloride	62.403	10.767	31.47	50.255	1.
3	6.29	nitrite,N	18.735	3.936	11.51	10.498	1.
4	7.35	bromide	4.190	0.856	2.50	10.474	1.
5	8.16	nitrate	21.359	5.368	15.69	10.271	1.
6	9.32	sulfate	20.618	7.864	22.99	50.812	1.
8	16.56	phosphate	9.066	2.186	6.39	9.138	1.
Total:			155.740	34.196	99.96	151.977	

22 CCB

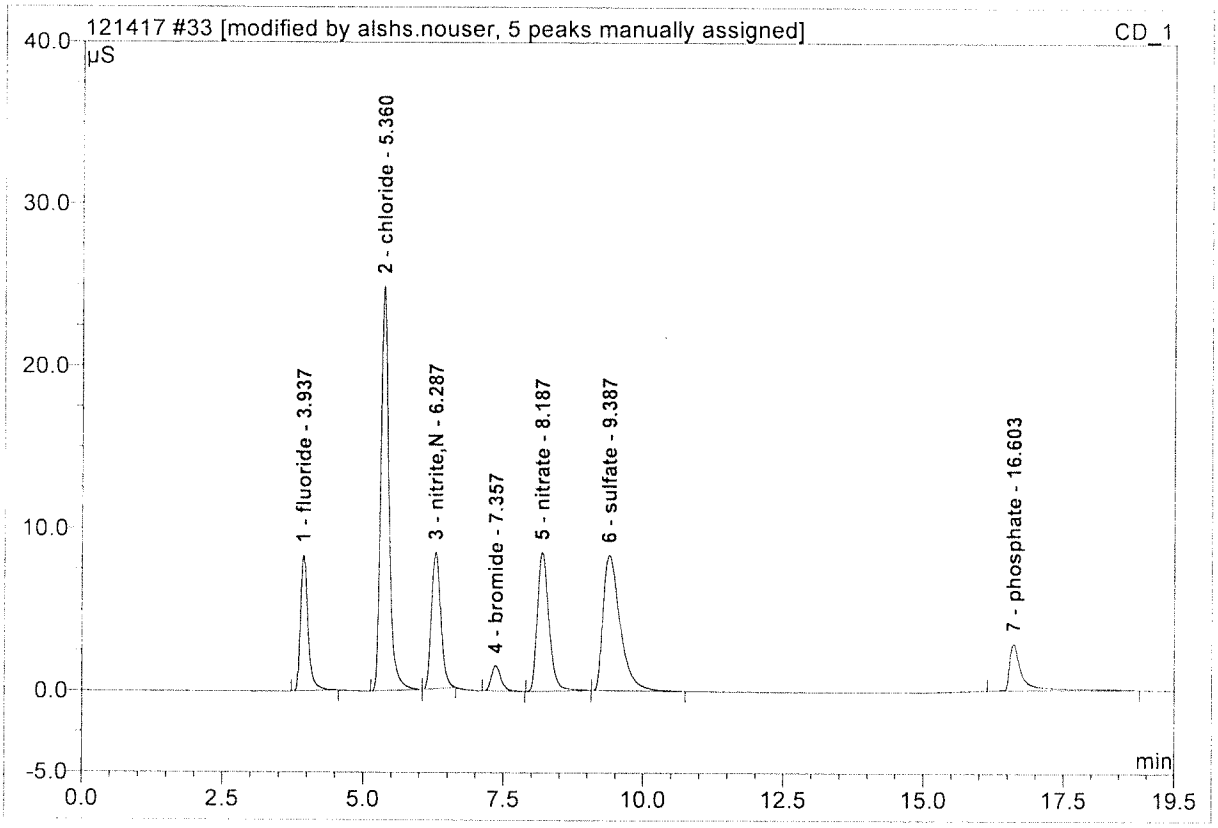
Sample Name:	**CCB**	*Injection Volume:*	**20.0**
Vial Number:	**4**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**12/15/2017 1:15**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	5.34	chloride	0.049	0.008	100.00	0.249	1.
Total:			0.049	0.008	100.00	0.249	

33 CCV

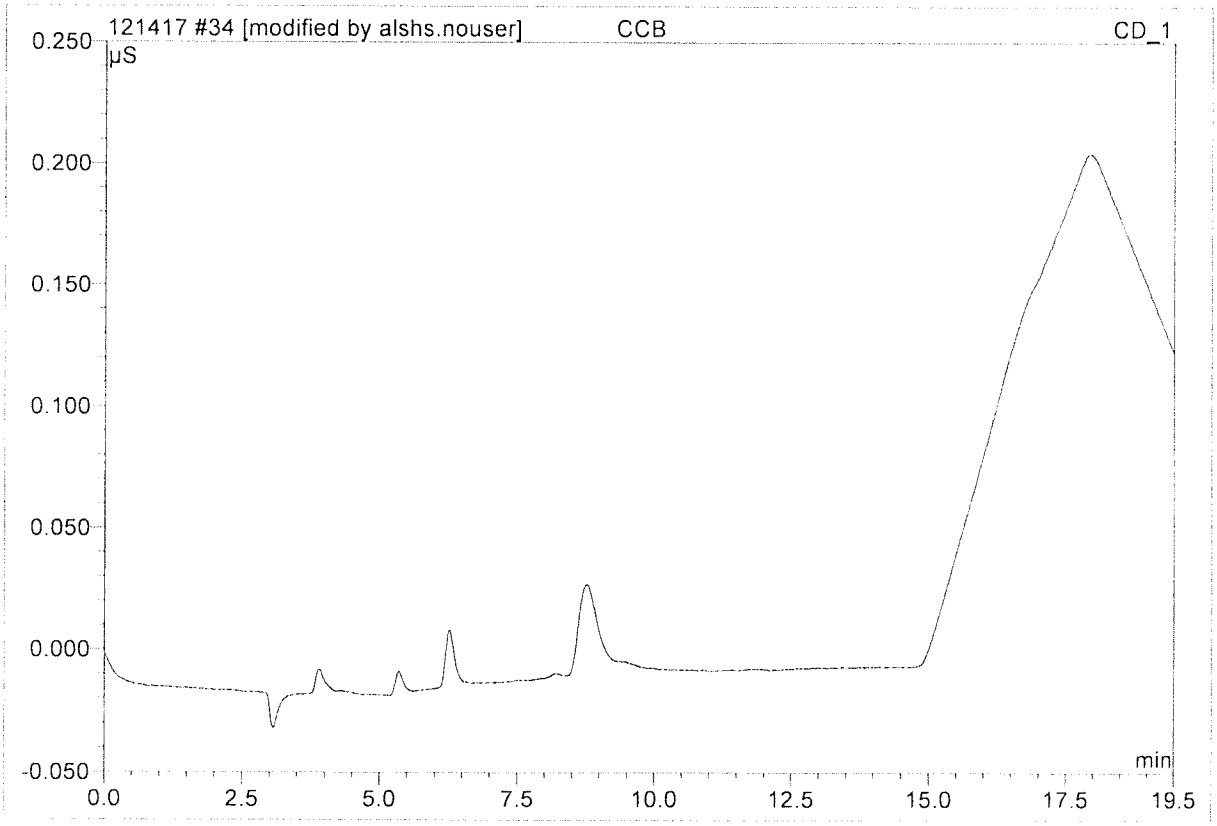
Sample Name:	**CCV**	*Injection Volume:*	**20.0**
Vial Number:	**1**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**12/15/2017 5:13**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	3.94	fluoride	8.362	1.305	9.81	4.299	1.
2	5.36	chloride	24.922	4.199	31.56	19.727	1.
3	6.29	nitrite,N	8.405	1.643	12.35	4.392	1.
4	7.36	bromide	1.579	0.313	2.36	4.049	1.
5	8.19	nitrate	8.557	2.078	15.62	4.094	1.
6	9.39	sulfate	8.347	2.958	22.24	19.965	1.
7	16.60	phosphate	2.894	0.807	6.07	3.676	1.
Total:			63.066	13.303	100.00	60.203	

34 CCB

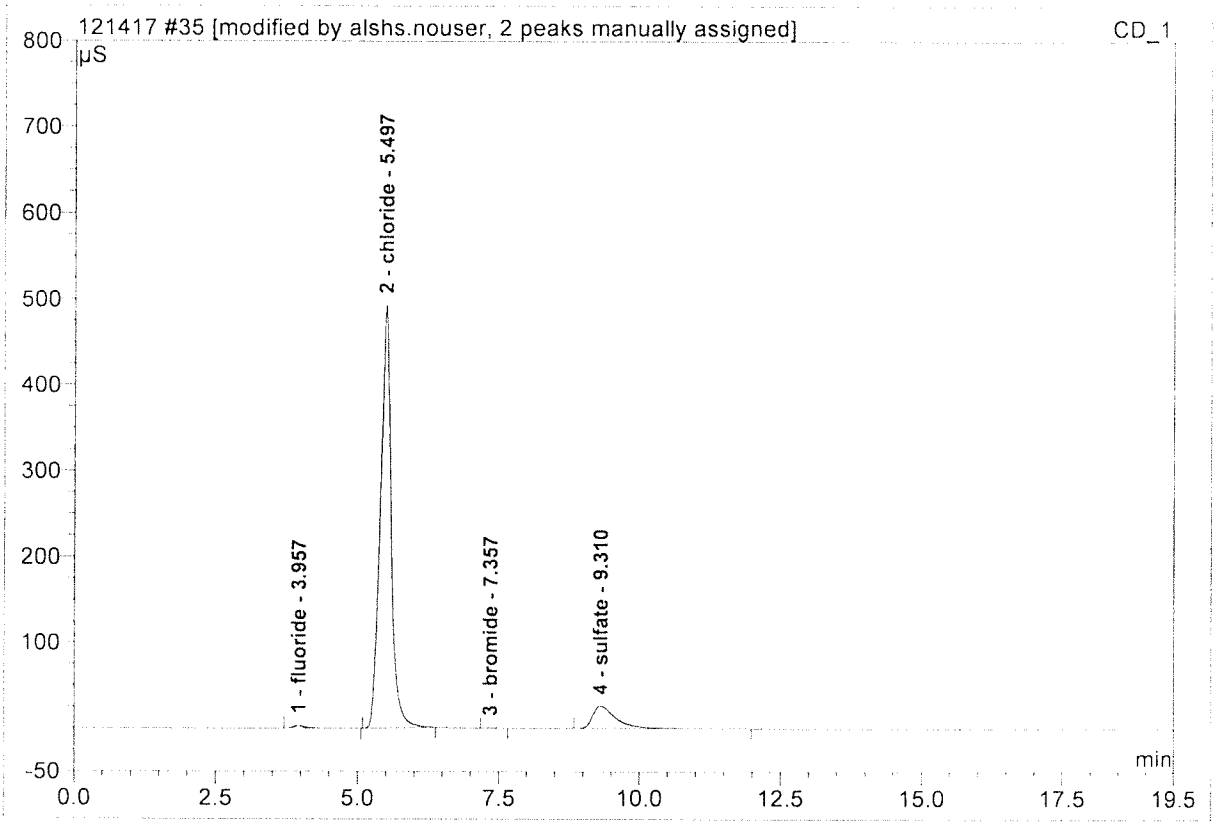
Sample Name:	**CCB**	*Injection Volume:*	**20.0**
Vial Number:	**2**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**12/15/2017 5:35**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*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	

35 HS17120792-04

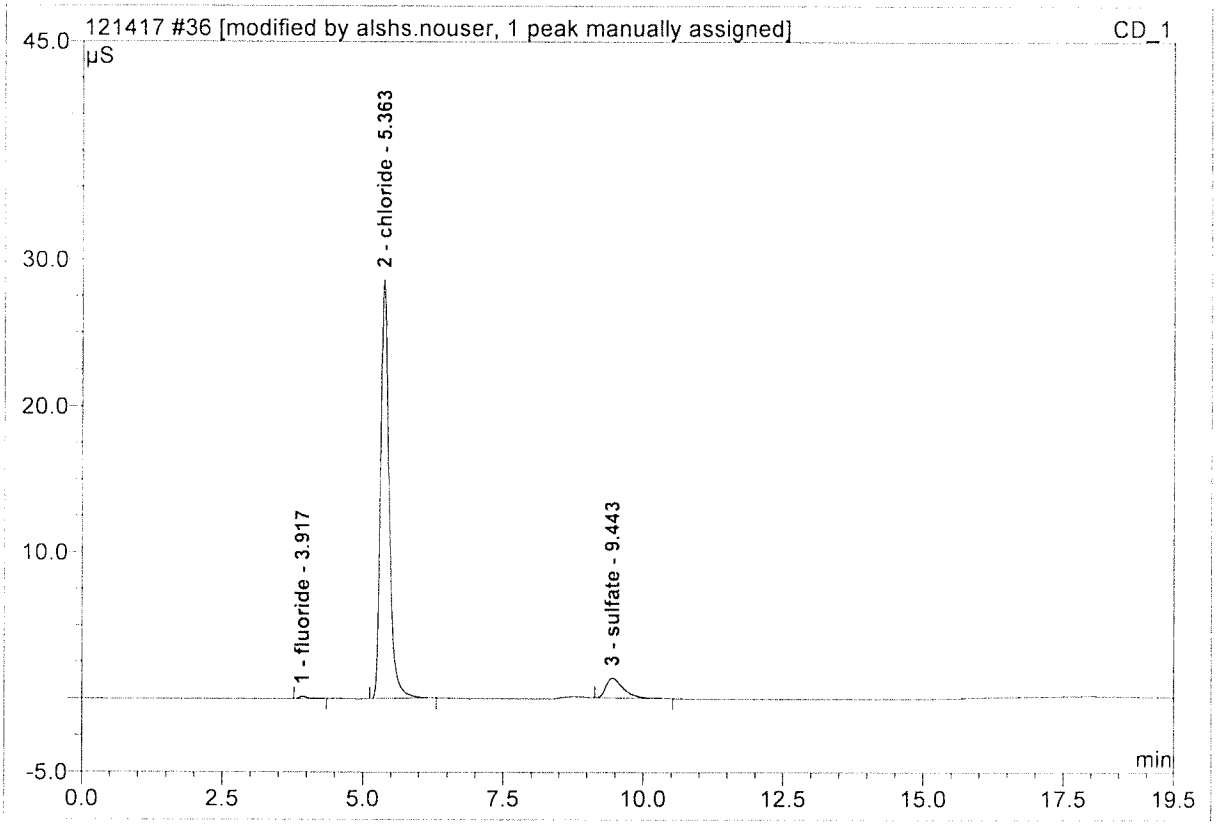
Sample Name:	**HS17120792-04**	*Injection Volume:*	**20.0**
Vial Number:	**25**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**12/15/2017 7:43**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	3.96	fluoride	2.881	0.644	0.52	2.150	1.
2	5.50	chloride	492.314	109.858	88.99	510.809	1.
3	7.36	bromide	0.403	0.080	0.07	1.290	1.
4	9.31	sulfate	26.029	12.862	10.42	82.239	1.
Total:			521.627	123.444	100.00	596.488	

36 HS17120792-04DF20

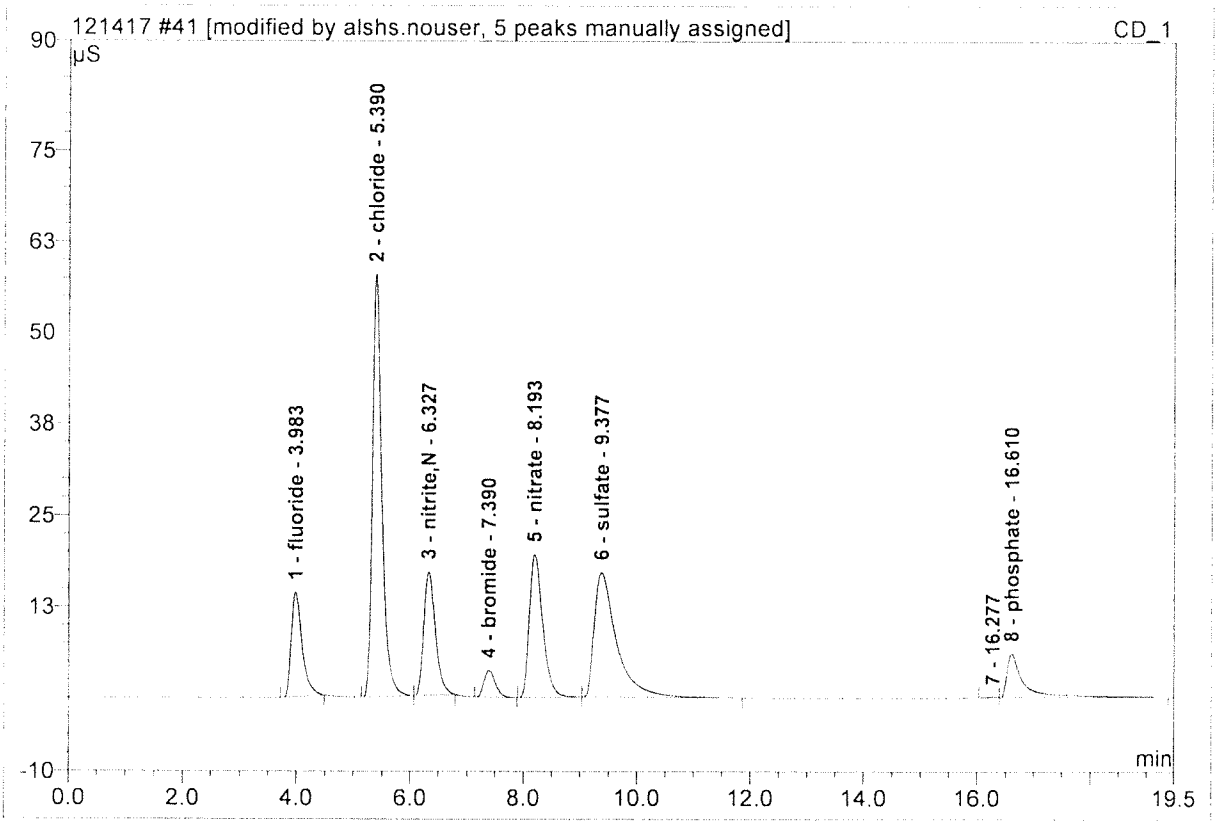
Sample Name:	**HS17120792-04DF20**	*Injection Volume:*	**20.0**
Vial Number:	**26**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**20.**
Recording Time:	**12/15/2017 8:05**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	3.92	fluoride	0.165	0.028	0.51	2.874	20.
2	5.36	chloride	28.611	5.059	90.84	474.469	20.
3	9.44	sulfate	1.344	0.482	8.66	87.939	20.
Total:			30.120	5.569	100.00	565.282	

41 CCV1

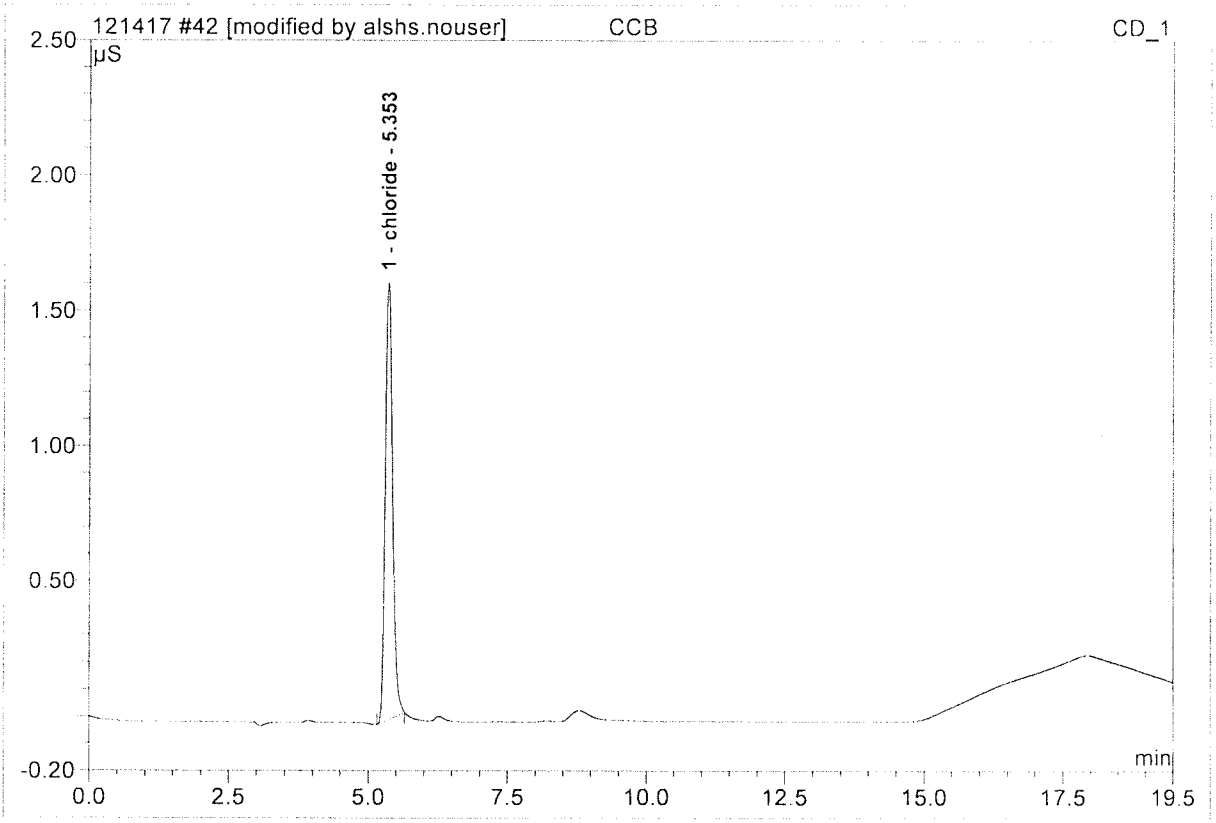
Sample Name:	**CCV1**	*Injection Volume:*	**20.0**
Vial Number:	**3**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**12/15/2017 11:27**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	3.98	fluoride	14.386	3.161	9.16	10.343	1.
2	5.39	chloride	57.885	11.004	31.88	51.354	1.
3	6.33	nitrite,N	17.000	4.034	11.69	10.760	1.
4	7.39	bromide	3.706	0.861	2.49	10.530	1.
5	8.19	nitrate	19.668	5.437	15.75	10.399	1.
6	9.38	sulfate	17.163	7.818	22.65	50.524	1.
8	16.61	phosphate	6.004	2.190	6.35	9.155	1.
Total:			135.813	34.505	99.96	153.066	

42 CCB

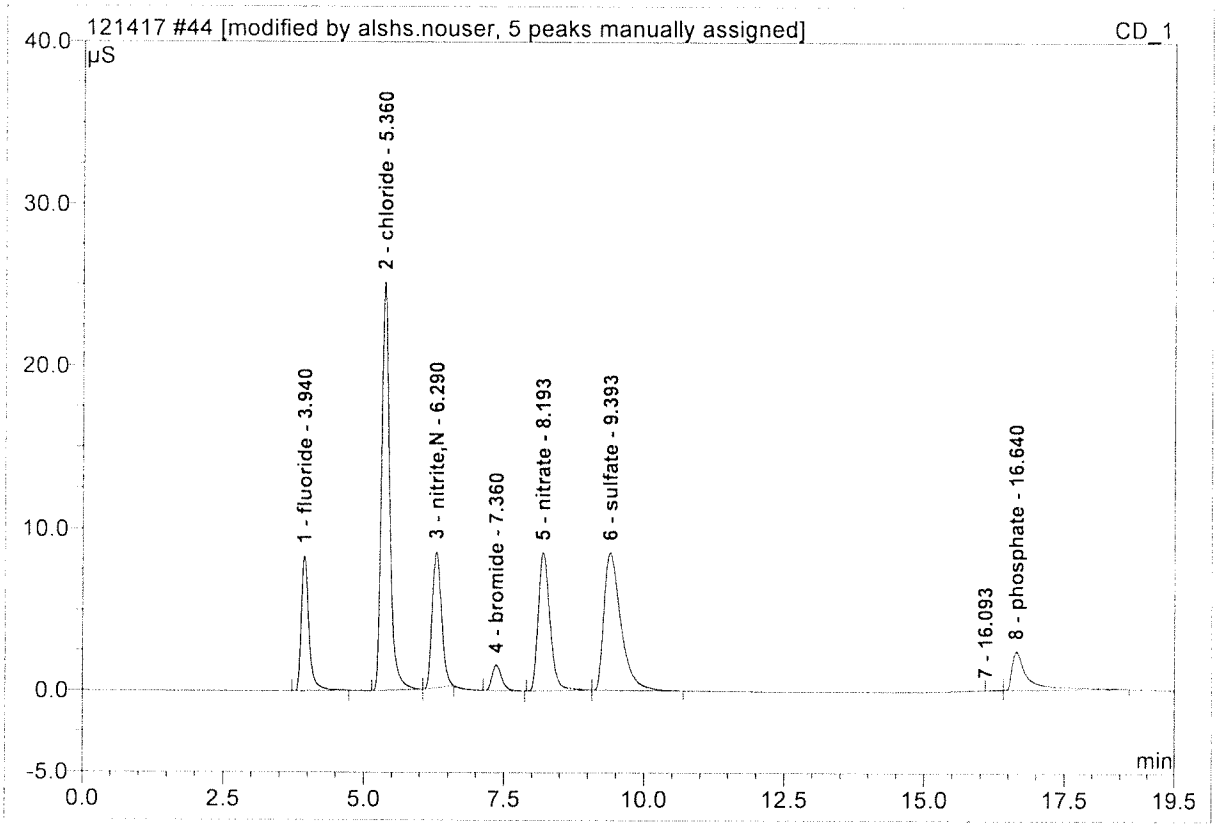
Sample Name:	**CCB**	*Injection Volume:*	**20.0**
Vial Number:	**4**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**12/15/2017 11:49**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	5.35	chloride	1.615	0.246	100.00	1.356	1.
Total:			1.615	0.246	100.00	1.356	

44 WLCSW1-121517

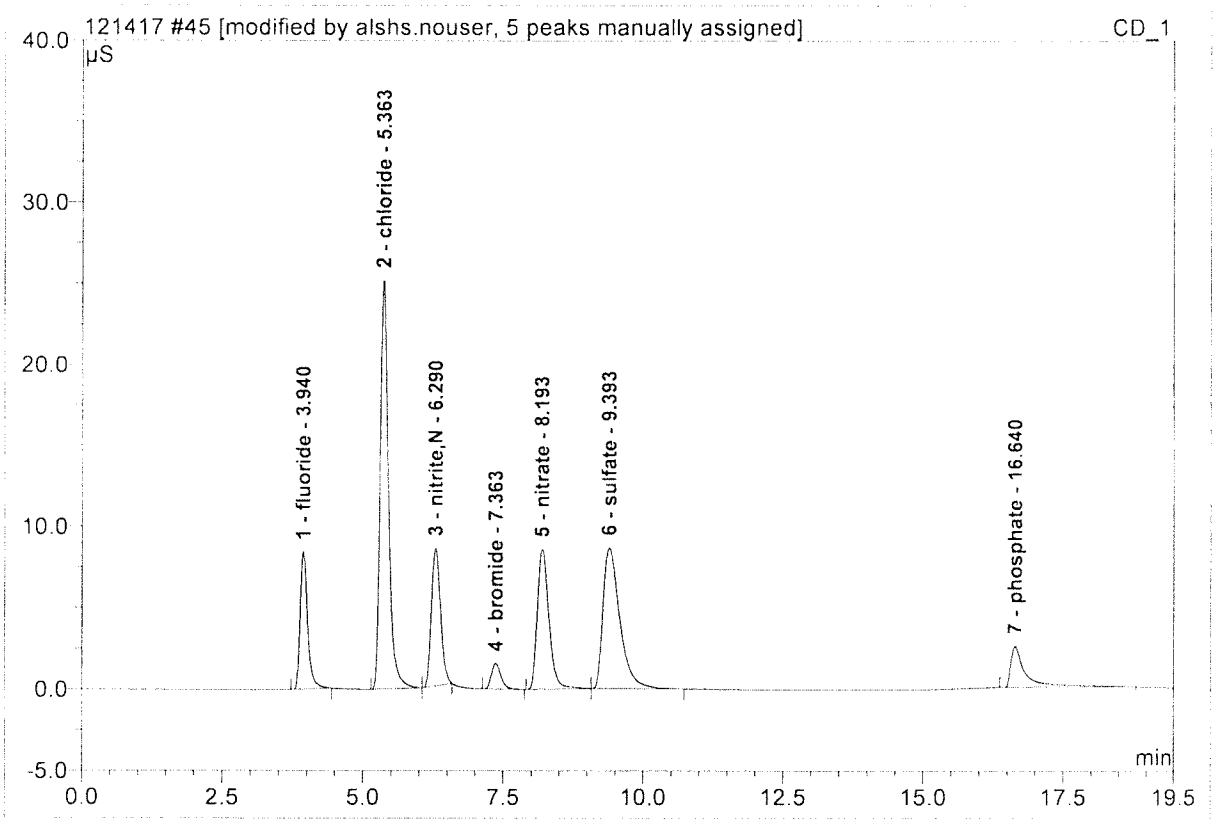
Sample Name:	**WLCSW1-121517**	*Injection Volume:*	**20.0**
Vial Number:	**32**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**12/15/2017 12:33**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	3.94	fluoride	8.338	1.321	9.87	4.352	1.
2	5.36	chloride	25.153	4.242	31.69	19.931	1.
3	6.29	nitrite,N	8.433	1.630	12.18	4.359	1.
4	7.36	bromide	1.588	0.314	2.34	4.055	1.
5	8.19	nitrate	8.558	2.082	15.55	4.102	1.
6	9.39	sulfate	8.532	2.991	22.34	20.176	1.
8	16.64	phosphate	2.385	0.802	5.99	3.655	1.
Total:			62.988	13.383	99.96	60.629	

45 WLCSDW1-121517

Sample Name:	**WLCSDW1-121517**	*Injection Volume:*	**20.0**
Vial Number:	**33**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**12/15/2017 12:54**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**

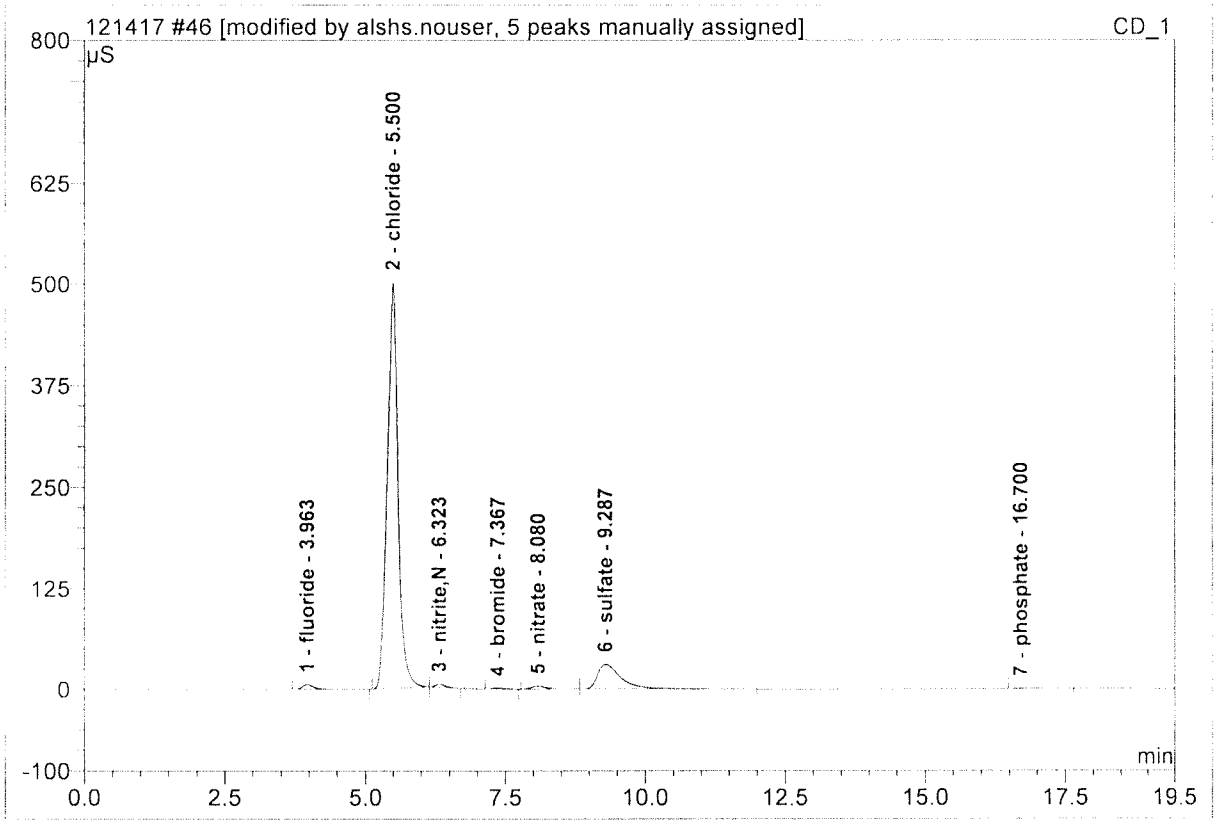


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	3.94	fluoride	8.401	1.301	9.71	4.287	1.
2	5.36	chloride	25.167	4.246	31.70	19.949	1.
3	6.29	nitrite,N	8.444	1.622	12.11	4.336	1.
4	7.36	bromide	1.582	0.313	2.34	4.047	1.
5	8.19	nitrate	8.572	2.087	15.58	4.111	1.
6	9.39	sulfate	8.649	3.007	22.45	20.274	1.
7	16.64	phosphate	2.524	0.821	6.13	3.730	1.
Total:			63.340	13.397	100.00	60.734	

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46 HS17120792-04MS

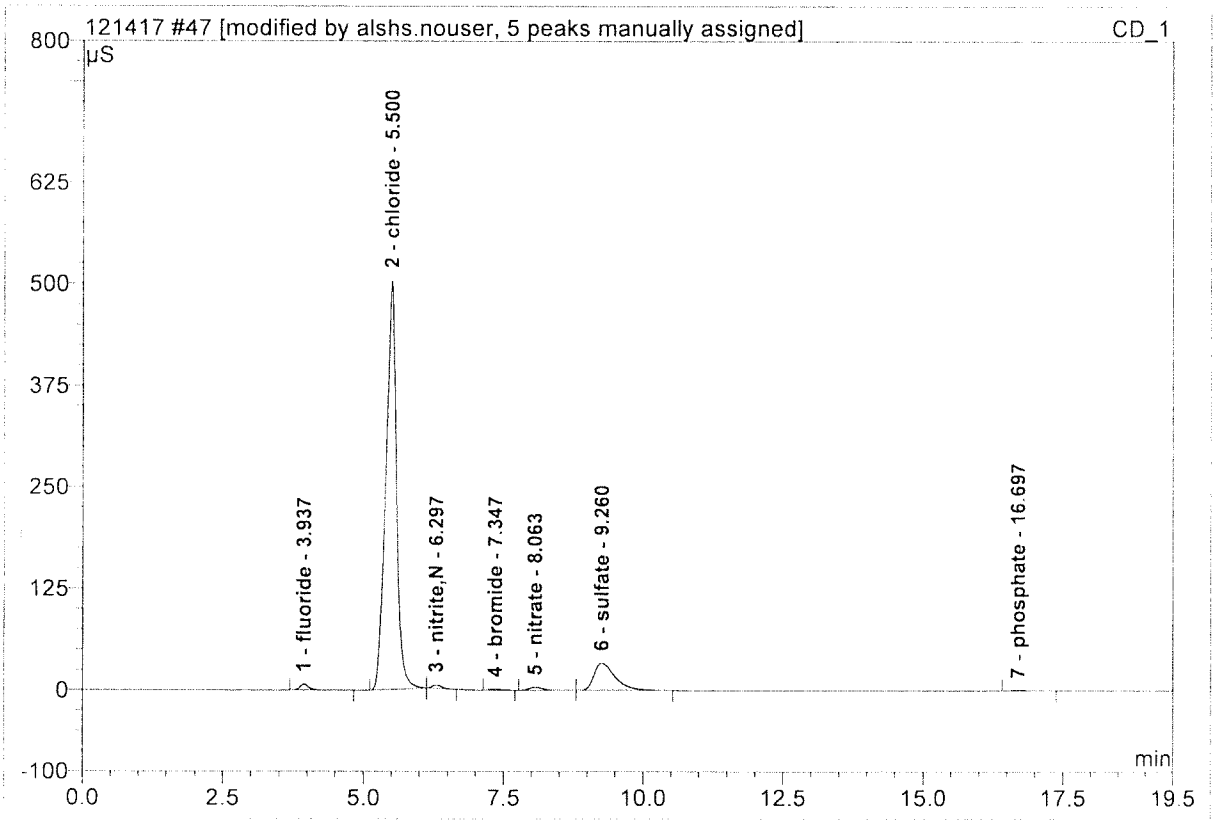
Sample Name:	**HS17120792-04MS**	*Injection Volume:*	**20.0**
Vial Number:	**34**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**12/15/2017 15:14**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	3.96	fluoride	5.903	1.377	1.06	4.535	1.
2	5.50	chloride	500.474	110.971	85.78	515.983	1.
3	6.32	nitrite,N	3.793	0.791	0.61	2.124	1.
4	7.37	bromide	1.244	0.265	0.20	3.470	1.
5	8.08	nitrate	3.563	1.101	0.85	2.260	1.
6	9.29	sulfate	30.529	14.687	11.35	93.714	1.
7	16.70	phosphate	0.451	0.171	0.13	1.157	1.
Total:			545.957	129.363	100.00	623.244	

47 HS17120792-04MSD

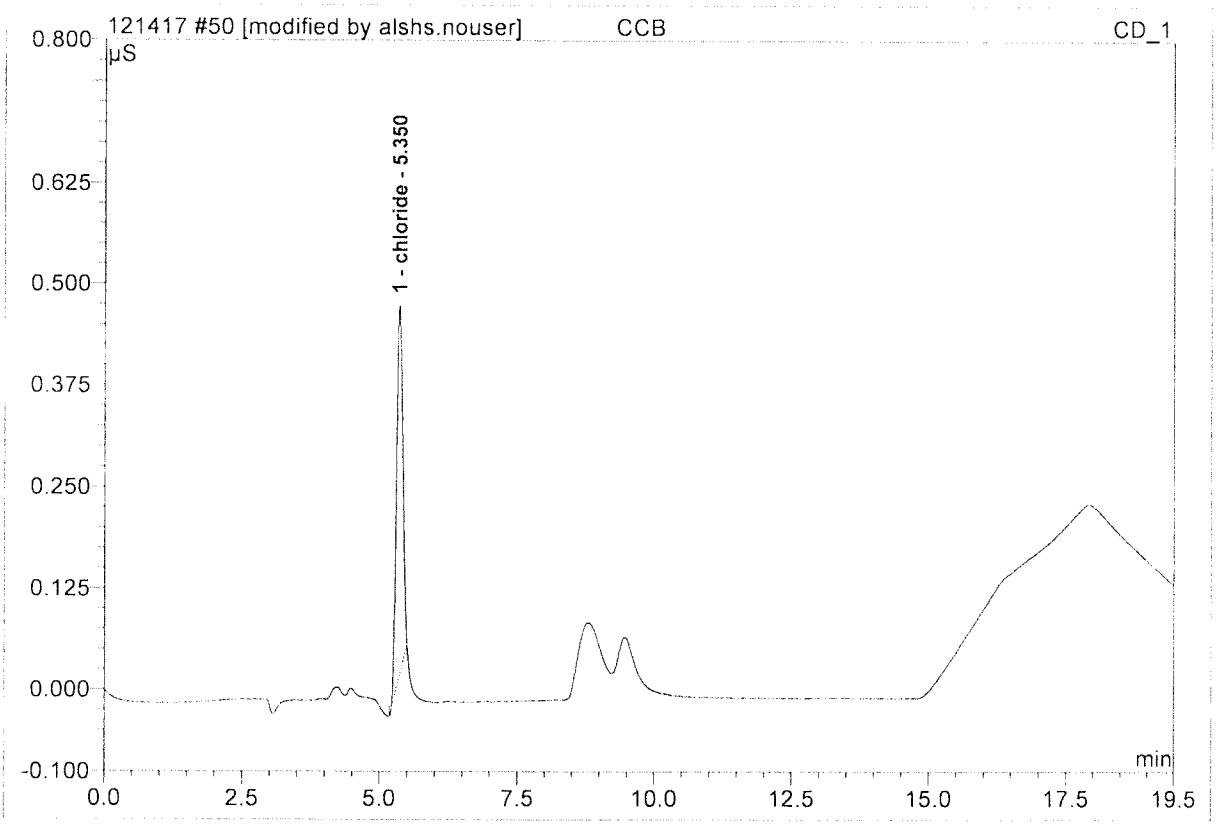
Sample Name:	**HS17120792-04MSD**	*Injection Volume:*	**20.0**
Vial Number:	**35**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**12/15/2017 15:36**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	3.94	fluoride	7.324	1.380	1.06	4.543	1.
2	5.50	chloride	503.003	111.275	85.77	517.396	1.
3	6.30	nitrite,N	4.521	0.842	0.65	2.260	1.
4	7.35	bromide	1.395	0.266	0.20	3.483	1.
5	8.06	nitrate	3.701	1.105	0.85	2.268	1.
6	9.26	sulfate	33.472	14.649	11.29	93.481	1.
7	16.70	phosphate	0.697	0.217	0.17	1.337	1
Total:			554.112	129.734	100.00	624.768	

50 CCB

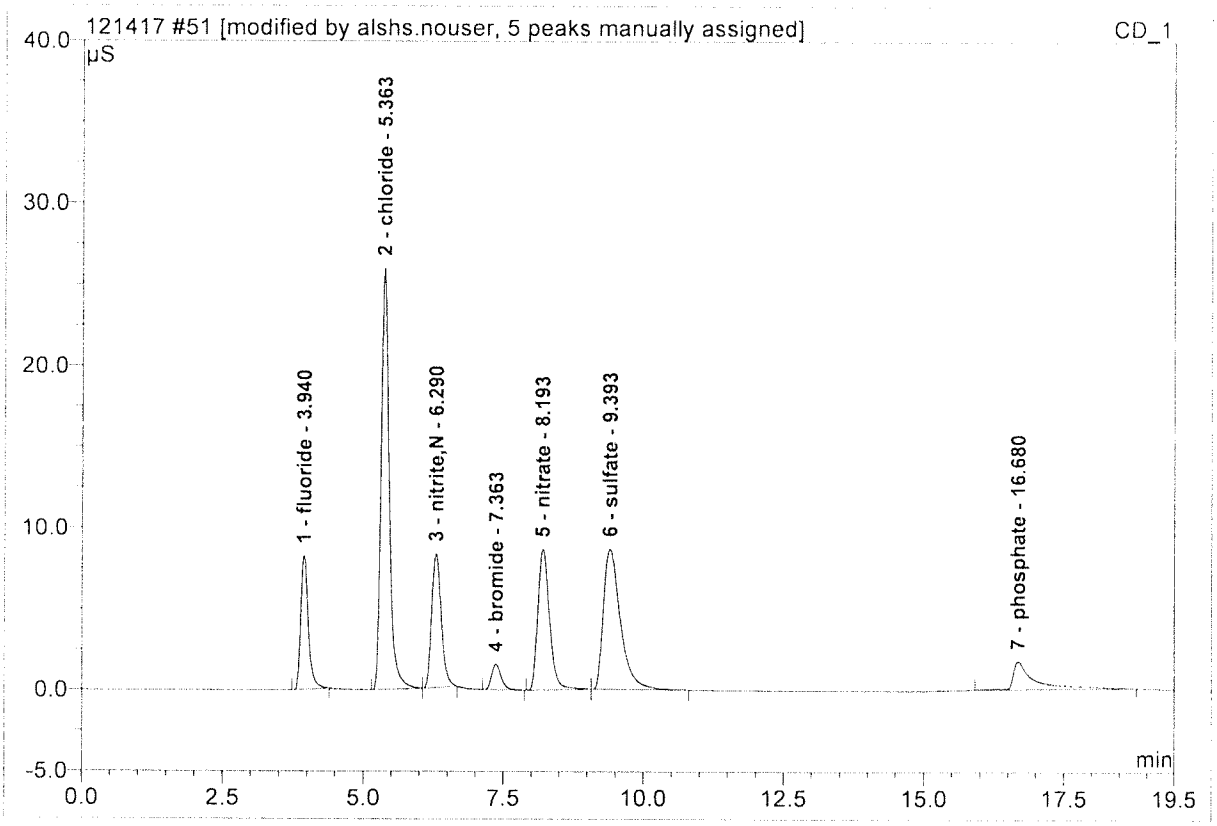
Sample Name:	**CCB**	*Injection Volume:*	**20.0**
Vial Number:	**2**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**12/15/2017 17:41**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	5.35	chloride	0.458	0.060	100.00	0.492	1.
Total:			0.458	0.060	100.00	0.492	

51 CCV

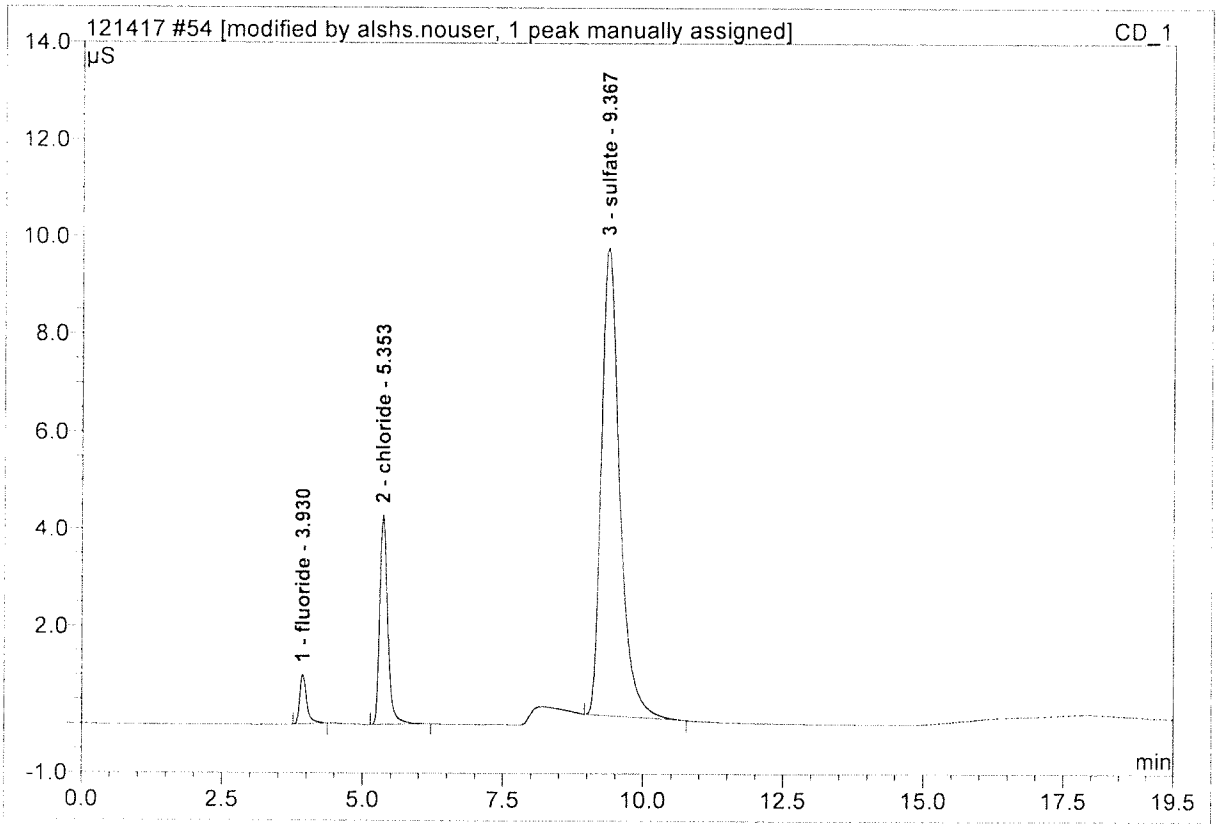
Sample Name:	**CCV**	*Injection Volume:*	**20.0**
Vial Number:	**1**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**12/15/2017 18:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	3.94	fluoride	8.239	1.286	9.45	4.240	1.
2	5.36	chloride	25.988	4.420	32.45	20.755	1.
3	6.29	nitrite,N	8.245	1.633	11.99	4.365	1.
4	7.36	bromide	1.595	0.318	2.34	4.107	1.
5	8.19	nitrate	8.658	2.115	15.53	4.163	1.
6	9.39	sulfate	8.666	3.058	22.45	20.594	1.
7	16.68	phosphate	1.733	0.790	5.80	3.606	1.
Total:			63.124	13.620	100.00	61.830	

54 HS17120844-09

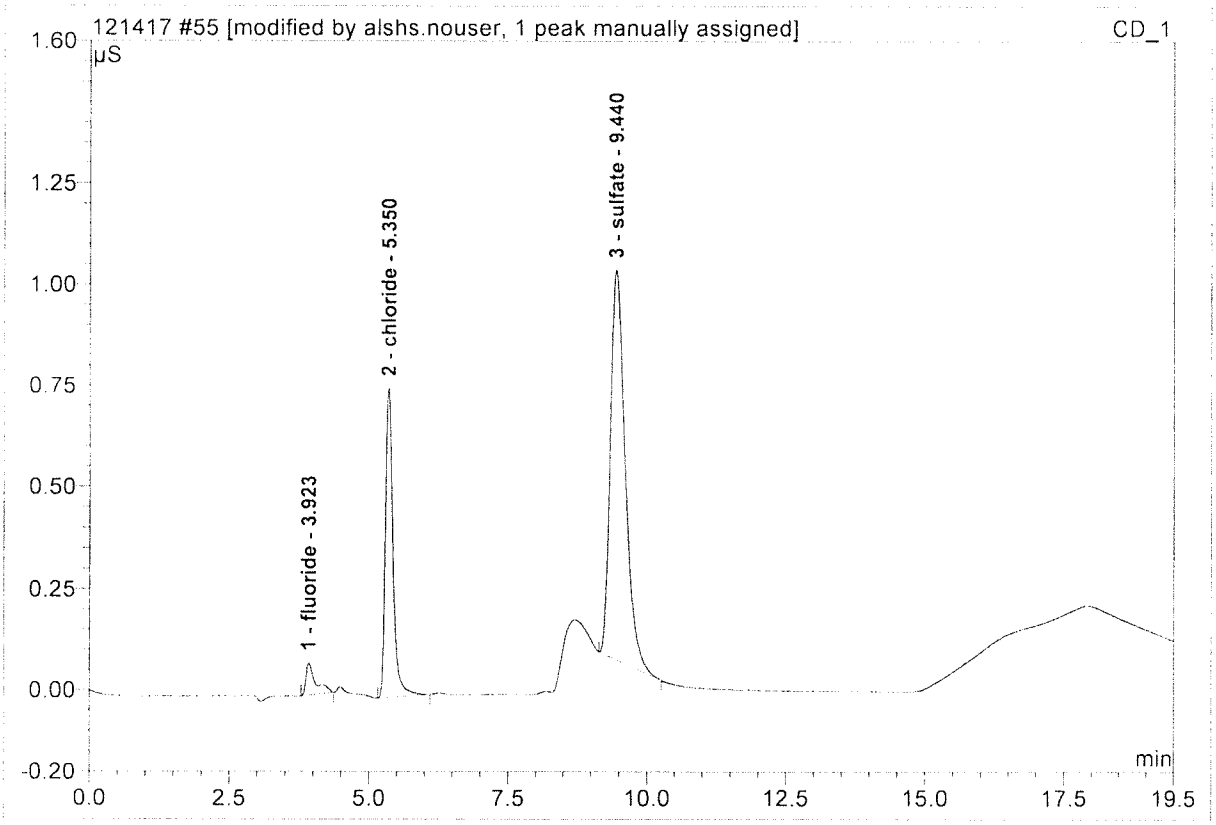
Sample Name:	**HS17120844-09**	*Injection Volume:*	**20.0**
Vial Number:	**41**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**12/15/2017 19:52**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	3.93	fluoride	1.007	0.146	3.25	0.529	1.
2	5.35	chloride	4.301	0.714	15.86	3.533	1.
3	9.37	sulfate	9.600	3.642	80.88	24.268	1.
Total:			14.908	4.503	100.00	28.329	

55 HS17120844-09DF10

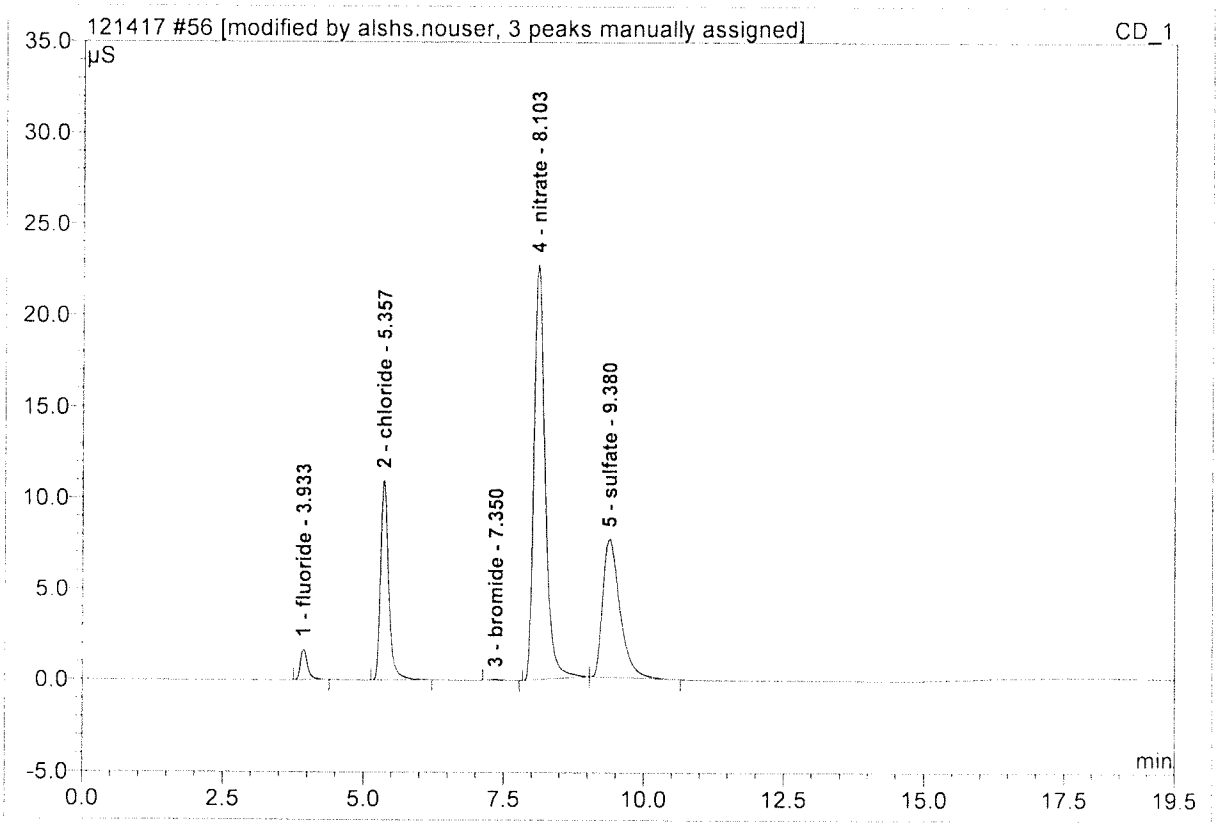
Sample Name:	**HS17120844-09DF10**	*Injection Volume:*	**20.0**
Vial Number:	**42**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**10.**
Recording Time:	**12/15/2017 20:13**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	3.92	fluoride	0.080	0.016	3.68	1.039	10.
2	5.35	chloride	0.760	0.120	27.73	7.701	10.
3	9.44	sulfate	0.960	0.297	68.59	32.326	10.
Total:			1.800	0.433	100.00	41.065	

56 HS17120844-11

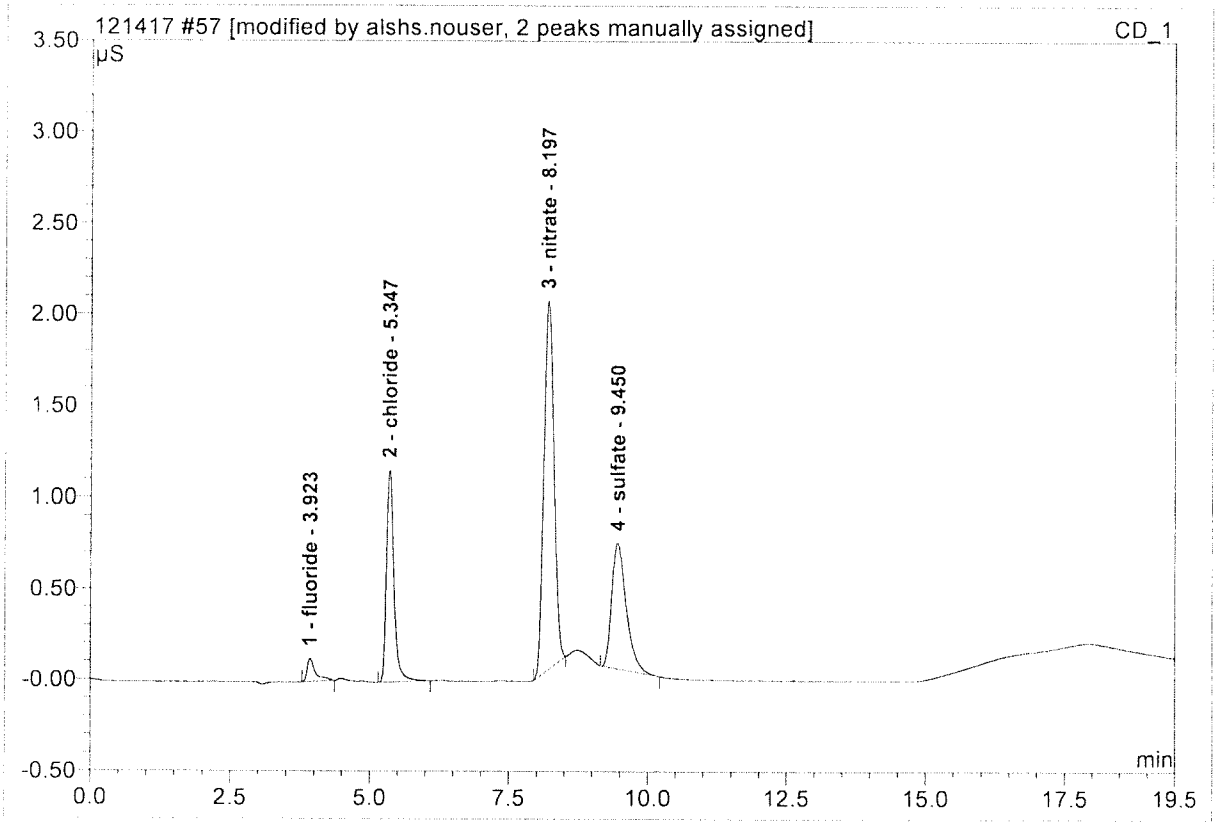
Sample Name:	**HS17120844-11**	*Injection Volume:*	**20.0**
Vial Number:	**43**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**12/15/2017 20:35**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	3.93	fluoride	1.678	0.242	2.40	0.840	1.
2	5.36	chloride	10.995	1.853	18.33	8.825	1.
3	7.35	bromide	0.049	0.010	0.10	0.457	1.
4	8.10	nitrate	22.758	5.286	52.29	10.116	1.
5	9.38	sulfate	7.611	2.718	26.88	18.454	1.
Total:			43.091	10.109	100.00	38.694	

57 HS17120844-11DF10

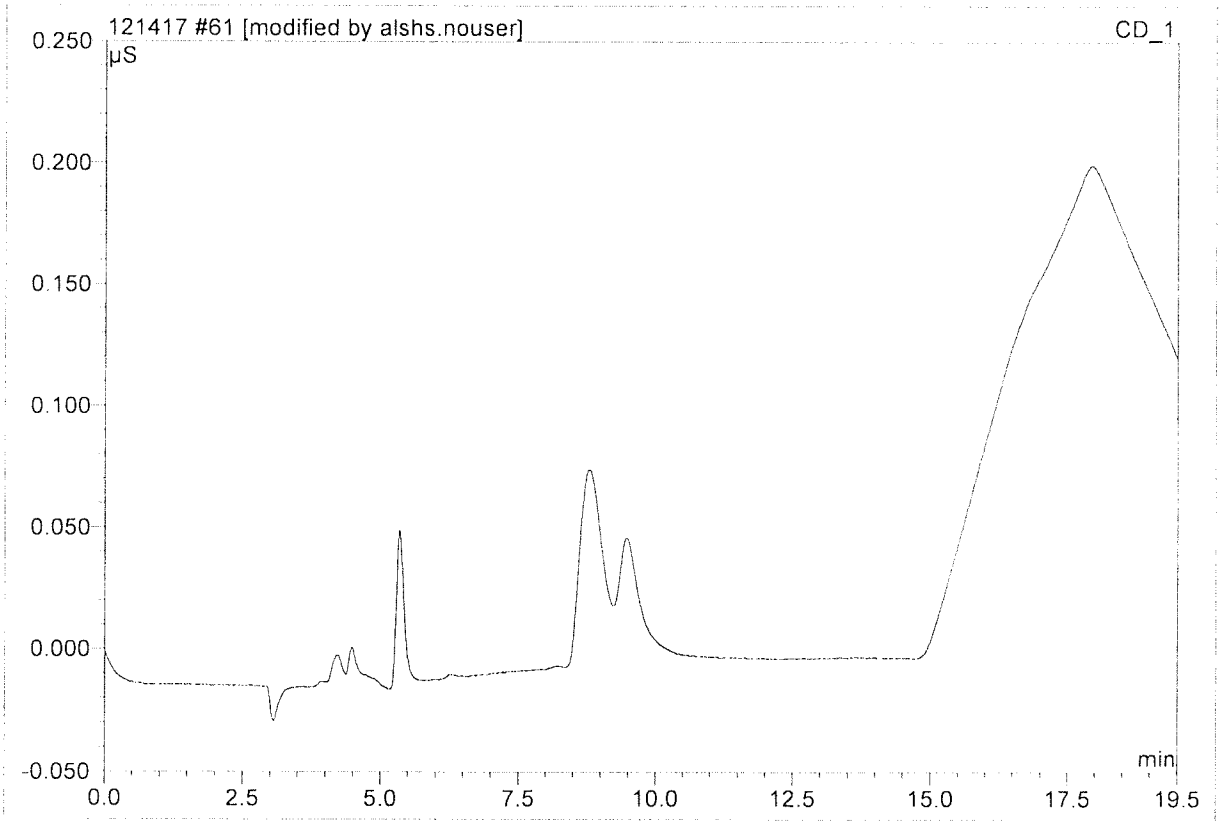
Sample Name:	**HS17120844-11DF10**	*Injection Volume:*	**20.0**
Vial Number:	**44**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**10.**
Recording Time:	**12/15/2017 20:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	3.92	fluoride	0.126	0.022	2.58	1.232	10.
2	5.35	chloride	1.160	0.183	21.56	10.607	10.
3	8.20	nitrate	2.020	0.430	50.75	10.000	10.
4	9.45	sulfate	0.696	0.213	25.10	27.026	10.
Total:			4.002	0.847	100.00	48.865	

61 WBLKW1-171517

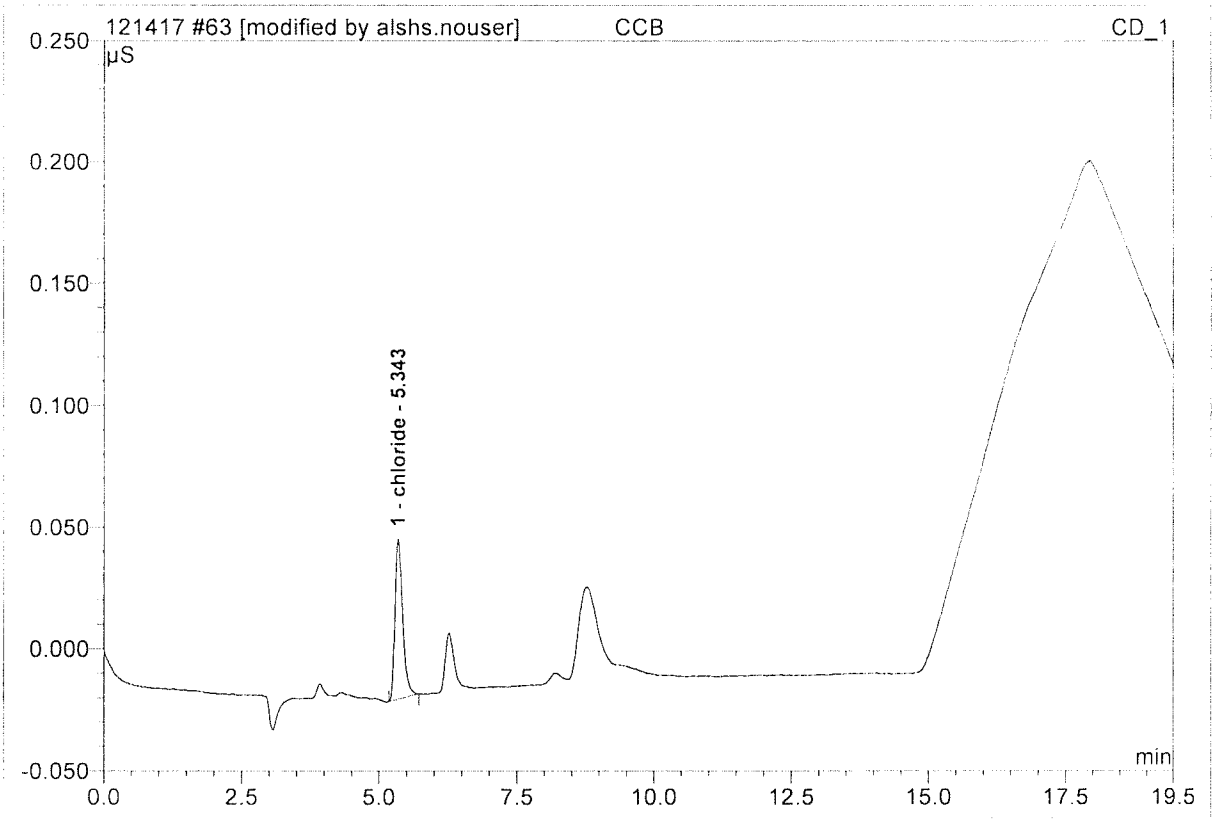
Sample Name:	**WBLKW1-171517**	*Injection Volume:*	**20.0**
Vial Number:	**40**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**12/15/2017 22:24**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*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	

63 CCB

Sample Name:	**CCB**	*Injection Volume:*	**20.0**
Vial Number:	**4**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**anions3**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090417**	*Dilution Factor:*	**1.**
Recording Time:	**12/15/2017 23:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**19.50**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount ppm	Dil.Fac.
1	5.34	chloride	0.066	0.011	100.00	0.262	1.
Total:			0.066	0.011	100.00	0.262	

C:\TOC3201\Data\2017_12_27_001.t32 HS17120844 TOC_W 9060

	T	Analys	Sample Name	Sample ID	Origin	Result	Status	Date / Time	Vial
1	U	NPOC	CCV	304.183.202	TOC_W_9060.	NPOC:27.35mg/L	Completed	12/27/2017 12:36:16 PM	1
2	U	NPOC	CCB	Untitled	TOC_W_9060.	NPOC:0.2965mg/L	Completed	12/27/2017 12:51:33 PM	2
3	U	NPOC	WBLKW1-122717	Untitled	TOC_W_9060.	NPOC:0.3173mg/L	Completed	12/27/2017 1:06:50 PM	3
4	U	NPOC	WLCSW1-122717	297.020.4301	TOC_W_9060.	NPOC:10.30mg/L	Completed	12/27/2017 1:22:07 PM	4
5	U	NPOC	WLCSDW1-122717	Untitled	TOC_W_9060.	NPOC:10.23mg/L	Completed	12/27/2017 1:37:24 PM	5
6	U	NPOC	HS17120958-01	TOC_W 1/2	TOC_W_9060.	NPOC:2.201mg/L	Completed	12/27/2017 1:52:41 PM	6
7	U	NPOC	HS17120639-01	TOC_W 1/2	TOC_W_9060.	NPOC:10.54mg/L	Completed	12/27/2017 2:07:58 PM	7
8	U	NPOC	HS17120644-09DF5	1/6 HI SALT	TOC_W_9060.	NPOC:0.7500mg/L	Completed	12/27/2017 2:25:20 PM	8
9	U	NPOC	HS17120644-09DF5MS	2/6 HI SALT	TOC_W_9060.	NPOC:10.27mg/L	Completed	12/27/2017 2:40:44 PM	9
10	U	NPOC	HS17120644-09DF5MSD	3/6 HI SALT	TOC_W_9060.	NPOC:10.26mg/L	Completed	12/27/2017 2:58:06 PM	10
11	U	NPOC	CCV	Untitled	TOC_W_9060.	NPOC:26.16mg/L	Completed	12/27/2017 3:14:38 PM	11
12	U	NPOC	CCB	Untitled	TOC_W_9060.	NPOC:0.2834mg/L	Completed	12/27/2017 3:29:55 PM	12
13	U	NPOC	HS17120844-09	1/2	TOC_W_9060.	NPOC:2.188mg/L	Completed	12/27/2017 7:51:44 PM	13
14	U	NPOC	HS17120844-11	1/2	TOC_W_9060.	NPOC:0.5708mg/L	Completed	12/27/2017 8:09:06 PM	14
15	U	NPOC	HS17120644-01DF5	1/2 HI SALT	TOC_W_9060.	NPOC:0.6500mg/L	Completed	12/27/2017 8:26:23 PM	15
16	U	NPOC	HS17120644-02DF5	1/2 HI SALT	TOC_W_9060.	NPOC:0.5942mg/L	Completed	12/27/2017 8:41:35 PM	16
17	U	NPOC	HS17120644-03DF5	1/2 HI SALT	TOC_W_9060.	NPOC:0.5884mg/L	Completed	12/27/2017 8:56:52 PM	17
18	U	NPOC	HS17120644-10DF5	1/2 HI SALT	TOC_W_9060.	NPOC:0.6055mg/L	Completed	12/27/2017 9:12:09 PM	18
19	U	NPOC	HS17120927-01	1/2	TOC_W_9060.	NPOC:3.249mg/L	Completed	12/27/2017 9:29:31 PM	19
20	U	NPOC	WBLKW1-122717	DISS 9060	TOC_W_9060.	NPOC:0.3609mg/L	Completed	12/27/2017 9:46:48 PM	20
21	U	NPOC	WLCSW1-122717	Untitled	TOC_W_9060.	NPOC:9.921mg/L	Completed	12/27/2017 10:02:17 PM	21
22	U	NPOC	HS17120644-01DF5	DISS 1/2 HI SA	TOC_W_9060.	NPOC:0.9362mg/L	Completed	12/27/2017 10:19:39 PM	22
23	U	NPOC	HS17120644-02DF5	DISS 1/2 HI SA	TOC_W_9060.	NPOC:0.6251mg/L	Completed	12/27/2017 10:34:51 PM	23
24	U	NPOC	CCV	Untitled	TOC_W_9060.	NPOC:25.05mg/L	Completed	12/27/2017 10:52:10 PM	24
25	U	NPOC	CCB	Untitled	TOC_W_9060.	NPOC:0.2790mg/L	Completed	12/27/2017 11:09:32 PM	25
26	U	NPOC	HS17120644-03DF5	DISS 1/2 HI SA	TOC_W_9060.	NPOC:0.6544mg/L	Completed	12/27/2017 11:24:44 PM	26
27	U	NPOC	HS17120644-09DF5	DISS 1/2 HI SA	TOC_W_9060.	NPOC:0.6121mg/L	Completed	12/27/2017 11:40:02 PM	27
28	U	NPOC	HS17120644-09DF5MS	DISS 1/2 HI SA	TOC_W_9060.	NPOC:10.50mg/L	Completed	12/27/2017 11:55:20 PM	28
29	U	NPOC	HS17120644-09DF5MSD	DISS 1/2 HI SA	TOC_W_9060.	NPOC:10.50mg/L	Completed	12/28/2017 12:10:46 AM	29
30	U	NPOC	HS17120644-10DF5	DISS 1/2 HI SA	TOC_W_9060.	NPOC:0.6001mg/L	Completed	12/28/2017 12:26:04 AM	30
31	U	NPOC	HS17120844-09	DISS 1/2	TOC_W_9060.	NPOC:2.009mg/L	Completed	12/28/2017 12:41:22 AM	31
32	U	NPOC	HS17120844-11	DISS 1/2	TOC_W_9060.	NPOC:0.5909mg/L	Completed	12/28/2017 12:58:45 AM	32
33	U	NPOC	CCV	Untitled	TOC_W_9060.	NPOC:25.88mg/L	Completed	12/28/2017 1:14:28 AM	33
34	U	NPOC	CCB	Untitled	TOC_W_9060.	NPOC:0.2883mg/L	Completed	12/28/2017 1:29:46 AM	34
35	U	NPOC	FLUSH	Untitled	TOC_W_9060.	NPOC:0.2715mg/L	Completed	12/28/2017 1:45:13 AM	25
36	U	NPOC	FLUSH	Untitled	TOC_W_9060.	NPOC:0.2452mg/L	Completed	12/28/2017 2:00:37 AM	34

Instr.Information

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

Cal. Curve

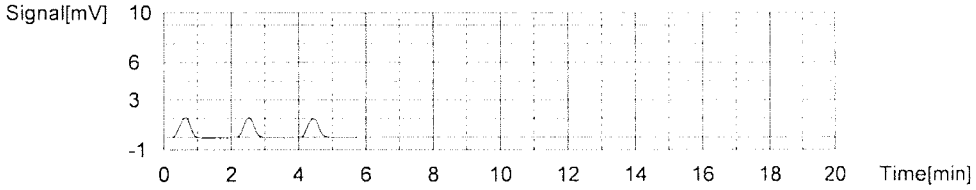
Sample Name:	CAL
Sample ID:	304146903
Cal. Curve:	10-16-2017_W.2017_10_16_17_39_41.cal
Status	Completed

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

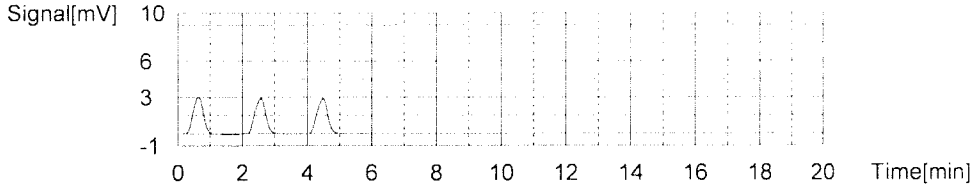
Acid Add 0.000%
Sp. Time 180.0sec
Mean Area 3.340



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

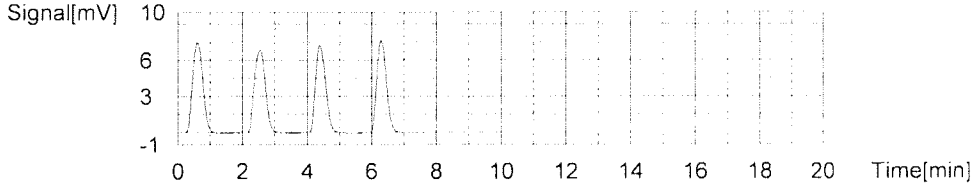
Acid Add 0.000%
Sp. Time 180.0sec
Mean Area 6.551



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

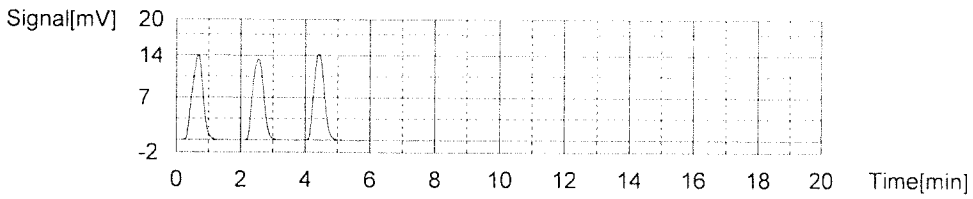
Acid Add 0.000%
Sp. Time 180.0sec
Mean Area 15.86



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

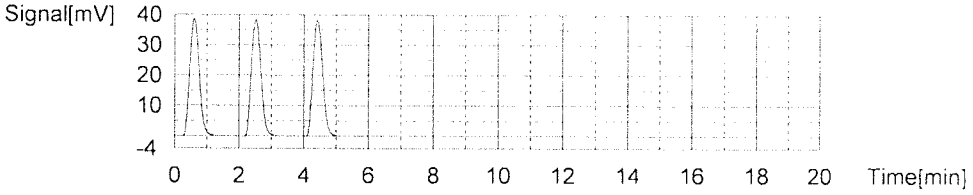
Acid Add. 0.000%
Sp. Time 180.0sec
Mean Area 31.59



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

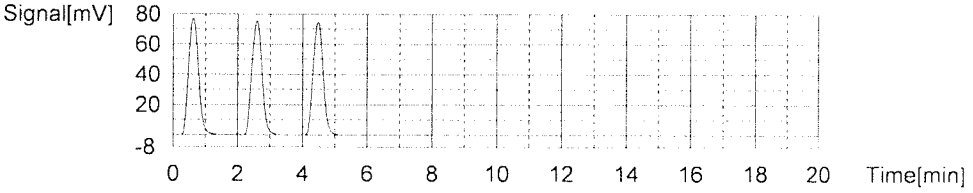
Acid Add. 0.000%
Sp. Time 180.0sec
Mean Area 78.77



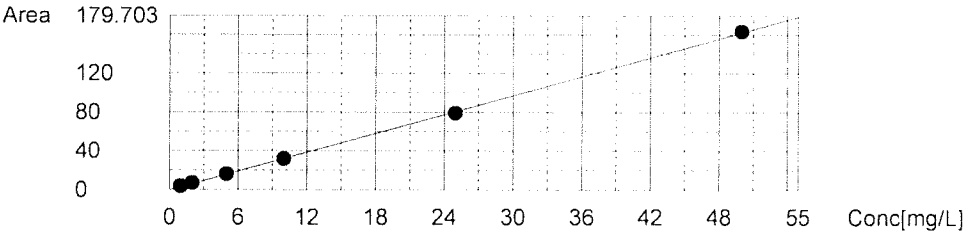
Conc: 50.00mg/L

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

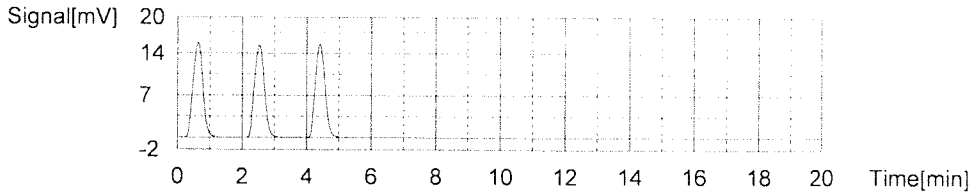
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.16mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	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

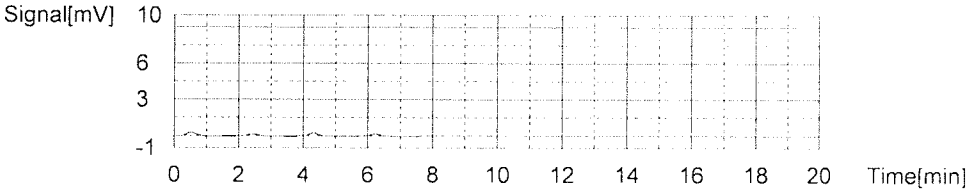
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2618mg/l

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.4693	0.3217mg/l	50ul	1	E	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:	304.183.202
Origin:	TOC_W_9060.met
Status	Completed
Chk. Result	

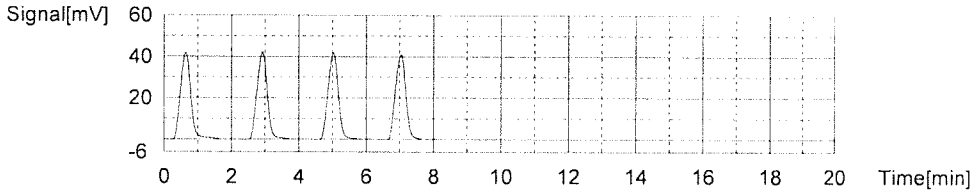
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:27.35mg/l

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	88.32	27.29mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 12:29:33 PM
2	88.58	27.37mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 12:31:50 PM
3	88.37	27.31mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 12:34:02 PM
4	88.81	27.44mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 12:36:16 PM

Mean Area 88.52
Mean Conc. 27.35mg/l



Sample

Sample Name:	CCB
Sample ID:	Untitled
Origin:	TOC_W_9060.met
Status	Completed
Chk. Result	

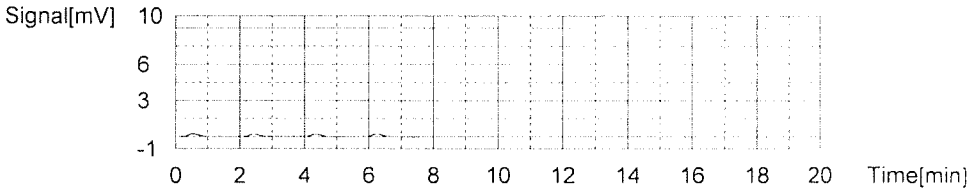
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2965mg/l

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.4458	0.3145mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 12:45:18 PM
2	0.3430	0.2830mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 12:47:23 PM
3	0.3668	0.2903mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 12:49:28 PM
4	0.3932	0.2984mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 12:51:33 PM

Mean Area 0.3872
Mean Conc. 0.2965mg/L



Sample

Sample Name: WBLKW1-122717
Sample ID: Untitled
Origin: TOC_W_9060.met
Status Completed
Chk. Result

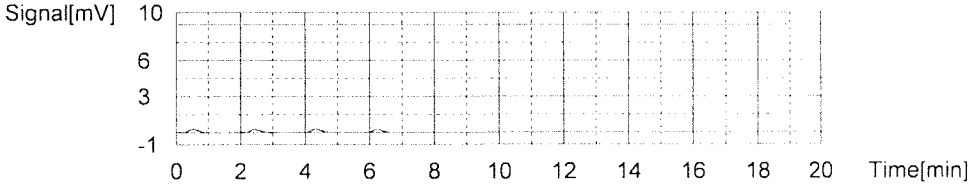
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3173mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.4819	0.3256mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 1:00:35 PM
2	0.4345	0.3111mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 1:02:40 PM
3	0.4687	0.3216mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 1:04:45 PM
4	0.4346	0.3111mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 1:06:50 PM

Mean Area 0.4549
Mean Conc. 0.3173mg/L



Sample

Sample Name: WLCSW1-122717
Sample ID: 297.020.4301
Origin: TOC_W_9060.met
Status Completed
Chk. Result

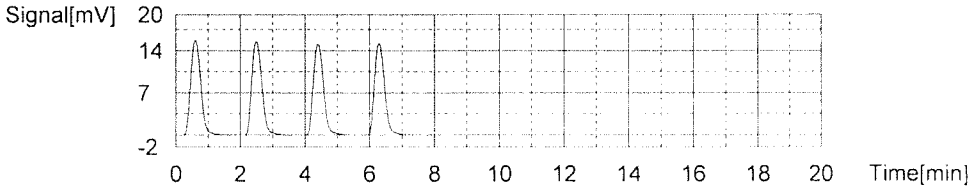
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.30mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	33.49	10.46mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 1:15:52 PM
2	33.21	10.37mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 1:17:57 PM
3	32.86	10.27mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 1:20:02 PM
4	32.37	10.11mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 1:22:07 PM

Mean Area 32.98
Mean Conc. 10.30mg/L



Sample

Sample Name: WLCSDW1-122717
Sample ID: Untitled
Origin: TOC_W_9060.met
Status Completed
Chk. Result

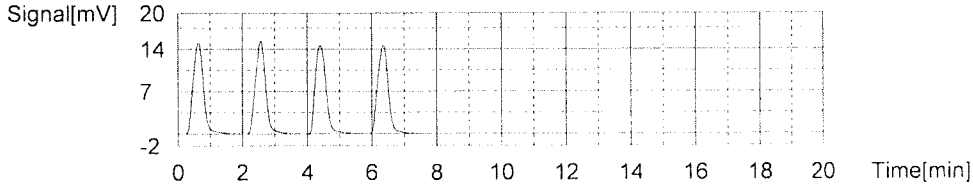
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.23mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	32.72	10.22mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 1:31:09 PM
2	32.81	10.25mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 1:33:14 PM
3	32.95	10.29mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 1:35:19 PM
4	32.56	10.17mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 1:37:24 PM

Mean Area 32.76
Mean Conc. 10.23mg/L



Sample

Sample Name: HS17120644-09DF 5
Sample ID: 1/6 HI SALT
Origin: TOC_W_9060.met
Status Completed
Chk. Result

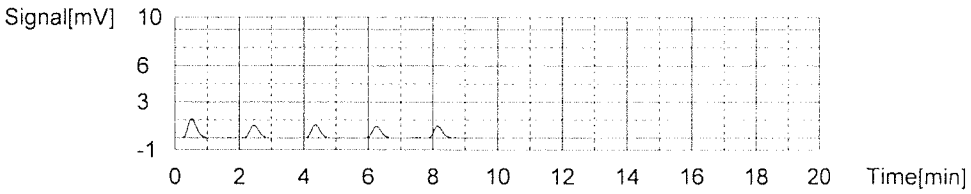
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.7500mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.824	1.045mg/L	50ul	1	E	10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 2:17:00 PM
2	2.026	0.7996mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 2:19:05 PM
3	1.963	0.7803mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 2:21:10 PM
4	1.737	0.7109mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 2:23:15 PM
5	1.732	0.7094mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 2:25:20 PM

Mean Area 1.865
Mean Conc. 0.7500mg/L



Sample

Sample Name: HS17120644-09DF5MS
Sample ID: 2/6 HI SALT
Origin: TOC_W_9060.met
Status Completed
Chk. Result

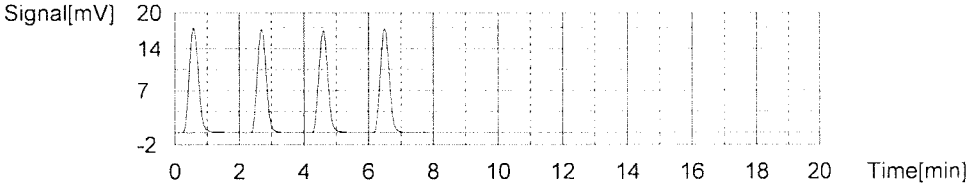
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.27mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	33.32	10.41mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 2:34:29 PM
2	32.72	10.22mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 2:36:34 PM
3	32.54	10.17mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 2:38:39 PM
4	32.87	10.27mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 2:40:44 PM

Mean Area 32.86
Mean Conc. 10.27mg/L



Sample

Sample Name: HS17120644-09DF5MSD
Sample ID: 3/6 HI SALT
Origin: TOC_W_9060.met
Status Completed
Chk. Result

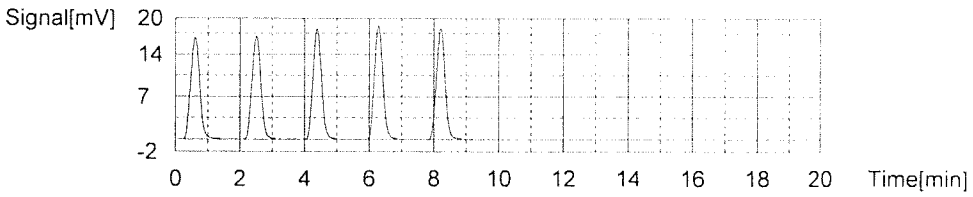
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.26mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	32.32	10.10mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 2:49:46 PM
2	32.36	10.11mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 2:51:51 PM
3	33.09	10.34mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 2:53:56 PM
4	33.90	10.58mg/L	50ul	1	E	10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 2:56:01 PM
5	33.56	10.48mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 2:58:06 PM

Mean Area 32.83
Mean Conc. 10.26mg/L



Sample

Sample Name: CCV
Sample ID: Untitled
Origin: TOC_W_9060.met
Status Completed
Chk. Result

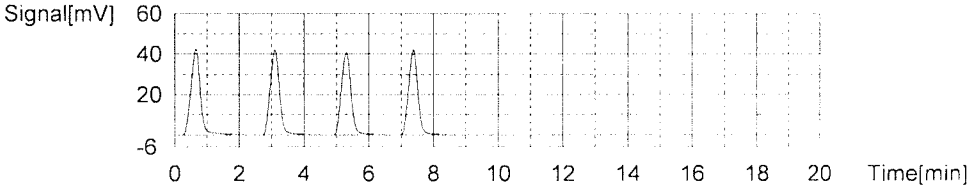
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:26.16mg/l

1. Dot

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	85.88	26.54mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 3:07:37 PM
2	84.84	26.22mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 3:10:00 PM
3	84.11	26.00mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 3:12:15 PM
4	83.72	25.88mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 3:14:38 PM

Mean Area 84.64
Mean Conc. 26.16mg/L



Sample

Sample Name: CCB
Sample ID: Untitled
Origin: TOC_W_9060.met
Status Completed
Chk. Result

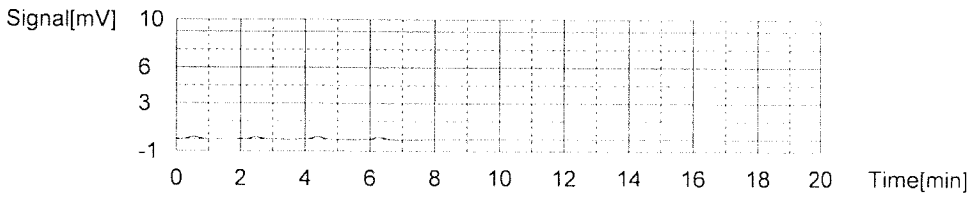
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2834mg/l

1. Dot

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.3071	0.2719mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 3:23:40 PM
2	0.2952	0.2683mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 3:25:45 PM
3	0.3982	0.2999mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 3:27:50 PM
4	0.3777	0.2936mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 3:29:55 PM

Mean Area 0.3446
Mean Conc. 0.2834mg/L



Sample

Sample Name: HS17120844-09
Sample ID: 1/2
Origin: TOC_W_9060.met
Status Completed
Chk. Result

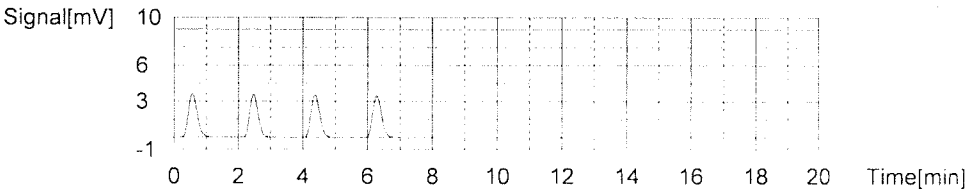
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:2.188mg/l

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.671	2.226mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 7:45:29 PM
2	6.432	2.152mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 7:47:34 PM
3	6.531	2.183mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 7:49:39 PM
4	6.555	2.190mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 7:51:44 PM

Mean Area 6.547
Mean Conc. 2.188mg/l



Sample

Sample Name: HS17120844-11
Sample ID: 1/2
Origin: TOC_W_9060.met
Status Completed
Chk. Result

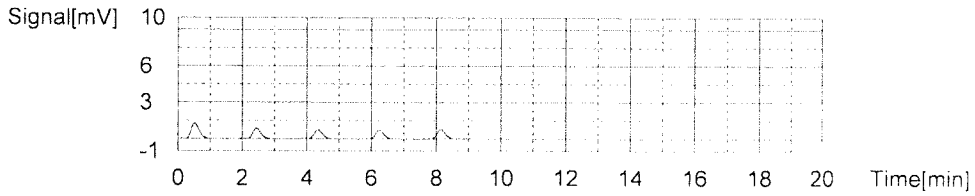
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.5708mg/l

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.111	0.8257mg/l	50ul	1	E	10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 8:00:46 PM
2	1.385	0.6028mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 8:02:51 PM
3	1.254	0.5626mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 8:04:56 PM
4	1.242	0.5589mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 8:07:01 PM
5	1.241	0.5586mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 8:09:06 PM

Mean Area 1.281
Mean Conc. 0.5708mg/L



Sample

Sample Name: CCV
Sample ID: Untitled
Origin: TOC_W_9060.met
Status Completed
Chk. Result

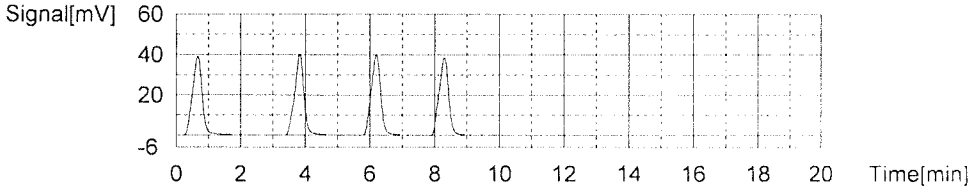
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:25.05mg/l

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	81.47	25.19mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 10:45:07 PM
2	80.75	24.97mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 10:47:42 PM
3	81.98	25.34mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 10:49:59 PM
4	79.87	24.70mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 10:52:10 PM

Mean Area 81.02
Mean Conc. 25.05mg/L



Sample

Sample Name: CCB
Sample ID: Untitled
Origin: TOC_W_9060.met
Status Completed
Chk. Result

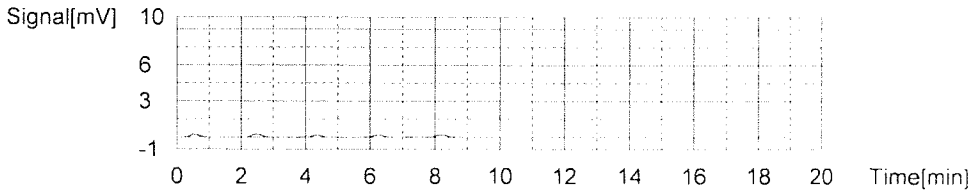
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2790mg/l

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.3965	0.2994mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 11:01:12 PM
2	0.5019	0.3317mg/l	50ul	1	E	10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 11:03:17 PM
3	0.2465	0.2533mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 11:05:22 PM
4	0.3230	0.2768mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 11:07:27 PM
5	0.3541	0.2864mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 11:09:32 PM

Mean Area	0.3300
Mean Conc.	0.2790mg/L



C:\TOC3201\Data\2017_12_27_001.t32 HS17120844- TOC-Diss 9060

	T	Analys	Sample Name	Sample ID	Origin	Result	Status	Date / Time	Vial
1	U	NPOC	CCV	304.183.202	TOC_W_9060.	NPOC:27.35mg/L	Completed	12/27/2017 12:36:16 PM	1
2	U	NPOC	CCB	Untitled	TOC_W_9060.	NPOC:0.2965mg/L	Completed	12/27/2017 12:51:33 PM	2
3	U	NPOC	WBLKW1-122717	Untitled	TOC_W_9060.	NPOC:0.3173mg/L	Completed	12/27/2017 1:06:50 PM	3
4	U	NPOC	WLCSW1-122717	297.020.4301	TOC_W_9060.	NPOC:10.30mg/L	Completed	12/27/2017 1:22:07 PM	4
5	U	NPOC	WLCSDW1-122717	Untitled	TOC_W_9060.	NPOC:10.23mg/L	Completed	12/27/2017 1:37:24 PM	5
6	U	NPOC	HS17120958-01	TOC_W 1/2	TOC_W_9060.	NPOC:2.201mg/L	Completed	12/27/2017 1:52:41 PM	6
7	U	NPOC	HS17120639-01	TOC_W 1/2	TOC_W_9060.	NPOC:10.54mg/L	Completed	12/27/2017 2:07:58 PM	7
8	U	NPOC	HS17120644-09DF5	1/6 HI SALT	TOC_W_9060.	NPOC:0.7500mg/L	Completed	12/27/2017 2:25:20 PM	8
9	U	NPOC	HS17120644-09DF5MS	2/6 HI SALT	TOC_W_9060.	NPOC:10.27mg/L	Completed	12/27/2017 2:40:44 PM	9
10	U	NPOC	HS17120644-09DF5MSD	3/6 HI SALT	TOC_W_9060.	NPOC:10.26mg/L	Completed	12/27/2017 2:58:06 PM	10
11	U	NPOC	CCV	Untitled	TOC_W_9060.	NPOC:26.16mg/L	Completed	12/27/2017 3:14:38 PM	11
12	U	NPOC	CCB	Untitled	TOC_W_9060.	NPOC:0.2834mg/L	Completed	12/27/2017 3:29:55 PM	12
13	U	NPOC	HS17120844-09	1/2	TOC_W_9060.	NPOC:2.188mg/L	Completed	12/27/2017 7:51:44 PM	13
14	U	NPOC	HS17120844-11	1/2	TOC_W_9060.	NPOC:0.5708mg/L	Completed	12/27/2017 8:09:06 PM	14
15	U	NPOC	HS17120644-01DF5	1/2 HI SALT	TOC_W_9060.	NPOC:0.6500mg/L	Completed	12/27/2017 8:26:23 PM	15
16	U	NPOC	HS17120644-02DF5	1/2 HI SALT	TOC_W_9060.	NPOC:0.5942mg/L	Completed	12/27/2017 8:41:35 PM	16
17	U	NPOC	HS17120644-03DF5	1/2 HI SALT	TOC_W_9060.	NPOC:0.5884mg/L	Completed	12/27/2017 8:56:52 PM	17
18	U	NPOC	HS17120644-10DF5	1/2 HI SALT	TOC_W_9060.	NPOC:0.6055mg/L	Completed	12/27/2017 9:12:09 PM	18
19	U	NPOC	HS17120927-01	1/2	TOC_W_9060.	NPOC:3.249mg/L	Completed	12/27/2017 9:29:31 PM	19
20	U	NPOC	WBLKW1-122717	DISS 9060	TOC_W_9060.	NPOC:0.3609mg/L	Completed	12/27/2017 9:46:48 PM	20
21	U	NPOC	WLCSW1-122717	Untitled	TOC_W_9060.	NPOC:9.921mg/L	Completed	12/27/2017 10:02:17 PM	21
22	U	NPOC	HS17120644-01DF5	DISS 1/2 HI SA	TOC_W_9060.	NPOC:0.9362mg/L	Completed	12/27/2017 10:19:39 PM	22
23	U	NPOC	HS17120644-02DF5	DISS 1/2 HI SA	TOC_W_9060.	NPOC:0.6251mg/L	Completed	12/27/2017 10:34:51 PM	23
24	U	NPOC	CCV	Untitled	TOC_W_9060.	NPOC:25.05mg/L	Completed	12/27/2017 10:52:10 PM	24
25	U	NPOC	CCB	Untitled	TOC_W_9060.	NPOC:0.2790mg/L	Completed	12/27/2017 11:09:32 PM	25
26	U	NPOC	HS17120644-03DF5	DISS 1/2 HI SA	TOC_W_9060.	NPOC:0.6544mg/L	Completed	12/27/2017 11:24:44 PM	26
27	U	NPOC	HS17120644-09DF5	DISS 1/2 HI SA	TOC_W_9060.	NPOC:0.6121mg/L	Completed	12/27/2017 11:40:02 PM	27
28	U	NPOC	HS17120644-09DF5MS	DISS 1/2 HI SA	TOC_W_9060.	NPOC:10.50mg/L	Completed	12/27/2017 11:55:20 PM	28
29	U	NPOC	HS17120644-09DF5MSD	DISS 1/2 HI SA	TOC_W_9060.	NPOC:10.50mg/L	Completed	12/28/2017 12:10:46 AM	29
30	U	NPOC	HS17120644-10DF5	DISS 1/2 HI SA	TOC_W_9060.	NPOC:0.6001mg/L	Completed	12/28/2017 12:26:04 AM	30
31	U	NPOC	HS17120844-09	DISS 1/2	TOC_W_9060.	NPOC:2.009mg/L	Completed	12/28/2017 12:41:22 AM	31
32	U	NPOC	HS17120844-11	DISS 1/2	TOC_W_9060.	NPOC:0.5909mg/L	Completed	12/28/2017 12:58:45 AM	32
33	U	NPOC	CCV	Untitled	TOC_W_9060.	NPOC:25.88mg/L	Completed	12/28/2017 1:14:28 AM	33
34	U	NPOC	CCB	Untitled	TOC_W_9060.	NPOC:0.2883mg/L	Completed	12/28/2017 1:29:46 AM	34
35	U	NPOC	FLUSH	Untitled	TOC_W_9060.	NPOC:0.2715mg/L	Completed	12/28/2017 1:45:13 AM	25
36	U	NPOC	FLUSH	Untitled	TOC_W_9060.	NPOC:0.2452mg/L	Completed	12/28/2017 2:00:37 AM	34

Instr.Information

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

Cal. Curve

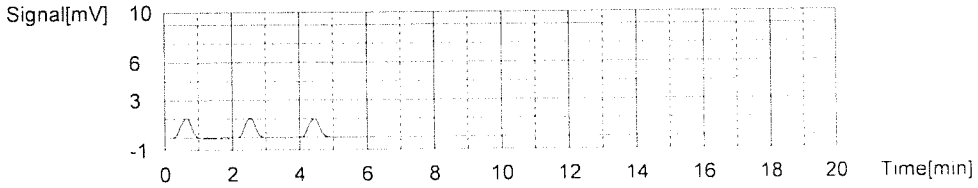
Sample Name:	CAL
Sample ID:	304146903
Cal. Curve:	10-16-2017_W.2017_10_16_17_39_41.cal
Status	Completed

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

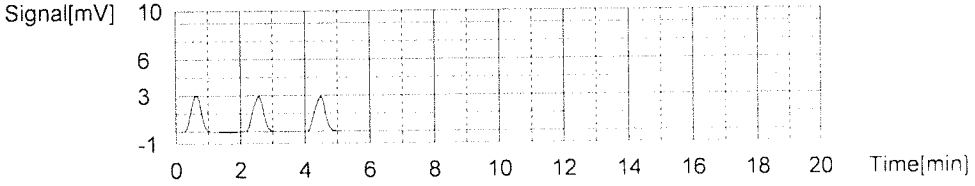
Acid Add. 0.000%
Sp. Time 180.0sec
Mean Area 3.340



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

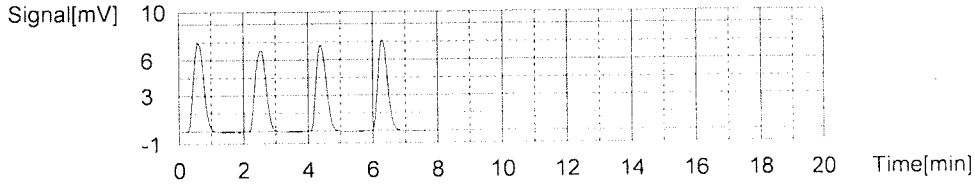
Acid Add. 0.000%
Sp. Time 180.0sec
Mean Area 6.551



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

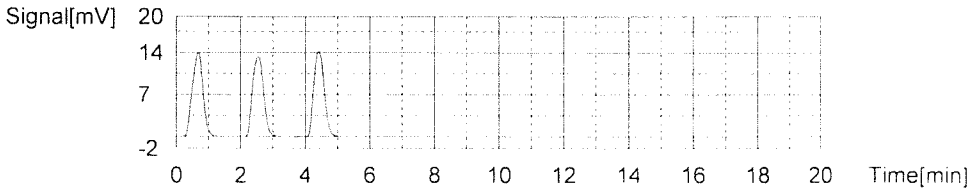
Acid Add. 0.000%
Sp. Time 180.0sec
Mean Area 15.86



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

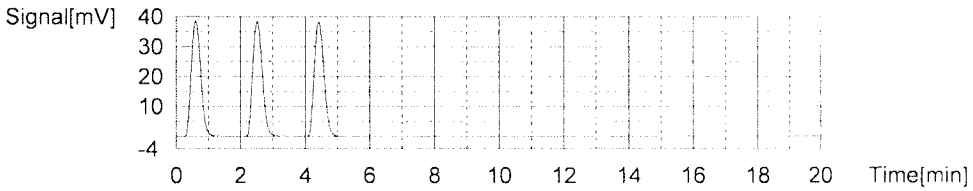
Acid Add. 0.000%
Sp. Time 180.0sec
Mean Area 31.59



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

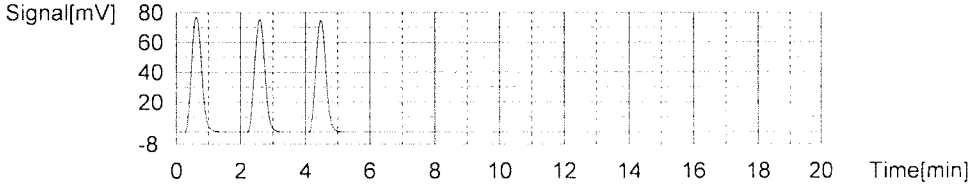
Acid Add. 0.000%
Sp. Time 180.0sec
Mean Area 78.77



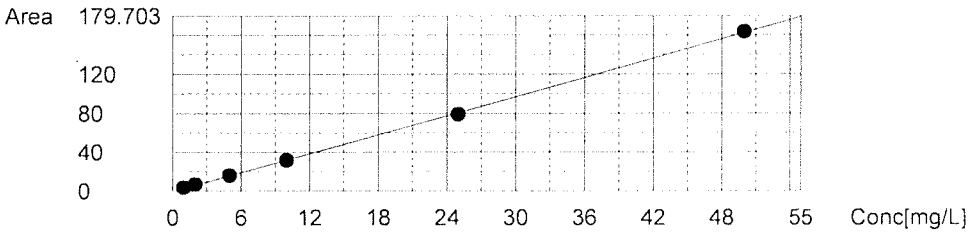
Conc: 50.00mg/l

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

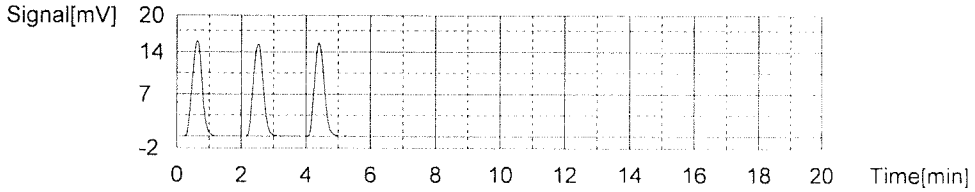
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.16mg/l

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	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

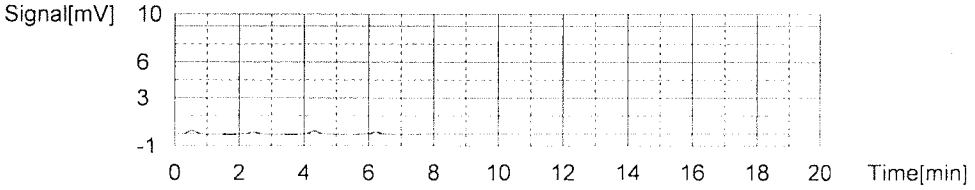
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2618mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.4693	0.3217mg/L	50ul	1	E	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:	Untitled
Origin:	TOC_W_9060.met
Status	Completed
Chk. Result	

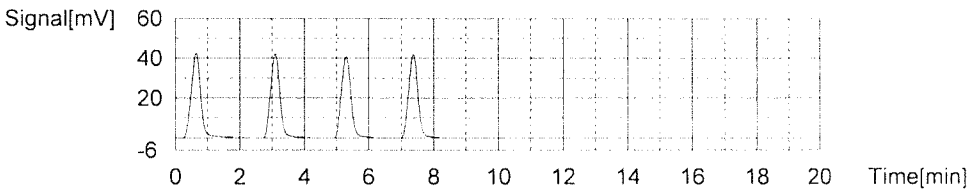
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:26.16mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	85.88	26.54mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 3:07:37 PM
2	84.84	26.22mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 3:10:00 PM
3	84.11	26.00mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 3:12:15 PM
4	83.72	25.88mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 3:14:38 PM

Mean Area	84.64
Mean Conc.	26.16mg/L



Sample

Sample Name:	CCB
Sample ID:	Untitled
Origin:	TOC_W_9060.met
Status	Completed
Chk. Result	

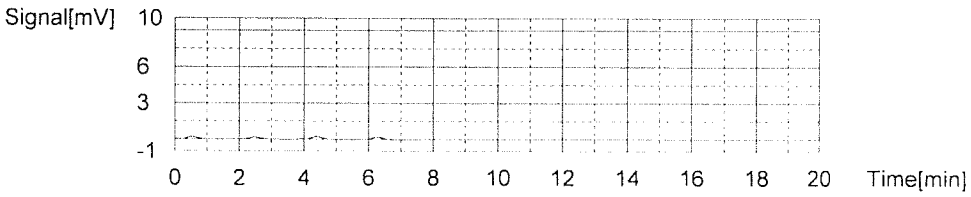
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2834mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.3071	0.2719mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 3:23:40 PM
2	0.2952	0.2683mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 3:25:45 PM
3	0.3982	0.2999mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 3:27:50 PM
4	0.3777	0.2936mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 3:29:55 PM

Mean Area 0.3446
Mean Conc. 0.2834mg/L



Sample

Sample Name: WBLKW1-122717
Sample ID: DISS 9060
Origin: TOC_W_9060.met
Status Completed
Chk. Result

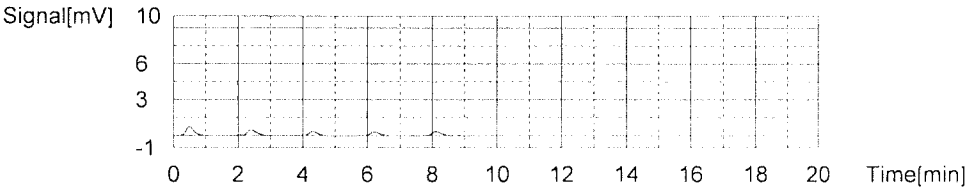
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3609mg/l

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.184	0.5411mg/l	50ul	1	E	10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 9:38:28 PM
2	0.7703	0.4141mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 9:40:33 PM
3	0.5498	0.3464mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 9:42:38 PM
4	0.5094	0.3340mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 9:44:43 PM
5	0.5578	0.3489mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 9:46:48 PM

Mean Area 0.5968
Mean Conc. 0.3609mg/L



Sample

Sample Name: WLCSW1-122717
Sample ID: Untitled
Origin: TOC_W_9060.met
Status Completed
Chk. Result

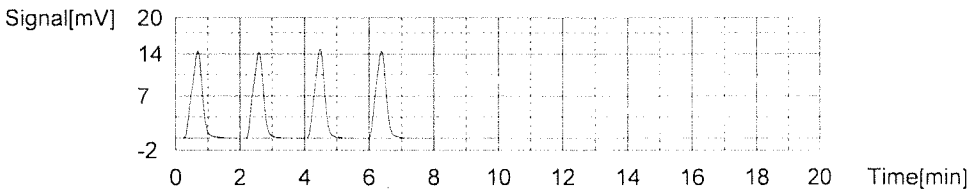
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:9.921mg/l

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	31.92	9.977mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 9:55:46 PM
2	31.55	9.863mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 9:57:51 PM
3	31.51	9.851mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 9:59:56 PM
4	31.97	9.992mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 10:02:17 PM

Mean Area 31.74
Mean Conc. 9.921mg/L



Sample

Sample Name: CCV
Sample ID: Untitled
Origin: TOC_W_9060.met
Status Completed
Chk. Result

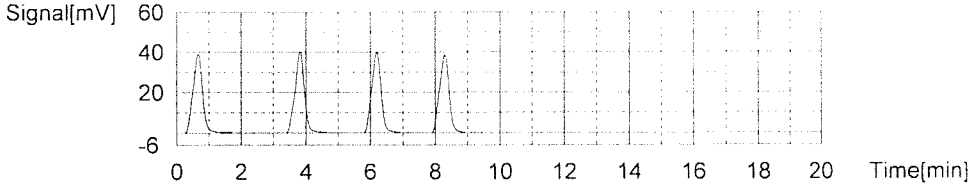
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:25.05mg/l

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	81.47	25.19mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 10:45:07 PM
2	80.75	24.97mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 10:47:42 PM
3	81.98	25.34mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 10:49:59 PM
4	79.87	24.70mg/L	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 10:52:10 PM

Mean Area 81.02
Mean Conc. 25.05mg/L



Sample

Sample Name: CCB
Sample ID: Untitled
Origin: TOC_W_9060.met
Status Completed
Chk. Result

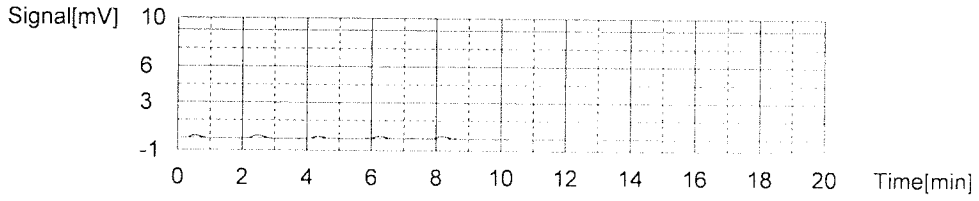
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2790mg/l

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.3965	0.2994mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 11:01:12 PM
2	0.5019	0.3317mg/l	50ul	1	E	10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 11:03:17 PM
3	0.2465	0.2533mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 11:05:22 PM
4	0.3230	0.2768mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 11:07:27 PM
5	0.3541	0.2864mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 11:09:32 PM

Mean Area 0.3300
Mean Conc. 0.2790mg/L



Sample

Sample Name: HS17120644-09DF5
Sample ID: DISS 1/2 HI SALT
Origin: TOC_W_9060.met
Status Completed
Chk. Result

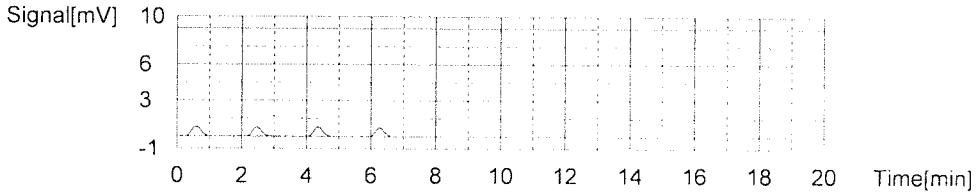
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.6121mg/l

1 Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.562	0.6572mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 11:33:47 PM
2	1.378	0.6007mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 11:35:52 PM
3	1.379	0.6010mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 11:37:57 PM
4	1.342	0.5896mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 11:40:02 PM

Mean Area 1.415
Mean Conc. 0.6121mg/l



Sample

Sample Name: HS17120644-09DF5MS
Sample ID: DISS 1/2 HI SALT
Origin: TOC_W_9060.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.50mg/l

1 Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	33.60	10.49mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 11:49:05 PM
2	33.56	10.48mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 11:51:10 PM
3	33.85	10.57mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 11:53:15 PM
4	33.43	10.44mg/l	50ul	1		10-16-2017_W.2017_10_16_17_39_41.cal	12/27/2017 11:55:20 PM

4517120844

Report Date: 01/04/2018 : 12:44

PC-TitratION PLUS
Calibration Report

Calibration Record # 1861

Calibration Settings

Calibration ID	PH CAL 4-7-10	Date	12/19/2017
Channel	1	Time	4:54 PM
Probe Type	pH	Temperature	296.34 K 23.19 C
Probe ID	PH ELECTRODE	Analysis Type	Single Line Fit

Calibration Results

Slope	-58.592	CorrCoeff	1.0000
Intercept	5.777	Equation:	Y = (-58.592) X + (5.777)

Calibration Validity True Operator

	Result	Minimum	Maximum
Slope	-58.592	-65.00	-53.00
Intercept	5.777	-100.00	100.00
Correlation Coefficient	1.0000	0.99	1.00

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

Calibration Data	Standard	Reading
	4.00	182.49
	7.00	3.90
	10.00	-169.06

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Water Analysis Historical Data Report

Run Number 3097 **Order Number** 20171219-2

SampleID	Schedule Name	RunDate	RunTime	cond (uS)	Temp	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs @ 8.3	mLs @ 4.5	mLs @ 4.2
ICV-PH	PH ONLY 35ML	12/19/2017	6:11 PM	-1.00	22.78	6.02	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
TAP WATER	PH ALKALINITY 35ML	12/19/2017	6:17 PM	-1.00	22.78	7.81	.00	254.11	254.11	.00	.00	.00	2.42	2.42
WBLKW1-171219	PH ALKALINITY 35ML	12/19/2017	6:22 PM	-1.00	22.80	5.93	.00	.73	.73	.00	.00	.00	.02	.02
LCS1-171219	PH ALKALINITY 35ML	12/19/2017	6:31 PM	-1.00	23.04	11.00	556.47	1,091.03	.00	1,069.12	21.91	5.30	10.39	10.39
LCSD1-171219	PH ALKALINITY 35ML	12/19/2017	6:40 PM	-1.00	23.01	11.01	556.15	1,089.97	.00	1,067.64	22.33	5.30	10.38	10.38
HS17120851-02	PH ALKALINITY 35ML	12/19/2017	6:47 PM	-1.00	22.81	7.40	.00	256.58	256.58	.00	.00	.00	2.44	2.44
HS17120851-02DUP	PH ALKALINITY 35ML	12/19/2017	6:53 PM	-1.00	22.69	7.39	.00	254.01	254.01	.00	.00	.00	2.42	2.42
HS17120851-03	PH ALKALINITY 35ML	12/19/2017	6:58 PM	-1.00	22.66	5.80	.00	.66	.66	.00	.00	.00	.02	.02
HS17120794-01	PH ALKALINITY 35ML	12/19/2017	7:05 PM	-1.00	22.66	7.47	.00	381.72	381.72	.00	.00	.00	3.64	3.64
HS17120794-02	PH ALKALINITY 35ML	12/19/2017	7:11 PM	-1.00	22.72	7.53	.00	366.39	366.39	.00	.00	.00	3.49	3.49
HS17120794-03	PH ALKALINITY 35ML	12/19/2017	7:19 PM	-1.00	22.74	7.48	.00	729.71	729.71	.00	.00	.00	6.95	6.95
CCV-PH	PH ONLY 35ML	12/19/2017	7:21 PM	-1.00	23.03	7.04	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	PH ALKALINITY 35ML	12/19/2017	7:30 PM	-1.00	22.83	10.90	541.26	1,085.59	3.07	1,082.53	.00	5.15	10.34	10.34
DI RINSE	PH ALKALINITY 35ML	12/19/2017	7:35 PM	-1.00	22.86	6.05	.00	.56	.56	.00	.00	.00	.02	.02
HS17120794-04	PH ALKALINITY 35ML	12/19/2017	7:42 PM	-1.00	22.77	8.56	12.76	374.59	349.07	25.52	.00	.12	3.57	3.57
HS17120794-05	PH ALKALINITY 35ML	12/19/2017	7:50 PM	-1.00	22.74	7.91	.00	833.42	833.42	.00	.00	.00	7.94	7.94
HS17120794-06	PH ALKALINITY 35ML	12/19/2017	7:57 PM	-1.00	22.75	7.29	.00	258.09	258.09	.00	.00	.00	2.46	2.46
HS17120794-07	PH ALKALINITY 35ML	12/19/2017	8:04 PM	-1.00	22.72	8.34	4.95	597.52	587.62	9.90	.00	.05	5.69	5.69
HS17120794-08	PH ALKALINITY 35ML	12/19/2017	8:12 PM	-1.00	22.77	8.26	.00	517.35	517.35	.00	.00	.00	4.93	4.93
HS17120794-09	PH ALKALINITY 35ML	12/19/2017	8:20 PM	-1.00	22.86	8.28	.00	707.30	707.30	.00	.00	.00	6.74	6.74
HS17120794-10	PH ALKALINITY 35ML	12/19/2017	8:28 PM	-1.00	22.93	7.88	.00	652.74	652.74	.00	.00	.00	6.22	6.22
HS17120794-12	PH ALKALINITY 35ML	12/19/2017	8:35 PM	-1.00	22.86	8.14	.00	706.82	706.82	.00	.00	.00	6.73	6.73
HS17120794-13	PH ALKALINITY 35ML	12/19/2017	8:40 PM	-1.00	22.77	6.13	.00	1.27	1.27	.00	.00	.00	.03	.03
CCV-PH	PH ONLY 35ML	12/19/2017	8:43 PM	-1.00	22.67	7.04	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	PH ALKALINITY 35ML	12/19/2017	8:52 PM	-1.00	22.57	10.87	540.83	1,092.18	10.53	1,081.65	.00	5.15	10.40	10.40
DI RINSE	PH ALKALINITY 35ML	12/19/2017	8:57 PM	-1.00	22.77	6.09	.00	.63	.63	.00	.00	.00	.02	.02
HS17120743-06	PH ALKALINITY 35ML	12/19/2017	9:02 PM	-1.00	22.75	5.67	.00	.22	.22	.00	.00	.00	.02	.02

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Run Number 3097 **Order Number** 20171219-2

SampleID	Schedule Name	RunDate	RunTime	cond (uS)	Temp	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs @ 8.3	mLs @ 4.5	mLs @ 4.2
HS17120743-12	PH ALKALINITY 35ML	12/19/2017	9:09 PM	-1.00	22.69	8.42	2.01	146.52	142.49	4.02	.00	.02	1.40	1.40
HS17120743-13	PH ALKALINITY 35ML	12/19/2017	9:15 PM	-1.00	22.87	7.24	.00	459.65	459.65	.00	.00	.00	4.38	4.38
HS17120743-14	PH ALKALINITY 35ML	12/19/2017	9:21 PM	-1.00	22.75	7.08	.00	351.10	351.10	.00	.00	.00	3.34	3.34
HS17120743-15	PH ALKALINITY 35ML	12/19/2017	9:28 PM	-1.00	22.67	8.34	1.01	148.11	146.10	2.02	.00	.01	1.41	1.41
HS17120743-20	PH ALKALINITY 35ML	12/19/2017	9:36 PM	-1.00	22.58	10.17	71.56	204.95	61.83	143.12	.00	.68	1.95	1.95
WBLKW2-171219	PH ALKALINITY 35ML	12/19/2017	9:41 PM	-1.00	22.51	6.06	.00	.80	.80	.00	.00	.00	.02	.02
LCS2-171219	PH ALKALINITY 35ML	12/19/2017	9:50 PM	-1.00	22.55	10.95	545.74	1,087.23	.00	1,082.98	4.25	5.20	10.35	10.35
LCSD2-171219	PH ALKALINITY 35ML	12/19/2017	9:59 PM	-1.00	22.54	10.86	539.18	1,092.59	14.23	1,078.36	.00	5.14	10.41	10.41
CCV-PH	PH ONLY 35ML	12/19/2017	10:02 PM	-1.00	22.51	7.04	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	PH ALKALINITY 35ML	12/19/2017	10:11 PM	-1.00	22.49	10.85	538.25	1,092.35	15.85	1,076.50	.00	5.13	10.40	10.40
DI RINSE	PH ALKALINITY 35ML	12/19/2017	10:16 PM	-1.00	22.70	6.06	.00	.58	.58	.00	.00	.00	.02	.02
HS17120743-23	PH ALKALINITY 35ML	12/19/2017	10:21 PM	-1.00	22.54	6.85	.00	196.18	196.18	.00	.00	.00	1.87	1.87
HS17120743-24	PH ALKALINITY 35ML	12/19/2017	10:27 PM	-1.00	22.49	7.14	.00	232.87	232.87	.00	.00	.00	2.22	2.22
HS17120743-30	PH ALKALINITY 35ML	12/19/2017	10:34 PM	-1.00	22.43	6.89	.00	628.43	628.43	.00	.00	.00	5.99	5.99
HS17120743-31	PH ALKALINITY 35ML	12/19/2017	10:40 PM	-1.00	22.43	6.68	.00	99.18	99.18	.00	.00	.00	.94	.94
HS17120743-32	PH ALKALINITY 35ML	12/19/2017	10:46 PM	-1.00	22.45	7.06	.00	355.80	355.80	.00	.00	.00	3.39	3.39
HS17120743-34	PH ALKALINITY 35ML	12/19/2017	10:53 PM	-1.00	22.46	7.54	.00	250.43	250.43	.00	.00	.00	2.39	2.39
HS17120743-40	PH ALKALINITY 35ML	12/19/2017	11:00 PM	-1.00	22.48	8.27	.00	192.39	192.39	.00	.00	.00	1.83	1.83
HS17120743-41	PH ALKALINITY 35ML	12/19/2017	11:06 PM	-1.00	22.67	7.12	.00	222.81	222.81	.00	.00	.00	2.12	2.12
HS17120743-42	PH ALKALINITY 35ML	12/19/2017	11:13 PM	-1.00	22.54	7.45	.00	209.47	209.47	.00	.00	.00	1.99	1.99
CCV-PH	PH ONLY 35ML	12/19/2017	11:15 PM	-1.00	22.37	7.04	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	PH ALKALINITY 35ML	12/19/2017	11:24 PM	-1.00	22.22	10.86	536.09	1,086.14	13.97	1,072.17	.00	5.11	10.34	10.34
DI RINSE	PH ALKALINITY 35ML	12/19/2017	11:29 PM	-1.00	22.34	6.07	.00	.75	.75	.00	.00	.00	.02	.02
HS17120743-43	PH ALKALINITY 35ML	12/19/2017	11:35 PM	-1.00	22.32	7.09	.00	383.27	383.27	.00	.00	.00	3.65	3.65
HS17120794-15	PH ALKALINITY 35ML	12/19/2017	11:41 PM	-1.00	22.29	7.46	.00	247.26	247.26	.00	.00	.00	2.35	2.35
HS17120794-16	PH ALKALINITY 35ML	12/19/2017	11:48 PM	-1.00	22.26	7.66	.00	420.00	420.00	.00	.00	.00	4.00	4.00
HS17120794-17	PH ALKALINITY 35ML	12/19/2017	11:58 PM	-1.00	22.31	7.53	.00	1,110.66	1,110.66	.00	.00	.00	10.58	10.58
HS17120794-18	PH ALKALINITY 35ML	12/20/2017	12:05 AM	-1.00	22.25	8.43	9.68	521.75	502.38	19.37	.00	.09	4.97	4.97
HS17120794-19	PH ALKALINITY 35ML	12/20/2017	12:12 AM	-1.00	22.17	7.46	.00	315.07	315.07	.00	.00	.00	3.00	3.00
HS17120794-19DUP	PH ALKALINITY 35ML	12/20/2017	12:18 AM	-1.00	22.03	7.46	.00	314.81	314.81	.00	.00	.00	3.00	3.00

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Run Number 3097 **Order Number** 20171219-2

SampleID	Schedule Name	RunDate	RunTime	cond (uS)	Temp	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs @ 8.3	mLs @ 4.5	mLs @ 4.2
HS17120794-20	PH ALKALINITY 35ML	12/20/2017	12:25 AM	-1.00	21.98	7.57	.00	395.95	395.95	.00	.00	.00	3.77	3.77
HS17120794-21	PH ALKALINITY 35ML	12/20/2017	12:32 AM	-1.00	21.93	7.49	.00	567.62	567.62	.00	.00	.00	5.41	5.41
CCV-PH	PH ONLY 35ML	12/20/2017	12:35 AM	-1.00	21.89	7.03	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	PH ALKALINITY 35ML	12/20/2017	12:43 AM	-1.00	21.80	10.90	540.49	1,087.08	6.10	1,080.97	.00	5.15	10.35	10.35
DI RINSE	PH ALKALINITY 35ML	12/20/2017	12:48 AM	-1.00	21.93	6.03	.00	.72	.72	.00	.00	.00	.02	.02
HS17120794-22	PH ALKALINITY 35ML	12/20/2017	12:55 AM	-1.00	22.07	7.69	.00	560.14	560.14	.00	00	.00	5.33	5.33
HS17120794-23	PH ALKALINITY 35ML	12/20/2017	1:05 AM	-1.00	21.99	7.51	.00	1,112.57	1,112.57	.00	.00	.00	10.60	10.60
HS17120794-25	PH ALKALINITY 35ML	12/20/2017	1:10 AM	-1.00	21.83	6.08	.00	1.13	1.13	.00	.00	.00	.03	.03
WBLKW3-171219	PH ALKALINITY 35ML	12/20/2017	1:15 AM	-1.00	21.77	5.42	.00	.11	.11	.00	.00	.00	.01	.01
LCS3-171219	PH ALKALINITY 35ML	12/20/2017	1:23 AM	-1.00	21.74	10.89	538.66	1,085.09	7.76	1,077.32	.00	5.13	10.33	10.33
LCSD3-171219	PH ALKALINITY 35ML	12/20/2017	1:33 AM	-1.00	21.73	10.89	540.21	1,088.86	8.43	1,080.43	.00	5.14	10.37	10.37
HS17120806-01	PH ALKALINITY 35ML	12/20/2017	1:39 AM	-1.00	21.76	7.19	.00	203.46	203.46	.00	.00	.00	1.94	1.94
HS17120806-02	PH ALKALINITY 35ML	12/20/2017	1:45 AM	-1.00	21.73	7.15	.00	142.81	142.81	.00	.00	.00	1.36	1.36
HS17120806-03	PH ALKALINITY 35ML	12/20/2017	1:51 AM	-1.00	21.64	7.33	.00	299.99	299.99	.00	.00	.00	2.86	2.86
CCV-PH	PH ONLY 35ML	12/20/2017	1:54 AM	-1.00	21.69	7.03	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	PH ALKALINITY 35ML	12/20/2017	2:02 AM	-1.00	21.67	10.86	542.00	1,098.82	14.82	1,084.00	.00	5.16	10.46	10.46
DI RINSE	PH ALKALINITY 35ML	12/20/2017	2:07 AM	-1.00	21.63	6.06	.00	.96	.96	.00	.00	.00	.02	.02
HS17120806-05	PH ALKALINITY 35ML	12/20/2017	2:12 AM	-1.00	21.63	5.45	.00	.17	.17	.00	.00	.00	.02	.02
HS17120806-06	PH ALKALINITY 35ML	12/20/2017	2:19 AM	-1.00	21.56	7.38	.00	260.85	260.85	.00	.00	.00	2.48	2.48
HS17120806-10	PH ALKALINITY 35ML	12/20/2017	2:25 AM	-1.00	21.56	7.13	.00	380.41	380.41	.00	.00	.00	3.62	3.62
HS17120806-13	PH ALKALINITY 35ML	12/20/2017	2:31 AM	-1.00	21.57	7.32	.00	212.83	212.83	.00	.00	.00	2.03	2.03
HS17120806-14	PH ALKALINITY 35ML	12/20/2017	2:38 AM	-1.00	21.56	7.35	.00	254.05	254.05	.00	.00	.00	2.42	2.42
HS17120806-16	PH ALKALINITY 35ML	12/20/2017	2:44 AM	-1.00	21.64	7.24	.00	533.76	533.76	.00	.00	.00	5.08	5.08
HS17120806-20	PH ALKALINITY 35ML	12/20/2017	2:49 AM	-1.00	21.61	4.31	.00	-1.06	-1.06	.00	.00	.00	.00	.00
HS17120806-27	PH ALKALINITY 35ML	12/20/2017	2:55 AM	-1.00	21.56	7.29	.00	365.69	365.69	.00	00	.00	3.48	3.48
HS17120806-28	PH ALKALINITY 35ML	12/20/2017	3:01 AM	-1.00	21.47	7.34	.00	523.74	523.74	.00	.00	.00	4.99	4.99
CCV-PH	PH ONLY 35ML	12/20/2017	3:04 AM	-1.00	21.43	7.03	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	PH ALKALINITY 35ML	12/20/2017	3:13 AM	-1.00	21.40	10.85	536.72	1,090.01	16.56	1,073.45	.00	5.11	10.38	10.38
DI RINSE	PH ALKALINITY 35ML	12/20/2017	3:18 AM	-1.00	21.38	6.00	.00	.73	.73	.00	.00	.00	.02	.02
HS17120806-29	PH ALKALINITY 35ML	12/20/2017	3:25 AM	-1.00	21.34	8.17	.00	226.24	226.24	.00	.00	.00	2.15	2.15

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WATER ANALYSIS HISTORICAL REPORT.SRW

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Run Number 3097 **Order Number** 20171219-2

SampleID	Schedule Name	RunDate	RunTime	cond (uS)	Temp	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs @ 8.3	mLs @ 4.5	mLs @ 4.2
HS17120844-09	PH ALKALINITY 35ML	12/20/2017	3:32 AM	-1.00	21.30	8.06	.00	478.65	478.65	.00	.00	.00	4.56	4.56
HS17120844-09DUP	PH ALKALINITY 35ML	12/20/2017	3:39 AM	-1.00	21.41	8.07	.00	474.42	474.42	.00	.00	.00	4.52	4.52
HS17120844-11	PH ALKALINITY 35ML	12/20/2017	3:46 AM	-1.00	21.37	8.19	.00	226.77	226.77	.00	.00	.00	2.16	2.16
HS17120830-01	PH ALKALINITY 35ML	12/20/2017	3:53 AM	-1.00	21.31	7.33	.00	562.88	562.88	.00	.00	.00	5.36	5.36
HS17120830-02	PH ALKALINITY 35ML	12/20/2017	4:01 AM	-1.00	21.25	7.21	.00	834.67	834.67	.00	.00	.00	7.95	7.95
HS17120830-03	PH ALKALINITY 35ML	12/20/2017	4:09 AM	-1.00	21.16	7.31	.00	818.64	818.64	.00	.00	.00	7.80	7.80
HS17120830-04	PH ALKALINITY 35ML	12/20/2017	4:17 AM	-1.00	21.08	7.35	.00	979.96	979.96	.00	.00	.00	9.33	9.33
HS17120830-05	PH ALKALINITY 35ML	12/20/2017	4:26 AM	-1.00	21.01	7.24	.00	793.16	793.16	.00	.00	.00	7.55	7.55
CCV-PH	PH ONLY 35ML	12/20/2017	4:28 AM	-1.00	21.02	7.02	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	PH ALKALINITY 35ML	12/20/2017	4:37 AM	-1.00	21.19	10.82	534.37	1,090.90	22.16	1,068.74	.00	5.09	10.39	10.39
DI RINSE	PH ALKALINITY 35ML	12/20/2017	4:42 AM	-1.00	21.19	6.00	.00	.85	.85	.00	.00	.00	.02	.02

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HS 17120844

Reagent ID:	Prep. Date:		Date/Time:	12/21/17 05:40PM	Reported by:	JH
2970205219			Batch ID:		Reviewed by:	
2970204614					Log Book #:	
2970205318			LCS ID# :	2970205014 →	Prep. Date:	
304149208	11/16/17		MS ID# :	2970205014 →	Prep. Date:	

Calculated Iodine Normality => 0.02525 Iodine (N)

WO	WO	Sx Vol. (mL)	Iodine (mL)	Titrant used (mL)	Sod. Thio. (N)	Iodine (N)	Init. Conc.	Final Conc.
STD1	STD1	0	20	20.20	0.0250	0.02525		
STD2	STD2	0	20	20.20	0.0250	0.02525	0.0253	
STD3	STD3	0	20	20.20	0.0250	0.02525	Iodine (N)	(mg/L)
BLK	BLK	200	20	20.10	0.0250	0.0253		0.28
LCS	LCS	200	20	8.60	0.0250	0.0253		23.28
LCSD	LCSD	200	20	8.80	0.0250	0.0253		22.88
HS17120844-09	SAMP	200	20	19.90	0.0250	0.0253		0.68
HS17120844-11	SAMP	200	20	19.60	0.0250	0.0253		1.28
HS17120844-11MS	MS	200	20	5.80	0.0250	0.0253		28.88
					0.0250			
					0.0250			
					0.0250			
					0.0250			
					0.0250			
					0.0250			
					0.0250			
					0.0250			
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					0.0250			
					0.0250			
					0.0250			
					0.0250			
					0.0250			
					0.0250			
					0.0250			
					0.0250			

00879157

00879158

HS 17120844

PREP BATCH REPORT

Batch ID: 123885 Prep Code: P_TW_PR InitSampWt/Vol 0

Start Date: 20-Dec-17 10:30 am End Date: 20-Dec-17 12:30 pm FinSampVol: 50

Technician: OriginalFac: 1

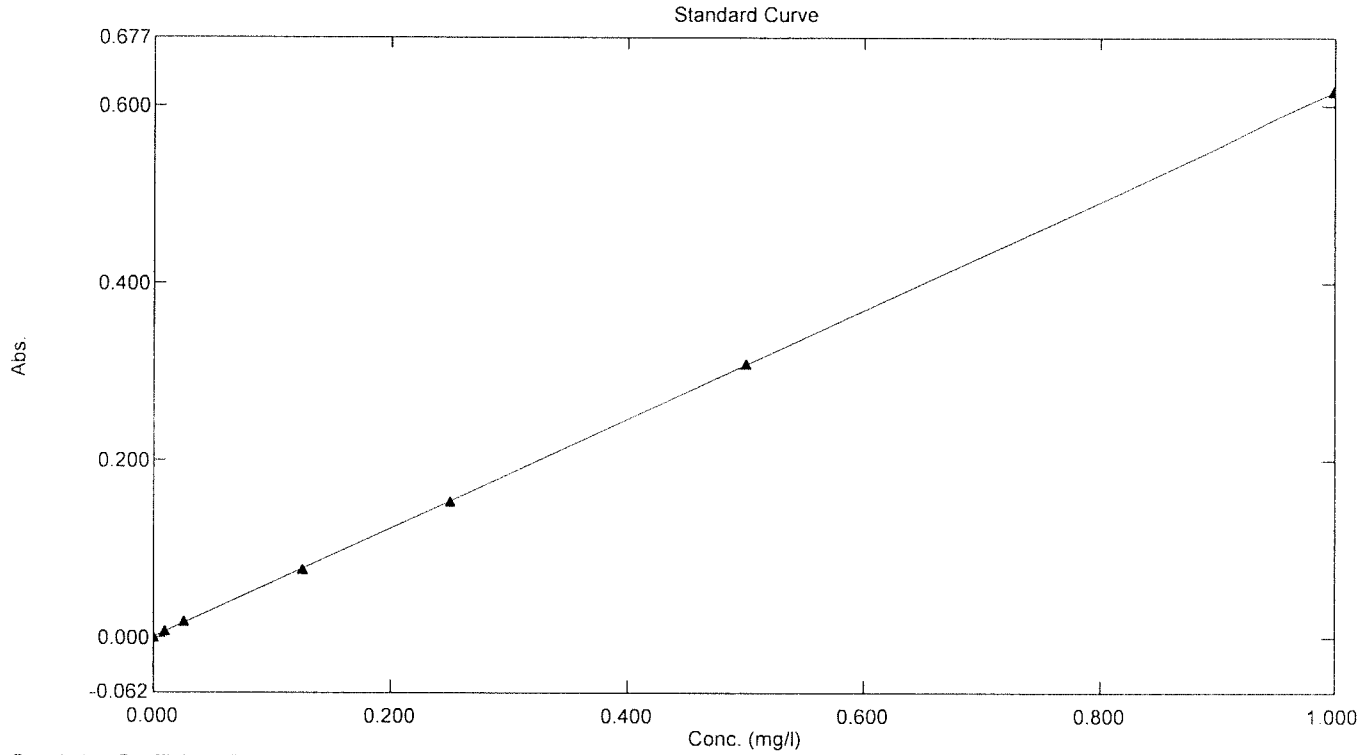
PrepUnitFac: 1

SampID	Frac	Matrix	pH	Init Wt/Vol	FinalVol (mL)	PrepFac	SpkFac	Failsafe	TestDueDate	Comments
HS17120844-09	G	Groundwa		50	50	1	1	12-22-17	12-28-17	
HS17120844-11	G	Groundwa		50	50	1	1	12-22-17	12-28-17	
HS17121037-01	C	Water		50	50	1	1	01-02-18	01-05-18	
HS17121017-02	B	Water		50	50	1	1			
HS17121017-02MS	A			50	50	1	1			
HS17121017-02MSD	A			50	50	1	1			
MBLK-123885	A			50	50	1	1			
LCS-123885	A			50	50	1	1			

Standard Table Report

01/04/2018 04:09:00 PM

File Name: Q:\UVProbe\T_PO4_UNKNOWN\2016 P_TW\171220_P_TW_.pho



Correlation Coefficient r2 = 0.99998

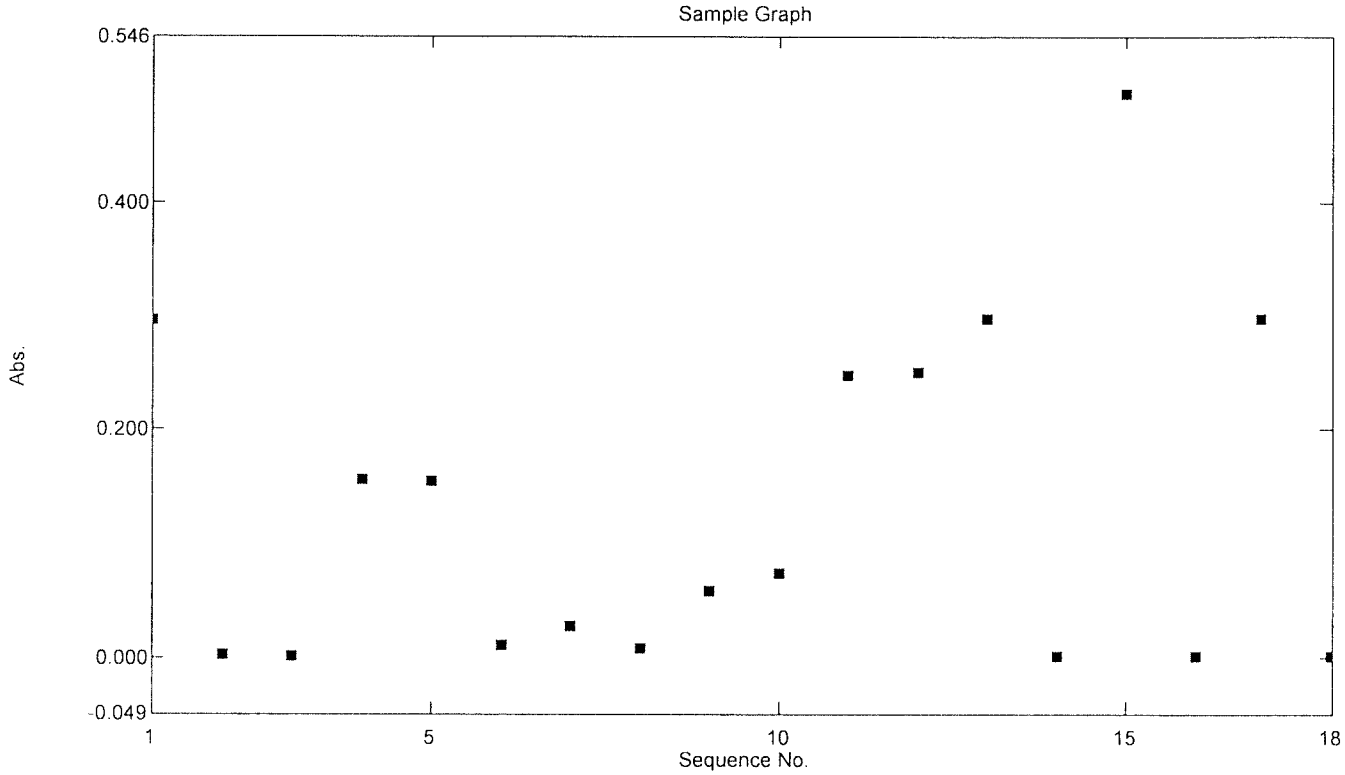
Standard Table

	Sample ID	Type	Ex	Conc	WL880.0	Wgt.Facto	Comments
1	STD1	Standard		0.000	0.000	1.000	
2	STD2	Standard		0.010	0.007	1.000	
3	STD3	Standard		0.025	0.016	1.000	
4	STD4	Standard		0.125	0.076	1.000	
5	STD5	Standard		0.250	0.152	1.000	
6	STD6	Standard		0.500	0.309	1.000	
7	STD7	Standard		1.000	0.615	1.000	
8							

Sample Table Report

01/04/2018 04:08:55 PM

File Name: Q:\UVProbe\T_PO4_UNKNOWN\2016 P_TW\171220_P_TW_.pho



Sample Table

	Sample ID	Type	Ex	Conc	WL880.0	Comments
1	CCV	Unknown		0.483	0.297	
2	CCB	Unknown		0.003	0.002	
3	MBLK	Unknown		0.003	0.002	
4	LCS	Unknown		0.254	0.156	
5	LCSD	Unknown		0.252	0.155	
6	17120844.09	Unknown		0.018	0.011	
7	17120844.11	Unknown		0.044	0.027	
8	17120900.01	Unknown		0.013	0.008	
9	17121017.01	Unknown		0.094	0.058	
10	17121017.02	Unknown		0.120	0.074	
11	17121017.02MS	Unknown		0.404	0.248	
12	17121017.02MSD	Unknown		0.407	0.250	
13	CCV2	Unknown		0.484	0.298	
14	CCB2	Unknown		0.001	0.001	
15	17121037.01	Unknown		0.806	0.496	
16	17121023.01	Unknown		0.002	0.001	
17	CCV3	Unknown		0.484	0.298	
18	CCB3	Unknown		0.002	0.002	
19						

00879161

HS17120844

ALS Laboratory Group Confidential

122117TDSA

Method: TDS - VDS SM2540 C & E - EPA 160.1 (SOP HS-WC012, Current Revision)

Analyst:	KAH	Crucible	Temp Deg C	Actual Deg C	Date	Time	TDS	Temp Deg C	Actual Deg C	Date	Time
Review By:		TDS In:	178-182 / 500-600	180	12/20/2017	10:40AM	TDS 1st In:	178-182	180	12/22/2017	7:40AM
Batch ID:		TDS Out:	178-182 / 500-600	180	12/21/2017	3:30PM	TDS 1st Out:	178-182	180	12/22/2017	1:45PM
LCS ID:	304181707	Oven ID:	WC Oven 7				TDS 2nd In:	178-182	180	12/22/2017	2:30PM
Filter Lot:	2970204910	Balance ID:	WC Balance-03				TDS 2nd Out:	178-182	180	12/22/2017	3:30PM
Temp Ranges		TDS	Temp Deg C	Actual Deg C	Date	Time	TDS 3rd In:	178-182			
≤ 98 C		TDS Evap In:	≤ 98	96	12/21/2017	4:30PM	TDS 3rd Out:	178-182			
180 ± 2 C		TDS Evap Out:	≤ 98	96	12/22/2017	7:40AM	Oven ID:	WC Oven 7			
550 ± 50 C		Oven ID:	WC Oven 3A				Balance ID:	WC Balance-03			
		Balance ID:									

Criteria	Criteria	Criteria
Change is	Change is	> 0.0025 g
<0.0005 g	<4%	< 0.200 g

$$TDS\,(\%) = \frac{wt_{(TDS)} - wt_{Dry\ Crucible}}{vol_{Sample\ before\ drying}} \times 100$$

Dish ID	Work Order #	Sample Type	Dry Crucible Wt (g)	Sample Vol (mL)	180 deg C TDS 1st dry Wt (g)	180 deg C TDS 2nd dry Wt (g)	180 deg C TDS 3rd dry Wt (g)	Passes Difference Criteria	Passes % Weight Criteria	Passes Weight Criteria	TDS Weight (g)	TDS (mg/L)	*
1	WBLK-122117	MBLK	49.0403	50	49.0408	49.0403		Yes	Yes	NA	0.0000	0.0000	
2	WLCS-122117	LCS	50.5904	50	50.6409	50.6406		Yes	Yes	Yes	0.0502	1004.0000	
3	HS17121112-02	SAMP	50.5985	5	50.7442	50.7442		Yes	Yes	Yes	0.1457	29140.0000	
4	HS17120844-09	SAMP	50.2348	50	50.2605	50.2605		Yes	Yes	Yes	0.0257	514.0000	
5	HS17120844-09DUP	DUP	50.7473	50	50.7730	50.7730		Yes	Yes	Yes	0.0257	514.0000	
6	HS17120844-11	SAMP	49.9408	50	49.9580	49.9580		Yes	Yes	Yes	0.0172	344.0000	
7	HS17120919-01	SAMP	50.4368	50	50.4613	50.4613		Yes	Yes	Yes	0.0245	490.0000	
8	HS17120919-02	SAMP	50.4092	50	50.4276	50.4278		Yes	Yes	Yes	0.0186	372.0000	
9	HS17120919-03	SAMP	49.3741	50	49.3923	49.3921		Yes	Yes	Yes	0.0180	360.0000	
10	HS17120919-04	SAMP	48.4533	50	48.4731	48.4733		Yes	Yes	Yes	0.0200	400.0000	
11	HS17120919-05	SAMP	49.4539	50	49.4736	49.4736		Yes	Yes	Yes	0.0197	394.0000	
12	HS17120919-06	SAMP	50.1348	50	50.1620	50.1620		Yes	Yes	Yes	0.0272	544.0000	
13	HS17120919-07	SAMP	49.5056	50	49.5280	49.5282		Yes	Yes	Yes	0.0226	452.0000	
14	HS17120830-01	SAMP	49.4221	25	49.5319	49.5319		Yes	Yes	Yes	0.1098	4392.0000	
15	HS17120830-02	SAMP	51.1515	25	51.2615	51.2615		Yes	Yes	Yes	0.1100	4400.0000	
16	HS17120830-03	SAMP	50.2134	5	50.2492	50.2492		Yes	Yes	Yes	0.0358	7160.0000	
17	HS17120830-04	SAMP	49.2289	50	49.3648	49.3649		Yes	Yes	Yes	0.1360	2720.0000	
18	HS17120830-05	SAMP	49.6275	25	49.7249	49.7248		Yes	Yes	Yes	0.0973	3892.0000	
19	HS17120830-06	SAMP	50.9327	25	51.0541	51.0540		Yes	Yes	Yes	0.1213	4852.0000	
20	HS17120830-07	SAMP	49.8936	25	49.9915	49.9916		Yes	Yes	Yes	0.0980	3920.0000	
21	HS17120830-08	SAMP	50.0684	50	50.1313	50.1313		Yes	Yes	Yes	0.0629	1258.0000	
22	HS17120830-10	SAMP	49.0586	50	49.2564	49.2562		Yes	Yes	Yes	0.1976	3952.0000	
23	HS17120830-10DUP	DUP	50.6464	50	50.8463	50.8463		Yes	Yes	Yes	0.1999	3998.0000	
24													

* - TDS residue out of criteria unless volume is at 5mL or less

* - TDS residue out of criteria unless volume is at 5mL or less

90 of 199

Sub Contract Raw Data

Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
ALS WO# HS17120746

Case Narrative

Method: 6850
Analysis: Perchlorate
Analysis SOP: LC-MS-CLO4
ALS WO ID(s): 1734932; 1735426

Client: ALS Laboratories (Houston, TX)
Matrix: Water
ELMS Batch (HBN): 2015 (205572)

General Set Information: There were ten field samples in these Work Orders. The samples were analyzed for perchlorate.

Method Summary: Each sample was prepared as noted below and analyzed using an Agilent 1100 LC/MSD system in select ion monitoring (SIM) mode at m/z 83 and 85, which corresponds to the loss of one oxygen atom from the perchlorate molecule. ChemStation software was used for instrument control and data analysis. The ion ratio of m/z 83 to 85 was used to positively identify the response peak as perchlorate. Quantitation was performed using the m/z 83 peak area. An internal standard (ISTD) of ^{18}O labeled perchlorate was added to each sample to establish the perchlorate peak retention time and used in quantitation.

Sample Preparation: A 10.0mL aliquot of each sample was transferred into a 15-mL centrifuge tube. 50µL of an ^{18}O labeled perchlorate solution was added to each sample as an internal standard. The samples were then capped, vortexed, and filtered into autosampler vial using Phenex PES membrane 0.45µm Syringe filters.

Holding Times: Holding times were met for all analyses.

Dilutions: Sample 1735426005 was re-analyzed and reported at a 1:100 dilution. The reporting limit has been adjusted accordingly.

Method QC data: The method blank (LMB 580322) was less than 1/2 the CRDL. The recovery for the LCS (580323) was within acceptable parameters.

MS/MSD Analysis: The matrix spike and matrix spike duplicate (MS/MSD) was performed on sample 1734932001 (Client ID: LH18/24-SP650_121317). The MS/MSD percent recoveries and relative percent difference (RPD) were within the performance limits.

Instrument QC: Instrument initial and continuing calibrations were performed in accordance with published procedures.

NC/CAR(s): None were required for this set.

Sample Calculation: Samples were reported in µg/L. Results were calculated in µg/L by the equation (A)x(B),

where: A = Analyte concentration from the standard curve (µg/L)
B = Dilution performed at time of analysis

Miscellaneous Comments: These samples were analyzed in accordance with the requirements found in the DOD QSM Version 5.1. Manual Integrations were performed for some of the Initial Calibration analyses (datafiles: 28NOVP01/02) along with datafiles 21DECD02/03/13/20.

Thomas Bosch December 27, 2017
Date

ANALYTICAL REPORT

Report Date: December 27, 2017

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

Phone: (281) 530-5656

E-mail: Sonia.West@alsglobal.com

Workorder: **34-1734932**
Project ID: HS17120746 121317
Purchase Order: HS17120746
Project Manager Kevin W. Griffiths

Client Sample ID	Lab ID	Collect Date	Receive Date	Sampling Site
LH18/24-SP650_121317	1734932001	12/13/17	12/15/17	

ANALYTICAL REPORT

Workorder: 34-1734932
Client: ALS Environmental (Houston)
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **LH18/24-SP650_121317**	Sampling Site: NA	Collected: 12/13/2017
Lab ID: 1734932001	Media: 250 mL Nalgene	Received: 12/15/2017
Matrix: Water	Sampling Parameter: NA	

Analysis Method - EPA 6850, DoD QSM

Preparation: Not Applicable	**Analysis:** EPA 6850, DoD QSM Water	**Instrument ID:** LCMS04
	Batch: ELMS/2015 (HBN: 205572)	**Percent Solid:** NA
	Analyzed: 12/21/2017 10:29	**Report Basis:** Wet

Analyte	Result (ug/L)	DL (ug/L)	LOD (ug/L)	LOQ (ug/L)	Dilution	Qual
Perchlorate	ND	1.0	2.0	4.0	1	U

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

Method	Analyst	Peer Review
EPA 6850, DoD QSM	/S/ Thomas Bosch 12/22/2017 15:44	/S/ Stephen Brose 12/27/2017 15:47

Laboratory Contact Information

ALS Environmental
960 W Levoy Drive
Salt Lake City, Utah 84123

Phone: (801) 266-7700
Email: alslt.lab@ALSGlobal.com
Web: www.alsslc.com

ANALYTICAL REPORT

Workorder: 34-1734932
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: 34-1734932
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: 1734932

Limits:	Client SOW/Contract Specified	**Preparation:**	NA	**Analysis:**	EPA 6850
Basis:	DoD QSM	**Batch:**	NA	**Batch:**	ELMS/2015 (HBN: 205572)
		Prepared By:	NA	**Analyzed By:**	Thomas Bosch

Blank

LMB: 580322
Analyzed: 12/21/2017 09:49
Units: ug/L

Analyte	Result	MDL	RL
Perchlorate	ND	1	2.00

Laboratory Control Sample

LCS: 580323
Analyzed: 12/21/2017 10:08
Dilution: 1
Units: ug/L

Analyte	Result	Target	% Rec	QC Limits	
Perchlorate	5.31	5.00	106	78.8	123.8

Matrix Spike - Matrix Spike Duplicate

Sample: 1734932001	MS: 580324	MSD: 580325
Analyzed: 12/21/2017 10:29	Analyzed: 12/21/2017 10:49	Analyzed: 12/21/2017 11:08
Dilution: 1	Dilution: 1	Dilution: 1
Units: ug/L	Units: ug/L	Units: ug/L

Analyte	Result	Result	Target	% Rec	QC Limits		Result	% Rec	RPD	QC Limits	
Perchlorate	ND	5.09	5	102	78.8	123.8	5	100	1.68	0.0	20.0

Continuing Calibration Verification

CCV: 580319	CCV: 580326
Analyzed: 12/21/2017 08:52	Analyzed: 12/21/2017 15:08
Units: ug/L	Units: ug/L
Criteria: ± 15%	Criteria: ± 15%

Analyte	Result	Target	% Rec.	Result	Target	% Rec.
Perchlorate	27.1	25.0	109	26.5	25.0	106

Interference Check Sample

ICSA: 580321
Analyzed: 12/21/2017 09:30
Units: ug/L
Criteria: ± 30%

Analyte	Result	Target	% Rec.
Perchlorate	0.968	1.00	96.8

Limit of Detection Verification

LODV: 580320	LODV: 580327
Analyzed: 12/21/2017 09:11	Analyzed: 12/21/2017 15:27
Units: ug/L	Units: ug/L
Criteria: ± 50%	Criteria: ± 50%

Analyte	Result	Target	% Rec.	Result	Target	% Rec.
Perchlorate	1.10	1.00	110	1.10	1.00	110

Quality Control Sample
Batch Report

Analysis Information

Workorder: **1734932**

Limits:	Client SOW/Contract Specified	**Preparation:**	NA	**Analysis:**	EPA 6850
Basis:	DoD QSM	**Batch:**	NA	**Batch:**	ELMS/2015 (HBN: 205572)
		Prepared By:	NA	**Analyzed By:**	Thomas Bosch

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

Analyst	Peer Review
/S/ Thomas Bosch	/S/ Stephen Brose
12/22/2017 15:44	12/27/2017 15:47

Symbols and Definitions

* - Analyte above reporting limit or outside of control limits
▲ - Sample result is greater than 4 times the spike added
◆ - Sample and Matrix Duplicate less than 5 times the reporting limit
● - Result is above the calibration range
- The Matrix Spike, Matrix Spike duplicate or Matrix Duplicate is reported for your information only. The sample matrix may be inappropriate for the method selected.

RPD - Relative % Difference (Spike / Spike Duplicate)
ND - Not Detected (U - Qualifier also flags analyte as not detected)
NA - Not Applicable
QC results are not adjusted for moisture correction, where applicable

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: 8222

1734932

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:	HS17120746
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS17120746-01**	**LH18/24-SP650_121317**	**Water**	**13 Dec 2017 14:00**
	SUB_Perch-6850			02 Jan 2018

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

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: Dec 14, 2017 1800

Received By: _____ Date/Time: 12-15-17 8:55

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

RIGHT TO CONDITIONS - RIGHT TO CHANGE

ALS - Salt Lake City-Related Information Report (CRIR)

Cooler or Container Information Checklist (Fill In or Circle)

Client Name: ALS Houston — Project/Task/Site: 1734932

Date/Time of Receipt: 12-15-17 8:55 — Number of Coolers Received: 1

Condition of Coolers:	(Acceptable)/Unacceptable	Temperature Control:	(Present)/Not Included
Cooler Custody Seals:	(Present)/Absent/NA	Location Temp Taken:	(Cooler)/Between Samples
	(Intact)/Broken/NA	Are all temperatures within	
Container Custody Seals:	Present/(Absent)/NA	project specific guidelines?	Yes/No/(NA)
	Intact/Broken/(NA)	VOA Headspace Present?	Yes/No/(NA)
Ice Present:	(Yes)/No/NA		
	Frozen/Melted/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	C17-8107	3 °C	4	C17-	°C	7	C17-	°C
2	C17-	°C	5	C17-	°C	8	C17-	°C
3	C17-	°C	6	C17-	°C	9	C17-	°C

Taken By: Tami VanTassell (Signature) — Tami VanTassell (Printed Name) — 12-15-17 (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 # 1534C1 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: 14DEC17
ACTWGT: 20.55 LB
CAD: 3001307CAFE3108
DIMS: 14x11x10 IN

BILL SENDER

TO KEVIN GRIFFITHS
ALS ENVIRONMENTAL
960 W. LEVOY DRIVE

SALT LAKE CITY UT 84123
(801) 266-7700
REF: HS17120746/687/745

FedEx Express

J171016102001uv

FRI - 15 DEC 3:00P
STANDARD OVERNIGHT

TRK# 0201 7376 9751 1783

XH BTFA

84123
UT-US SLC

ALS
10450 Stancliff Rd.
Houston, Texas 77
Tel. +1 281 530 565
Fax. +1 281 530 58

00879174

ALS Environmental

CHAIN-OF-CUSTODY

Project / Job / Task: HS17120746	*Split:*	**Workorder ID:** 1734932	**Level:** ENV_LVL4
Client: ALS Environmental (Houston)		**Account:** 8101	**Type:** 250Poly
Comments:			**Preservatives**

Item	Collect Date/Time	Sample ID	Lab ID	QC	Matrix	Containers ID(s)	Containers Count	Requested Analysis: EPA 6850, DoD QSM
1	12/13/2017 14:00	LH18/24-SP650_121317	1734932001		Water	A	1	A
2								
3								
4								
5								
6								
7								
8								
9								
10								

COOL

108 of 199

ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Reason for Transfer / Storage Location
Warath, Julie	12/15/2017 08:55	ALS Sample Receiving	Sample Login
[signature] R.33.1	12/16/17 1030 12.20.17/17:40	LoC T.Boak	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

ch Worklist

Batch: ELMS/ 2015 **Created:** 12/21/2017 08:00 **Instrument:** LCMS04 **HBN:** 205572
Rule: EPA 6850, DoD QSM Water **Analyst:** T. Bosch **Status:** WP

Workorder: 1734932 [ENV_LVL4]
Workorder: 1735426 [ENV_LVL4]

Pos	Lab ID	Sample ID	Prep Initial	Prep Final	Dust Weight	Type	Mx	Container	Procedure	Mgr	Expire Date	Due Date	Run Date
1	580319	CCV for HBN 205572 [ELMS/2015]				CCV	3		E685041C3Q	5311		1/3/2018	12/21/2017
2	580320	LODV for HBN 205572 [ELMS/2015				LODV	3		E6850..D3Q	5311		1/3/2018	12/21/2017
3	580321	ICS for HBN 205572 [ELMS/2015]				ICS	3		E6850..D3Q	5311		1/3/2018	12/21/2017
4	580322	LMB for HBN 205572 [ELMS/2015]				LMB	3		E6850Q413Q	5311		1/3/2018	12/21/2017
5	580323	LCS for HBN 205572 [ELMS/2015]				LCS	3		E6850Q413Q	5311		1/3/2018	12/21/2017
6	1734932001	LH18/24-SP650_121317				SAMPLE	3	1734932001-A	E6850Q41.3	5480	1/10/2018	1/3/2018	12/21/2017
7	580324	LH18/24-SP650...(1734932001MS)				MS	3		E6850Q413Q	5311		1/3/2018	12/21/2017
8	580325	LH18/24-SP65...(1734932001MSD)				MSD	3		E6850Q413Q	5311		1/3/2018	12/21/2017
9	1735426001	MW10-121117				SAMPLE	3	1735426001-A	E6850Q41.3	5480	1/8/2018	1/5/2018	12/21/2017
10	1735426002	MW17-121117				SAMPLE	3	1735426002-A	E6850Q41.3	5480	1/8/2018	1/5/2018	12/21/2017
11	1735426003	MW18-121117				SAMPLE	3	1735426003-A	E6850Q41.3	5480	1/8/2018	1/5/2018	12/21/2017
12	1735426004	MW19-121217				SAMPLE	3	1735426004-A	E6850Q41.3	5480	1/9/2018	1/5/2018	12/21/2017
13	1735426006	18CPTMW10SW-121217				SAMPLE	3	1735426006-A	E6850Q41.3	5480	1/9/2018	1/5/2018	12/21/2017
14	1735426007	18CPTMW10DW-121217				SAMPLE	3	1735426007-A	E6850Q41.3	5480	1/9/2018	1/5/2018	12/21/2017
15	1735426008	18CPTMW12SW-121217				SAMPLE	3	1735426008-A	E6850Q41.3	5480	1/9/2018	1/5/2018	12/21/2017
16	1735426009	18CPTMW12DW-121217				SAMPLE	3	1735426009-A	E6850Q41.3	5480	1/9/2018	1/5/2018	12/21/2017
17	1735426005	MW8-121217				SAMPLE	3	1735426005-A	E6850Q41.3	5480	1/9/2018	1/5/2018	12/21/2017
18	580326	CCV for HBN 205572 [ELMS/2015]				CCV	3		E685041C3Q	5311		1/3/2018	12/21/2017
19	580327	LODV for HBN 205572 [ELMS/2015				LODV	3		E6850..D3Q	5311		1/3/2018	12/21/2017



ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Analytical Documentation



ALS Work Order #'s & Sample #( )'s: 1734932 (001); 1735426 (001-09)
ELMS Batch/HBN ID: 2015 (205572)
Prep Date: 12/21/2017 Analysis Date: 12/21/2017 Analyst: T. Bosch
Analyte: **Perchlorate** Matrix: **Water** Method: **6850**
Sequence:\\HPCHEM\1\SEQUENCE\CLO4\2017\DEC\21DEC17D.s
Reported DL: **1.0µg/L** Reported LOD: **2.0µg/L** Reported LOQ: **4.0µg/L**

SAMPLE PREPARATION/ANALYSIS:

Water: Samples were prepared by TNB. 10.0mL of each sample was pipetted into a 15-mL centrifuge tube, and 50µL of an oxygen-18 labeled perchlorate solution was added as an internal standard. The samples were capped, vortexed, and filtered with Phenex PES membrane 0.45µm Syringe filters prior to analysis.

REAGENTS: Eluent A1: 95% ASTM Type II water (ALS)/ 5% ACN (B&J Lot DI735)/0.1% glacial acetic acid (JT-Baker Lot 04802).
Eluent B1: 95% ACN (B&J Lot DI735)/ 5% ASTM Type II water (ALS)/0.1% glacial acetic acid (JT-Baker Lot 04802).

STANDARDS: Internal Standard Spiking Solution Horizon# 38780. Dilutions of Working Standard Solution ID 32373 used for CCV's, LODV's, RLVS and IPC.

CALIBRATION CURVE: Used curve from 11/28/2017, sequence 28NOV17P.s Offline Quantitation Method: CLO4-DPR.M

INSTRUMENT CONDITIONS: Samples were analyzed with an Agilent 1100 LC/MSD system, in negative SIM mode, monitoring m/z 83, 85, and 89.
Instrument ID: LCMS04 Online Acquisition Method: CLO4-AQN.M Fragmentor: 160 Output Gain: 3 Injection Volume: 25µL
Column: KP-RPPX C8 separator, 250mm Mobile Phase: 70% Eluent A1; 30% Eluent B1

FLOW GRADIENT:

Time (min.)	Flow (mL/min)
0	0.65
4.0	0.65
5.0	0.25
14.5	0.25
15.0	0.65
17.5	0.65

QC DATA: 5.0µL of QC Solution Horizon ID 36749 was used for LCS 580323; Target = 5.0µg/L. ASTM type II water was used for LMB 580322.

MS/MSD: MS/MSD was performed on sample 1734932001 (Client ID: LH18/24-SP650_121317). 5.0µl of Working Standard Solution Horizon ID 36735 was added to 10.0mL of sample preparation. Spike target = 5.0µg/L.

COMMENTS:

1) Results reported in µg/L. Sample 1735426005 was re-analyzed and reported at a 1:100 dilution. The reporting limit has been adjusted accordingly.
2) All QC, Blank, CCV, and MS/MSD results were within method parameters.
3) Sample data can be viewed at two directories within the ALS system: \\ALSLTWS013\LCMS\LCMS04\2017\DEC\HBN# or through NuGenesis\Tree\PrintData\LCMS\DefaultView.
4) Due to limitations of the Chemstation Software, many of the chromatographic peaks require manual integration. Manual Integrations were performed for some of the Initial Calibration analyses (datafiles: 28NOVP01,02) along with datafiles 21DECD02/03/13/20.
5) Notebook: \\alsltws013\ORGANIC\BOSCH\LCMS\Perchlorates\Waters\2017\CLO4-205572-DOD-ALS-HSTN-LCMS4 or through \\ALSLTWS013\DATAREVIEW\HBN#

STANDARD REPORT

Working Standard - CLO4 WRK

CLO4 WRK — Description - 6850 WKG Std 100.ug/L

Standard: 36735
MFG: ALS/SLC
MFG Lot: TNB: 05/10/17
Part ID:

Created By: T. Bosch
Create Date: 05/10/2017
Lab Lot: CLO4 WRK

Amount: 10 mL
Expires: 05/10/2018
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	0.1 ug/mL

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
109	ASTM H2O	ASTM Type II Water	LAB 109	9.9 mL	11/07/2025
36734	CLO4 INT	6850 Intermdt AccStd 10.ug/mL	CLO4 INT	0.1 mL	05/10/2018

STANDARD REPORT

Constituent

Stock Standard - CLO4 STOCK

CLO4 STOCK — Description - 6850 Stock AccStd 1,000ug/mL

Standard: 36733
MFG: AccuStandard
MFG Lot: 216095148
Part ID: IC-PER-10X-1

Created By: T. Bosch
Create Date: 5/10/2017
Lab Lot: CLO4 STOCK

Amount: 100 mL
Expires: 10/4/2018
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	1000 ug/mL

STANDARD REPORT

Constituent

Solvent Standard - ASTM H2O

ASTM H2O		Description - ASTM Type II Water
Standard: 109	Created By: ALS Support (Lims)	Amount: 1000 L
MFG: DCL In House	Create Date: 10/6/2005	Expires: 11/7/2025
MFG Lot:	Lab Lot: LAB 109	Usable: Yes
Part ID:		

Pos.	Analyte	Name	Concentration
Solvent - Analyte(s) not applicable			

STANDARD REPORT

Constituent

Working Standard - CLO4 INT

CLO4 INT — Description - 6850 Intermdt AccStd 10.ug/mL

Standard: 36734
MFG: ALS/SLC
MFG Lot: TNB: 05/10/17
Part ID:

Created By: T. Bosch
Create Date: 05/10/2017
Lab Lot: CLO4 INT

Amount: 10 mL
Expires: 05/10/2018
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	10 ug/mL

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
109	ASTM H2O	ASTM Type II Water	LAB 109	9.9 mL	11/07/2025
36733	CLO4 STOCK	6850 Stock AccStd 1,000ug/mL	CLO4 STOCK	0.1 mL	10/04/2018

STANDARD REPORT

Working Standard - CLO4 QC WRK

CLO4 QC WRK — Description - 6850 QC WKG STD 100ug/L

Standard: 36750
MFG: ALS/SLC
MFG Lot: TNB: 05/11/17
Part ID:

Created By: T. Bosch
Create Date: 05/11/2017
Lab Lot: CLO4 QC WRK 100.ug/L

Amount: 10 mL
Expires: 05/11/2018
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	100 ug/L

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
109	ASTM H2O	ASTM Type II Water	LAB 109	9.9 mL	11/07/2025
36749	CLO4 QC INT	6850 QC Intrmdt Std-QC 10ug/mL	CLO4 QC INT 10.ug/mL	0.1 mL	05/11/2018

STANDARD REPORT

Constituent

Working Standard - CLO4 QC INT

CLO4 QC INT Description - 6850 QC Intrmdt Std-QC 10ug/mL

Standard: 36749
MFG: ALS/SLC
MFG Lot: TNB: 05/11/2017
Part ID:

Created By: T. Bosch
Create Date: 05/11/2017
Lab Lot: CLO4 QC INT 10.ug/mL

Amount: 10 mL
Expires: 05/11/2018
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	10 ug/mL

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
109	ASTM H2O	ASTM Type II Water	LAB 109	9.9 mL	11/07/2025
36748	CLO4 QCSTOCK	6850 QC Stock STD 1,000ug/mL	CLO4 QC STOCK	0.1 mL	03/31/2020

STANDARD REPORT

Constituent

Solvent Standard - ASTM H2O

ASTM H2O		Description - ASTM Type II Water
Standard: 109	Created By: ALS Support (Lims)	Amount: 1000 L
MFG: DCL In House	Create Date: 10/6/2005	Expires: 11/7/2025
MFG Lot:	Lab Lot: LAB 109	Usable: Yes
Part ID:		

Pos.	Analyte	Name	Concentration
Solvent - Analyte(s) not applicable			

STANDARD REPORT

Constituent

Stock Standard - CLO4 QCSTOCK

CLO4 QCSTOCK Description - 6850 QC Stock STD 1,000ug/mL

Standard: 36748
MFG: Ultra Scientific
MFG Lot: CP-0860
Part ID: ICC-013

Created By: T. Bosch
Create Date: 5/11/2017
Lab Lot: CLO4 QC STOCK

Amount: 100 mL
Expires: 3/31/2020
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	1000 ug/mL

STANDARD REPORT

Working Standard - CLO4ISTDWRK

CLO4ISTDWRK		Description - Perchlorate ISTD Wrk 1,000ug/L
Standard: 38780	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
MFG: Cambridge Isotope
MFG Lot: SDDG-013
Part ID: OLM-7310-S

Created By: Thomas Bosch
Create Date: 04/04/2014 03:04PM
Verified By: Thomas Bosch
Verify Date: 02/05/2009 12:02AM

Amount: 1 mL
Expires: 02/27/2024
Usable: Yes
Lab Lot: CLO4ISTDSTK

Pos.	Analyte	Name	Concentration
1	14797-73-0-8385	Perchlorate 83:85 Ratio	100 ug/mL
2	14797-73-0-89	Perchlorate 89	100 ug/mL

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

ISO Guide 34 Reference Material

Product Number: ICC-013
Lot Number: CP-0860

Lot Issue Date: 29-Feb 2016
Expiration Date: 31-Mar 2020

Product Name: Perchlorate IC Standard

Description:
This Reference Material (RM) was gravimetrically prepared in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered quality system. The neat materials used for this product have been verified by ULTRA's ISO 17025 laboratory and under ULTRA's ISO Guide 34 accreditation. The analyte concentrations were verified by ULTRA's ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported below.

Analyte	Starting Material	Lot Number	Purity (%)	Calculated Value	True Value	Traceability & Method
perchlorate	potassium perchlorate	RM07987	100	1001 ± 5 µg/mL	976 ± 6 µg/mL	NIST SRM 3141A; ICP-OES

Solvent: water (low TOC, < 50 ppb)

Storage: Store at Room Temperature (15° to 30°C).

Traceability:
Traceability has been established through an unbroken chain of comparisons, each having stated uncertainties. Comparisons are based on appropriate physical or chemical measurements, including gravimetric or volumetric dilution, where the mass or volume of a solution before and after dilution is measured. The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1, ISO 9001, ISO 17025, and ISO Guide 34. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 819.

Estimation of Uncertainties:
The true value is reported, with its uncertainty value calculated at the 95% confidence level.

Homogeneity:
This RM was formulated and unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods and continuing calibration verification.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening and should be processed without delay for the true value to be valid within the stated uncertainties. Do not pipet from the bottle. Do not return any material removed for pipetting to the bottle. Tightly cap the bottle after removing any material and store according to the instructions noted above.

Hazards:
Refer to the Safety Data Sheet for information regarding this RM.

Expiration of Certification:
The certification of this RM is valid, within the measurement uncertainty specified, until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

ANAB ACCREDITED ISO 17025 REFERENCE MATERIAL PRODUCER
ANAB ACCREDITED ISO 17025 TESTING LABORATORY

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

ISO Guide 34 Reference Material

Product Number: ICC-013
Lot Number: CP-0860

Lot Issue Date: 29-Feb 2016
Expiration Date: 31-Mar 2020

Maintenance of Certification:
The real-time, long term stability of the RM may be monitored over the lifetime of the certification. If substantive changes occur that affect the certification before the expiration of this certificate, ULTRA Scientific will notify the purchaser.

Peter A. King, Ph.D.
VP, Technical Operations

Daniel J. Lamendola
Director of QA/RA

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

AccuTrace™ Reference Standard

Catalog No: IC-PER-10X-1
Description: Perchlorate Standard
Element: Perchlorate (ClO_4)
SRM: Ind. Std.
Lot: 216095148
Matrix: Water
Hazards: *Refer to SDS for complete safety information*

Signal Word: Warning

Date Certified: Oct 4, 2016
Expiration: Oct 4, 2018
Sample Size: 100 mL
Components: 1
Storage Condition: Ambient (>5 °C)
Included on ISO/IEC 17025 Scope of Accreditation: Yes
Included on ISO Guide 34 Scope of Accreditation: Yes

Component		SRM #	Prepared Concentration (µg/mL)
ClO_4	Perchlorate	Ind. Std.	1000

The gravimetric uncertainty for this product is ±0.2%. See reverse side for details.
The final solution was checked against an independent standard to verify its concentration.
We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as ASTM Type I 18 megohm deionized water.
All solutions are filtered through a 0.2 µm filter prior to being bottled.
All glassware used in preparation is Class A and calibrated regularly.
All weights are traceable through NIST, Test No. 822-275872-11
All bottles are triple rinsed with deionized water prior to use.
Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware.
We certify the accuracy of this standard to be ±0.5% of the stated value until its expiration date provided it is kept tightly capped and stored under the conditions stated above.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

OR-ORG/INO-001
Rev. 5/16

Cambridge Isotope Laboratories, Inc.

Certificate of Analysis

Quality Standards:
ISO Guide 34 • ISO/IEC 17025 • ISO 13485 • cGMP

23118

Product Name: (Isotopic Label & Enrichment Specification)	PERCHLORIC ACID, SODIUM SALT (18O4, 90%+) 100 UG/ML IN WATER
Lot Number:	SDDG-013
Catalog Number:	OLM-7310-S

Product Information

Chemical Purity Specification:	≥98%
Labeled CAS Number:	NA
Unlabeled CAS Number:	7601-89-0
MW*:	130.4
Chemical Formula:	NaCl*O4
Storage:	Store at room temperature away from light and moisture.
Stability:	See storage and expiration date.

Certification

Cambridge Isotope Laboratories, Inc. guarantees that this material meets or exceeds the specifications stated. Absolute identity as well as chemical and isotopic purities are assured by the use of unambiguous synthetic routes and multiple chemical analyses whenever possible. Results are representative of QC testing at time of release from Quality Control unless otherwise stated.

Volumetric measurements were made with Class A glassware. Gravimetry is traceable to the NIST through calibrated balances and certified, calibrated, standard weights. The calibrations are traceable to the NIST under Test No. 822/270236-04. The calibrations also meet specifications outlined in ISO 9001, ISO/IEC 17025, ANSI/NSCL Z540-1-1994, NCR Document 10CFR50 Appendix B, and applicable subdocuments.

This COA references the bulk catalog number before packaging. The COA also applies to the CIL finished good catalog number. Some possible packaging sizes and their corresponding suffix are -1.2, -1, -0.5, -10, or -0.1.

* *For isotopically labeled compounds, MW listed is for the fully enriched product.*

Approved by: T. J. Eckersley

Timothy J. Eckersley, Ph.D., Quality Assurance

Quality Control Tests and Results

QC Release Date	2/27/2014
Expiration Date	2/27/2024
Concentration Based on Gravimetry	102 µg/mL
Chemical Purity of Neat Material(s)	98%
LC/MS for Concentration	109.4 ± 2.8 µg/mL (k=2)

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Raw Data

Batch Report: C:\HPCHEM\1\DATA\21DEC17D\21DEC17D.B

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

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

#	Sample	Location	Inj	SampleType	Run	Perchlorate Area	Perchlorate RT	Perchlorate Amount
*	580319 CCV@25	Vial 71	1	Control	1	1.10329e6	12.681	27.12916
*	580320 LODV@1.	Vial 72	1	Control	2	4.29875e4	12.695	1.10328
*	580321 ICS@1.	Vial 73	1	Control	3	2.70794e4	12.386	9.68220e-1
*	580322 LMB	Vial 74	1	Control	4	0.00000	0.000	0.00000
*	580323 LCS@5.	Vial 75	1	Control	5	1.82725e5	12.199	5.30896
*	1734932001	Vial 76	1	Sample	6	0.00000	0.000	0.00000
*	580324 349321S	Vial 77	1	Sample	7	1.58544e5	12.509	5.08586
*	580325 349321D	Vial 78	1	Sample	8	1.70173e5	12.523	5.00098
*	1735426001	Vial 79	1	Sample	9	0.00000	0.000	0.00000
*	1735426002	Vial 80	1	Sample	10	0.00000	0.000	0.00000
*	1735426003	Vial 81	1	Sample	11	0.00000	0.000	0.00000
*	1735426004	Vial 82	1	Sample	12	0.00000	0.000	0.00000
*	1735426005	Vial 83	1	Sample	13	2.28145e8	11.060	1343.31631
*	1735426006	Vial 84	1	Sample	14	0.00000	0.000	0.00000
*	1735426007	Vial 85	1	Sample	15	3.96411e5	12.467	11.65664
*	1735426008	Vial 86	1	Sample	16	0.00000	0.000	0.00000
*	1735426009	Vial 87	1	Sample	17	0.00000	0.000	0.00000
*	1735426005 100	Vial 88	1	Sample	18	2.62282e6	12.748	5547.14866
*	580326 CCV@25	Vial 71	1	Control	19	1.05805e6	12.615	26.48818
*	580327 LODV@1.	Vial 72	1	Control	20	4.33081e4	12.788	1.10451

#	Sample	Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
*	580319 CCV@25	Vial 71	1	Control	1	3.45319e5	12.703	26.97211
*	580320 LODV@1.	Vial 72	1	Control	2	1.56451e4	12.704	1.01706
*	580321 ICS@1.	Vial 73	1	Control	3	1.02609e4	12.405	9.07710e-1
*	580322 LMB	Vial 74	1	Control	4	0.00000	0.000	0.00000
*	580323 LCS@5.	Vial 75	1	Control	5	6.11696e4	12.207	5.32832
*	1734932001	Vial 76	1	Sample	6	0.00000	0.000	0.00000
*	580324 349321S	Vial 77	1	Sample	7	5.38874e4	12.529	5.17300
*	580325 349321D	Vial 78	1	Sample	8	5.99470e4	12.537	5.27085
*	1735426001	Vial 79	1	Sample	9	0.00000	0.000	0.00000
*	1735426002	Vial 80	1	Sample	10	0.00000	0.000	0.00000
*	1735426003	Vial 81	1	Sample	11	0.00000	0.000	0.00000
*	1735426004	Vial 82	1	Sample	12	0.00000	0.000	0.00000
*	1735426005	Vial 83	1	Sample	13	8.12621e7	11.069	1601.95707
*	1735426006	Vial 84	1	Sample	14	0.00000	0.000	0.00000
*	1735426007	Vial 85	1	Sample	15	1.28015e5	12.481	11.63225
*	1735426008	Vial 86	1	Sample	16	0.00000	0.000	0.00000
*	1735426009	Vial 87	1	Sample	17	0.00000	0.000	0.00000
*	1735426005 100	Vial 88	1	Sample	18	8.02047e5	12.763	5543.26164
*	580326 CCV@25	Vial 71	1	Control	19	3.25405e5	12.636	25.89454
*	580327 LODV@1.	Vial 72	1	Control	20	1.48591e4	12.816	9.48676e-1

#	Sample	Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
*	580319 CCV@25	Vial 71	1	Control	1	1.65013e5	12.697	5.00000
*	580320 LODV@1.	Vial 72	1	Control	2	1.83835e5	12.702	5.00000
*	580321 ICS@1.	Vial 73	1	Control	3	1.32470e5	12.410	5.00000
*	580322 LMB	Vial 74	1	Control	4	1.88604e5	12.735	5.00000
*	580323 LCS@5.	Vial 75	1	Control	5	1.56058e5	12.220	5.00000
*	1734932001	Vial 76	1	Sample	6	1.46703e5	12.537	5.00000
*	580324 349321S	Vial 77	1	Sample	7	1.41538e5	12.533	5.00000
*	580325 349321D	Vial 78	1	Sample	8	1.54580e5	12.544	5.00000
*	1735426001	Vial 79	1	Sample	9	1.27074e5	12.480	5.00000
*	1735426002	Vial 80	1	Sample	10	1.23030e5	12.521	5.00000
*	1735426003	Vial 81	1	Sample	11	1.35933e5	12.446	5.00000
*	1735426004	Vial 82	1	Sample	12	1.61170e5	12.275	5.00000

Batch Report: C:\HPCHEM\1\DATA\21DEC17D\21DEC17D.B

#*	Sample	Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
*	1735426005	Vial 83	1	Sample	13	9.64154e4	11.058	5.00000
*	1735426006	Vial 84	1	Sample	14	1.27755e5	12.429	5.00000
*	1735426007	Vial 85	1	Sample	15	1.48900e5	12.485	5.00000
*	1735426008	Vial 86	1	Sample	16	1.19586e5	12.398	5.00000
*	1735426009	Vial 87	1	Sample	17	1.60908e5	12.487	5.00000
*	1735426005 100	Vial 88	1	Sample	18	1.69365e5	12.769	500.00000
*	580326 CCV@25	Vial 71	1	Control	19	1.62565e5	12.637	5.00000
*	580327 LODV@1.	Vial 72	1	Control	20	1.84996e5	12.807	5.00000

*** End of Report ***

Sequence: C:\HPCHEM\1\SEQUENCE\CLO4\2017\DEC\21DEC17D.S

Sequence Table:

Method and Injection Info Part:

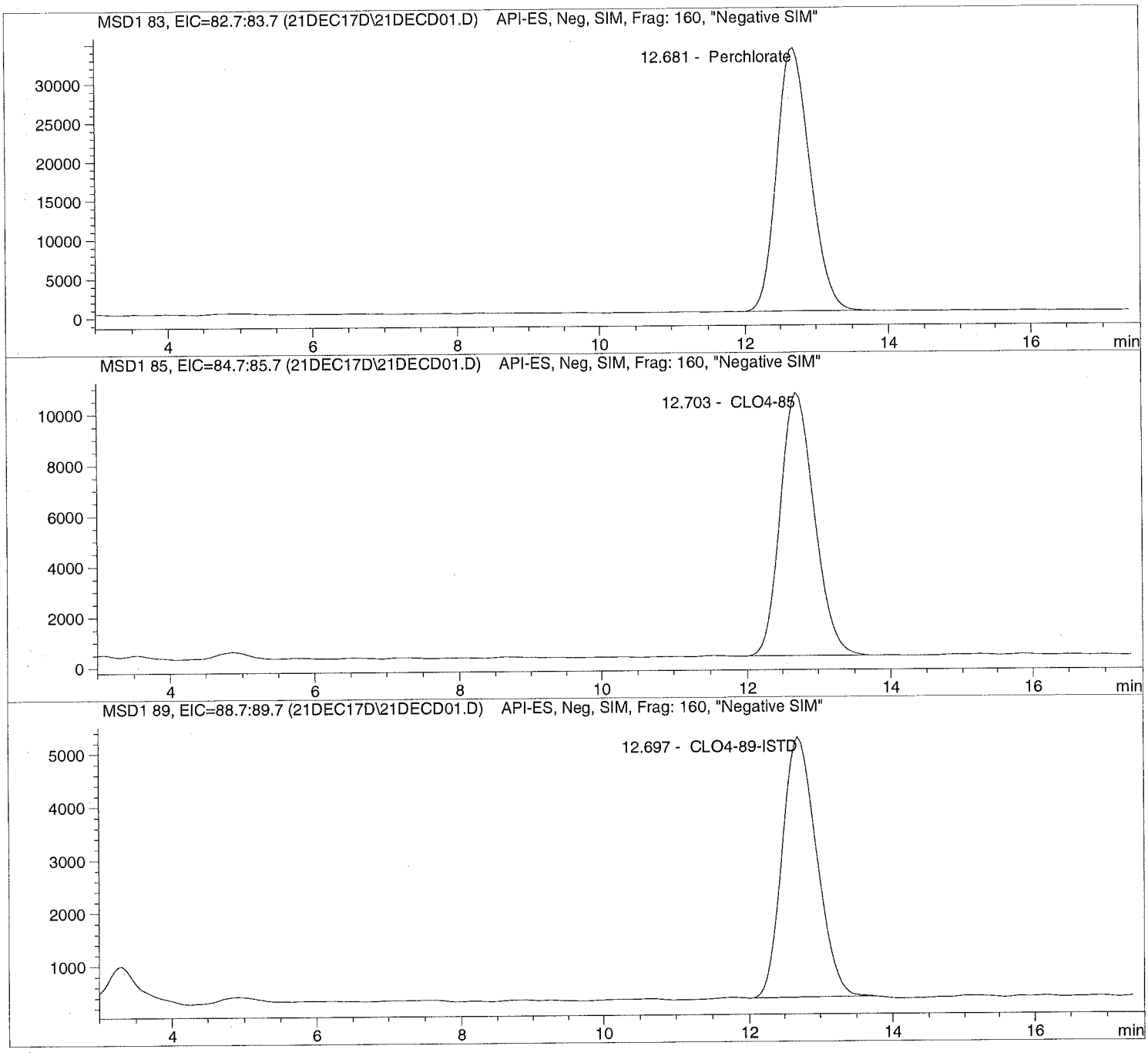
Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	580319 CCV@25	CLO4-DOD	1	Ctrl Samp		
2	Vial 72	580320 LODV@1.	CLO4-DOD	1	Ctrl Samp		
3	Vial 73	580321 ICS@1.	CLO4-DOD	1	Ctrl Samp		
4	Vial 74	580322 LMB	CLO4-DOD	1	Ctrl Samp		
5	Vial 75	580323 LCS@5.	CLO4-DOD	1	Ctrl Samp		
6	Vial 76	1734932001	CLO4-DOD	1	Sample		
7	Vial 77	580324 349321S	CLO4-DOD	1	Sample		
8	Vial 78	580325 349321D	CLO4-DOD	1	Sample		
9	Vial 79	1735426001	CLO4-DOD	1	Sample		
10	Vial 80	1735426002	CLO4-DOD	1	Sample		
11	Vial 81	1735426003	CLO4-DOD	1	Sample		
12	Vial 82	1735426004	CLO4-DOD	1	Sample		
13	Vial 83	1735426005	CLO4-DOD	1	Sample		
14	Vial 84	1735426006	CLO4-DOD	1	Sample		
15	Vial 85	1735426007	CLO4-DOD	1	Sample		
16	Vial 86	1735426008	CLO4-DOD	1	Sample		
17	Vial 87	1735426009	CLO4-DOD	1	Sample		
18	Vial 88	1735426005 100	CLO4-DOD	1	Sample		
19	Vial 71	580326 CCV@25	CLO4-DOD	1	Ctrl Samp		
20	Vial 72	580327 LODV@1.	CLO4-DOD	1	Ctrl Samp		

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD01.D Sample Name: 580319 CCV@25

Injection Date:	12/21/2017 08:52:08	Seq Line:	1
Sample Name:	580319 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD01.D Sample Name: 580319 CCV@25

Injection Date:	12/21/2017 08:52:08	Seq Line:	1
Sample Name:	580319 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	25.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.681	PBA	1103294.9	27.1292	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.703	PBA	345318.7	26.9721	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.697	PBA	165012.7	5.0000	CLO4-89-ISTD

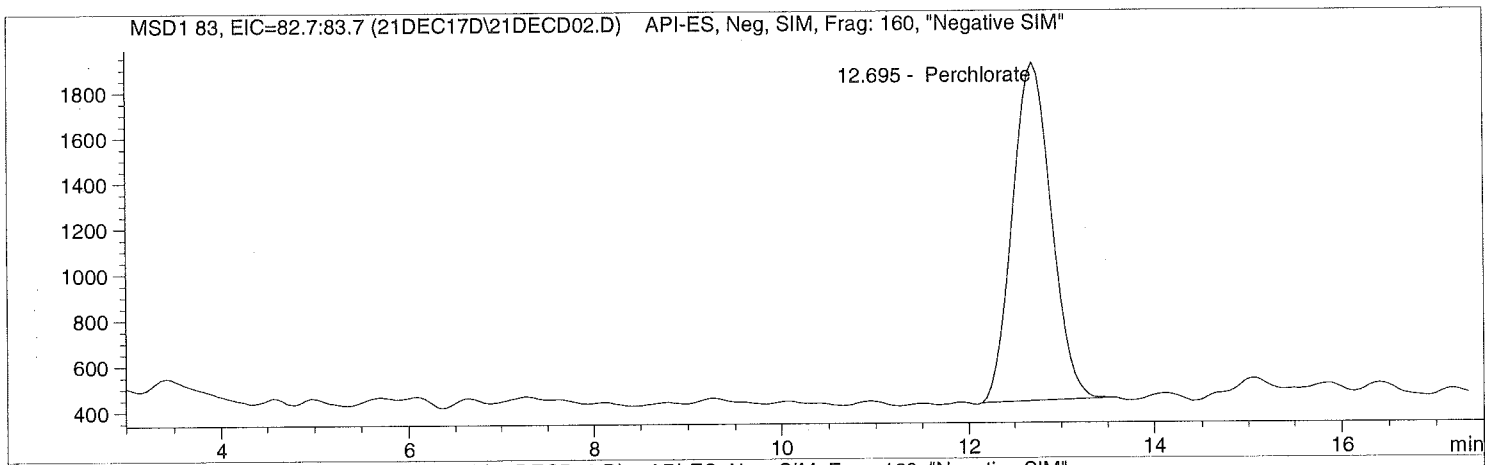
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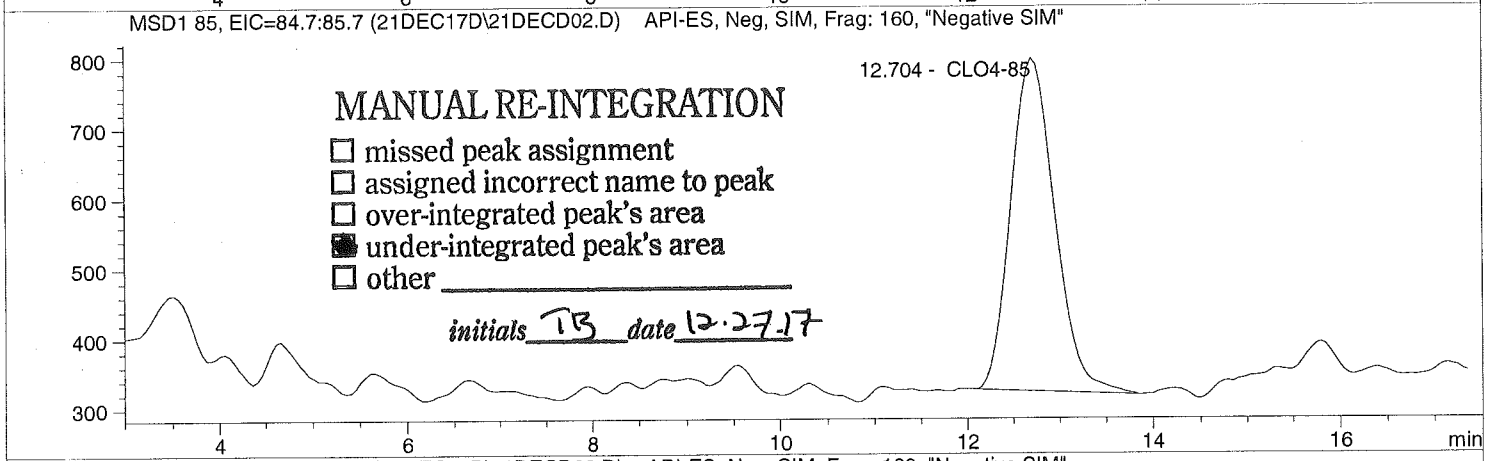
Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD02.D Sample Name: 580320 LODV@1.

Injection Date:	12/21/2017 09:11:18	Seq Line:	2
Sample Name:	580320 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

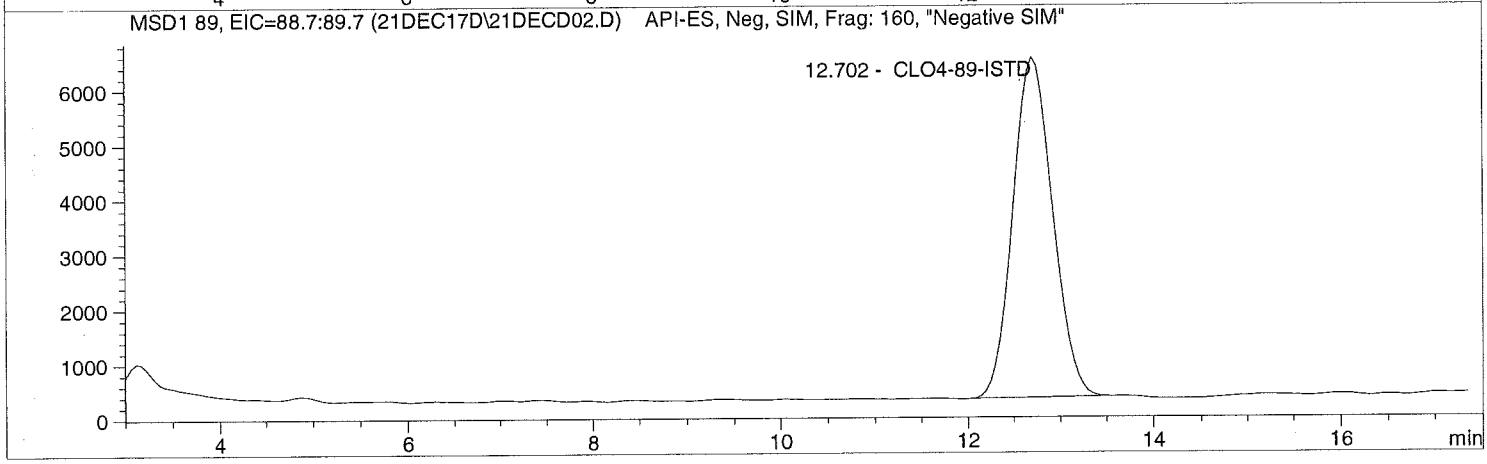




MANUAL RE-INTEGRATION

- ☐ missed peak assignment
- ☐ assigned incorrect name to peak
- ☐ over-integrated peak's area
- ■ under-integrated peak's area
- ☐ other _____

initials TB *date* 12.27.17



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD02.D Sample Name: 580320 LODV@1.

Injection Date:	12/21/2017 09:11:18	Seq Line:	2
Sample Name:	580320 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.695	PBA	42987.5	1.1033	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.704	MM	15645.1	1.0171	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.702	PBA	183835.4	5.0000	CLO4-89-ISTD

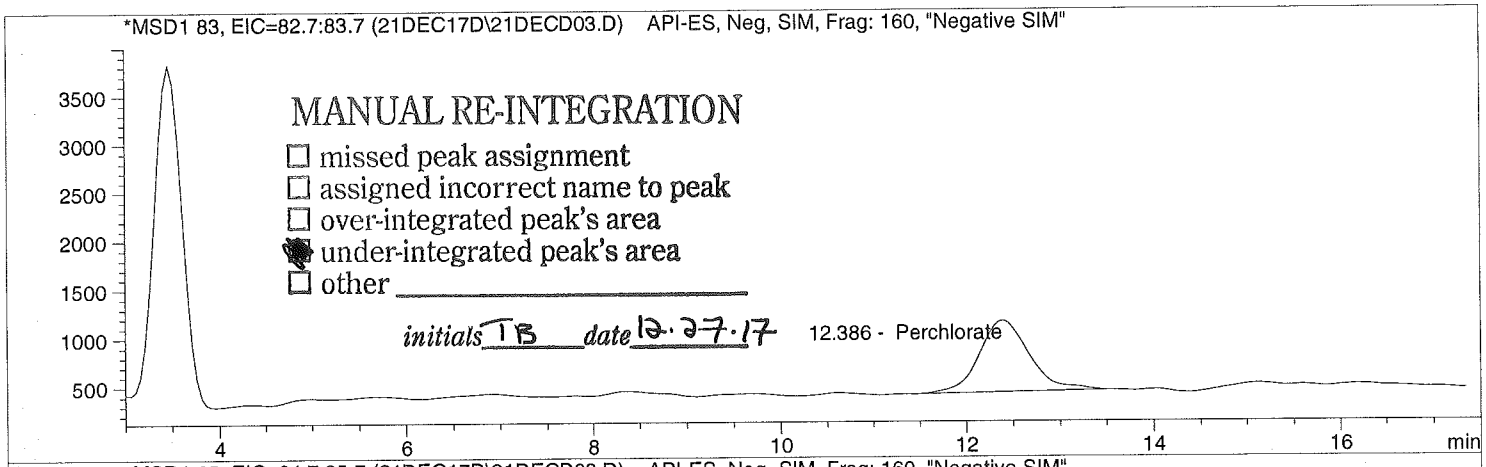
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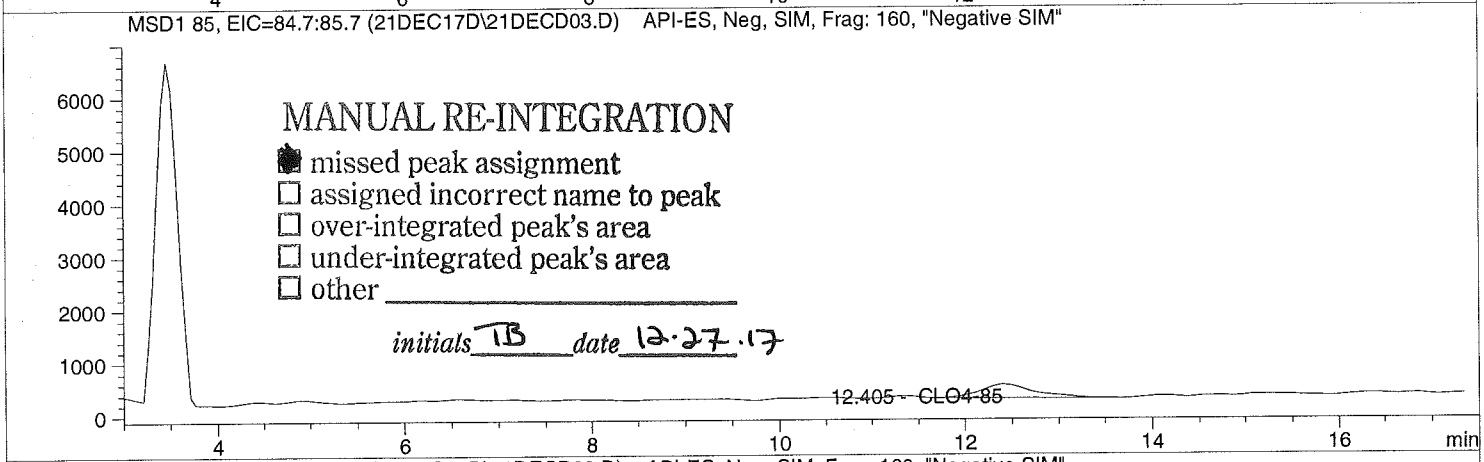
Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD03.D Sample Name: 580321 ICS@1.

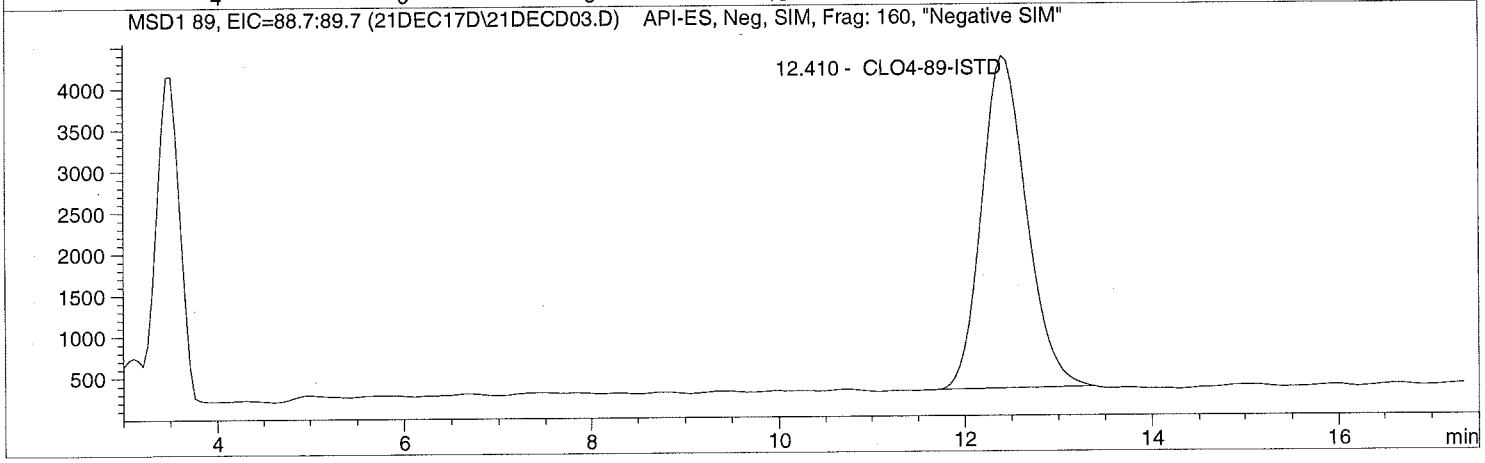
Injection Date:	12/21/2017 09:30:29	Seq Line:	3
Sample Name:	580321 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD03.D Sample Name: 580321 ICS@1.

Injection Date:	12/21/2017 09:30:29	Seq Line:	3
Sample Name:	580321 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.386	MM	27079.4	0.9682	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.405	MM	10260.9	0.9077	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.410	BBA	132469.9	5.0000	CLO4-89-ISTD

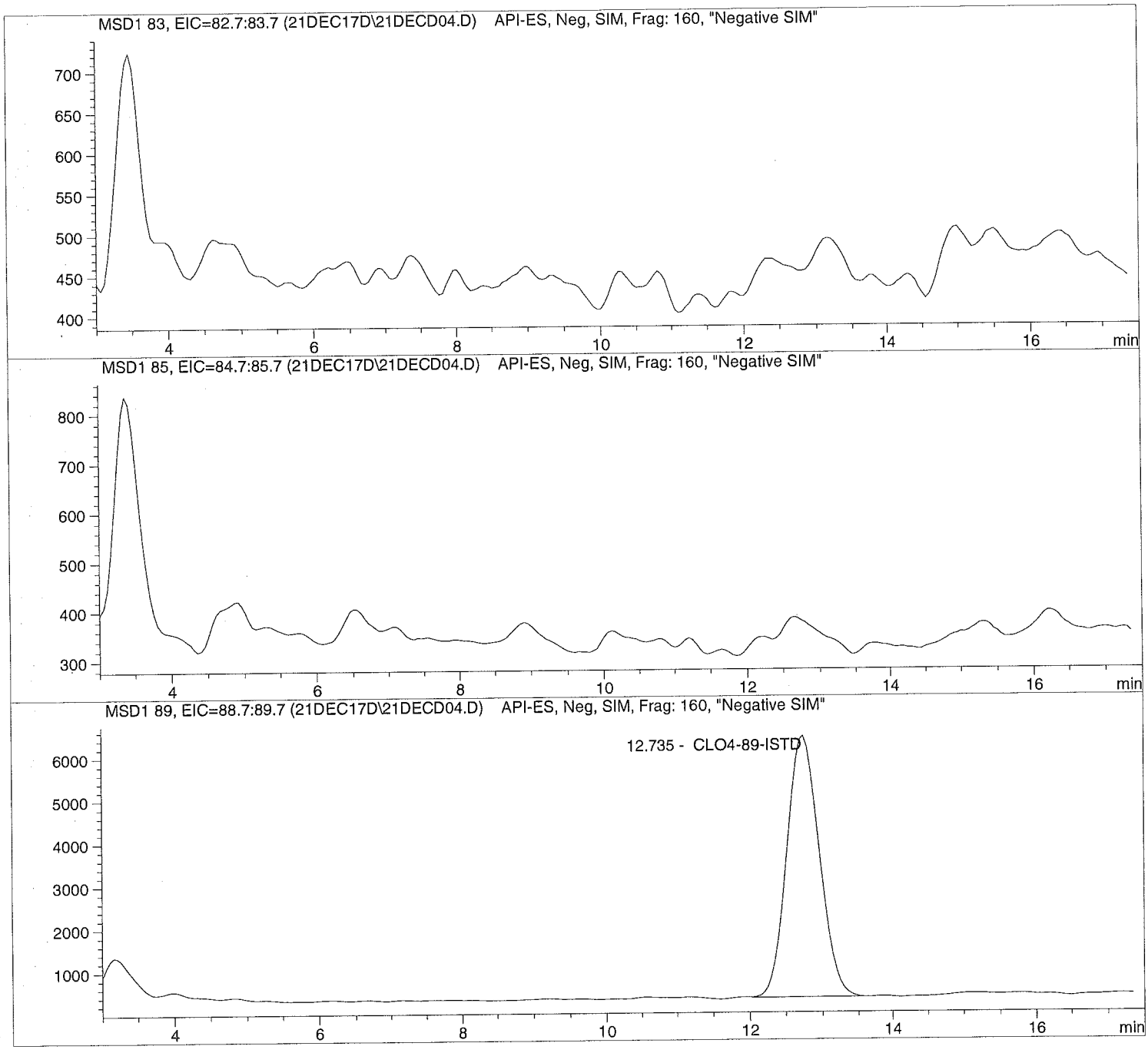
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD04.D Sample Name: 580322 LMB

Injection Date:	12/21/2017 09:49:41	Seq Line:	4
Sample Name:	580322 LMB	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD04.D Sample Name: 580322 LMB

Injection Date:	12/21/2017 09:49:41	Seq Line:	4
Sample Name:	580322 LMB	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.735	BBA	188603.5	5.0000	CLO4-89-ISTD

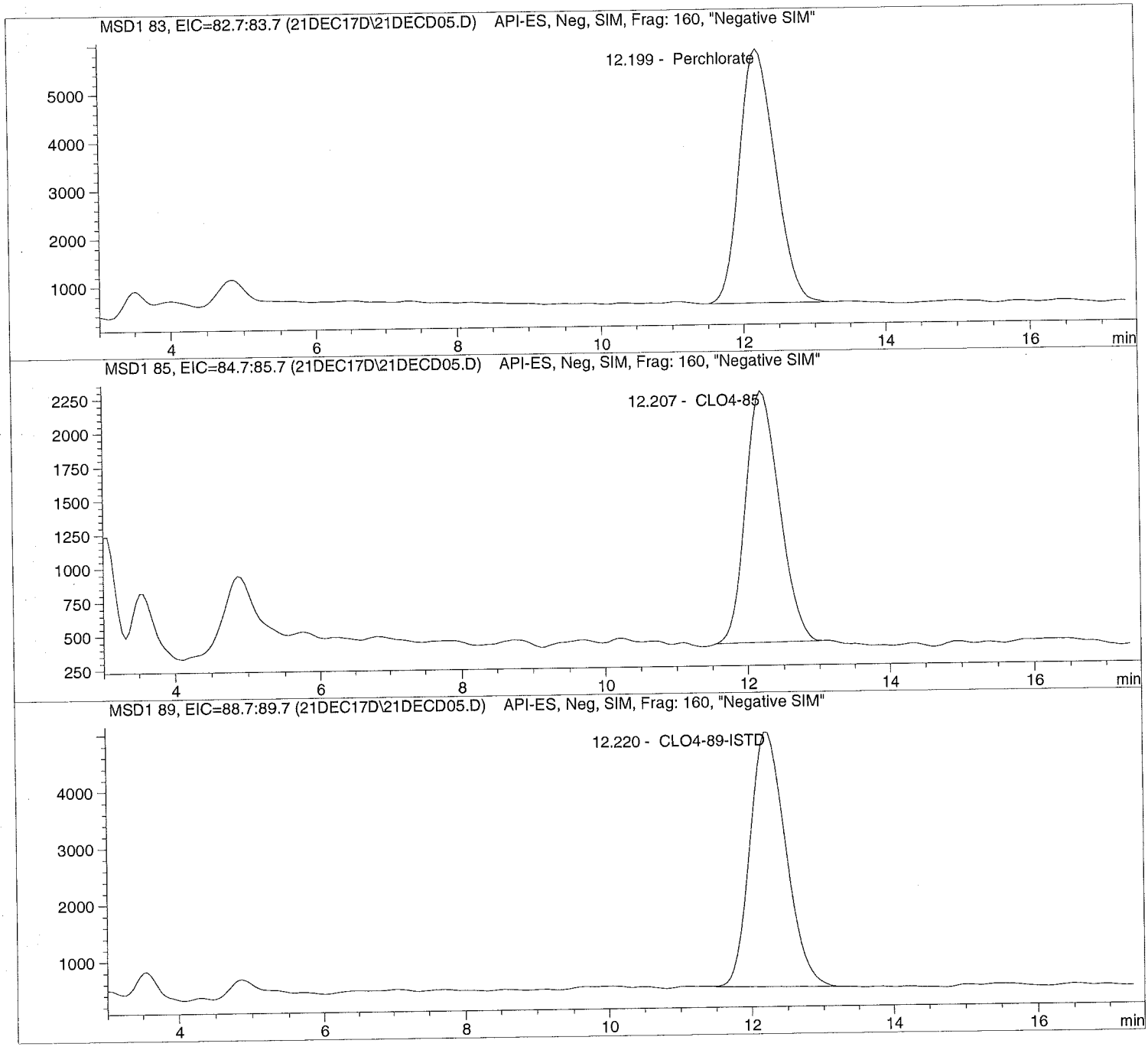
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD05.D Sample Name: 580323 LCS@5.

Injection Date:	12/21/2017 10:08:50	Seq Line:	5
Sample Name:	580323 LCS@5.	Location:	Vial 75
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD05.D Sample Name: 580323 LCS@5.

Injection Date:	12/21/2017 10:08:50	Seq Line:	5
Sample Name:	580323 LCS@5.	Location:	Vial 75
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	5.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.199	PBA	182725.2	5.3090	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.207	PBA	61169.6	5.3283	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.220	BBA	156058.2	5.0000	CLO4-89-ISTD

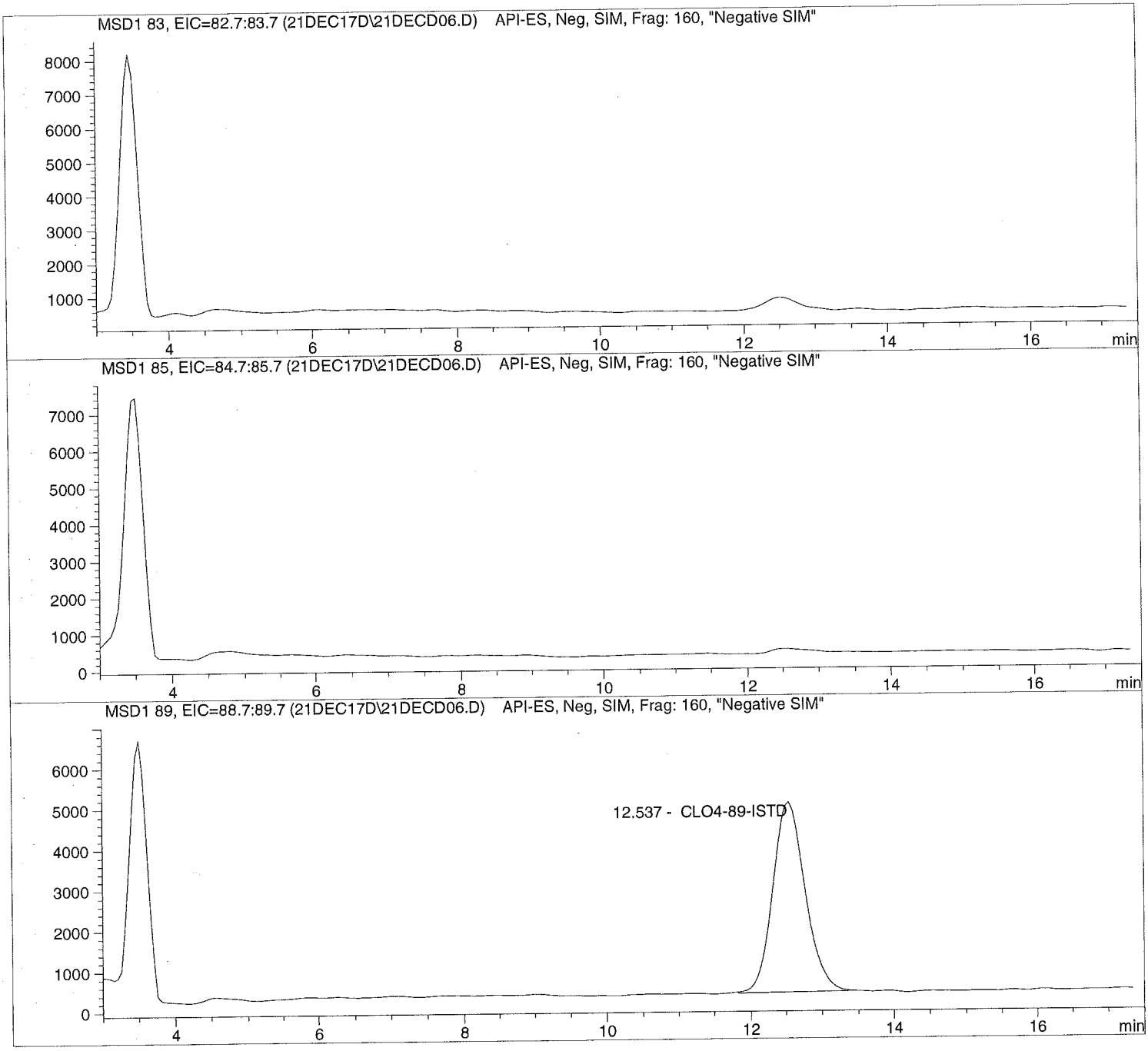
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD06.D Sample Name: 1734932001

Injection Date:	12/21/2017 10:29:50	Seq Line:	6
Sample Name:	1734932001	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD06.D Sample Name: 1734932001

Injection Date:	12/21/2017 10:29:50	Seq Line:	6
Sample Name:	1734932001	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.537	BBA	146703.2	5.0000	CLO4-89-ISTD

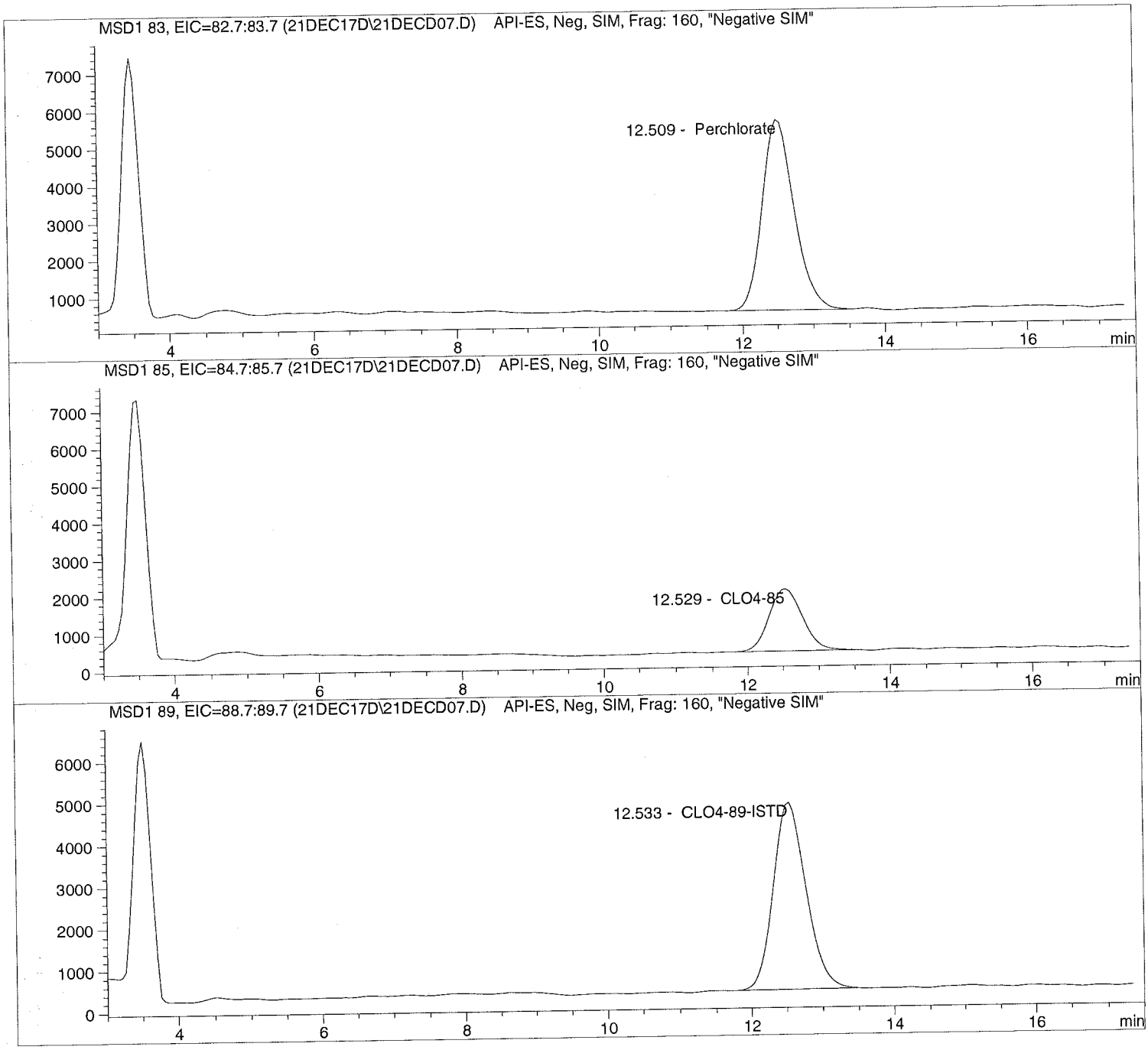
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD07.D Sample Name: 580324 349321S

Injection Date:	12/21/2017 10:49:01	Seq Line:	7
Sample Name:	580324 349321S	Location:	Vial 77
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD07.D Sample Name: 580324 349321S

Injection Date:	12/21/2017 10:49:01	Seq Line:	7
Sample Name:	580324 349321S	Location:	Vial 77
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.509	BBA	158543.6	5.0859	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.529	BBA	53887.4	5.1730	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.533	BBA	141538.0	5.0000	CLO4-89-ISTD

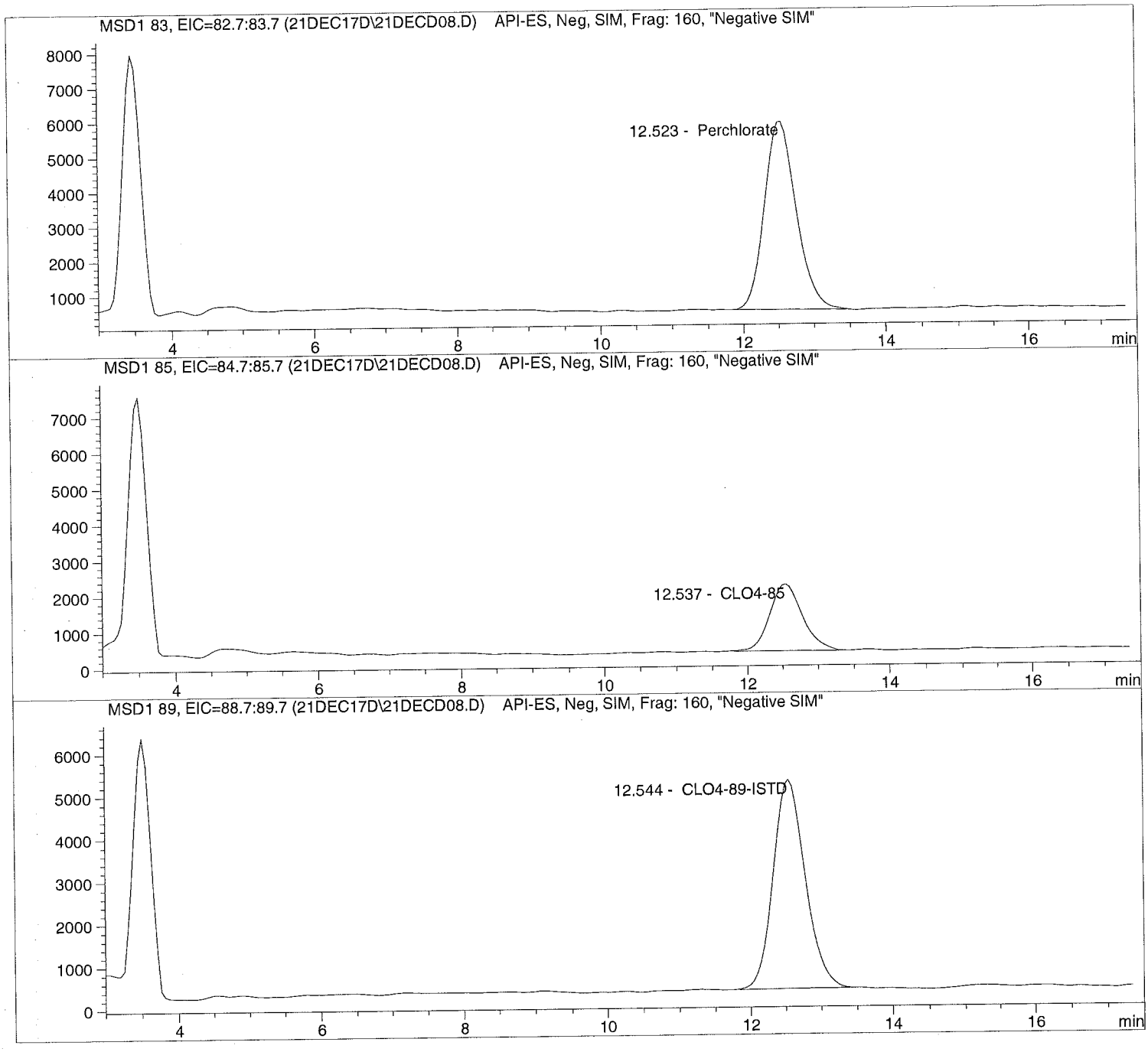
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD08.D Sample Name: 580325 349321D

Injection Date:	12/21/2017 11:08:09	Seq Line:	8
Sample Name:	580325 349321D	Location:	Vial 78
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD08.D Sample Name: 580325 349321D

Injection Date:	12/21/2017 11:08:09	Seq Line:	8
Sample Name:	580325 349321D	Location:	Vial 78
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.523	BBA	170173.5	5.0010	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.537	BBA	59947.0	5.2708	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.544	PBA	154579.8	5.0000	CLO4-89-ISTD

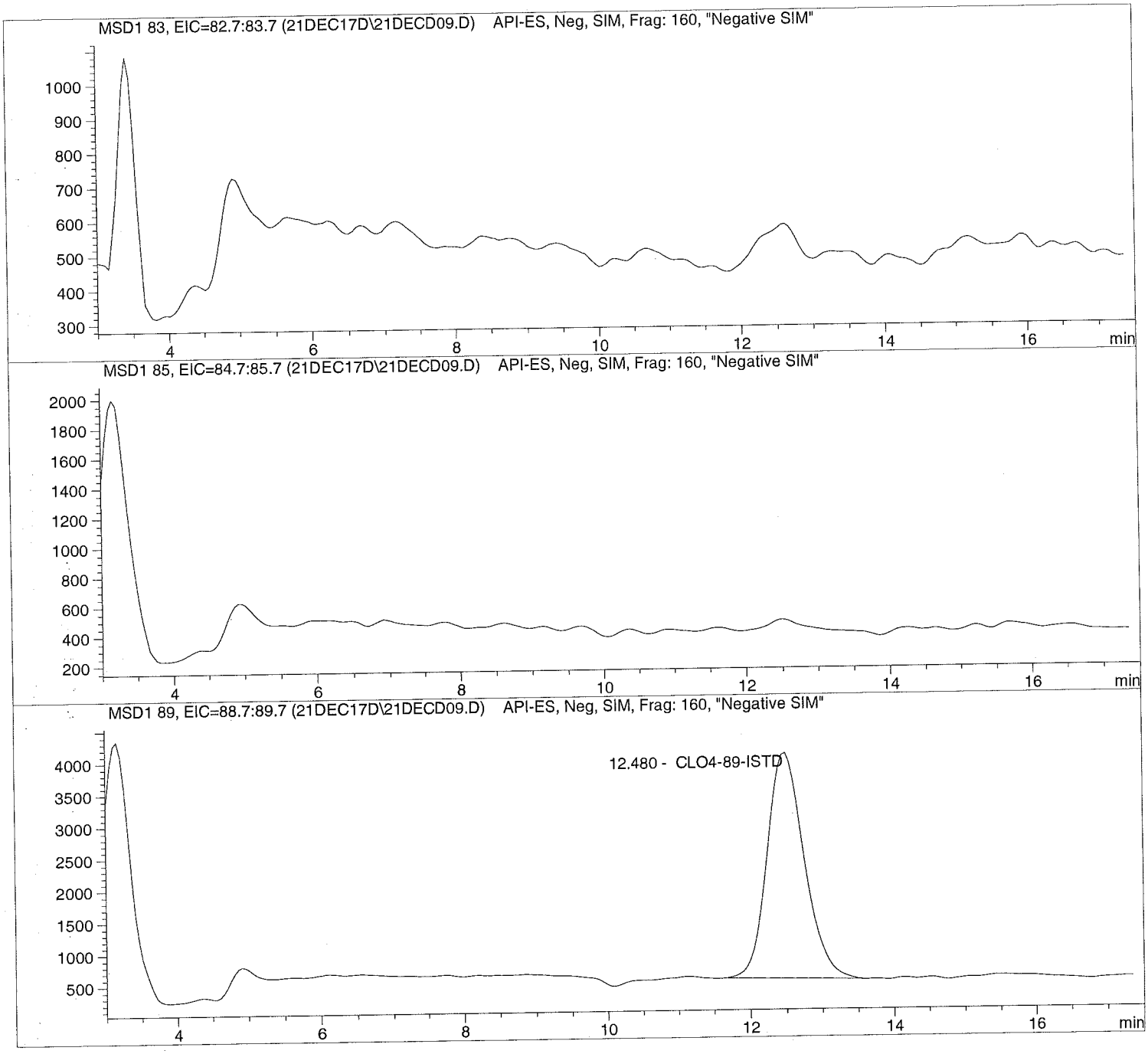
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD09.D Sample Name: 1735426001

Injection Date:	12/21/2017 11:51:53	Seq Line:	9
Sample Name:	1735426001	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD09.D Sample Name: 1735426001

Injection Date:	12/21/2017 11:51:53	Seq Line:	9
Sample Name:	1735426001	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.480	BBA	127073.6	5.0000	CLO4-89-ISTD

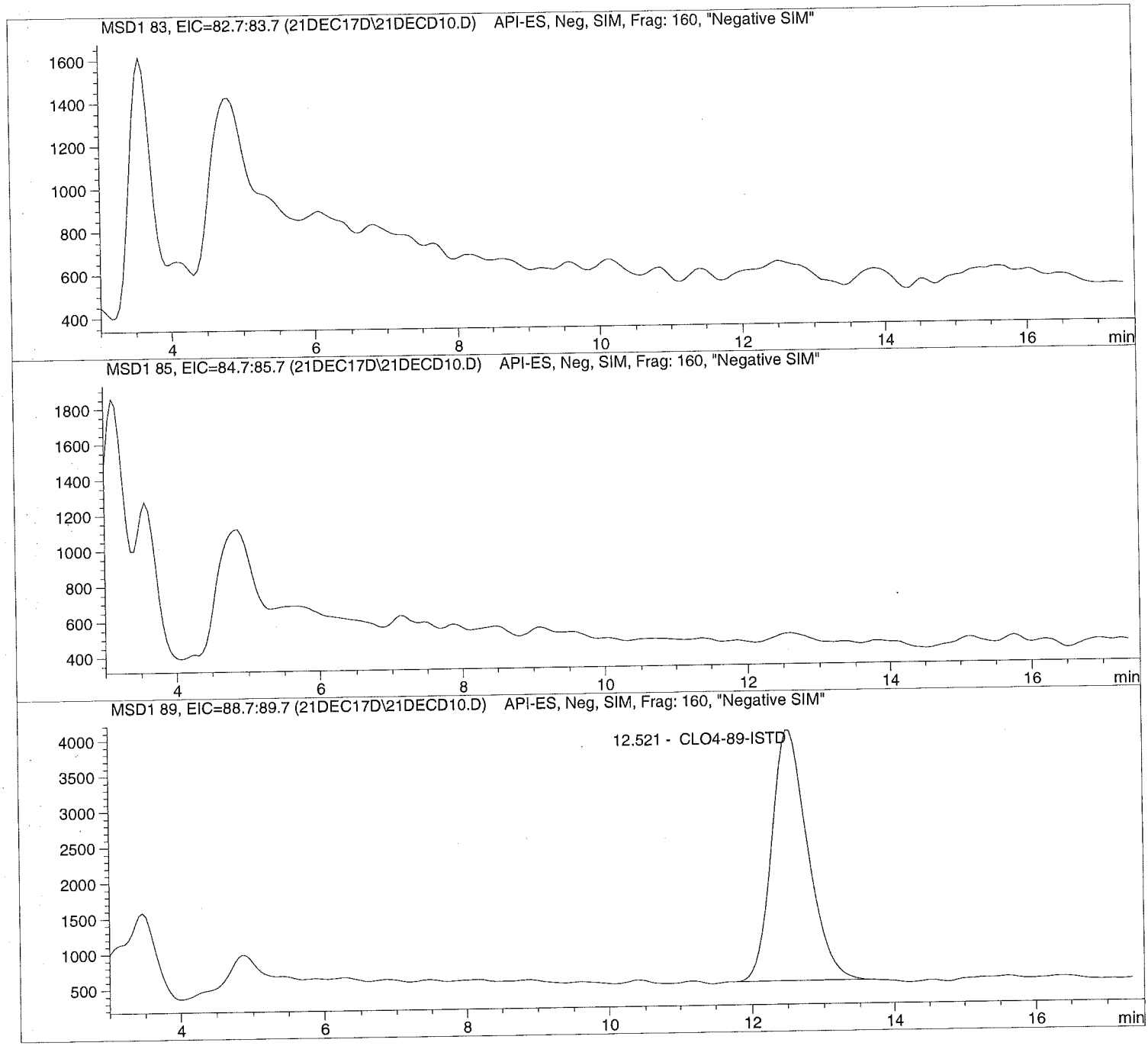
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD10.D Sample Name: 1735426002

Injection Date:	12/21/2017 12:12:36	Seq Line:	10
Sample Name:	1735426002	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD10.D Sample Name: 1735426002

Injection Date:	12/21/2017 12:12:36	Seq Line:	10
Sample Name:	1735426002	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.521	BBA	123030.4	5.0000	CLO4-89-ISTD

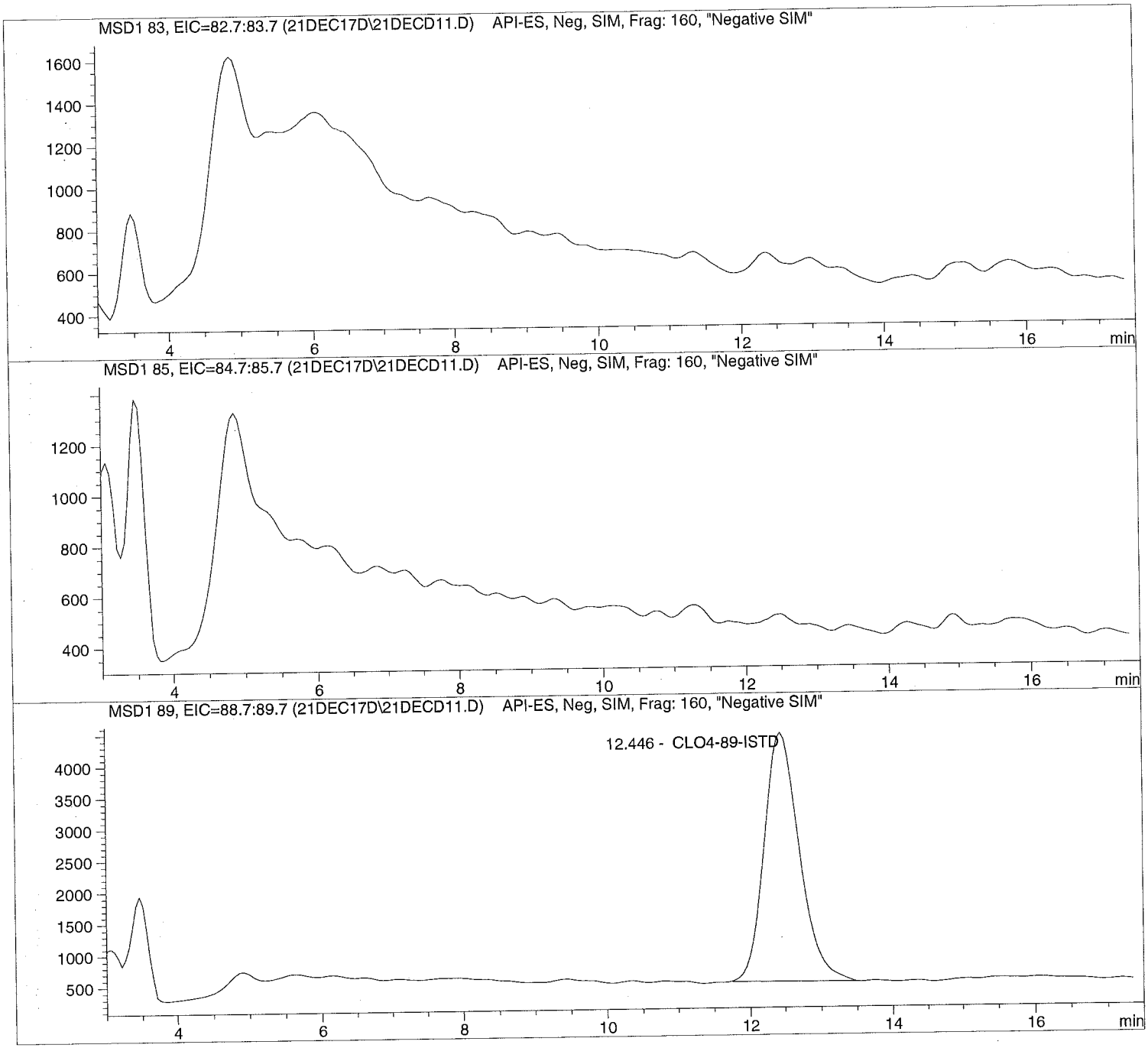
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD11.D Sample Name: 1735426003

Injection Date:	12/21/2017 12:31:46	Seq Line:	11
Sample Name:	1735426003	Location:	Vial 81
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD11.D Sample Name: 1735426003

Injection Date:	12/21/2017 12:31:46	Seq Line:	11
Sample Name:	1735426003	Location:	Vial 81
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.446	BBA	135932.6	5.0000	CLO4-89-ISTD

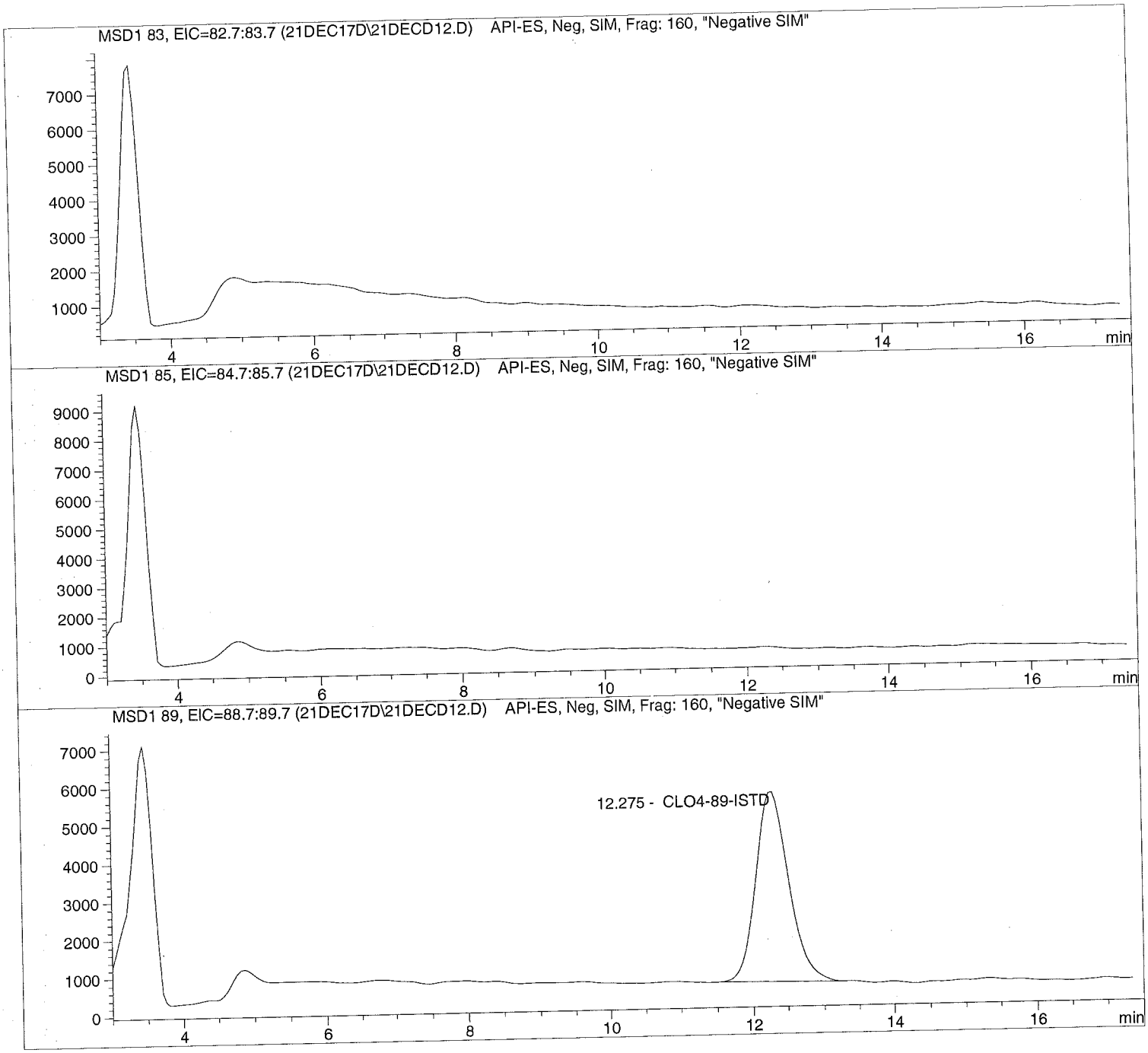
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD12.D Sample Name: 1735426004

Injection Date:	12/21/2017 12:50:54	Seq Line:	12
Sample Name:	1735426004	Location:	Vial 82
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD12.D Sample Name: 1735426004

Injection Date:	12/21/2017 12:50:54	Seq Line:	12
Sample Name:	1735426004	Location:	Vial 82
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.275	PBA	161170.1	5.0000	CLO4-89-ISTD

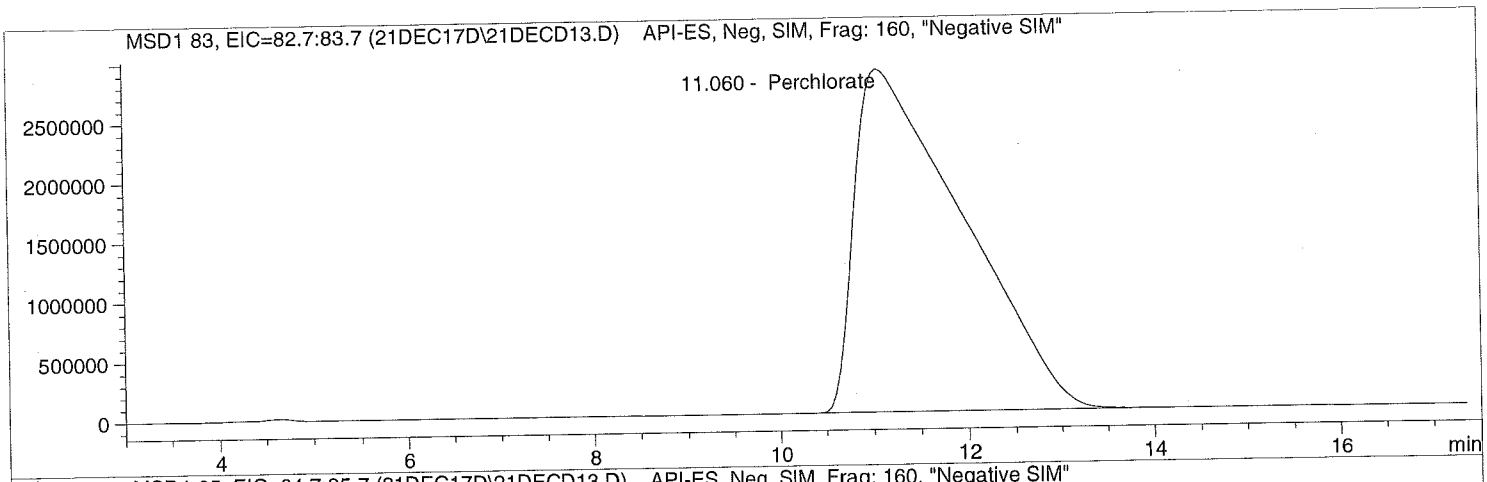
*** End of Report ***

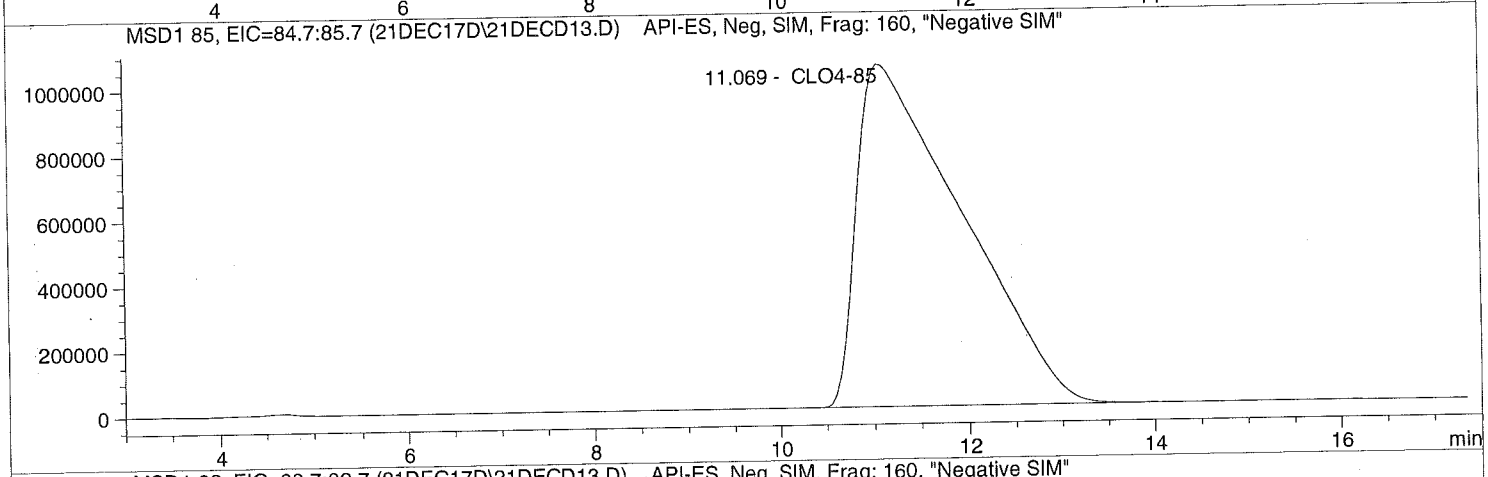
Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD13.D Sample Name: 1735426005

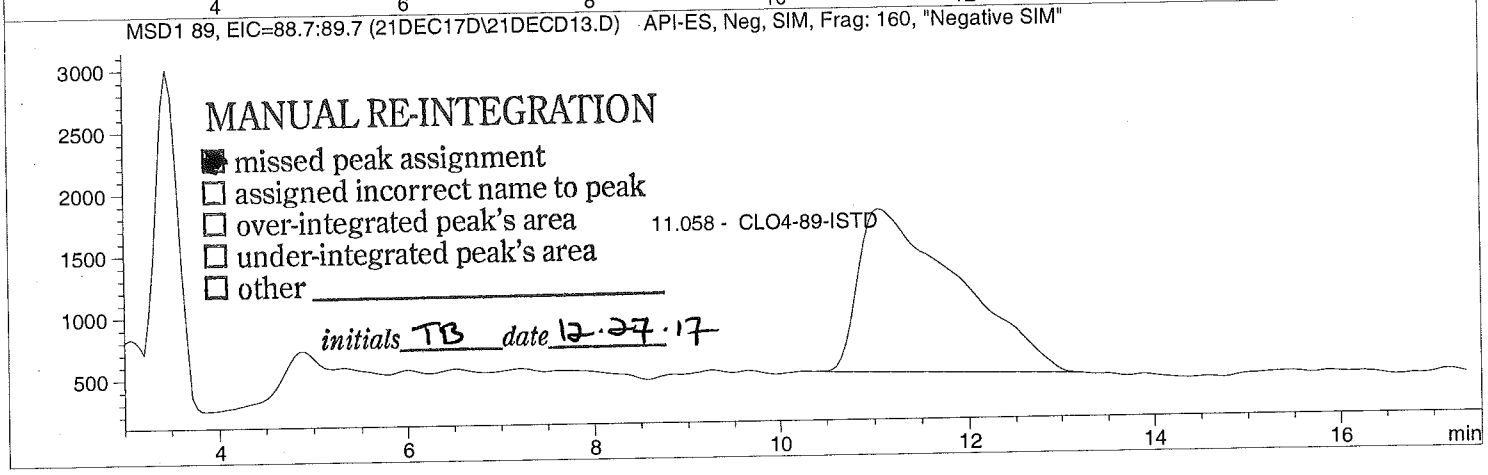
Injection Date:	12/21/2017 13:10:01	Seq Line:	13
Sample Name:	1735426005	Location:	Vial 83
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







MANUAL RE-INTEGRATION
- ■ missed peak assignment
- ☐ assigned incorrect name to peak
- ☐ over-integrated peak's area
- ☐ under-integrated peak's area
- ☐ other _____

initials TB *date* 12.27.17

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD13.D Sample Name: 1735426005

Injection Date:	12/21/2017 13:10:01	Seq Line:	13
Sample Name:	1735426005	Location:	Vial 83
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.060	PBA	228145184.0	1343.3163	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.069	PBA	81262104.0	1601.9571	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.058	MM	96415.4	5.0000	CLO4-89-ISTD

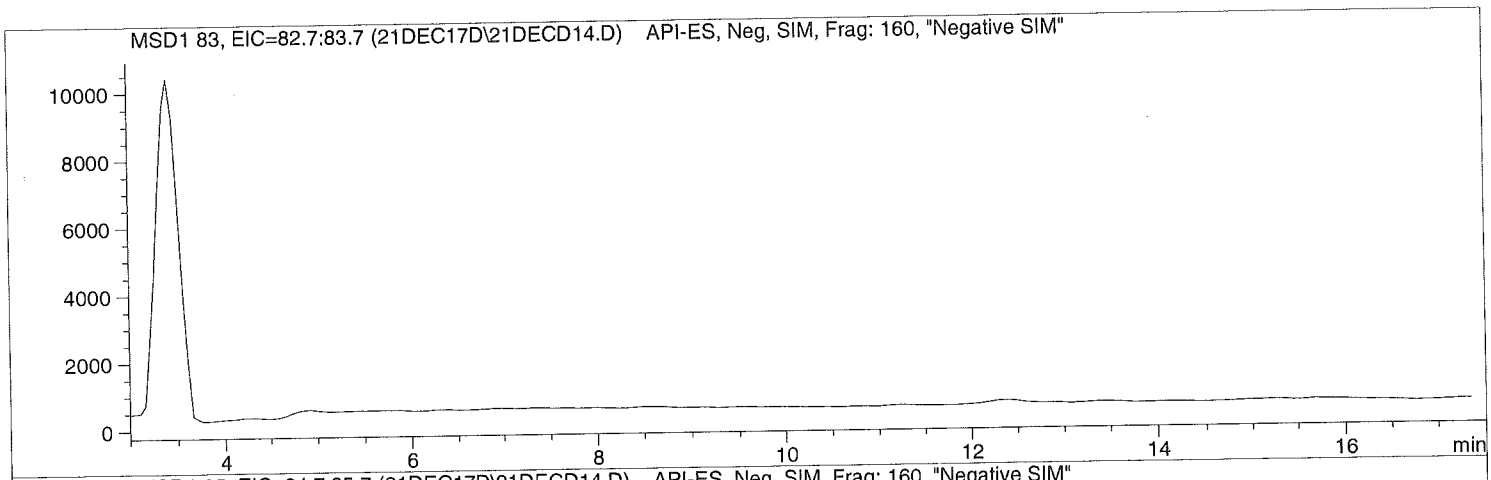
*** End of Report ***

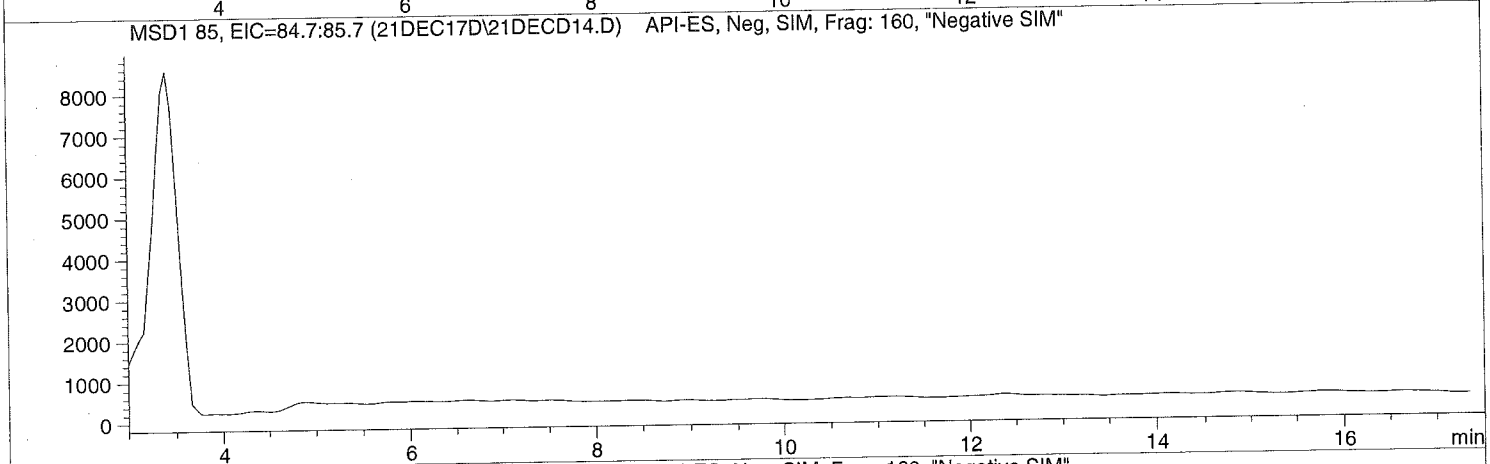
Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD14.D Sample Name: 1735426006

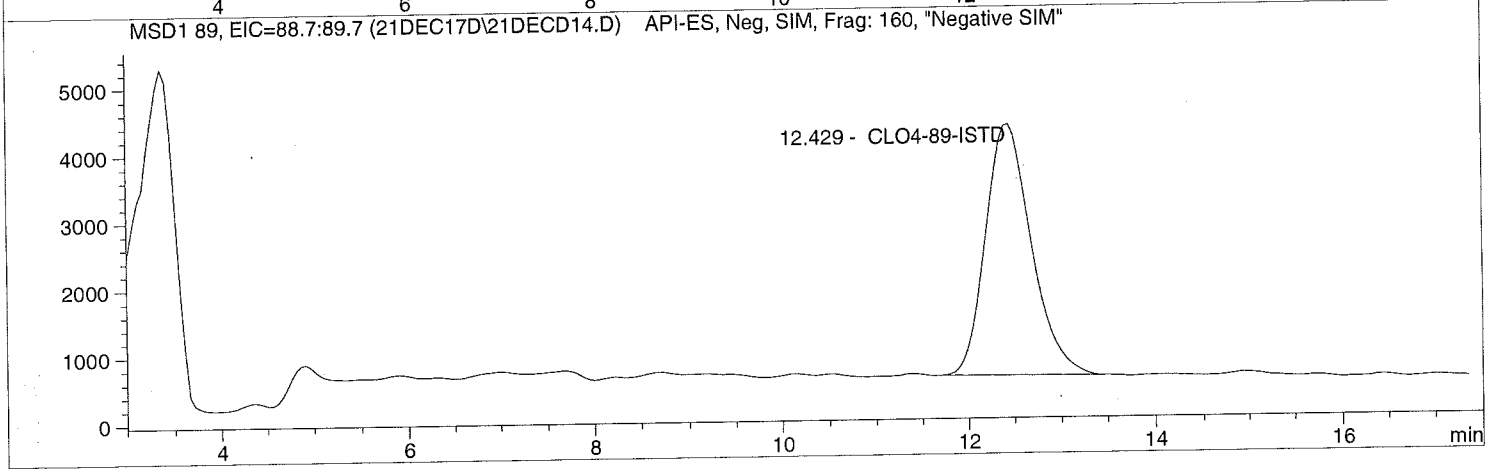
Injection Date:	12/21/2017 13:29:08	Seq Line:	14
Sample Name:	1735426006	Location:	Vial 84
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD14.D Sample Name: 1735426006

Injection Date:	12/21/2017 13:29:08	Seq Line:	14
Sample Name:	1735426006	Location:	Vial 84
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.429	PBA	127754.6	5.0000	CLO4-89-ISTD

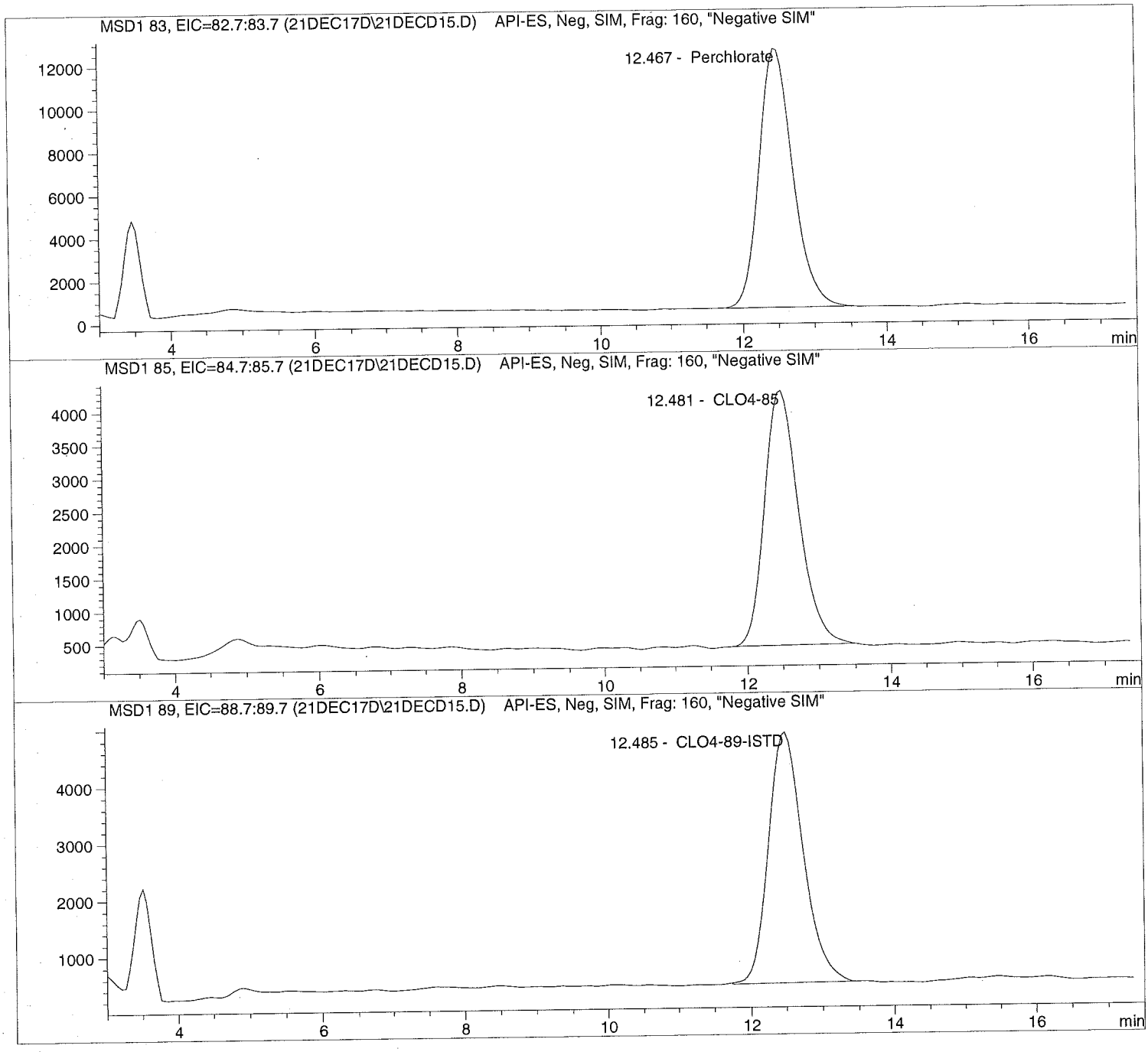
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD15.D Sample Name: 1735426007

Injection Date:	12/21/2017 13:48:17	Seq Line:	15
Sample Name:	1735426007	Location:	Vial 85
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD15.D Sample Name: 1735426007

Injection Date:	12/21/2017 13:48:17	Seq Line:	15
Sample Name:	1735426007	Location:	Vial 85
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.467	BBA	396410.7	11.6566	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.481	PBA	128015.2	11.6323	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.485	BBA	148899.6	5.0000	CLO4-89-ISTD

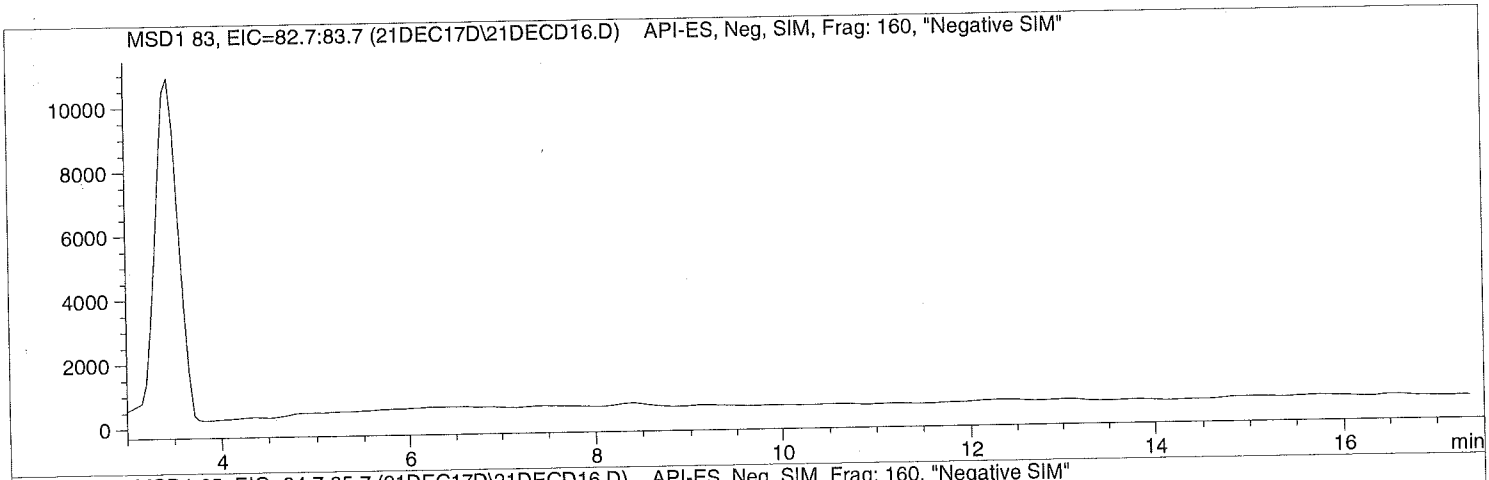
*** End of Report ***

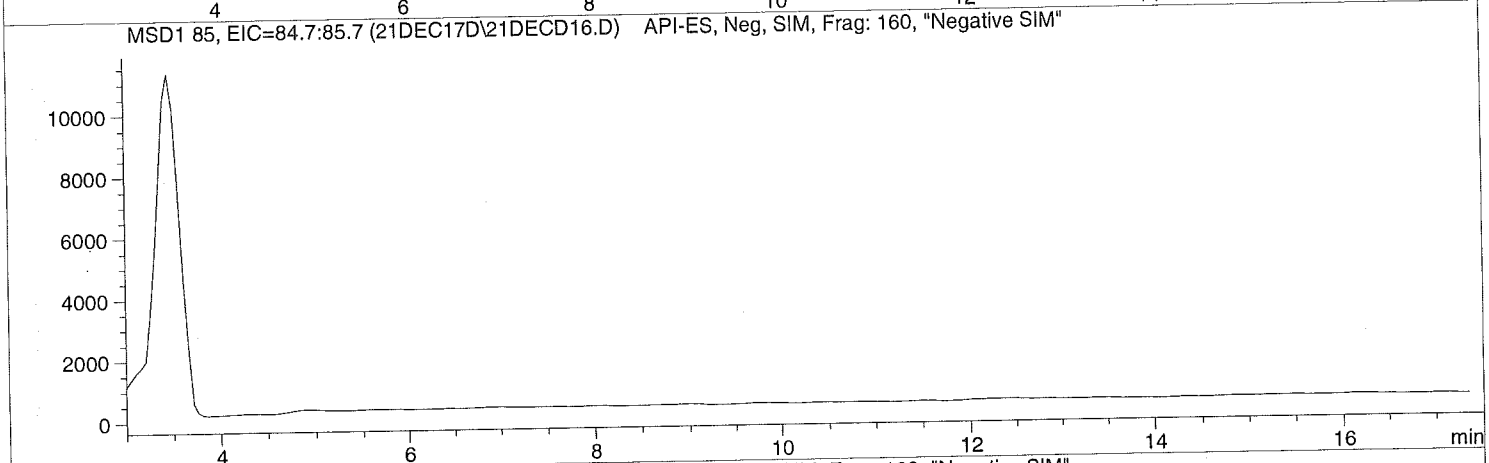
Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD16.D Sample Name: 1735426008

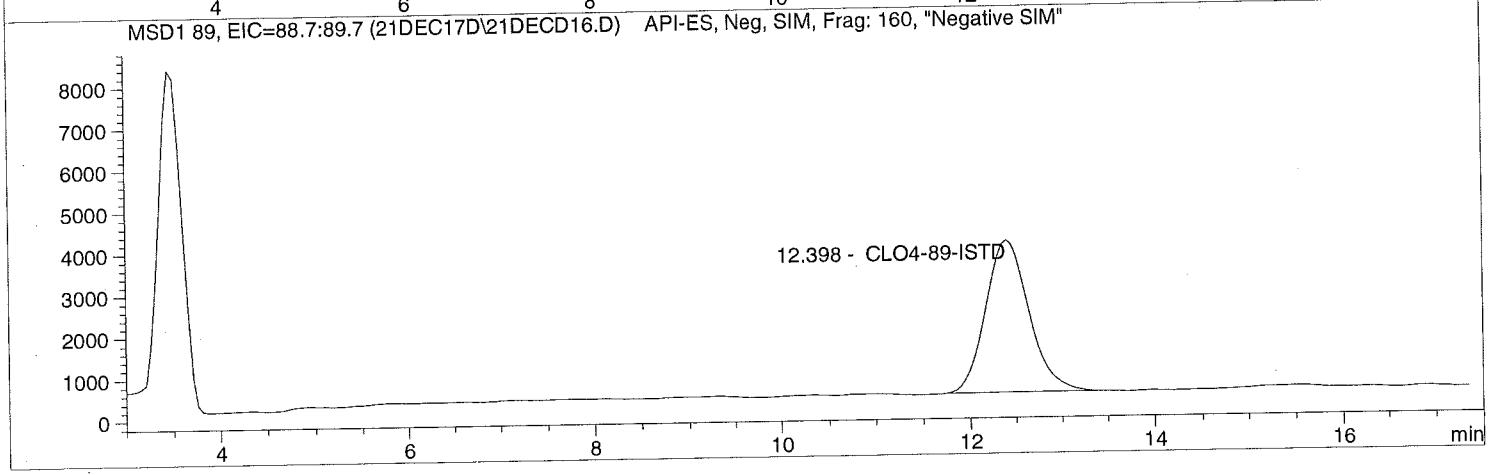
Injection Date:	12/21/2017 14:07:26	Seq Line:	16
Sample Name:	1735426008	Location:	Vial 86
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD16.D Sample Name: 1735426008

Injection Date:	12/21/2017 14:07:26	Seq Line:	16
Sample Name:	1735426008	Location:	Vial 86
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.398	PBA	119586.2	5.0000	CLO4-89-ISTD

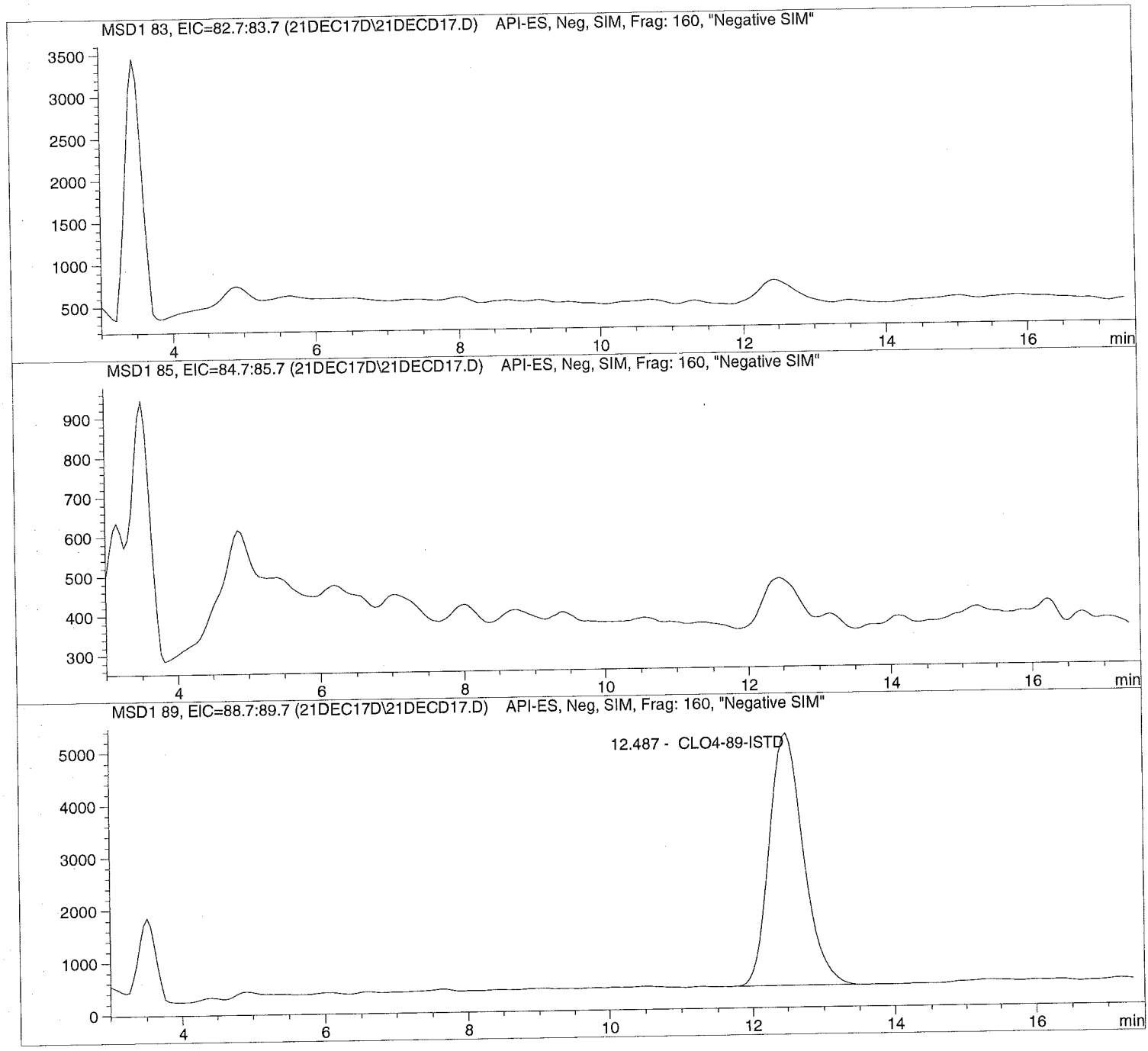
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD17.D Sample Name: 1735426009

Injection Date:	12/21/2017 14:26:34	Seq Line:	17
Sample Name:	1735426009	Location:	Vial 87
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD17.D Sample Name: 1735426009

Injection Date:	12/21/2017 14:26:34	Seq Line:	17
Sample Name:	1735426009	Location:	Vial 87
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.487	BBA	160908.5	5.0000	CLO4-89-ISTD

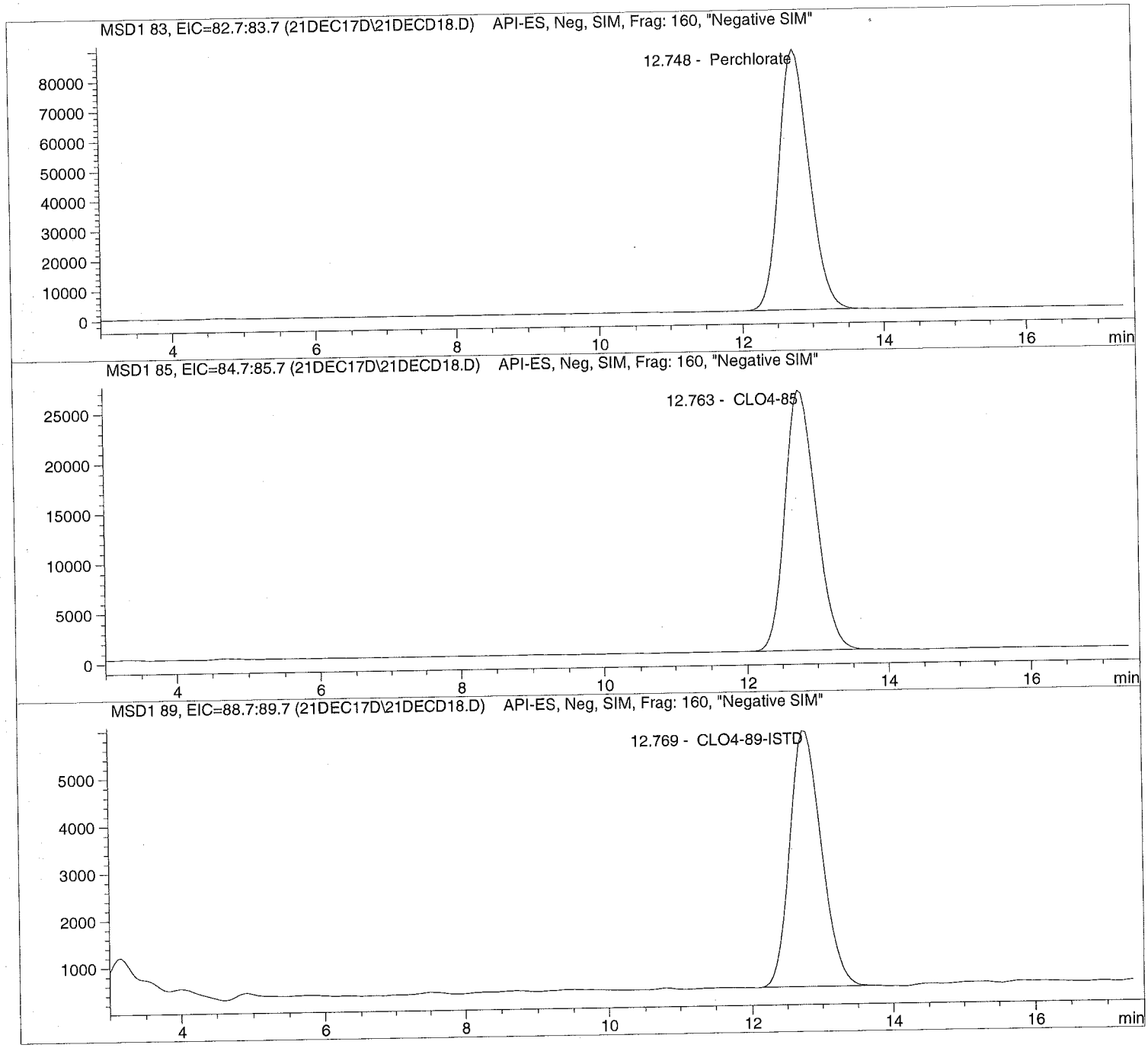
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD18.D Sample Name: 1735426005 100

Injection Date:	12/21/2017 14:47:50	Seq Line:	18
Sample Name:	1735426005 100	Location:	Vial 88
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD18.D Sample Name: 1735426005 100

Injection Date:	12/21/2017 14:47:50	Seq Line:	18
Sample Name:	1735426005 100	Location:	Vial 88
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	100.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.748	BBA	2622824.8	5547.1487	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.763	PBA	802047.3	5543.2616	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.769	PBA	169365.1	500.0000	CLO4-89-ISTD

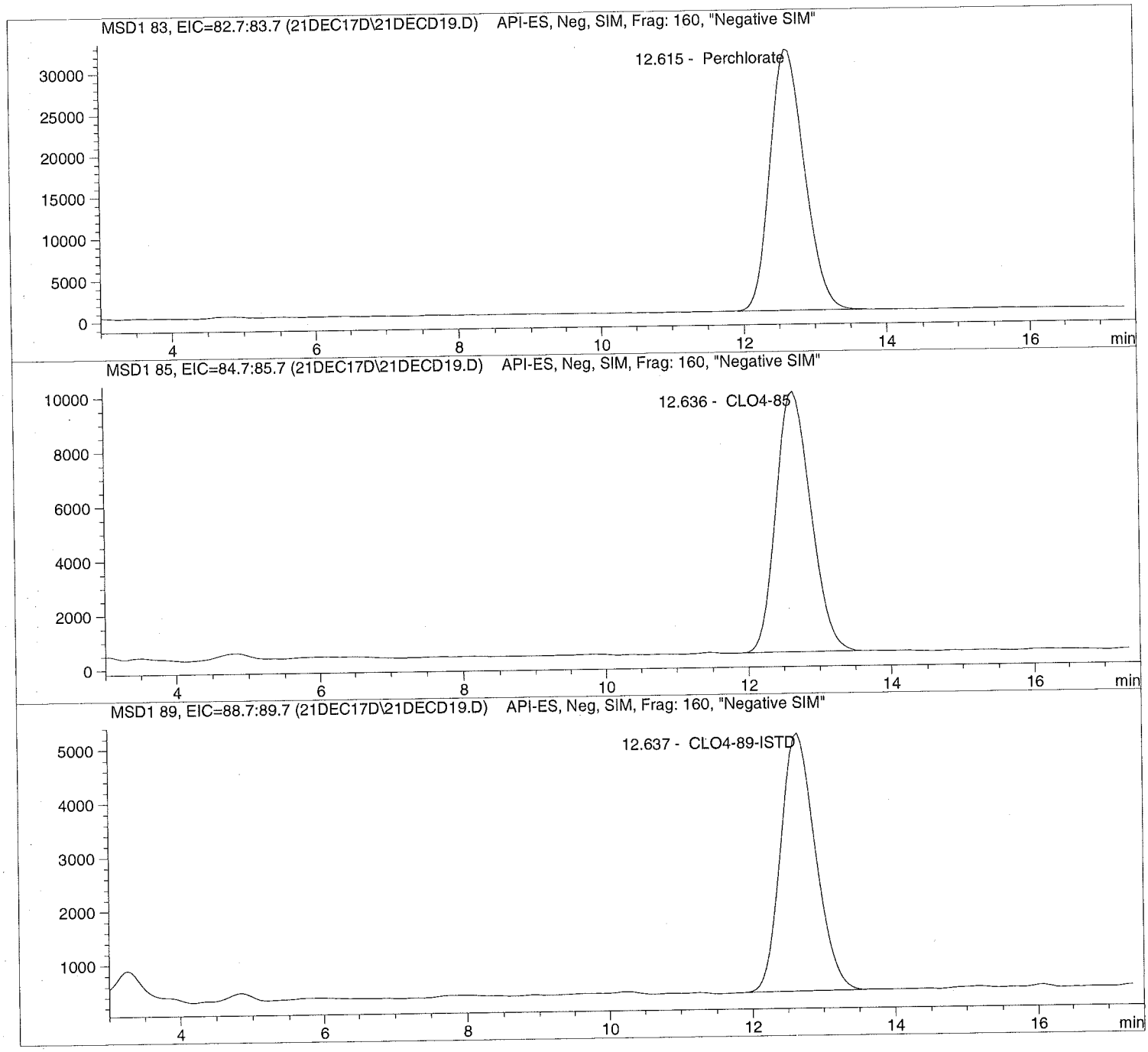
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD19.D Sample Name: 580326 CCV@25

Injection Date:	12/21/2017 15:08:27	Seq Line:	19
Sample Name:	580326 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD19.D Sample Name: 580326 CCV@25

Injection Date:	12/21/2017 15:08:27	Seq Line:	19
Sample Name:	580326 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	25.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.615	BBA	1058053.0	26.4882	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.636	PBA	325405.0	25.8945	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.637	PBA	162565.3	5.0000	CLO4-89-ISTD

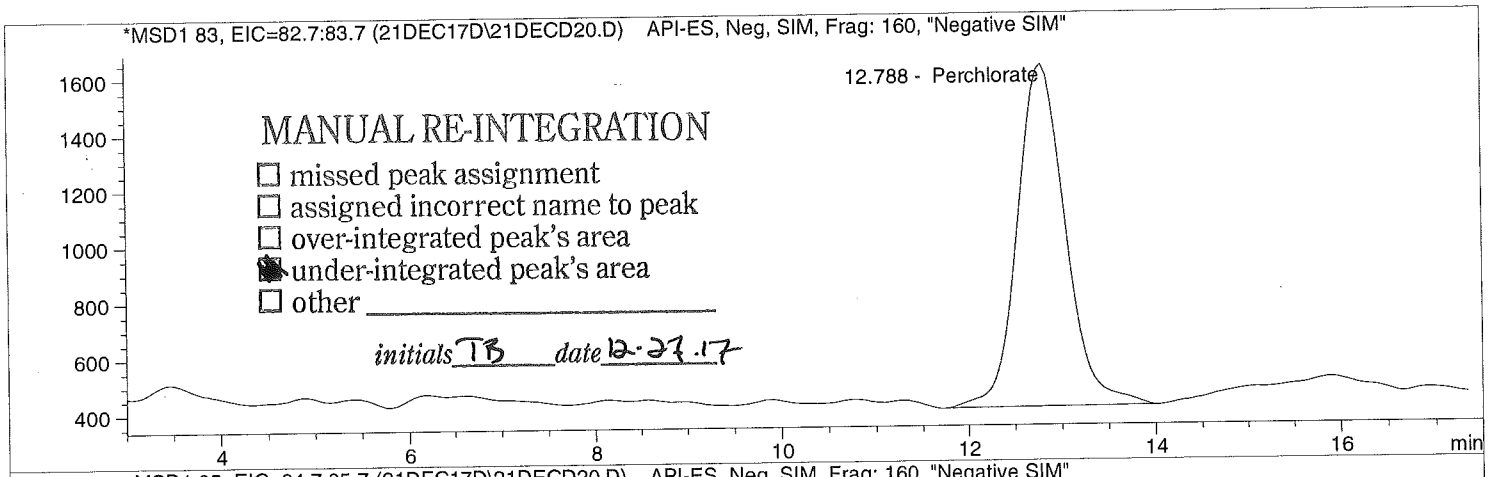
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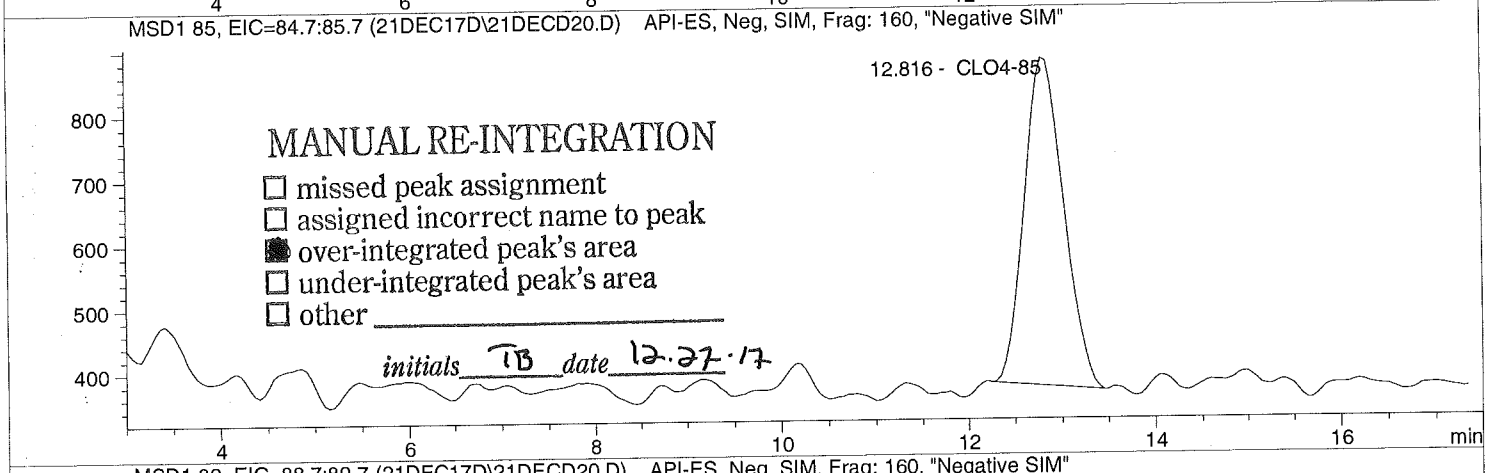
Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD20.D Sample Name: 580327 LODV@1.

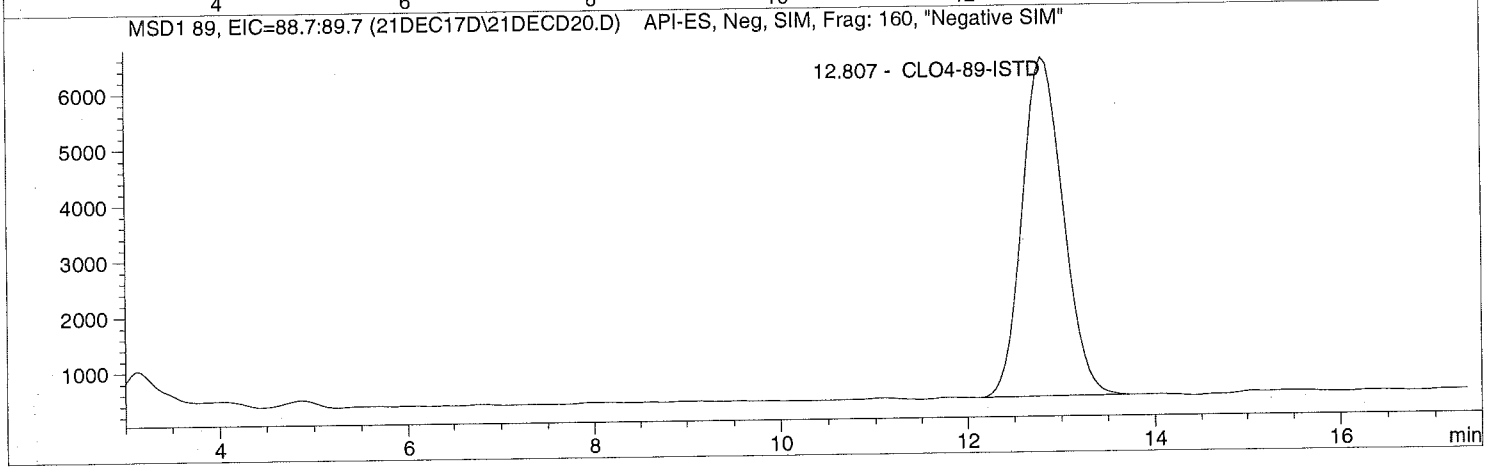
Injection Date:	12/21/2017 15:27:34	Seq Line:	20
Sample Name:	580327 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD20.D Sample Name: 580327 LODV@1.

Injection Date:	12/21/2017 15:27:34	Seq Line:	20
Sample Name:	580327 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.788	MM	43308.1	1.1045	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.816	MM	14859.1	0.9487	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.807	PBA	184995.7	5.0000	CLO4-89-ISTD

*** End of Report ***

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Raw Data

Initial Calibration

ethod C:\HPCHEM\1\METHODS\CLO4-DPR.M

Calibration Table

Perchlorate

Calib. Data Modified : 11/29/2017 8:02:06 AM

Calculate : Internal Standard
Based on : Peak Area

Rel. Reference Window : 20.000 %
Abs. Reference Window : 0.000 min
Rel. Non-ref. Window : 20.000 %
Abs. Non-ref. Window : 0.000 min
Use Multiplier & Dilution Factor with ISTDs
Uncalibrated Peaks : not reported
Partial Calibration : No recalibration if peaks missing

Curve Type : Quadratic (some peaks differ, see below)
Origin : Ignored (some peaks differ, see below)
Weight : Linear (Amnt) (some peaks differ, see below)

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

Default Sample ISTD Information (if not set in sample table):

ISTD #	ISTD Amount	Name
1	5.00000	CLO4-89-ISTD

Signal 1: MSD1 83, EIC=82.7:83.7
Signal 2: MSD1 85, EIC=84.7:85.7
Signal 3: MSD1 89, EIC=88.7:89.7

RetTime [min]	Sig	Lvl	Amount	Area	Amt/Area	Ref	Grp	Name
12.090	1	1	1.00000	4.10942e4	2.43343e-5		1	Perchlorate
		2	2.00000	7.74077e4	2.58372e-5			
		3	5.00000	1.92985e5	2.59088e-5			
		4	10.00000	3.91583e5	2.55374e-5			
		5	25.00000	1.09763e6	2.27764e-5			
		6	50.00000	2.29834e6	2.17549e-5			
		7	75.00000	3.73021e6	2.01061e-5			
12.106	2	1	1.00000	1.56787e4	6.37808e-5		1	CLO4-85
		2	2.00000	2.80487e4	7.13046e-5			
		3	5.00000	6.51323e4	7.67668e-5			
		4	10.00000	1.31325e5	7.61471e-5			
		5	25.00000	3.46913e5	7.20642e-5			
		6	50.00000	6.96156e5	7.18230e-5			
		7	75.00000	1.13077e6	6.63264e-5			
12.107	3	1	5.00000	1.88880e5	2.64718e-5	+I1		CLO4-89-ISTD
		2	5.00000	1.81109e5	2.76076e-5			
		3	5.00000	1.75128e5	2.85505e-5			
		4	5.00000	1.80962e5	2.76301e-5			
		5	5.00000	1.75597e5	2.84743e-5			
		6	5.00000	1.69148e5	2.95599e-5			
		7	5.00000	1.64867e5	3.03275e-5			

ethod C:\HPCHEM\1\METHODS\CLO4-DPR.M

More compound-specific settings:

Compound: Perchlorate
- Time Window : From 8.390 min To 13.052 min
- Curve Type : Quadratic
- Origin : Ignored
- Calibration Level Weights:/
  - Level 1 : 1
  - Level 2 : 0.5
  - Level 3 : 0.2
  - Level 4 : 0.1
  - Level 5 : 0.04
  - Level 6 : 0.02
  - Level 7 : 0.013333

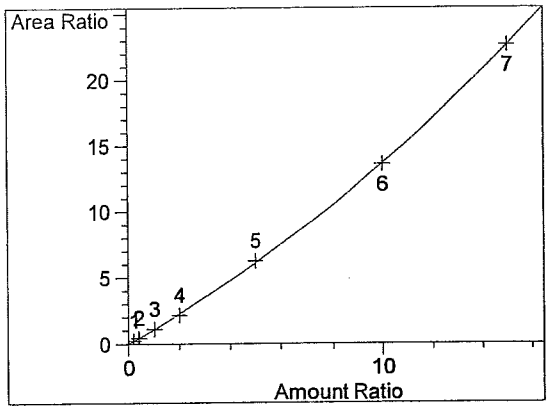
Compound: CLO4-85
- Time Window : From 8.366 min To 13.046 min
- Curve Type : Quadratic
- Origin : Ignored
- Calibration Level Weights:/
  - Level 1 : 1
  - Level 2 : 0.5
  - Level 3 : 0.2
  - Level 4 : 0.1
  - Level 5 : 0.04
  - Level 6 : 0.02
  - Level 7 : 0.013333

Compound: CLO4-89-ISTD
- Time Window : From 8.457 min To 13.107 min
- Curve Type : Linear
- Origin : Included
- Calibration Level Weights:/
  - Level 1 : 1
  - Level 2 : 1
  - Level 3 : 1
  - Level 4 : 1
  - Level 5 : 1
  - Level 6 : 1
  - Level 7 : 1

Peak Sum Table

No Entries in table

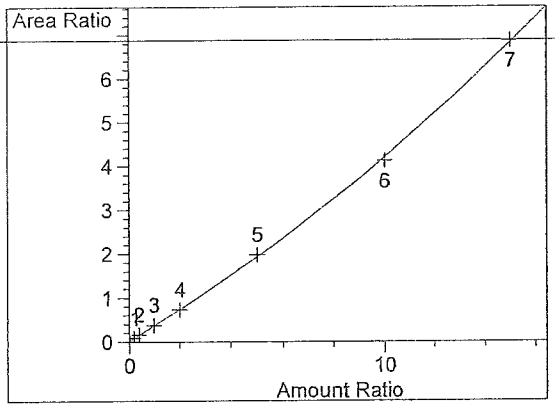
Calibration Curves



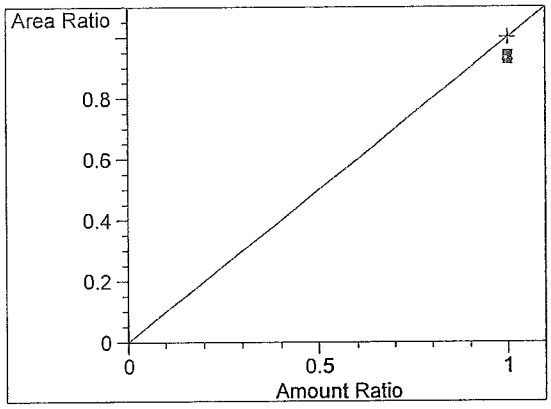
Perchlorate at exp. RT: 12.090
MSD1 83, EIC=82.7:83.7
Correlation: 0.99991
Residual Std. Dev.: 0.08487
Formula: $y = ax^2 + bx + c$
- a: 2.87739e-2
- b: 1.07712
- c: -5.23718e-3
- x: Amount Ratio
- y: Area Ratio

Calibration Level Weights:
- Level 1 : 1
- Level 2 : 0.5
- Level 3 : 0.2
- Level 4 : 0.1
- Level 5 : 0.04
- Level 6 : 0.02
- Level 7 : 0.013333

ethod C:\HPCHEM\1\METHODS\CLO4-DPR.M



CLO4-85 at exp. RT: 12.106
MSD1 85, EIC=84.7:85.7
Correlation: 0.99988
Residual Std. Dev.: 0.04548
Formula: $y = ax^2 + bx + c$
a: 7.12800e-3
b: 3.46840e-1
c: 1.42573e-2
x: Amount Ratio
y: Area Ratio
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.5
Level 3 : 0.2
Level 4 : 0.1
Level 5 : 0.04
Level 6 : 0.02
Level 7 : 0.013333



CLO4-89-ISTD at exp. RT: 12.107
MSD1 89, EIC=88.7:89.7
Correlation: 1.00000
Residual Std. Dev.: 0.00000
Formula: $y = mx + b$
m: 1.00000
b: 0.00000
x: Amount Ratio
y: Area Ratio
Calibration Level Weights:
Level 1 : 1
Level 2 : 1
Level 3 : 1
Level 4 : 1
Level 5 : 1
Level 6 : 1
Level 7 : 1

Batch Report: C:\HPCHEM\1\DATA\28NOV17P\28NOV17P.B

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

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

#*	Sample	Location	Inj	SampleType	Run	Perchlorate Area	Perchlorate RT	Perchlorate Amount
*	ICAL1@ 1.0ug/L	Vial 71	1	Control	1	4.10942e4	12.029	1.02861
*	ICAL2@ 2.0ug/L	Vial 72	1	Control	2	7.74077e4	12.054	1.98725
*	ICAL3@ 5.0ug/L	Vial 73	1	Control	3	1.92985e5	12.090	5.00575
*	ICAL4@ 10.ug/L	Vial 74	1	Control	4	3.91583e5	12.084	9.57892
*	ICAL5@ 25.ug/L	Vial 75	1	Control	5	1.09763e6	12.065	25.55231
*	ICAL6@ 50.ug/L	Vial 76	1	Control	6	2.29834e6	12.065	49.83164
*	ICAL7@ 75.ug/L	Vial 77	1	Control	7	3.73021e6	12.090	74.99992
*	ICAL Verf@10ug/L	Vial 78	1	Control	8	3.83615e5	12.163	9.59533

#*	Sample	Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
*	ICAL1@ 1.0ug/L	Vial 71	1	Control	1	1.56787e4	12.053	9.87106e-1
*	ICAL2@ 2.0ug/L	Vial 72	1	Control	2	2.80487e4	12.066	2.01046
*	ICAL3@ 5.0ug/L	Vial 73	1	Control	3	6.51323e4	12.106	5.05104
*	ICAL4@ 10.ug/L	Vial 74	1	Control	4	1.31325e5	12.101	9.85678
*	ICAL5@ 25.ug/L	Vial 75	1	Control	5	3.46913e5	12.084	25.58435
*	ICAL6@ 50.ug/L	Vial 76	1	Control	6	6.96156e5	12.080	49.18282
*	ICAL7@ 75.ug/L	Vial 77	1	Control	7	1.13077e6	12.106	75.33907
*	ICAL Verf@10ug/L	Vial 78	1	Control	8	1.31460e5	12.177	10.08554

#*	Sample	Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
*	ICAL1@ 1.0ug/L	Vial 71	1	Control	1	1.88880e5	12.050	5.00000
*	ICAL2@ 2.0ug/L	Vial 72	1	Control	2	1.81109e5	12.078	5.00000
*	ICAL3@ 5.0ug/L	Vial 73	1	Control	3	1.75128e5	12.110	5.00000
*	ICAL4@ 10.ug/L	Vial 74	1	Control	4	1.80962e5	12.109	5.00000
*	ICAL5@ 25.ug/L	Vial 75	1	Control	5	1.75597e5	12.084	5.00000
*	ICAL6@ 50.ug/L	Vial 76	1	Control	6	1.69148e5	12.086	5.00000
*	ICAL7@ 75.ug/L	Vial 77	1	Control	7	1.64867e5	12.107	5.00000
*	ICAL Verf@10ug/L	Vial 78	1	Control	8	1.76961e5	12.181	5.00000

*** End of Report ***

equence: C:\HPCHEM\1\SEQUENCE\CLO4\2017\NOV\28NOV17P.S

Sequence Table:

Method and Injection Info Part:

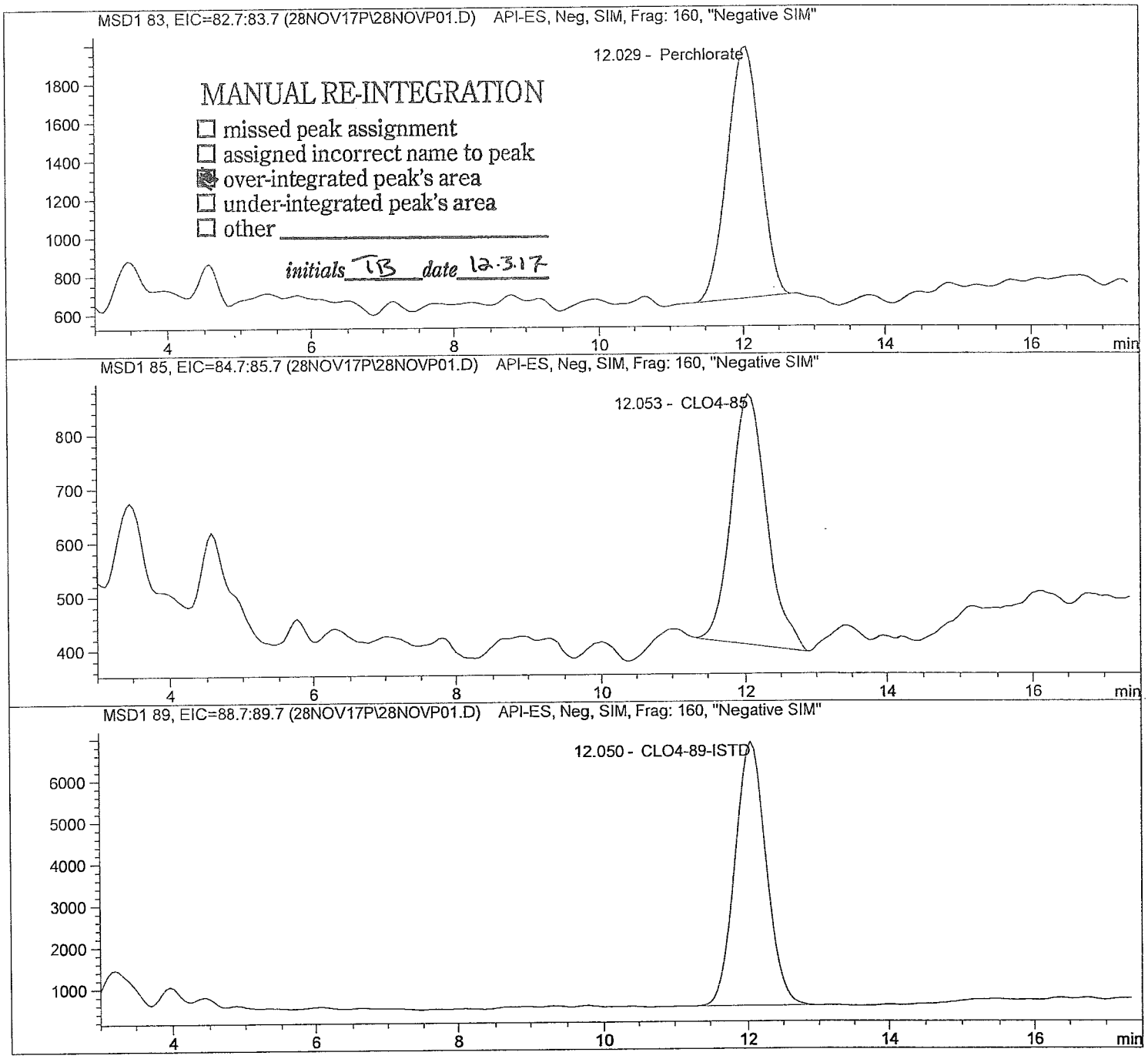
Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	ICAL1@ 1.0ug/L	CLO4-DOD	1	Ctrl Samp		
2	Vial 72	ICAL2@ 2.0ug/L	CLO4-DOD	1	Ctrl Samp		
3	Vial 73	ICAL3@ 5.0ug/L	CLO4-DOD	1	Ctrl Samp		
4	Vial 74	ICAL4@ 10.ug/L	CLO4-DOD	1	Ctrl Samp		
5	Vial 75	ICAL5@ 25.ug/L	CLO4-DOD	1	Ctrl Samp		
6	Vial 76	ICAL6@ 50.ug/L	CLO4-DOD	1	Ctrl Samp		
7	Vial 77	ICAL7@ 75.ug/L	CLO4-DOD	1	Ctrl Samp		
8	Vial 78	ICAL Verf@10ug/L	CLO4-DOD	1	Ctrl Samp		

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP01.D Sample Name: ICAL1@ 1.0ug/L

Injection Date:	11/28/2017 09:08:10	Seq Line:	1
Sample Name:	ICAL1@ 1.0ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP01.D Sample Name: ICAL1@ 1.0ug/L

Injection Date:	11/28/2017 09:08:10	Seq Line:	1
Sample Name:	ICAL1@ 1.0ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By: Signal
Calib. Data Modified: Wed, 29. Nov. 2017,08:02:06 am
Multiplier: 1.000000
Dilution: 1.000000
Sample Amount: 1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.029	MM	41094.2	1.0286	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.053	BBA	15678.7	0.9871	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.050	BBA	188880.3	5.0000	CLO4-89-ISTD

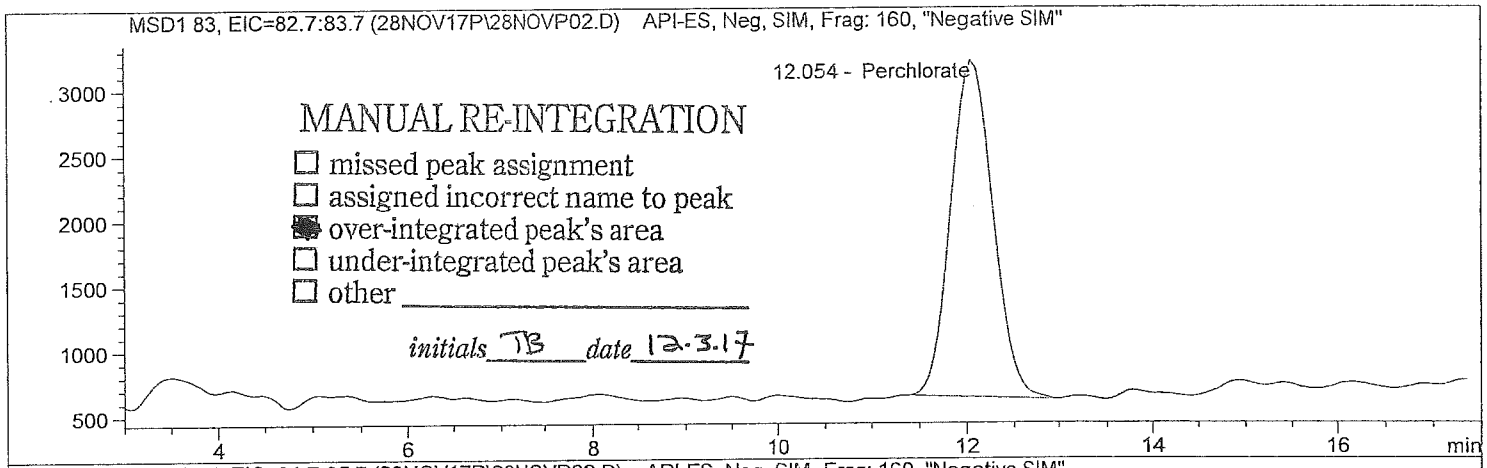
*** End of Report ***

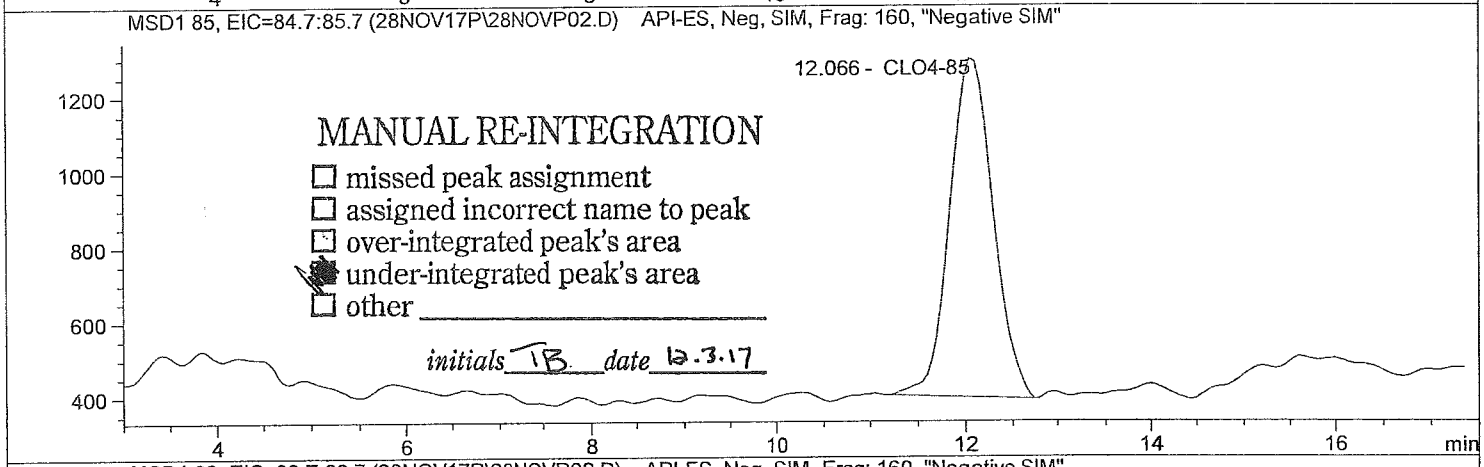
Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP02.D Sample Name: ICAL2@ 2.0ug/L

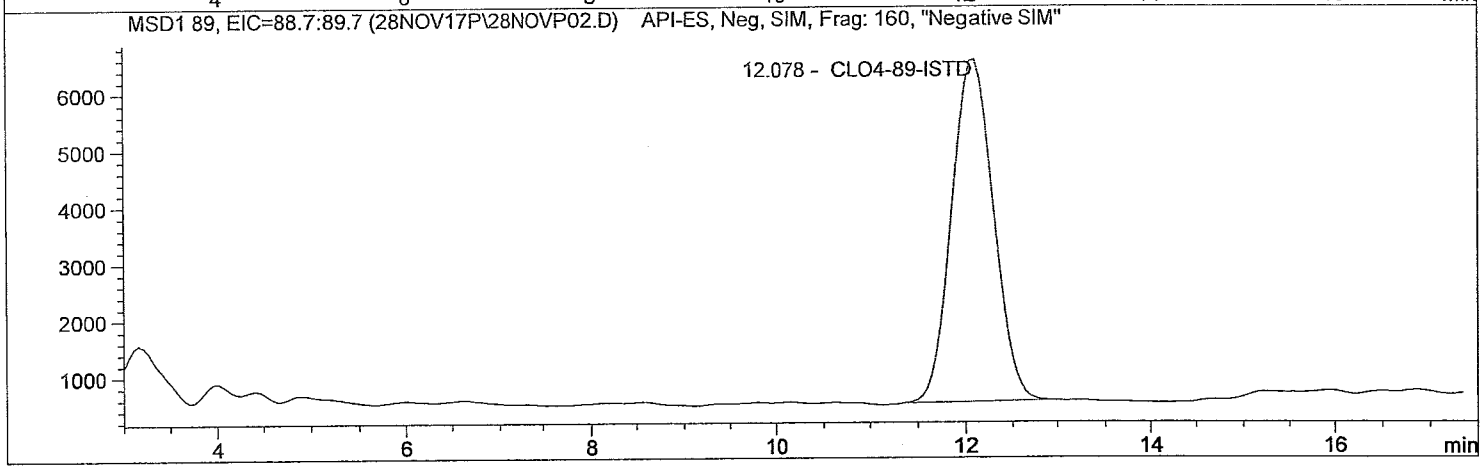
Injection Date:	11/28/2017 09:33:49	Seq Line:	2
Sample Name:	ICAL2@ 2.0ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP02.D Sample Name: ICAL2@ 2.0ug/L

Injection Date:	11/28/2017 09:33:49	Seq Line:	2
Sample Name:	ICAL2@ 2.0ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	2.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.054	MM	77407.7	1.9872	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.066	MM	28048.7	2.0105	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.078	PBA	181109.4	5.0000	CLO4-89-ISTD

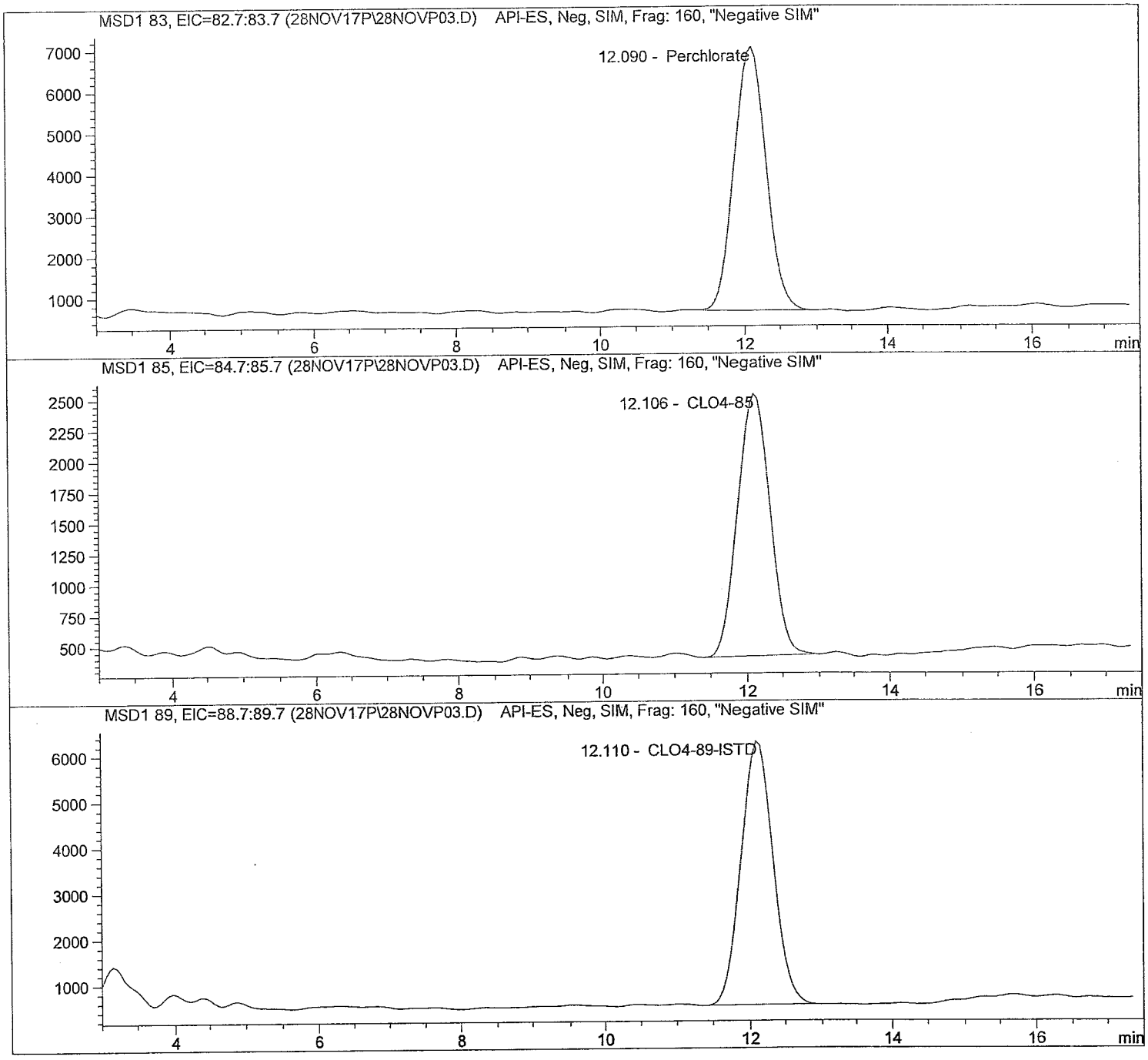
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP03.D Sample Name: ICAL3@ 5.0ug/L

Injection Date:	11/28/2017 09:53:00	Seq Line:	3
Sample Name:	ICAL3@ 5.0ug/L	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP03.D Sample Name: ICAL3@ 5.0ug/L

Injection Date:	11/28/2017 09:53:00	Seq Line:	3
Sample Name:	ICAL3@ 5.0ug/L	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	5.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.090	BBA	192984.6	5.0058	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.106	PBA	65132.3	5.0510	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.110	PBA	175128.5	5.0000	CLO4-89-ISTD

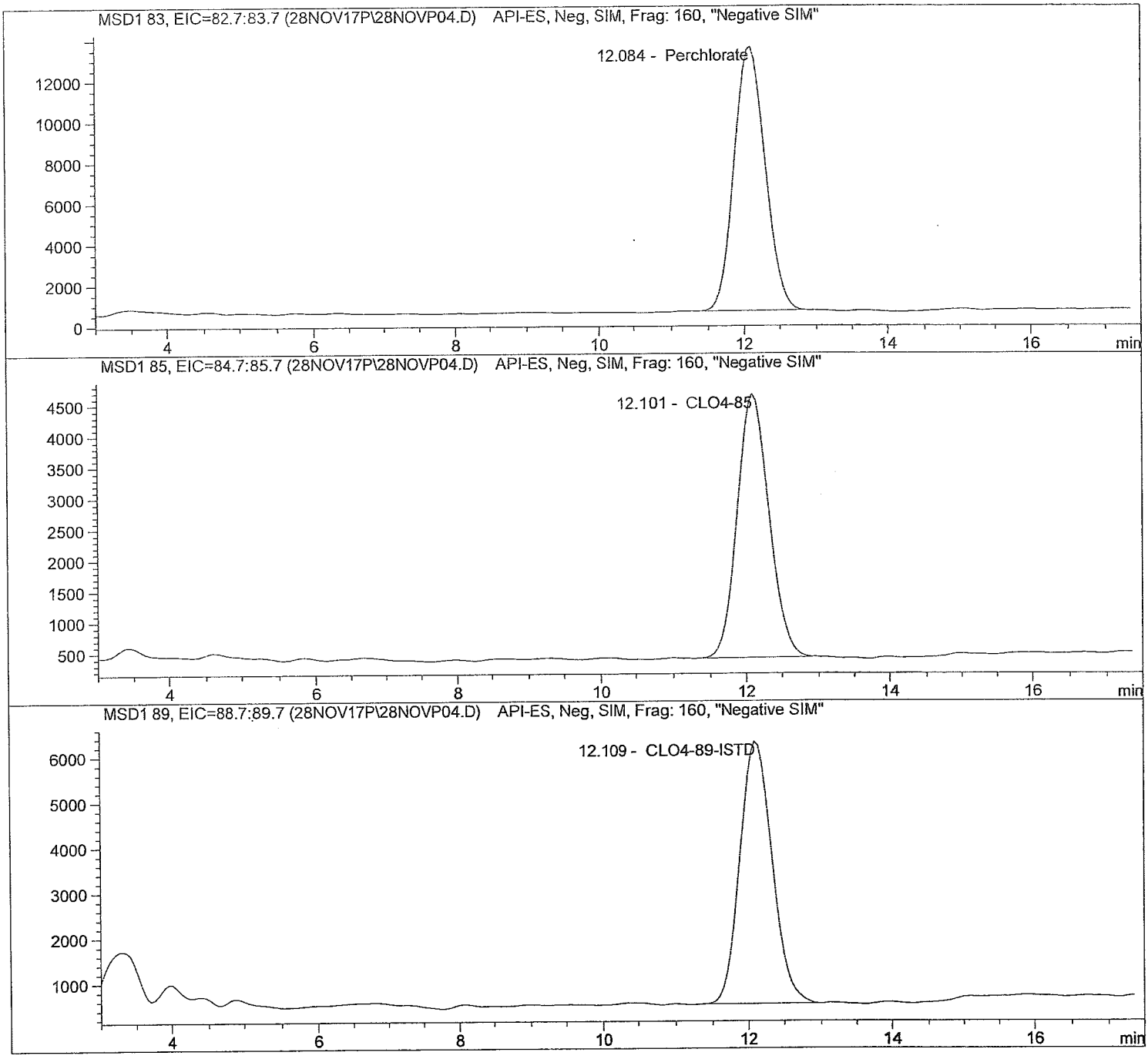
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP04.D Sample Name: ICAL4@ 10.ug/L

Injection Date:	11/28/2017 10:12:13	Seq Line:	4
Sample Name:	ICAL4@ 10.ug/L	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP04.D Sample Name: ICAL4@ 10.ug/L

Injection Date:	11/28/2017 10:12:13	Seq Line:	4
Sample Name:	ICAL4@ 10.ug/L	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	10.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.084	BBA	391582.9	9.5789	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.101	PBA	131324.7	9.8568	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.109	PBA	180962.1	5.0000	CLO4-89-ISTD

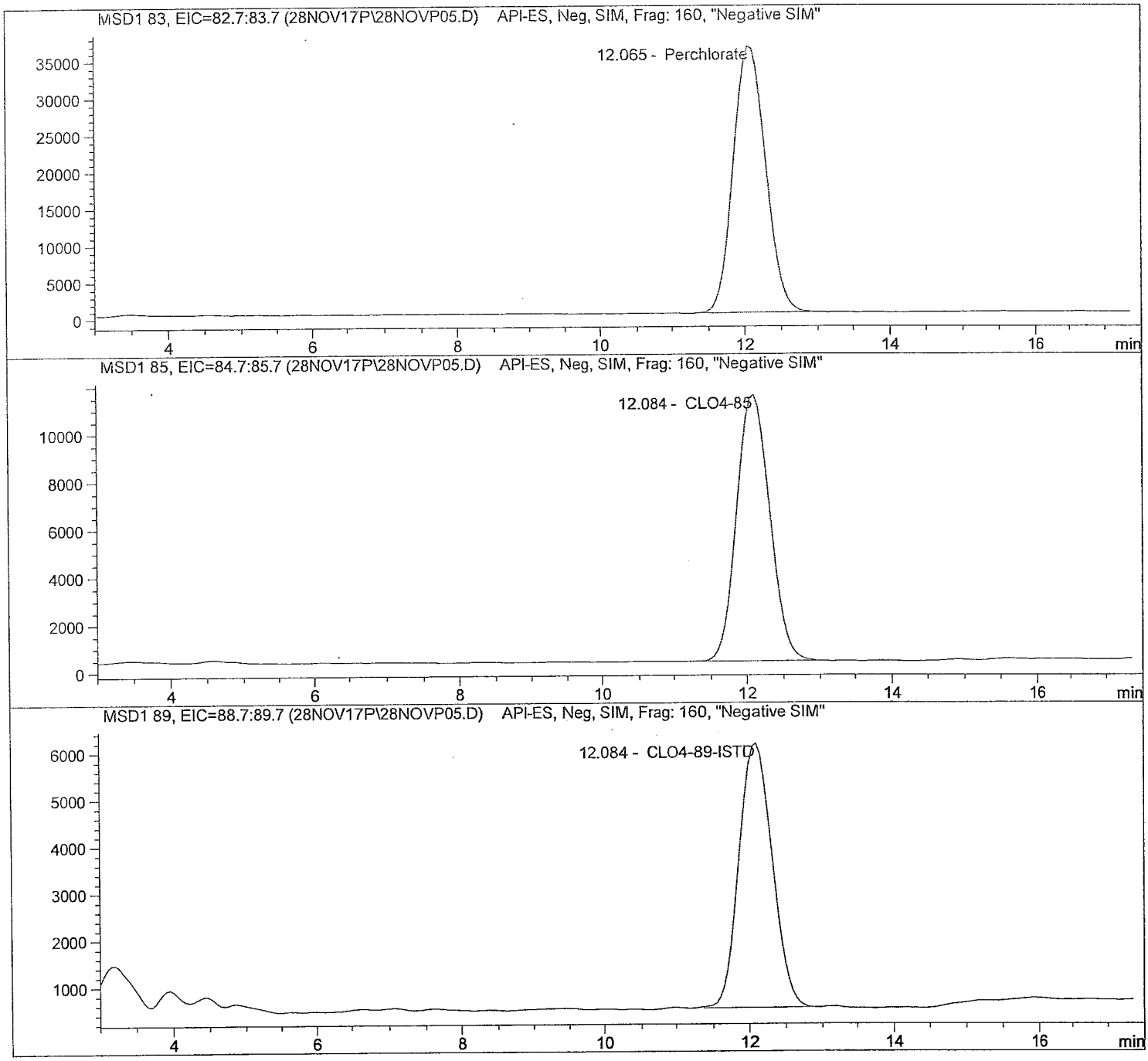
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP05.D Sample Name: ICAL5@ 25.ug/L

Injection Date:	11/28/2017 10:31:23	Seq Line:	5
Sample Name:	ICAL5@ 25.ug/L	Location:	Vial 75
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP05.D Sample Name: ICAL5@ 25.ug/L

Injection Date:	11/28/2017 10:31:23	Seq Line:	5
Sample Name:	ICAL5@ 25.ug/L	Location:	Vial 75
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	25.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.065	PBA	1097625.1	25.5523	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.084	PBA	346912.7	25.5843	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.084	BBA	175597.1	5.0000	CLO4-89-ISTD

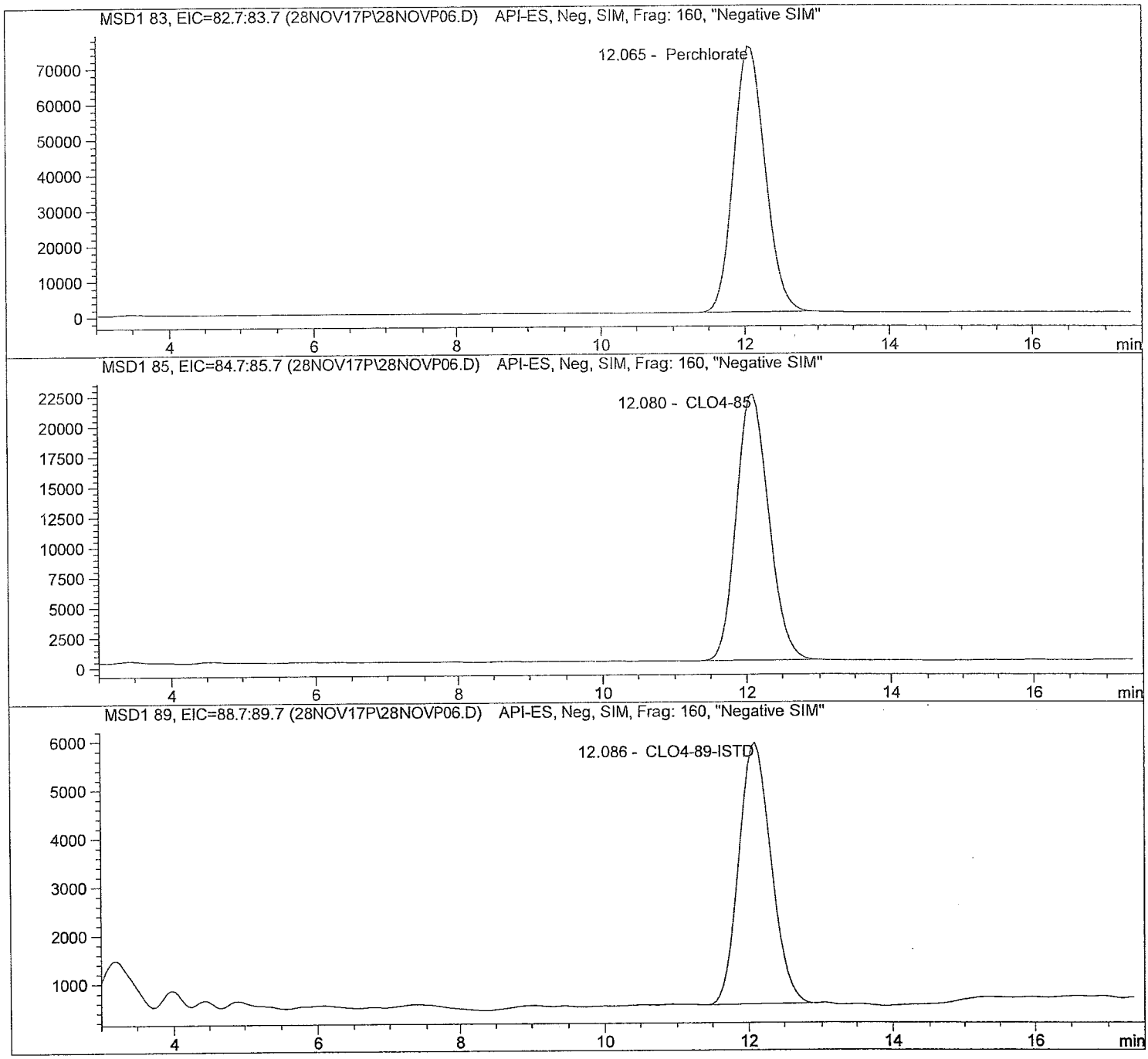
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP06.D Sample Name: ICAL6@ 50.ug/L

Injection Date:	11/28/2017 10:50:33	Seq Line:	6
Sample Name:	ICAL6@ 50.ug/L	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP06.D Sample Name: ICAL6@ 50.ug/L

Injection Date:	11/28/2017 10:50:33	Seq Line:	6
Sample Name:	ICAL6@ 50.ug/L	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	50.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.065	BBA	2298336.2	49.8316	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.080	PBA	696155.7	49.1828	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.086	PBA	169148.1	5.0000	CLO4-89-ISTD

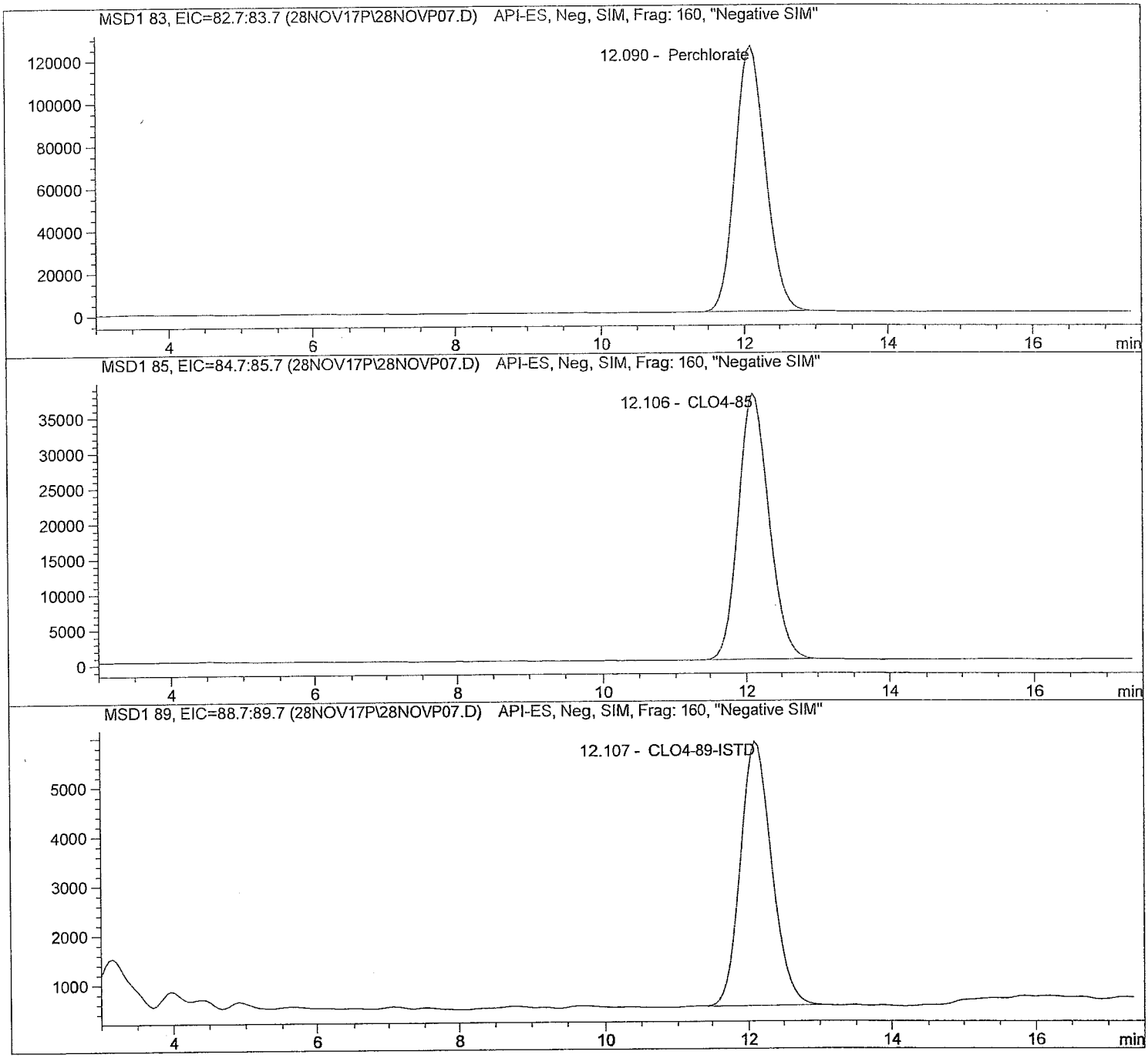
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP07.D Sample Name: ICAL7@ 75.ug/L

Injection Date:	11/28/2017 11:09:43	Seq Line:	7
Sample Name:	ICAL7@ 75.ug/L	Location:	Vial 77
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP07.D Sample Name: ICAL7@ 75.ug/L

Injection Date:	11/28/2017 11:09:43	Seq Line:	7
Sample Name:	ICAL7@ 75.ug/L	Location:	Vial 77
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	75.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.090	PBA	3730211.3	74.9999	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.106	PBA	1130772.0	75.3391	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.107	BBA	164866.7	5.0000	CLO4-89-ISTD

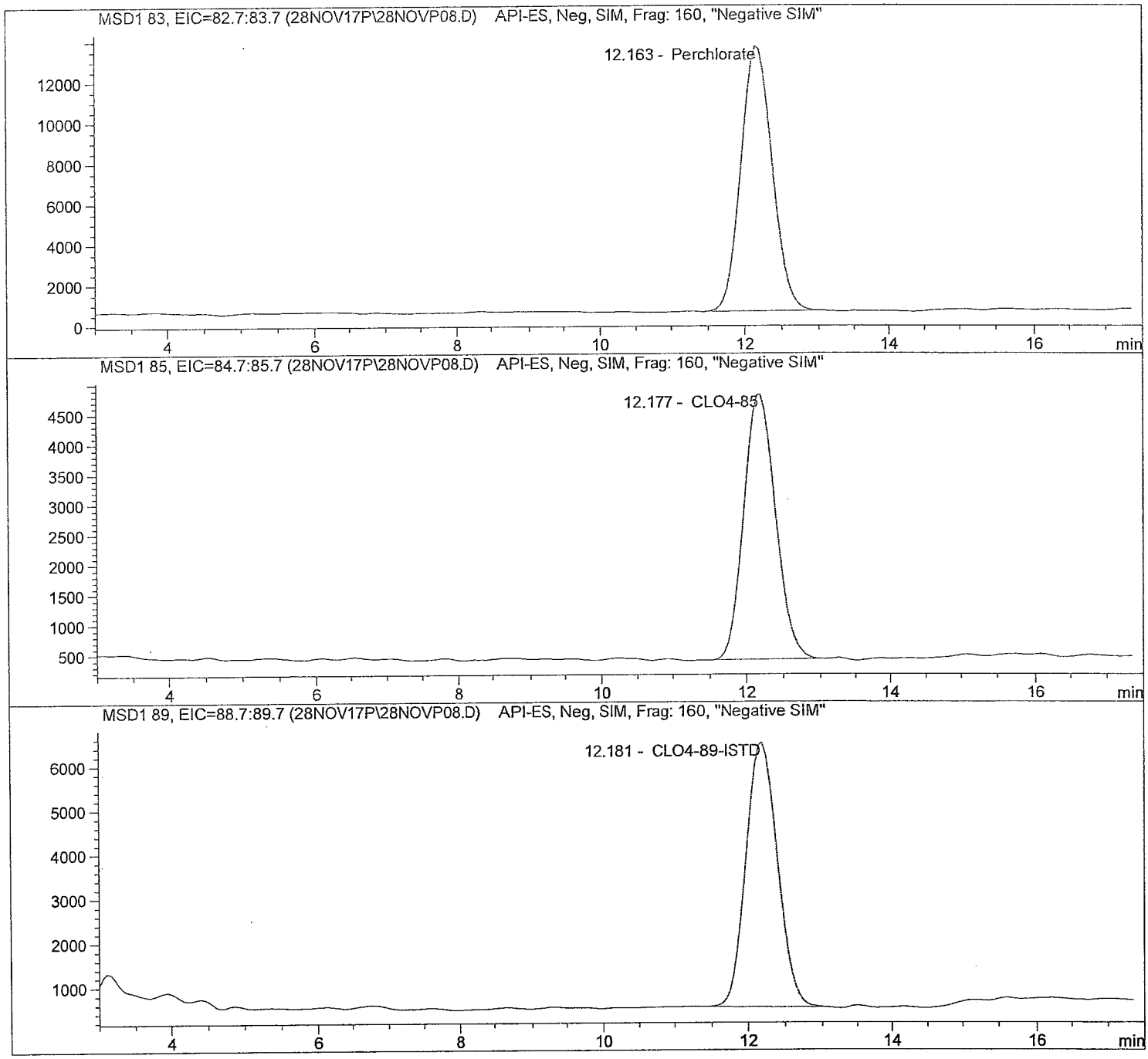
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP08.D Sample Name: ICAL Verf@10ug/L

Injection Date:	11/28/2017 11:28:53	Seq Line:	8
Sample Name:	ICAL Verf@10ug/L	Location:	Vial 78
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP08.D Sample Name: ICAL Verf@10ug/L

Injection Date:	11/28/2017 11:28:53	Seq Line:	8
Sample Name:	ICAL Verf@10ug/L	Location:	Vial 78
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	10.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.163	PBA	383615.2	9.5953	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.177	PBA	131459.5	10.0855	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.181	BBA	176961.2	5.0000	CLO4-89-ISTD

*** End of Report ***



ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Raw Data

Unmodified

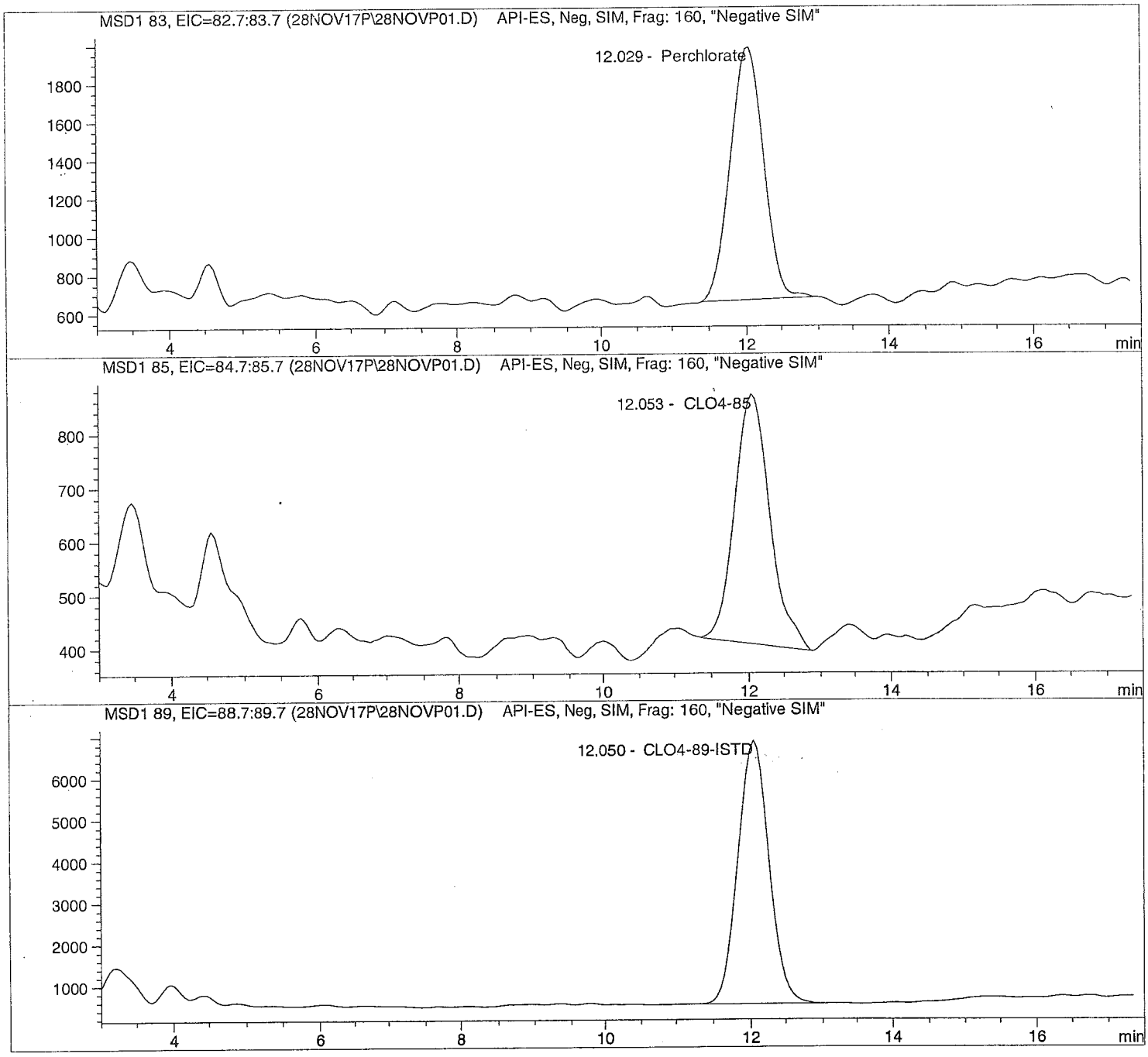


Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP01.D Sample Name: ICAL1@ 1.0ug/L

Injection Date:	11/28/2017 09:08:10	Seq Line:	1
Sample Name:	ICAL1@ 1.0ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP01.D Sample Name: ICAL1@ 1.0ug/L

Injection Date:	11/28/2017 09:08:10	Seq Line:	1
Sample Name:	ICAL1@ 1.0ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.029	BBA	42017.4	1.0510	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.053	BBA	15678.7	0.9871	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.050	BBA	188880.3	5.0000	CLO4-89-ISTD

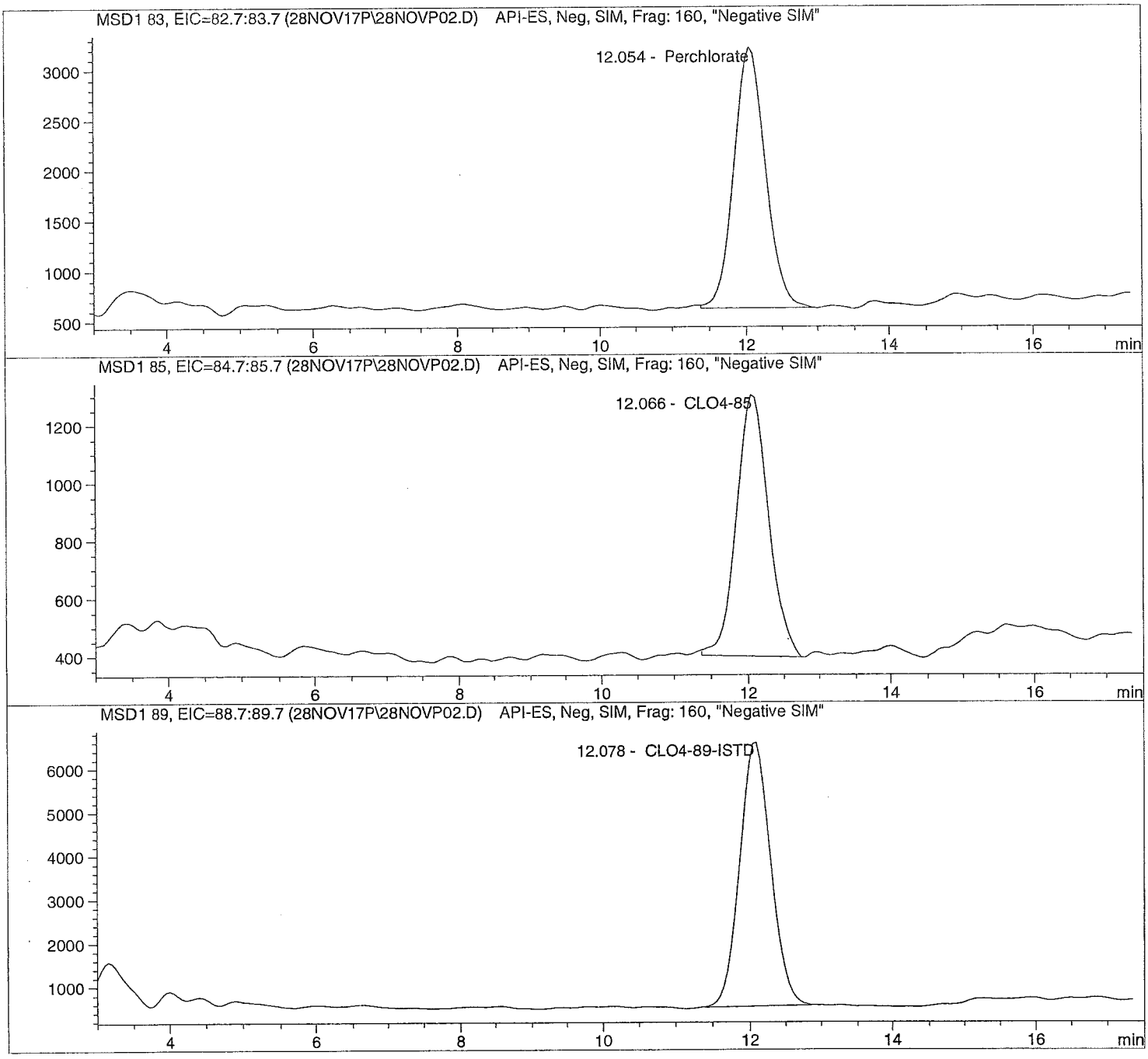
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP02.D Sample Name: ICAL2@ 2.0ug/L

Injection Date:	11/28/2017 09:33:49	Seq Line:	2
Sample Name:	ICAL2@ 2.0ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP02.D Sample Name: ICAL2@ 2.0ug/L

Injection Date:	11/28/2017 09:33:49	Seq Line:	2
Sample Name:	ICAL2@ 2.0ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	2.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.054	BBA	78519.1	2.0151	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.066	BBA	28009.6	2.0074	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.078	PBA	181109.4	5.0000	CLO4-89-ISTD

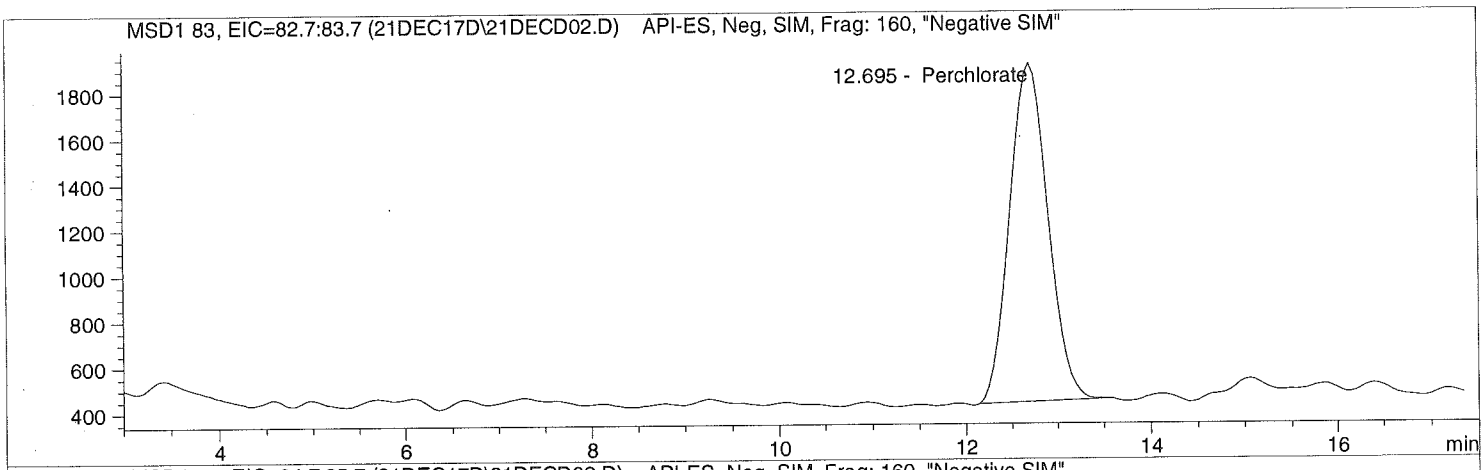
*** End of Report ***

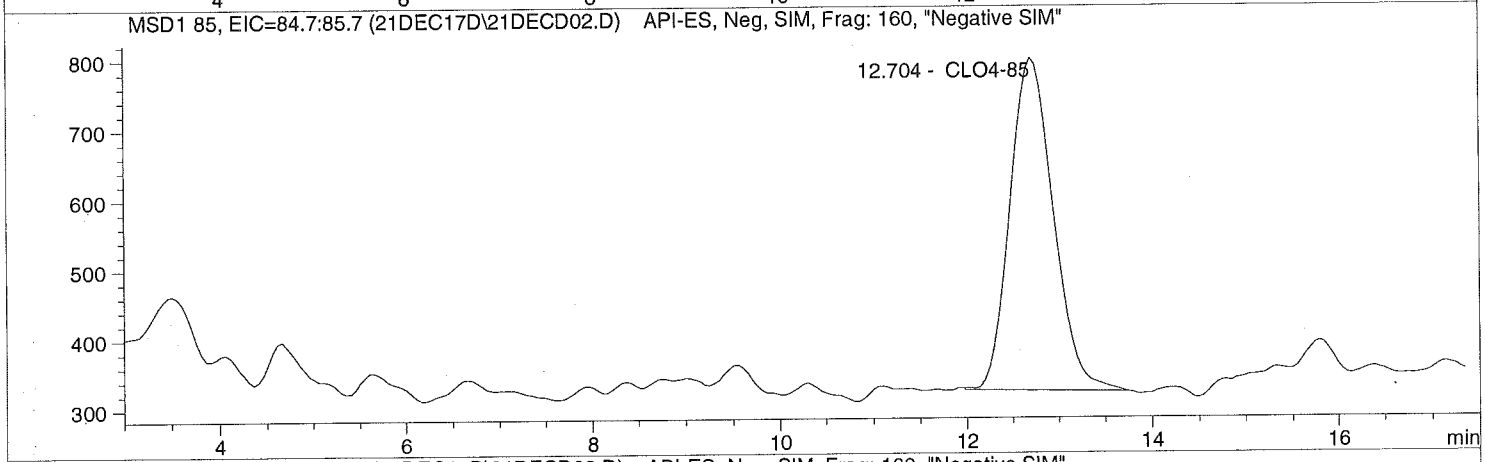
Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD02.D Sample Name: 580320 LODV@1.

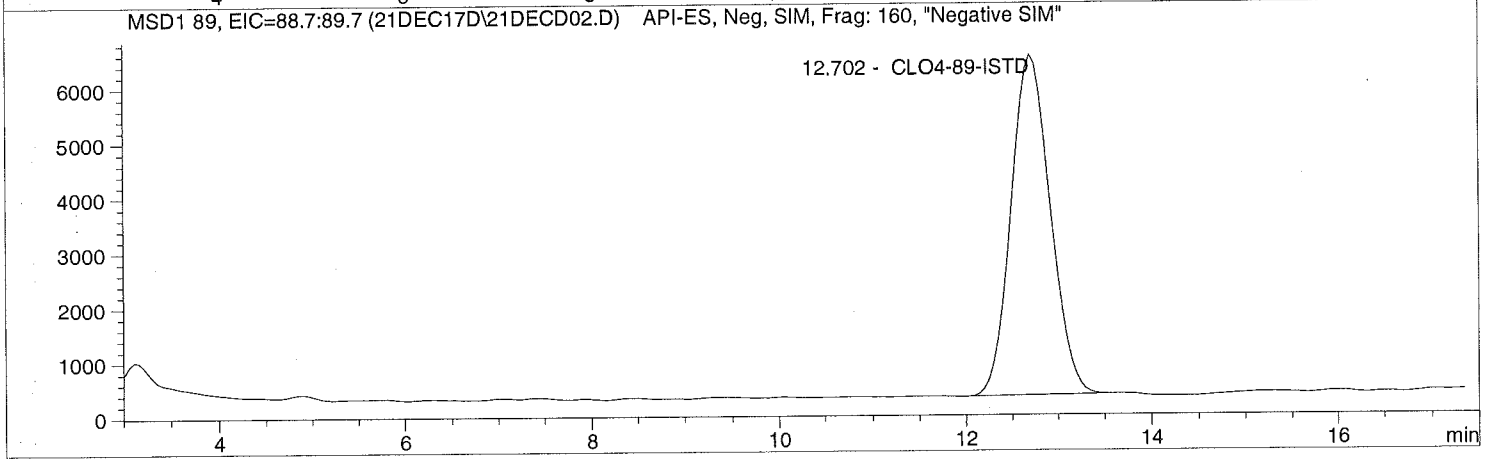
Injection Date:	12/21/2017 09:11:18	Seq Line:	2
Sample Name:	580320 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD02.D Sample Name: 580320 LODV@1.

Injection Date:	12/21/2017 09:11:18	Seq Line:	2
Sample Name:	580320 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.695	PBA	42987.5	1.1033	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.704	BBA	15615.8	1.0148	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.702	PBA	183835.4	5.0000	CLO4-89-ISTD

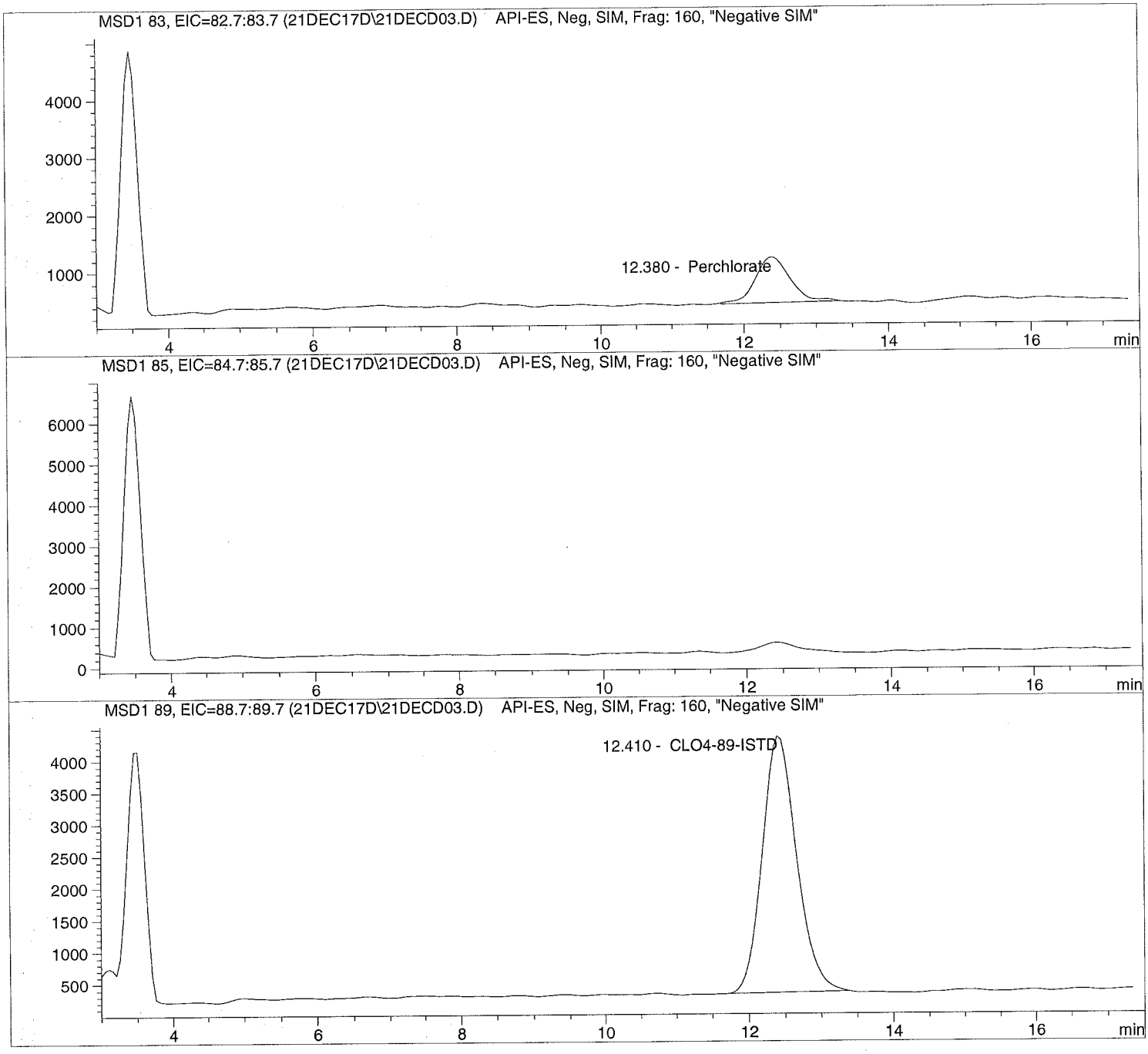
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD03.D Sample Name: 580321 ICS@1.

Injection Date:	12/21/2017 09:30:29	Seq Line:	3
Sample Name:	580321 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD03.D Sample Name: 580321 ICS@1.

Injection Date:	12/21/2017 09:30:29	Seq Line:	3
Sample Name:	580321 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.380	BBA	26247.5	0.9394	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.410	BBA	132469.9	5.0000	CLO4-89-ISTD

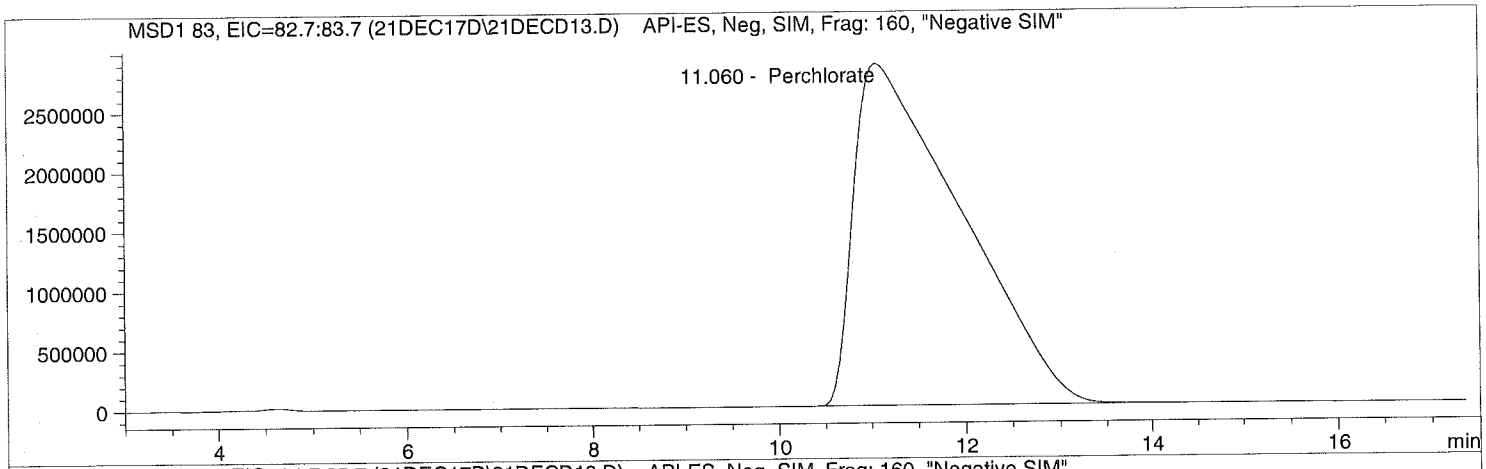
*** End of Report ***

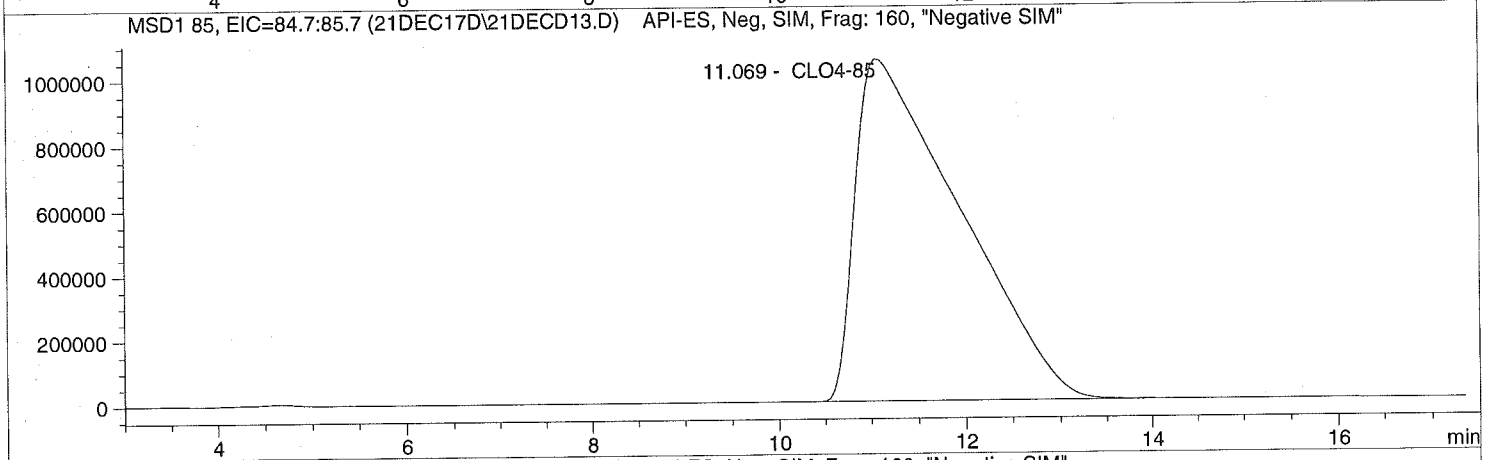
Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD13.D Sample Name: 1735426005

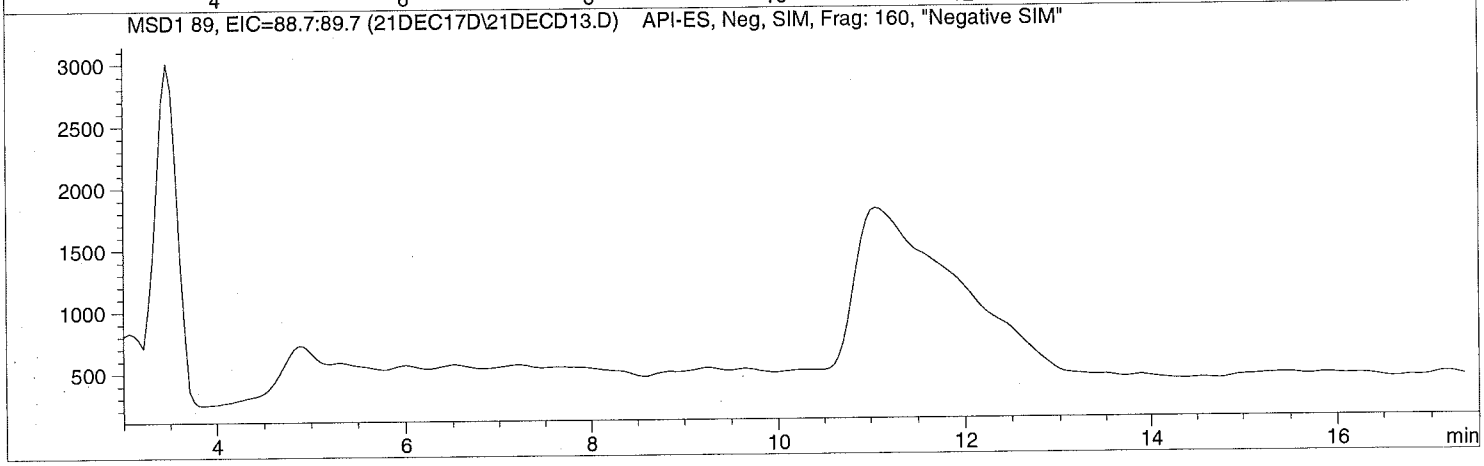
Injection Date:	12/21/2017 13:10:01	Seq Line:	13
Sample Name:	1735426005	Location:	Vial 83
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD13.D Sample Name: 1735426005

Injection Date:	12/21/2017 13:10:01	Seq Line:	13
Sample Name:	1735426005	Location:	Vial 83
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.060	PBA	228145184.0	0.0243	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.069	PBA	81262104.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-89-ISTD

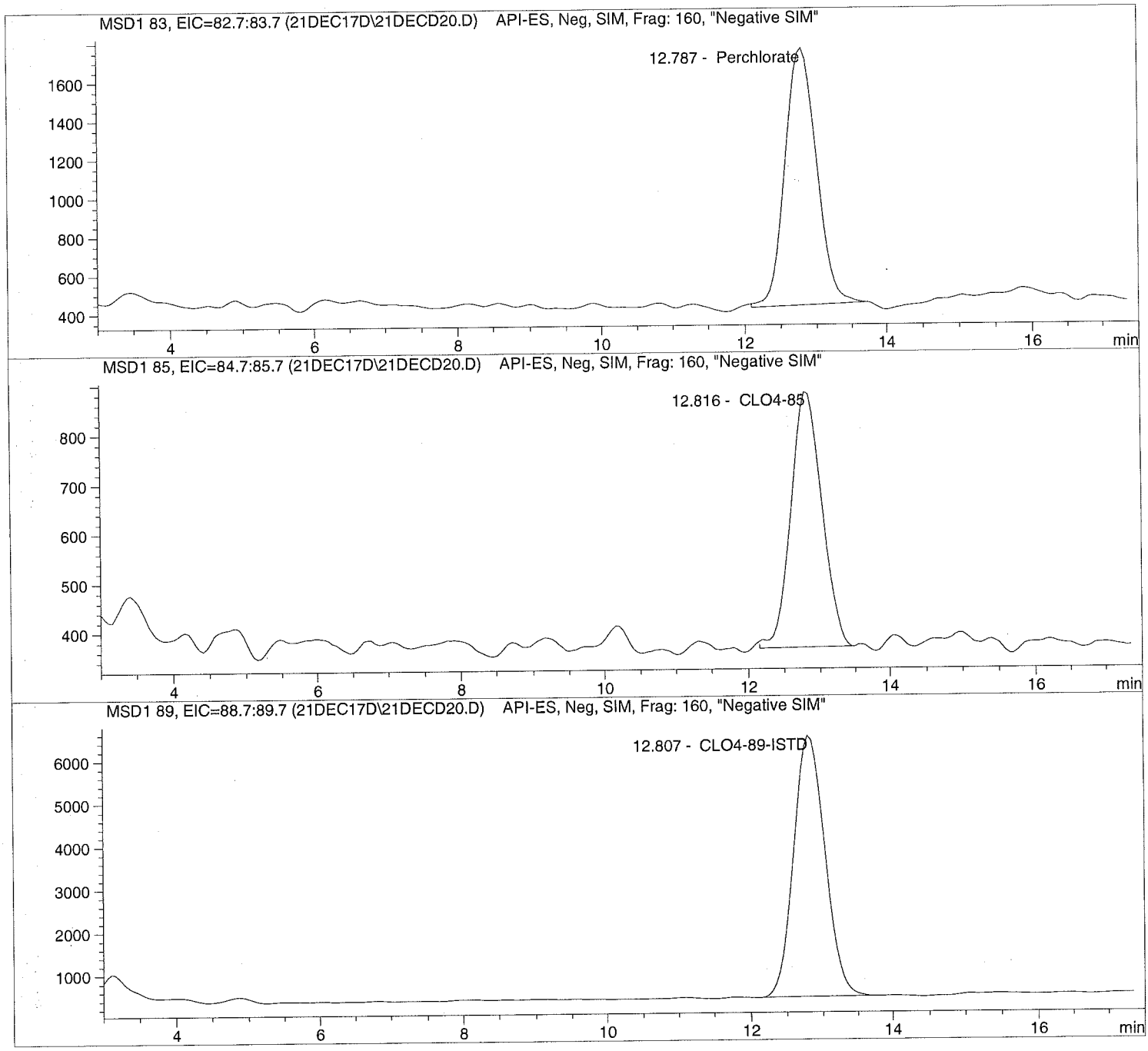
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD20.D Sample Name: 580327 LODV@1.

Injection Date:	12/21/2017 15:27:34	Seq Line:	20
Sample Name:	580327 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD20.D Sample Name: 580327 LODV@1.

Injection Date:	12/21/2017 15:27:34	Seq Line:	20
Sample Name:	580327 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.787	BBA	40544.1	1.0359	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.816	BBA	15506.6	0.9987	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.807	PBA	184995.7	5.0000	CLO4-89-ISTD

*** End of Report ***

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WorkOrder: HS17120839

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
F: +1 281 530 5887

December 29, 2017

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

Work Order: **HS17120839**

Laboratory Results for: **Groundwater Treatment Plant Bi-Weekly Samples**

Dear Marcia,

ALS Environmental received 2 sample(s) on Dec 14, 2017 for the analysis presented in the following report.

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

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

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

Sincerely,

Sonia West

Generated By: Dayna.Fisher
Sonia West
Project Manager

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
Work Order: HS17120839

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS17120839-01	LH18/24-SP650_121317	Water		13-Dec-2017 14:00	14-Dec-2017 09:00	☐
HS17120839-02	Trip Blank	Water	ALS 112117-36	13-Dec-2017 14:00	14-Dec-2017 09:00	☐

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
Work Order: HS17120839

CASE NARRATIVE

GCMS Volatiles by Method SW8260

Batch ID: R307910

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

WetChemistry by Method SW9056

Batch ID: R308178

Sample ID: LH18/24-SP650_121317 (HS17120839-01MS/MSD)

- The matrix spike and matrix spike duplicate recoveries were outside of the control limits. However, the RPD between the MS and MSD were in control. (Chloride)

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Groundwater Treatment Plant Bi-Weekly Samples WorkOrder:HS17120839
Sample ID: LH18/24-SP650_121317 Lab ID:HS17120839-01
Collection Date: 13-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: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:41
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:41
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 18:41
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:41
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:41
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:41
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:41
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 18:41
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 18:41
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 18:41
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:41
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:41
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:41
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 18:41
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:41
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 18:41
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:41
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 18:41
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:41
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 18:41
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:41
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	22-Dec-2017 18:41
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:41
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	22-Dec-2017 18:41
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 18:41
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:41
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	22-Dec-2017 18:41
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	22-Dec-2017 18:41
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:41
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 18:41
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:41
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:41
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 18:41
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 18:41
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	22-Dec-2017 18:41
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 18:41
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:41
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:41

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
Sample ID: LH18/24-SP650_121317
Collection Date: 13-Dec-2017 14:00

ANALYTICAL REPORT
WorkOrder:HS17120839
Lab ID:HS17120839-01
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:41
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:41
cis-1,2-Dichloroethene	**4.5**		**0.20**	**0.50**	**1.0**	**ug/L**	1	22-Dec-2017 18:41
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	22-Dec-2017 18:41
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:41
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:41
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:41
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:41
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	22-Dec-2017 18:41
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:41
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	22-Dec-2017 18:41
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	22-Dec-2017 18:41
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 18:41
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:41
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:41
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:41
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:41
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:41
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:41
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:41
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:41
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:41
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:41
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:41
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:41
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:41
Surr: 1,2-Dichloroethane-d4	*94.0*			**0**	*81-118*	*%REC*	*1*	*22-Dec-2017 18:41*
Surr: 4-Bromofluorobenzene	*99.6*			**0**	*85-114*	*%REC*	*1*	*22-Dec-2017 18:41*
Surr: Dibromofluoromethane	*99.4*			**0**	*80-119*	*%REC*	*1*	*22-Dec-2017 18:41*
Surr: Toluene-d8	*96.1*			**0**	*89-112*	*%REC*	*1*	*22-Dec-2017 18:41*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: KMU
Chloride	**457**		**4.00**	**5.00**	**10.0**	**mg/L**	20	29-Dec-2017 11:53
Sulfate	**74.7**		**0.200**	**0.250**	**0.500**	**mg/L**	1	29-Dec-2017 06:38

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Groundwater Treatment Plant Bi-Weekly Samples WorkOrder:HS17120839
Sample ID: Trip Blank Lab ID:HS17120839-02
Collection Date: 13-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: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:16
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:16
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 18:16
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:16
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:16
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:16
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:16
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 18:16
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 18:16
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 18:16
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:16
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:16
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:16
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 18:16
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:16
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 18:16
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:16
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 18:16
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:16
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 18:16
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:16
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	22-Dec-2017 18:16
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:16
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	22-Dec-2017 18:16
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 18:16
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:16
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	22-Dec-2017 18:16
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	22-Dec-2017 18:16
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:16
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 18:16
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:16
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:16
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 18:16
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 18:16
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	22-Dec-2017 18:16
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 18:16
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:16
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:16

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder:HS17120839
Sample ID: Trip Blank
Lab ID:HS17120839-02
Collection Date: 13-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: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:16
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:16
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:16
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	22-Dec-2017 18:16
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:16
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:16
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:16
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:16
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	22-Dec-2017 18:16
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:16
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	22-Dec-2017 18:16
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	22-Dec-2017 18:16
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 18:16
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:16
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:16
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:16
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:16
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:16
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:16
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:16
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:16
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:16
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:16
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:16
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 18:16
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 18:16
Surr: 1,2-Dichloroethane-d4	*93.8*			**0**	*81-118*	*%REC*	*1*	*22-Dec-2017 18:16*
Surr: 4-Bromofluorobenzene	*96.9*			**0**	*85-114*	*%REC*	*1*	*22-Dec-2017 18:16*
Surr: Dibromofluoromethane	*98.6*			**0**	*80-119*	*%REC*	*1*	*22-Dec-2017 18:16*
Surr: Toluene-d8	*96.9*			**0**	*89-112*	*%REC*	*1*	*22-Dec-2017 18:16*

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder: HS17120839

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R307910	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C			**Matrix:** Water		
HS17120839-01	LH18/24-SP650_121317	13 Dec 2017 14:00			22 Dec 2017 18:41	1
HS17120839-02	Trip Blank	13 Dec 2017 14:00			22 Dec 2017 18:16	1
Batch ID R308178	**Test Name :** ANIONS BY SW9056A			**Matrix:** Water		
HS17120839-01	LH18/24-SP650_121317	13 Dec 2017 14:00			29 Dec 2017 11:53	20
HS17120839-01	LH18/24-SP650_121317	13 Dec 2017 14:00			29 Dec 2017 06:38	1

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder: HS17120839

QC BATCH REPORT

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

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

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

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder: HS17120839

QC BATCH REPORT

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

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

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	0.50	1.0								U
Chlorobenzene	0.50	1.0								U
Chloroethane	0.50	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	0.50	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	0.50	1.0								U
Ethylbenzene	0.50	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	0.50	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	0.50	2.0								U
Naphthalene	0.50	1.0								U
n-Butylbenzene	0.50	1.0								U
n-Propylbenzene	0.50	1.0								U
o-Xylene	0.50	1.0								U
sec-Butylbenzene	0.50	1.0								U
Styrene	0.50	1.0								U
tert-Butylbenzene	0.50	1.0								U
Tetrachloroethene	0.50	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*46.49*	*1.0*	*50*	*0*	*93.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*47.9*	*1.0*	*50*	*0*	*95.8*	*85 - 114*				
Surr: Dibromofluoromethane	*49.79*	*1.0*	*50*	*0*	*99.6*	*80 - 119*				
Surr: Toluene-d8	*48.45*	*1.0*	*50*	*0*	*96.9*	*89 - 112*				

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder: HS17120839

QC BATCH REPORT

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

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

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	49.73	1.0	50	0	99.5	78 - 124				
1,1,1-Trichloroethane	48.37	1.0	50	0	96.7	74 - 131				
1,1,2,2-Tetrachloroethane	42.66	1.0	50	0	85.3	71 - 121				
1,1,2-Trichloroethane	47.47	1.0	50	0	94.9	80 - 119				
1,1-Dichloroethane	49.48	1.0	50	0	99.0	77 - 125				
1,1-Dichloroethene	50.83	1.0	50	0	102	71 - 131				
1,1-Dichloropropene	47.14	1.0	50	0	94.3	79 - 125				
1,2,3-Trichlorobenzene	50.41	1.0	50	0	101	69 - 129				
1,2,3-Trichloropropane	46.46	1.0	50	0	92.9	73 - 122				
1,2,4-Trichlorobenzene	51.75	1.0	50	0	103	69 - 130				
1,2,4-Trimethylbenzene	41.53	1.0	50	0	83.1	76 - 124				
1,2-Dibromo-3-chloropropane	45.58	1.0	50	0	91.2	62 - 128				
1,2-Dibromoethane	50.49	1.0	50	0	101	77 - 121				
1,2-Dichlorobenzene	44.41	1.0	50	0	88.8	80 - 119				
1,2-Dichloroethane	51.03	1.0	50	0	102	73 - 128				
1,2-Dichloropropane	48.43	1.0	50	0	96.9	78 - 122				
1,3,5-Trimethylbenzene	41.37	1.0	50	0	82.7	75 - 124				
1,3-Dichlorobenzene	44.3	1.0	50	0	88.6	80 - 119				
1,3-Dichloropropane	47.27	1.0	50	0	94.5	80 - 119				
1,4-Dichlorobenzene	44.03	1.0	50	0	88.1	79 - 118				
2,2-Dichloropropane	50.18	1.0	50	0	100	60 - 139				
2-Butanone	97.17	2.0	100	0	97.2	56 - 143				
2-Chlorotoluene	41.79	1.0	50	0	83.6	79 - 122				
2-Hexanone	94.14	2.0	100	0	94.1	57 - 139				
4-Chlorotoluene	42.11	1.0	50	0	84.2	78 - 122				
4-Isopropyltoluene	41.45	1.0	50	0	82.9	77 - 127				
4-Methyl-2-pentanone	93.71	2.0	100	0	93.7	67 - 130				
Acetone	101.7	2.0	100	0	102	39 - 160				
Benzene	49.08	1.0	50	0	98.2	79 - 120				
Bromobenzene	43.84	1.0	50	0	87.7	80 - 120				
Bromochloromethane	51.77	1.0	50	0	104	78 - 123				
Bromodichloromethane	50.23	1.0	50	0	100	79 - 125				
Bromoform	52.12	1.0	50	0	104	66 - 130				
Bromomethane	55.89	1.0	50	0	112	53 - 141				

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder: HS17120839

QC BATCH REPORT

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

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

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

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder: HS17120839

QC BATCH REPORT

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

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

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	48.38	1.0	50	0	96.8	78 - 124				
1,1,1-Trichloroethane	49.37	1.0	50	0	98.7	74 - 131				
1,1,2,2-Tetrachloroethane	41.14	1.0	50	0	82.3	71 - 121				
1,1,2-Trichloroethane	45.84	1.0	50	0	91.7	80 - 119				
1,1-Dichloroethane	47.93	1.0	50	0	95.9	77 - 125				
1,1-Dichloroethene	51.37	1.0	50	0	103	71 - 131				
1,1-Dichloropropene	51.06	1.0	50	0	102	79 - 125				
1,2,3-Trichlorobenzene	43.33	1.0	50	0	86.7	69 - 129				
1,2,3-Trichloropropane	42.79	1.0	50	0	85.6	73 - 122				
1,2,4-Trichlorobenzene	44.74	1.0	50	0	89.5	69 - 130				
1,2,4-Trimethylbenzene	39.01	1.0	50	0	78.0	76 - 124				
1,2-Dibromo-3-chloropropane	43.56	1.0	50	0	87.1	62 - 128				
1,2-Dibromoethane	48.1	1.0	50	0	96.2	77 - 121				
1,2-Dichlorobenzene	41.24	1.0	50	0	82.5	80 - 119				
1,2-Dichloroethane	51.41	1.0	50	0	103	73 - 128				
1,2-Dichloropropane	47.88	1.0	50	0	95.8	78 - 122				
1,3,5-Trimethylbenzene	38.59	1.0	50	0	77.2	75 - 124				
1,3-Dichlorobenzene	41.46	1.0	50	0	82.9	80 - 119				
1,3-Dichloropropane	45.55	1.0	50	0	91.1	80 - 119				
1,4-Dichlorobenzene	40.99	1.0	50	0	82.0	79 - 118				
2,2-Dichloropropane	51.72	1.0	50	0	103	60 - 139				
2-Butanone	89.78	2.0	100	0	89.8	56 - 143				
2-Chlorotoluene	40.09	1.0	50	0	80.2	79 - 122				
2-Hexanone	91.45	2.0	100	0	91.4	57 - 139				
4-Chlorotoluene	40.35	1.0	50	0	80.7	78 - 122				
4-Isopropyltoluene	38.61	1.0	50	0	77.2	77 - 127				
4-Methyl-2-pentanone	91.61	2.0	100	0	91.6	67 - 130				
Acetone	89.71	2.0	100	0	89.7	39 - 160				
Benzene	48.79	1.0	50	0.5596	96.5	79 - 120				
Bromobenzene	42.52	1.0	50	0	85.0	80 - 120				
Bromochloromethane	48.59	1.0	50	0	97.2	78 - 123				
Bromodichloromethane	48.61	1.0	50	0	97.2	79 - 125				
Bromoform	50.21	1.0	50	0	100	66 - 130				
Bromomethane	50.04	1.0	50	0	100	53 - 141				

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder: HS17120839

QC BATCH REPORT

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

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

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

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder: HS17120839

QC BATCH REPORT

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

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

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

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder: HS17120839

QC BATCH REPORT

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

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

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

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

ALS Group USA, Corp Date: 29-Dec-17

Client:	Bhate Environmental Associates, Inc.
Project:	Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder:	HS17120839

QC BATCH REPORT

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

The following samples were analyzed in this batch: HS17120839-01 HS17120839-02

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder: HS17120839

QC BATCH REPORT

Batch ID: R308178 **Instrument: ICS2100** **Method: SW9056**

MBLK Sample ID: **WBLKW1-122817** Units: **mg/L** Analysis Date: **29-Dec-2017 05:55**
Client ID: Run ID: **ICS2100_308178** SeqNo: **4373325** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.205	0.500								J
Sulfate	0.250	0.500								U

MBLK Sample ID: **WBLKW1-122817** Units: **mg/L** Analysis Date: **29-Dec-2017 11:10**
Client ID: Run ID: **ICS2100_308178** SeqNo: **4373336** 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: **WLCSW1-122817** Units: **mg/L** Analysis Date: **29-Dec-2017 06:09**
Client ID: Run ID: **ICS2100_308178** SeqNo: **4373326** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.44	0.500	20	0	102	80 - 120				
Sulfate	20.48	0.500	20	0	102	80 - 120				

LCS Sample ID: **WLCSW1-122817** Units: **mg/L** Analysis Date: **29-Dec-2017 11:24**
Client ID: Run ID: **ICS2100_308178** SeqNo: **4373337** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.77	0.500	20	0	98.8	80 - 120				
Sulfate	19.95	0.500	20	0	99.7	80 - 120				

LCSD Sample ID: **WLCSDW1-122817** Units: **mg/L** Analysis Date: **29-Dec-2017 11:39**
Client ID: Run ID: **ICS2100_308178** SeqNo: **4373338** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.52	0.500	20	0	103	80 - 120	19.77	3.73	20	
Sulfate	20.54	0.500	20	0	103	80 - 120	19.95	2.96	20	

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder: HS17120839

QC BATCH REPORT

Batch ID: R308178 **Instrument: ICS2100** **Method: SW9056**

LCSD Sample ID: **WLCSDW1-122817** Units: **mg/L** Analysis Date: **29-Dec-2017 06:24**
Client ID: Run ID: **ICS2100_308178** SeqNo: **4373327** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.02	0.500	20	0	100	80 - 120	19.77	1.28	20	
Sulfate	20.01	0.500	20	0	100	80 - 120	19.95	0.31	20	

MS Sample ID: **HS17120839-01MS** Units: **mg/L** Analysis Date: **29-Dec-2017 12:08**
Client ID: **LH18/24-SP650_121317** Run ID: **ICS2100_308178** SeqNo: **4373340** PrepDate: DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	705.1	10.0	200	456.6	124	80 - 120				S
Sulfate	272.6	10.0	200	61.13	106	80 - 120				

MS Sample ID: **HS17120839-01MS** Units: **mg/L** Analysis Date: **29-Dec-2017 06:53**
Client ID: **LH18/24-SP650_121317** Run ID: **ICS2100_308178** SeqNo: **4373329** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	525.1	0.500	10	521.6	35.4	80 - 120				SEO
Sulfate	83.91	0.500	10	74.7	92.1	80 - 120				O

MSD Sample ID: **HS17120839-01MSD** Units: **mg/L** Analysis Date: **29-Dec-2017 12:22**
Client ID: **LH18/24-SP650_121317** Run ID: **ICS2100_308178** SeqNo: **4373341** PrepDate: DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	697.5	10.0	200	456.6	120	80 - 120	705.1	1.08	20	S
Sulfate	272.6	10.0	200	61.13	106	80 - 120	272.6	0.0242	20	

MSD Sample ID: **HS17120839-01MSD** Units: **mg/L** Analysis Date: **29-Dec-2017 07:07**
Client ID: **LH18/24-SP650_121317** Run ID: **ICS2100_308178** SeqNo: **4373330** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	521.4	0.500	10	521.6	-1.73	80 - 120	525.1	0.71	20	SEO
Sulfate	83.5	0.500	10	74.7	88.0	80 - 120	83.91	0.489	20	O

The following samples were analyzed in this batch: HS17120839-01

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Bi-Weekly Samples
WorkOrder: **HS17120839**

QUALIFIERS, ACRONYMS, UNITS

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

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

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

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

ALS Group USA, Corp Date: 29-Dec-17

Sample Receipt Checklist

Client Name: Bhate Environmental
Work Order: HS17120839
Date/Time Received: **14-Dec-2017 09:00**
Received by: **JRM**

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

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

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.7C / 2.0C UC/C	IR25	
Cooler(s)/Kit(s):	43052		
Date/Time sample(s) sent to storage:	12/14/2017 18:00		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes: Samples refrigerated prior to login.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

HS17120839

CHAIN OF CUSTODY

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

Bhate Environmental Associates, Inc.
LHAAP 18 24

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

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC	CHLORIDE, SULFATE								Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_121317	Water	12/13/17 / 14:00		3	3									HCL	
LH18/24-SP650_121317	Water	12/13/17 / 14:00		1		1								NONE	
Trip Blank	Water	12/13/17		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	12/13/17	14:30	JM	12/14/17	09:00						

9For Lab Use Only

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

Remarks: Color - 43052 1225
Temp 1.7 COC 3

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

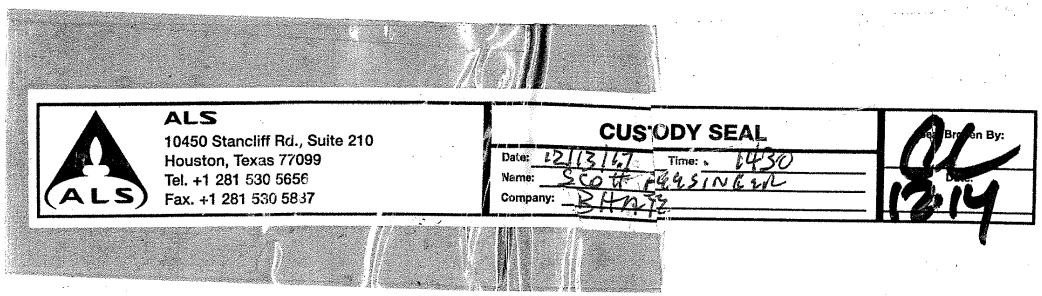
FedEx
TRK# 0221 7376 9750 5230

THU - 14 DEC 10:30A
PRIORITY OVERNIGHT

77099
TX-US
IAH

AB SGRA

43052



Volatile Organics Raw Data

Bhate Environmental Associates, Inc.
Project: GROUNDWATER TREATMENT PLANT
BI-WEEKLY SAMPLES
ALS WO# HS17120839

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120839

	CLIENT SAMPLE NO.	SMC1 (DCE)#	SMC2 #	SMC3 (TOL)#	OTHER #	TOT OUT
01	VLCSW-171222	96	96	94	100	0
02	VBLKW-171222	93	100	97	96	0
03	HS17120851-01	96	96	94	102	0
04	HS17120851-01	97	95	94	101	0
05	HS17120839-02	94	99	97	97	0
06	HS17120839-01	94	99	96	100	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.: HS17120839

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.: HS17120839

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.: HS17120839

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.: HS17120839

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.: HS17120839

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

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

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

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

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712083

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.: HS1712083

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.: HS1712083

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.: HS1712083

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.: HS1712083

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

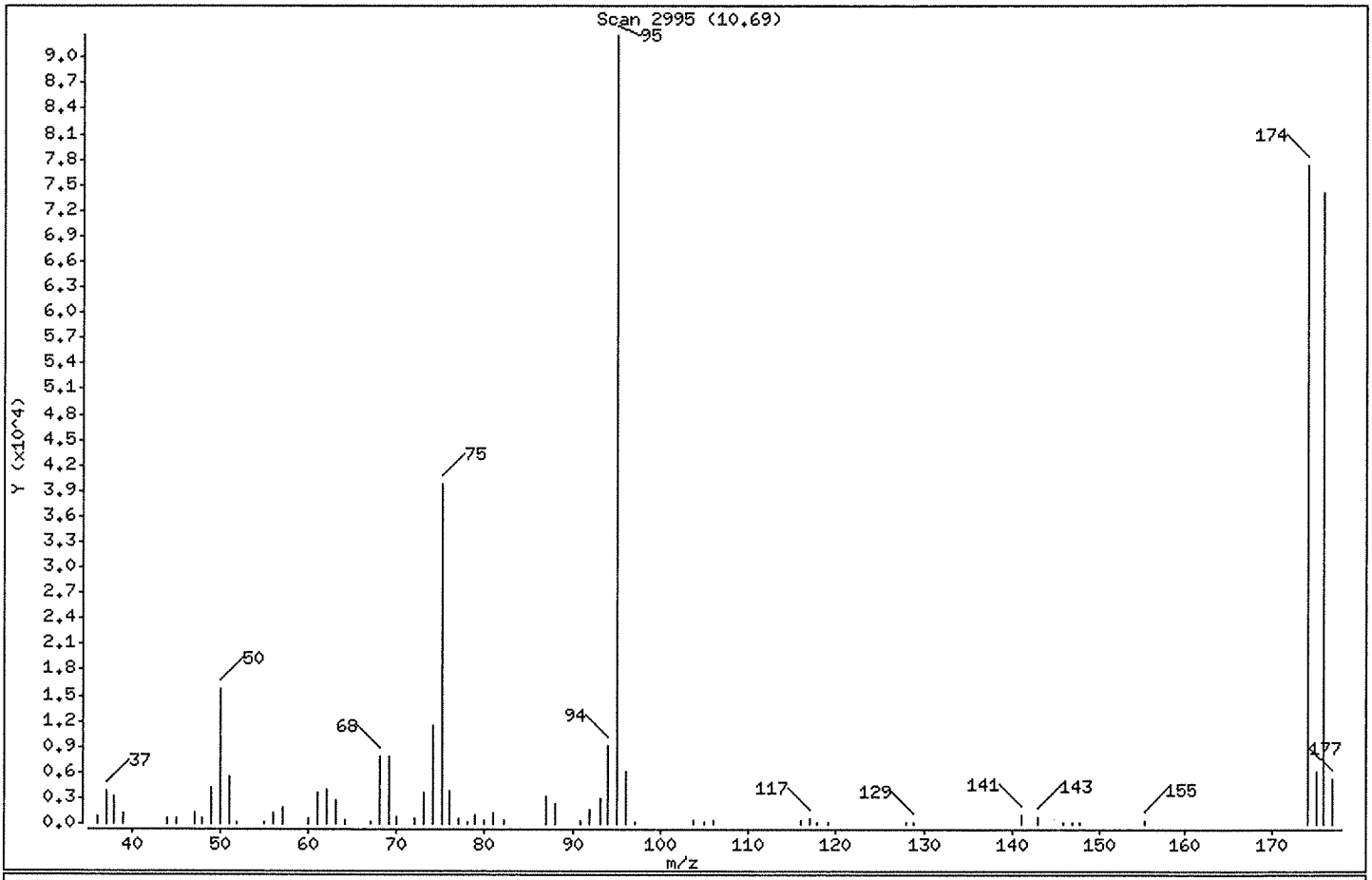
Volume Injected (uL): 2.0

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

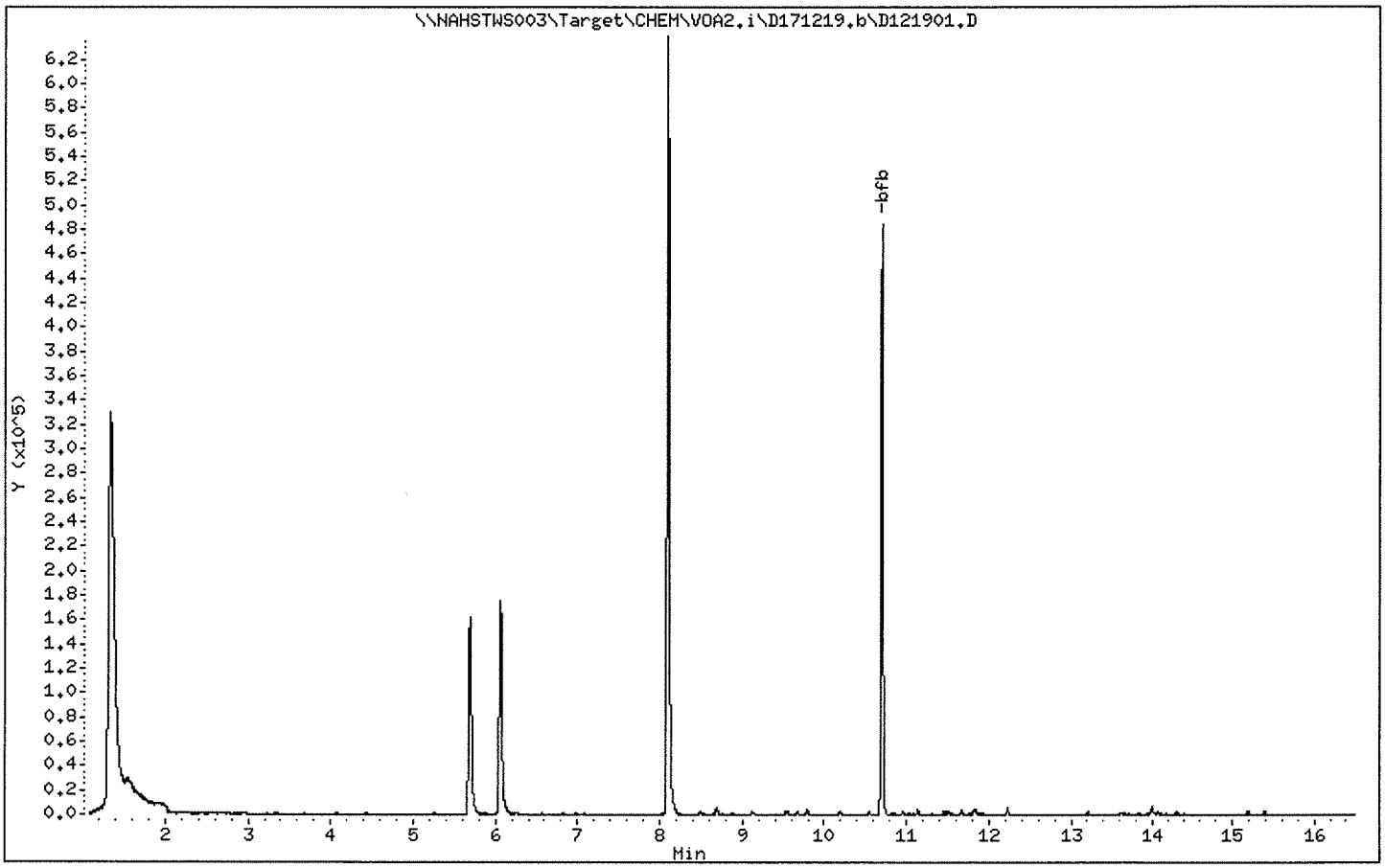
Sample Info: BFB;BFB;3;;BFB

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: 08-Feb-2018 15:22

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 15:22 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)

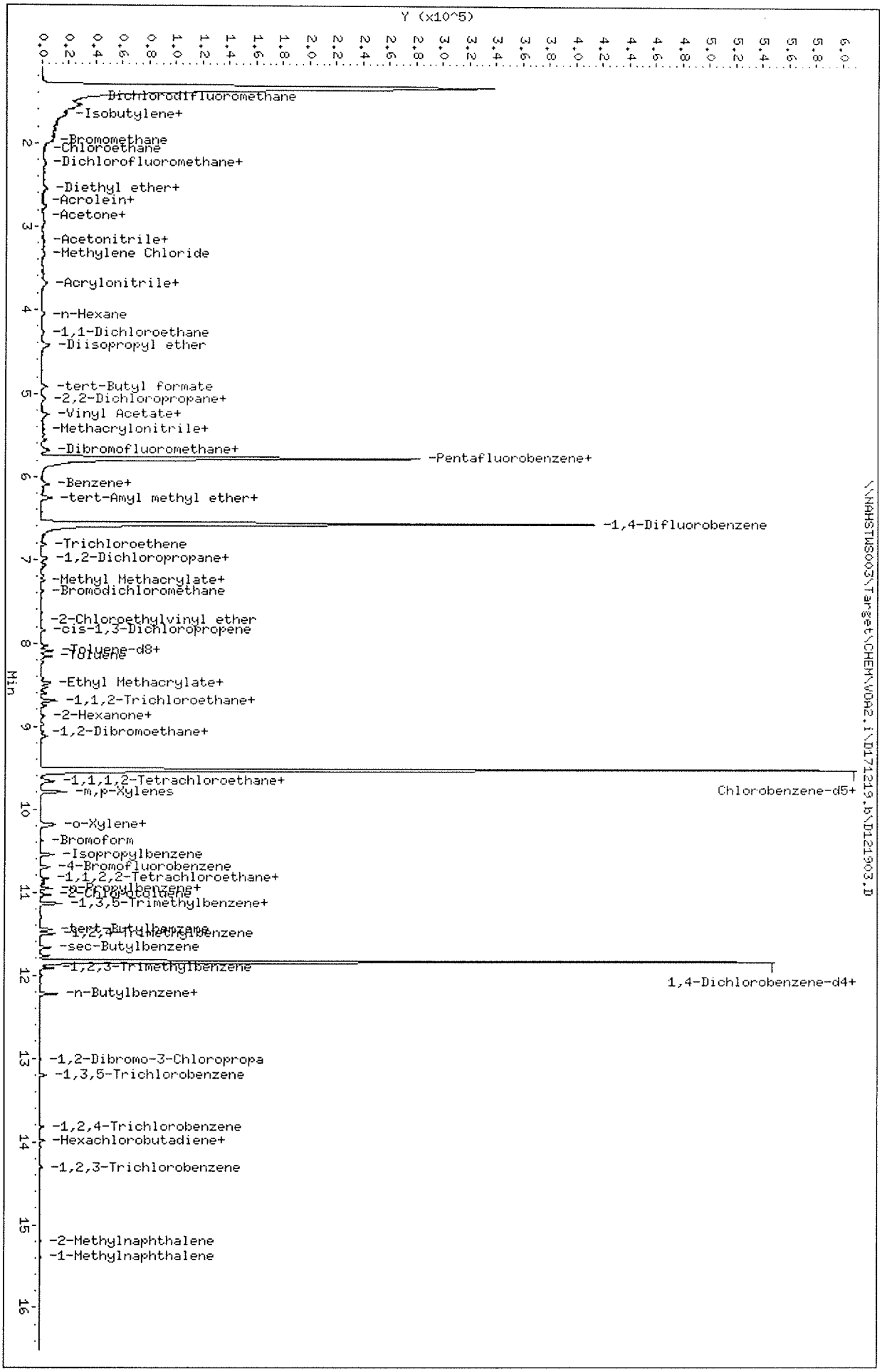
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121903.D
Report Date: 08-Feb-2018 15:22

	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 15:22

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: WSTD00.5
Sample Info: WSTD00.5;WSTD00.5;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: 08-Feb-2018 15:22

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 15:22 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)	AMOUNTS 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)

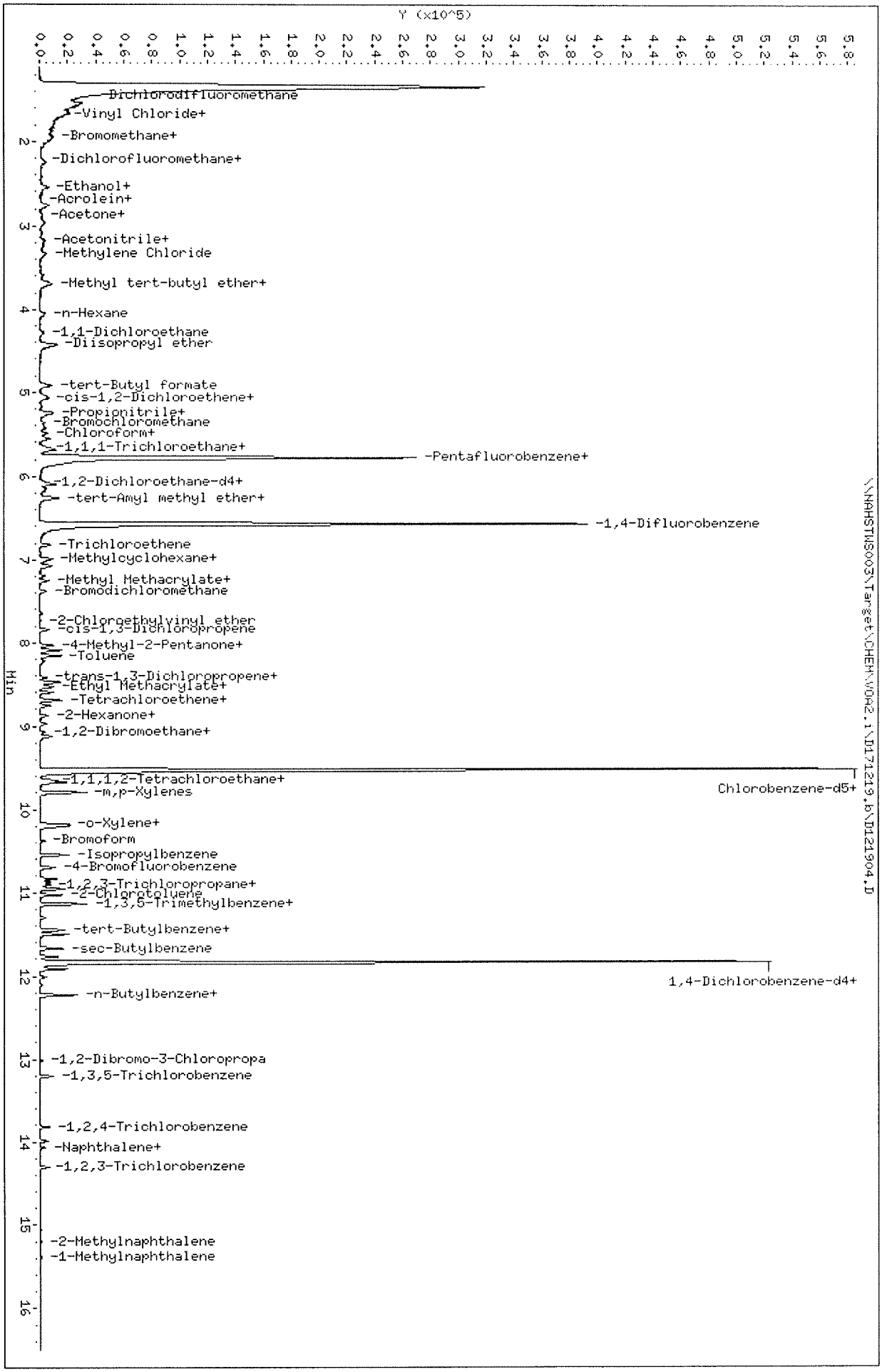
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121904.D
Report Date: 08-Feb-2018 15:22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
84	1,4-Dichlorobenzene	146	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 15:22

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\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: VSTD001
Sample Info: VSTD001;VSTD001;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 15:22

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 15:22 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)

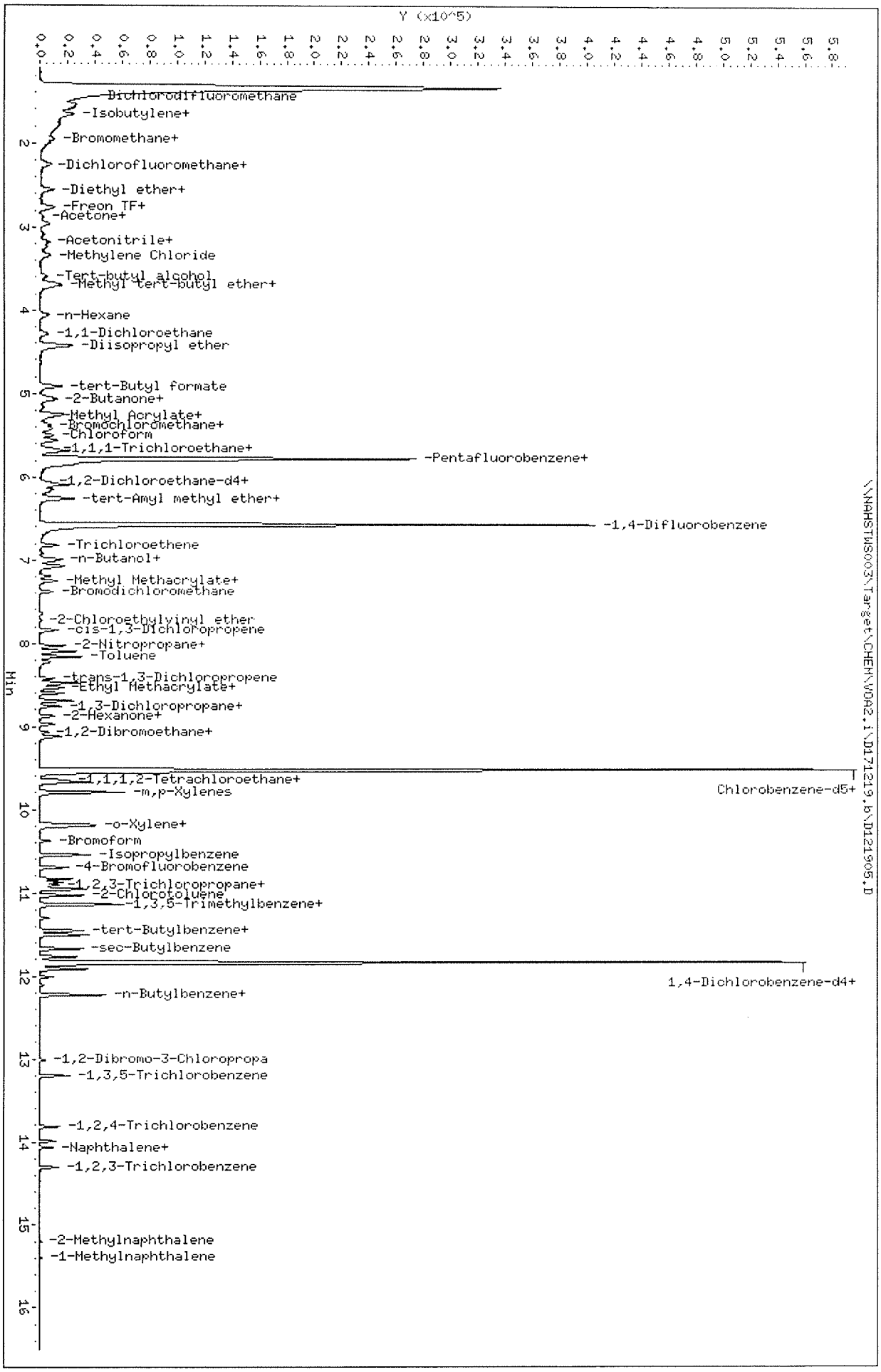
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121905.D
Report Date: 08-Feb-2018 15:22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
84	1,4-Dichlorobenzene	146	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	1.85(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 15:22

QC Flag Legend

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


Y (x10^5)
Dichlorodifluoromethane
-Isobutylene+
-Bromomethane+
-Dichlorofluoromethane+
-Diethyl ether+
-Freon TF+
-Acetone+
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Methyl tert-butyl ether+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-tert-Butyl formate
-2-Butanone+
-Methyl Acrylate+
-Bromochloromethane+
-Chloroform
-1,1,1-Trichloroethane+
-Pentafluorobenzene+
-1,2-Dichloroethane-d4+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-n-Butanol+
-Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+
-Toluene
-trans-1,3-Dichloropropene
-Ethyl Methacrylate+
-1,3-Dichloropropane+
-2-Hexanone+
-1,2-Dibromoethane+
-1,1,1,2-Tetrachloroethane+
-m,p-Xylenes
Chlorobenzene-d5+
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,2,3-Trichloropropane+
-2-Chlorotoluene
-1,3,5-Trimethylbenzene+
-tert-Butylbenzene+
-sec-Butylbenzene
1,4-Dichlorobenzene-d4+
-n-Butylbenzene+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Naphthalene+
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene
Min
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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: 08-Feb-2018 15:22

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 15:22 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)

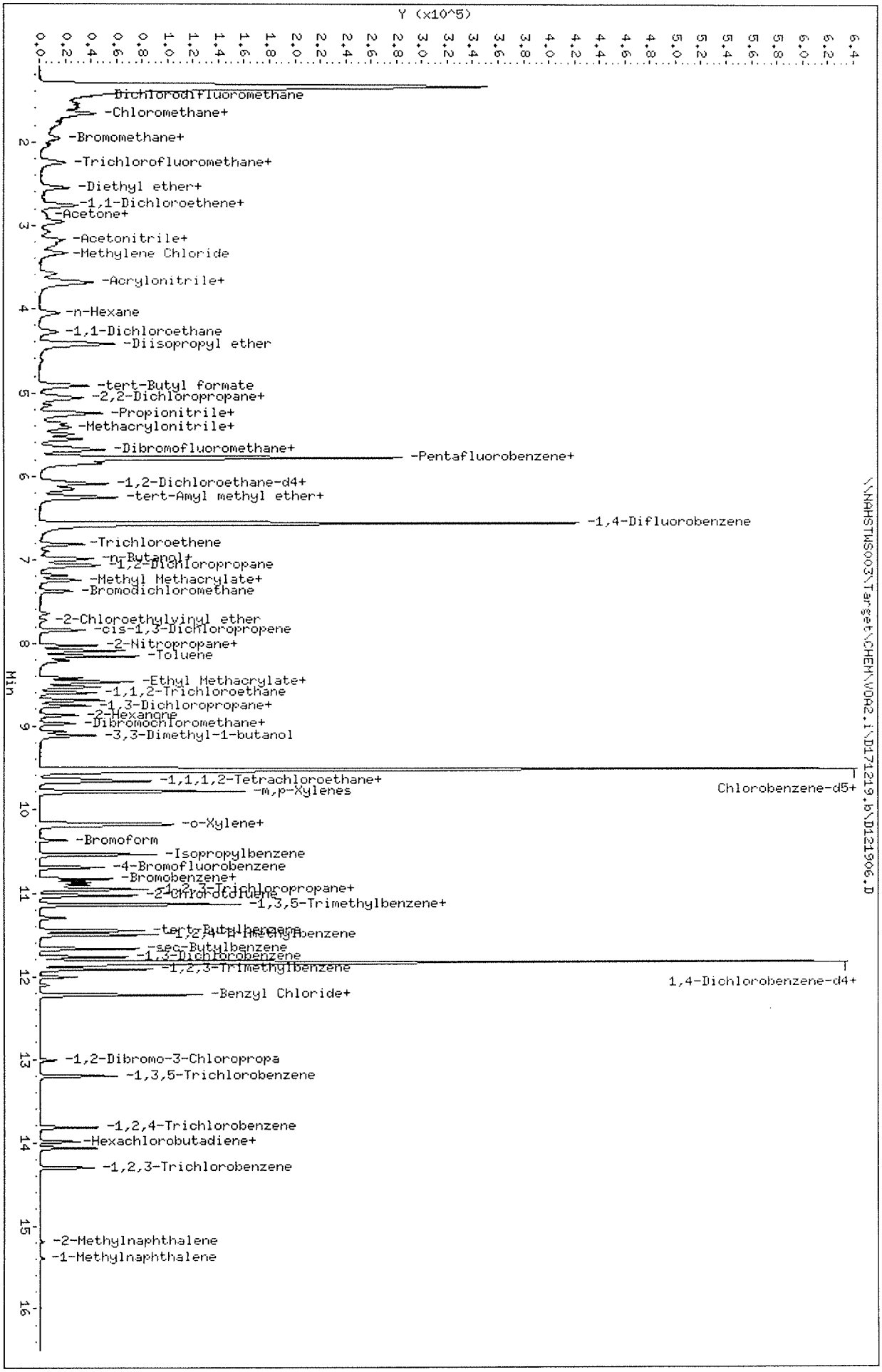
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Report Date: 08-Feb-2018 15:22

		QUANT SIG					AMOUNTS CAL-AMT	AMOUNTS ON-COL
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(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 15:22

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
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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: 08-Feb-2018 15:22

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 15:22 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

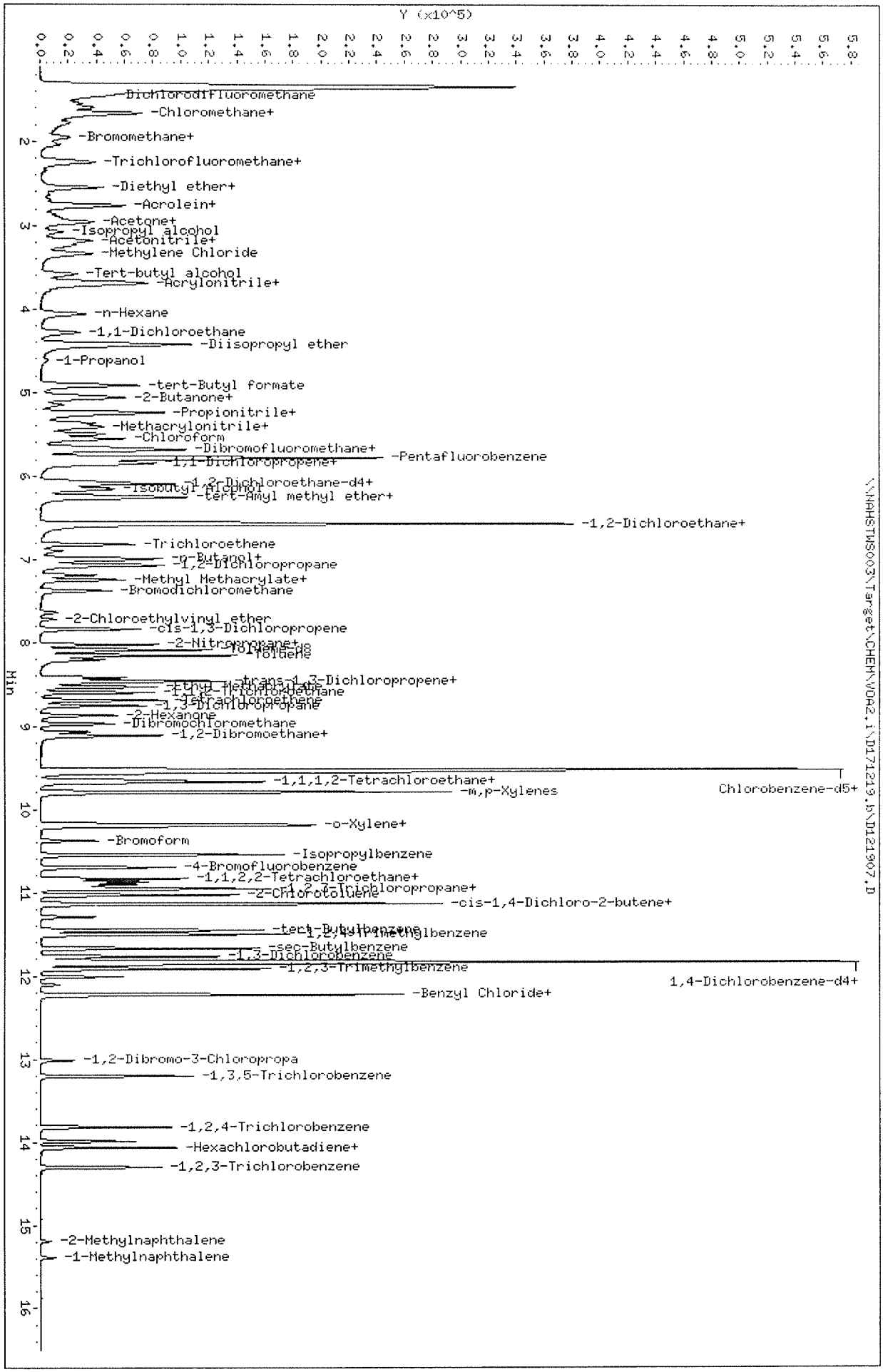
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Report Date: 08-Feb-2018 15:22

	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)	25316	10.0000	9.78
	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 15:22

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
\\NAHSTWS003\Target\CHEM\VOA2.i\D171213.b\D121907.D
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171213.b\D121907.D
Date : 19-DEC-2017 11:47
Client ID: VSTD010
Sample Info: VSTD010;VSTD010;1;5;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121908.D
Report Date: 08-Feb-2018 15:22

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 15:22 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

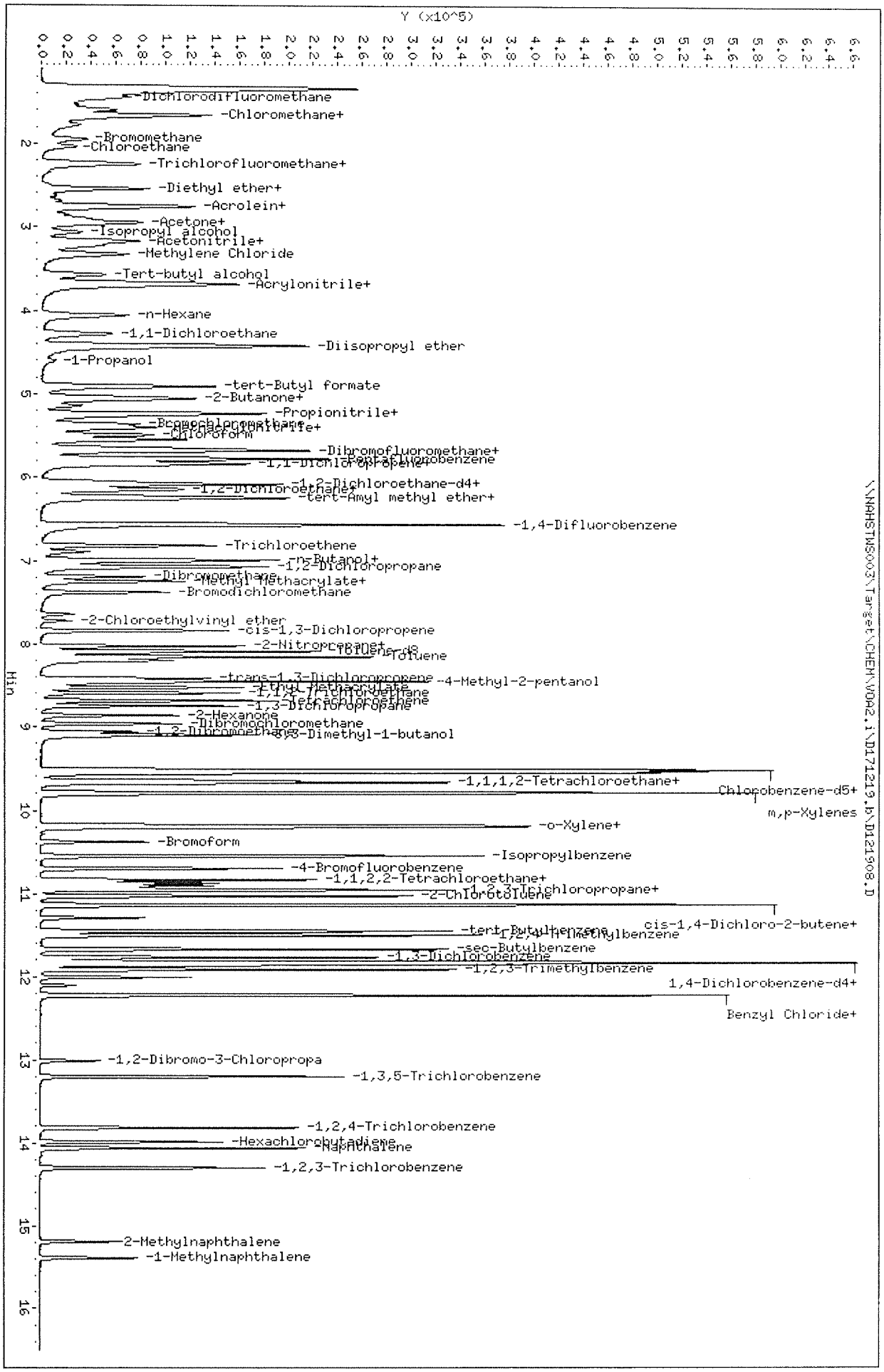
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121908.D
Report Date: 08-Feb-2018 15:22

	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: 08-Feb-2018 15:22

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
\\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: 08-Feb-2018 15:22

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 15:22 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	47.67
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	265949	50.0000	47.86

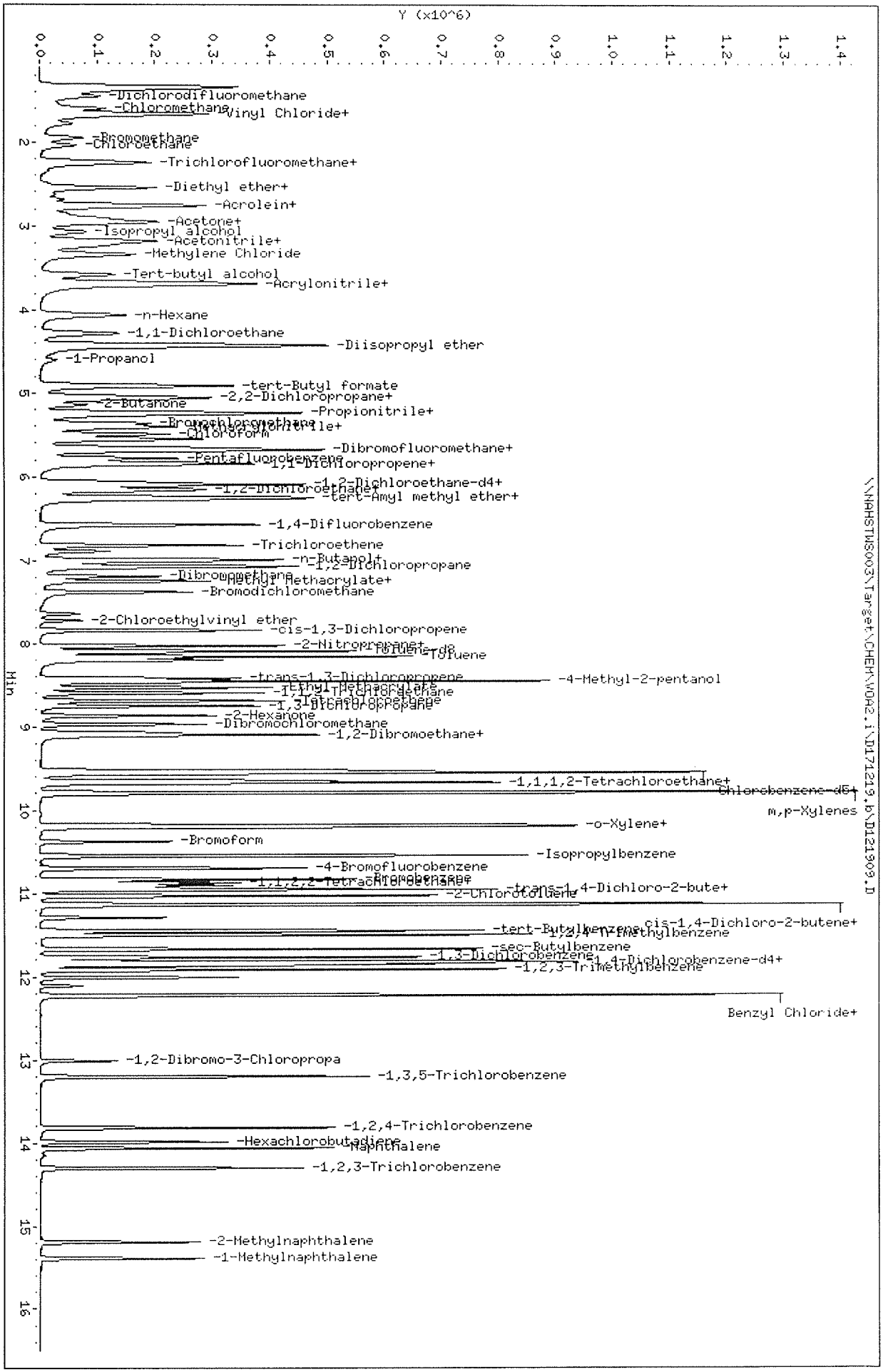
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121909.D
Report Date: 08-Feb-2018 15:22

		QUANT SIG					AMOUNTS CAL-AMT	ON-COL
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(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	47.97
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 15:22

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\WOA2.i\D171219.b\D121909.D
Date : 19-DEC-2017 12:39
Client ID: WSTD050
Sample Info: WSTD050;WSTD050;1;7;
Purge Volume: 5.0
Column phase: DB624
Instrument: WOA2.i
Operator: AP
Column diameter: 0.18
\\NAHSTWS003\Target\CHEM\WOA2.i\D171219.b\D121909.D
Y (x10^6)
Min
-Dichlorodifluoromethane
-Chloromethane
-Vinyl Chloride+
-Bromomethane
-Chloroethane
-Trichlorofluoromethane+
-Diethyl ether+
-Acrolein+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-1-Propanol
-tert-Butyl formate
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Bromochloromethane
-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+
-d8-Toluene
-trans-1,3-Dichloropropene
-4-Methyl-2-pentanol
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-1,1,1,2-Tetrachloroethane+
-Chlorobenzene-d5+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-Bromobenzene
-1,1,2,2-Tetrachloroethane
-trans-1,4-Dichloro-2-bute+
-2-Chlorotoluene
-tert-Butylbenzene
-cis-1,4-Dichloro-2-butene+
-1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-d4+
-1,2,3-Trimethylbenzene
Benzyl Chloride+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D
Report Date: 08-Feb-2018 15:22

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 15:22 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

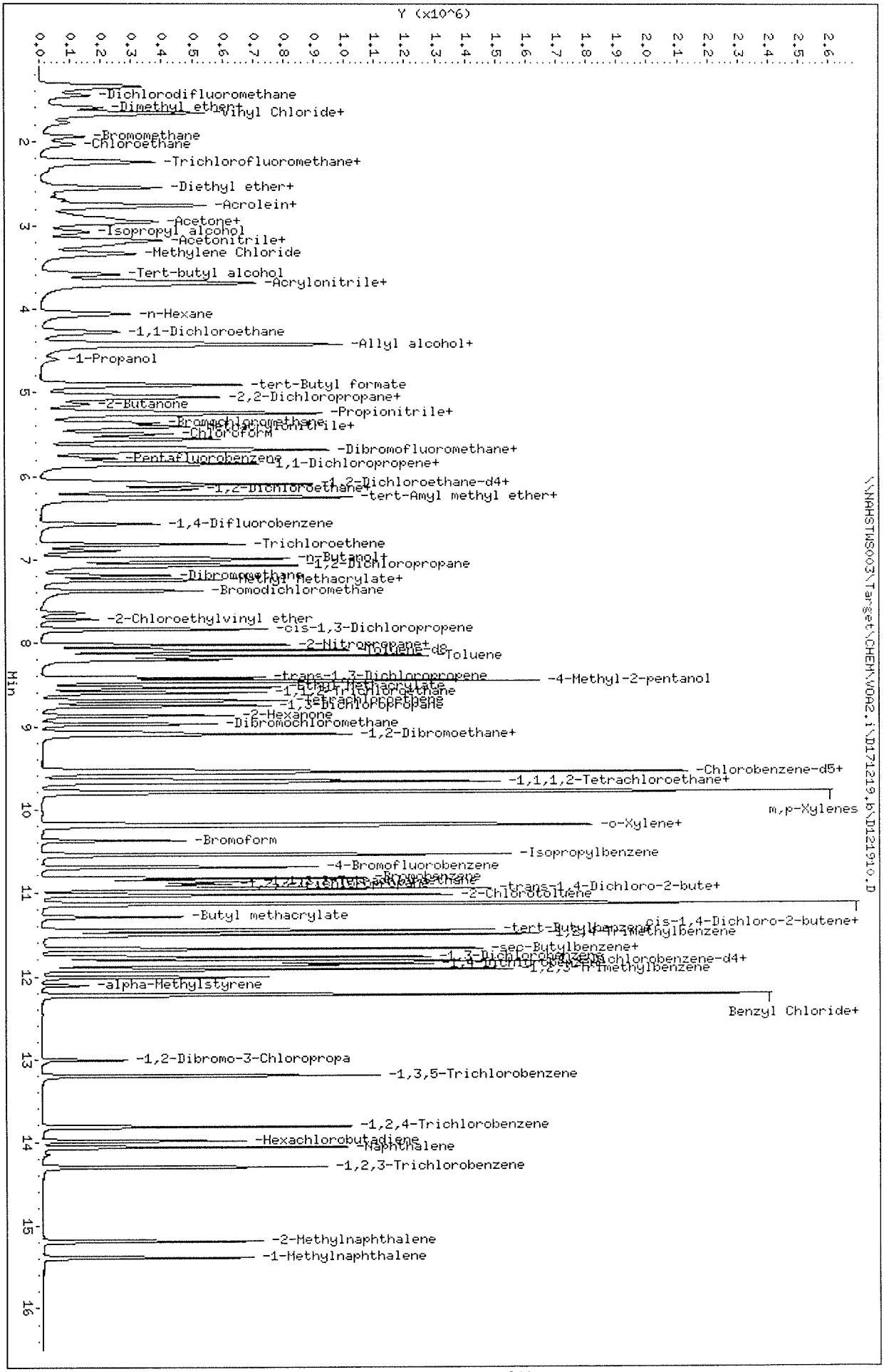
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D
Report Date: 08-Feb-2018 15:22

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)
	84	1,4-Dichlorobenzene	146	11.863	11.863	(1.002)	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	96.95
	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 15:22

QC Flag Legend

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


Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D
Date : 19-DEC-2017 13:03
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
\\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D
Y (x10^6)
Min
-Dichlorodifluoromethane
-Dimethyl ether+
-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
-4-Isopropyltoluene
-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

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121911.D
Report Date: 08-Feb-2018 15:22

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 15:22 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

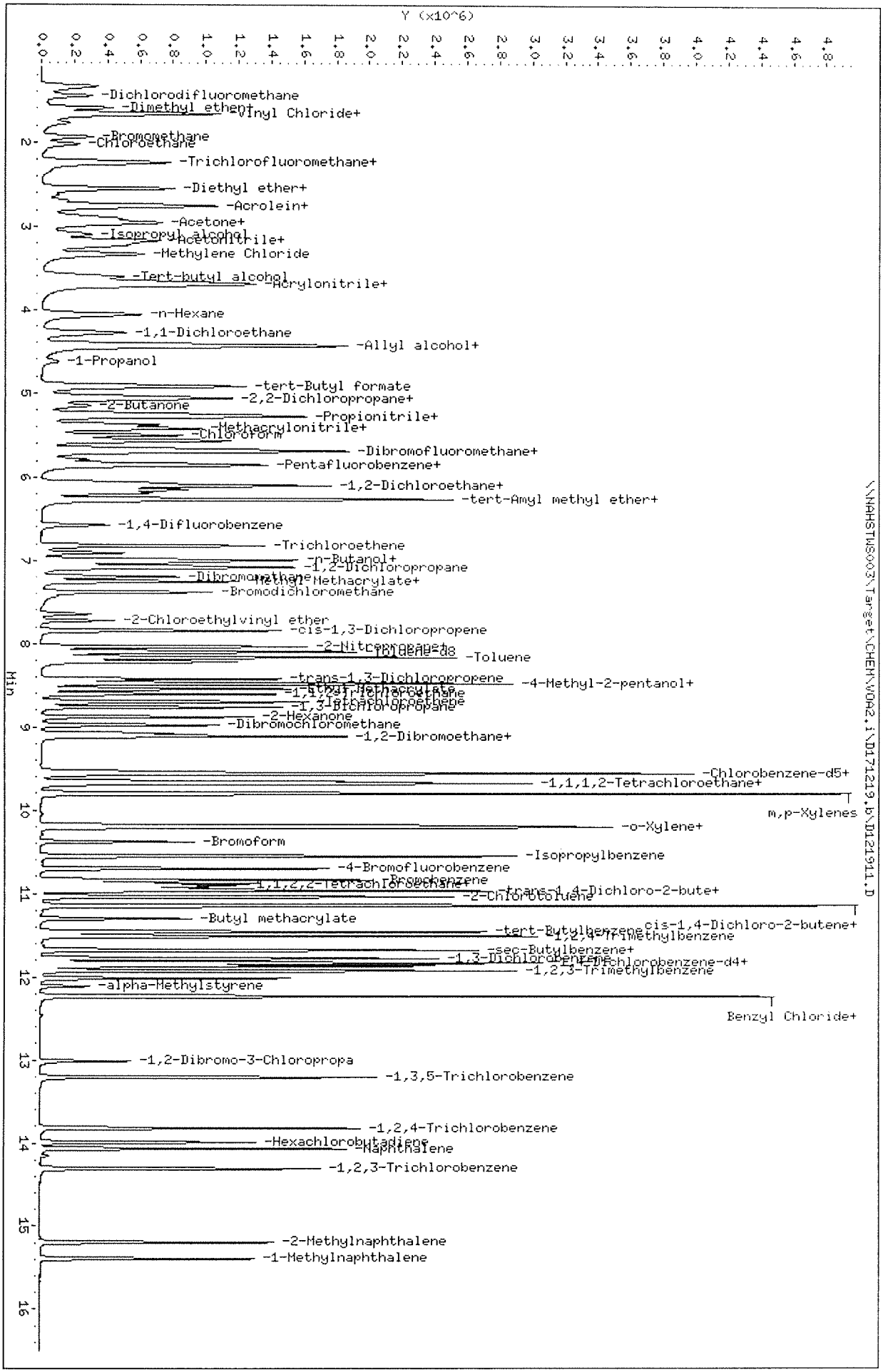
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121911.D
Report Date: 08-Feb-2018 15:22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
84	1,4-Dichlorobenzene	146	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 15:22

QC Flag Legend

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



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 15:22

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 15:22 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 13:27 Cal File: D121911.D
Als bottle: 13 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

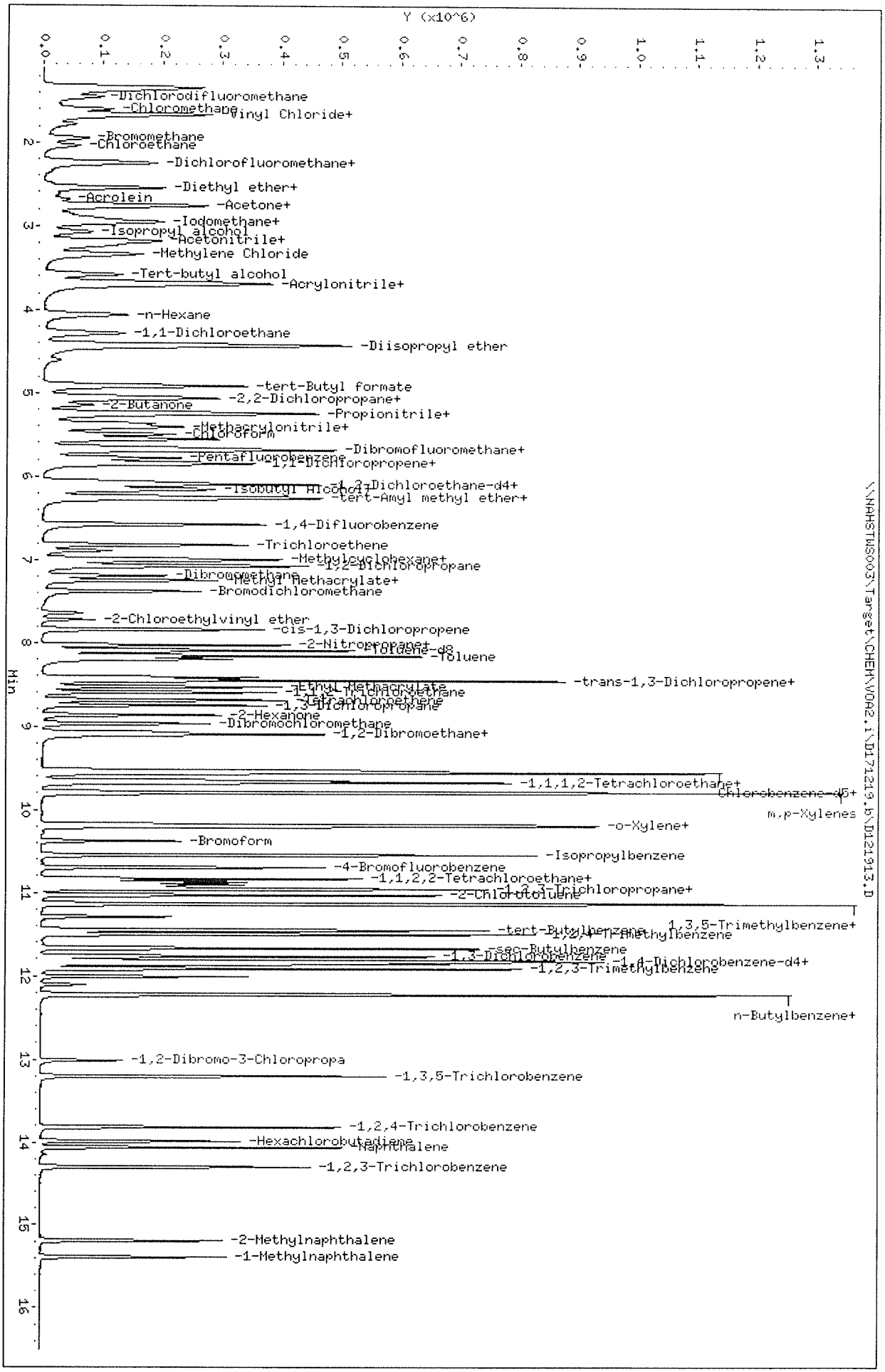
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

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

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121913.D
Report Date: 08-Feb-2018 15:22

	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	54.6062	54.60
19	Carbon Disulfide	76	2.955	2.956	(0.511)	453389	101.834	101.83
34	Carbon Tetrachloride	117	5.834	5.837	(0.887)	150248	42.6028	42.60
59	Chlorobenzene	112	9.556	9.559	(1.003)	324514	46.6069	46.60
7	Chloroethane	64	2.038	2.015	(0.353)	80390	42.0641	42.06
28	Chloroform	83	5.494	5.497	(0.951)	210974	48.9888	48.98
3	Chloromethane	50	1.598	1.592	(0.277)	216344	54.8507	54.85
27	cis-1,2-Dichloroethene	96	5.070	5.070	(0.877)	133003	49.4916	49.49
46	cis-1,3-Dichloropropene	75	7.839	7.846	(1.192)	209138	52.6682	52.66
55	Dibromochloromethane	129	8.972	8.975	(0.942)	147898	50.6666	50.66
2	Dichlorodifluoromethane	85	1.450	1.444	(0.251)	108668	53.8135	53.81
61	Ethylbenzene	106	9.672	9.678	(1.015)	172020	46.1581	46.15
67	Isopropylbenzene	105	10.548	10.551	(1.107)	539189	46.7681	46.76
17	Methylene Chloride	84	3.331	3.331	(0.576)	125545	48.5572	48.55
56	Tetrachloroethene	164	8.690	8.693	(0.912)	105833	50.7856	50.78
50	Toluene	91	8.160	8.167	(0.857)	492502	45.9648	45.96
20	trans-1,2-Dichloroethene	96	3.668	3.661	(0.635)	111703	52.9702	52.97
51	trans-1,3-Dichloropropene	75	8.417	8.420	(1.280)	183760	54.3849	54.38
38	Trichloroethene	130	6.816	6.822	(1.037)	132301	48.1090	48.10
8	Trichlorofluoromethane	101	2.253	2.240	(0.390)	154364	52.9999	52.99
5	Vinyl Chloride	62	1.681	1.678	(0.291)	149803	51.7410	51.74
62	m,p-Xylenes	106	9.794	9.800	(1.028)	417543	91.6149	91.61
63	o-Xylene	106	10.179	10.185	(1.068)	222400	46.6435	46.64
M 95	Xylenes (total)	106				639943	138.258	138.25
71	1,2,3-Trichloropropane	75	10.904	10.907	(0.921)	174309	48.8560	48.85
93	1,2,3-Trichlorobenzene	182	14.302	14.305	(1.209)	139440	54.8472	54.84
79	1,2,4-Trimethylbenzene	105	11.501	11.507	(0.972)	442889	44.3952	44.39
75	1,3,5-Trimethylbenzene	105	11.132	11.141	(0.941)	436227	44.9020	44.90
26	2,2-Dichloropropane	77	5.044	5.045	(0.873)	169895	49.3690	49.36
54	1,3-Dichloropropane	76	8.754	8.760	(0.919)	196311	47.0599	47.05
76	2-Chlorotoluene	91	11.029	11.039	(0.932)	378502	44.4881	44.48
77	4-Chlorotoluene	91	11.138	11.148	(0.941)	413336	44.6186	44.61
82	p-Isopropyltoluene	119	11.818	11.828	(0.999)	427373	46.3580	46.35
29	Bromochloromethane	128	5.365	5.375	(0.928)	67528	52.8019	52.80
74	Bromobenzene	156	10.833	10.840	(0.915)	154221	46.4200	46.42
44	Dibromomethane	93	7.191	7.195	(1.094)	77635	51.2278	51.22
91	Hexachlorobutadiene	225	13.988	13.991	(1.182)	68432	49.8346	49.83
73	n-Propylbenzene	91	10.955	10.965	(0.926)	571686	45.1465	45.14
87	n-Butylbenzene	91	12.223	12.226	(1.033)	330221	48.1964	48.19
81	sec-Butylbenzene	105	11.671	11.674	(0.986)	500608	46.5017	46.50
92	Naphthalene	128	14.061	14.065	(1.188)	397816	51.7926	51.79
78	tert-Butylbenzene	119	11.453	11.459	(0.968)	371229	45.5516	45.55
60	1,1,1,2-Tetrachloroethane	131	9.649	9.653	(1.013)	134061	49.6900	49.68
64	Styrene	104	10.201	10.208	(1.071)	365703	48.0891	48.08



Data File: \\NAHSTWS003\Target\CHEM\WOA2.i\D171219.b\D121913.D
Date : 19-DEC-2017 14:16
Client ID: VSTD-ICV
Sample Info: VSTD-ICV;VSTD-ICV;2;;
Purge Volume: 5.0
Column phase: DB624

Instrument: WOA2.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.: HS17120839

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

Instrument ID: VOA2 BFB Injection Time: 1157

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.9
75	30.0 - 60.0% of mass 95	44.5
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	85.2
175	5.0 - 9.0% of mass 174	7.0 (8.2)1
176	95.0 - 101.0% of mass 174	81.1 (95.2)1
177	5.0 - 9.0% of mass 176	5.4 (6.7)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCV	CCV	D122203	12/22/17	1222
02	VLCSW-171222	VLCSW-171222	D122205	12/22/17	1311
03	VBLKW-171222	VBLKW-171222	D122207	12/22/17	1400
04	HS17120851-0	HS17120851-01M	D122214	12/22/17	1703
05	HS17120851-0	HS17120851-01M	D122215	12/22/17	1727
06	HS17120839-0	HS17120839-02	D122217	12/22/17	1816
07	HS17120839-0	HS17120839-01	D122218	12/22/17	1841
08	CCV-END	CCV-END	D122230	12/22/17	2334
09					
10					
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19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120839

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

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

Init. Calib. Times: 1010 1327

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
1,1,1-Trichloroethane	0.7730000	0.7291657	0.7291657	0.1	-5.67	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3990000	0.3787045	0.3787045	0.1	-5.09	20.00	AVRG
tert-Butylbenzene	2.7210000	2.1836581	2.1836581	0.1	-19.75	20.00	AVRG
Naphthalene	47.851598	50.000000	2.4560887	0.2	-4.30	20.00	LINR
sec-Butylbenzene	3.5940000	2.9024233	2.9024233	0.1	-19.24	20.00	AVRG
1,1,2,2-Tetrachloroethane	1.1930000	0.9857038	0.9857038	0.3	-17.38	20.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.2834336	0.2834336	0.1	-7.37	20.00	AVRG
1,1-Dichloropropene	48.893114	50.000000	0.3811889	0.1	-2.21	20.00	LINR
1,1-Dichloroethane	1.0440000	0.9891473	0.9891473	0.2	-5.25	20.00	AVRG
1,1-Dichloroethene	0.4120000	0.3970910	0.3970910	0.1	-3.62	20.00	AVRG
1,2,4-Trichlorobenzene	0.9850000	1.0075256	1.0075256	0.2	2.29	20.00	AVRG
1,2-Dibromo-3-Chloropropane	44.043553	50.000000	0.1809791	0.05	-11.91	20.00	LINR
1,2-Dibromoethane	0.3830000	0.3711417	0.3711417	0.1	-3.10	20.00	AVRG
1,2-Dichlorobenzene	1.7970000	1.5446907	1.5446907	0.4	-14.04	20.00	AVRG
1,2-Dichloroethane	51.313704	50.000000	0.4530492	0.1	2.63	20.00	LINR
1,2-Dichloropropane	0.3940000	0.3692454	0.3692454	0.1	-6.28	20.00	AVRG
1,3-Dichlorobenzene	1.8700000	1.6256332	1.6256332	0.6	-13.07	20.00	AVRG
1,4-Dichlorobenzene	1.7890000	1.5355090	1.5355090	0.4	-14.17	20.00	AVRG
2-Butanone	0.2700000	0.2519759	0.2519759	0.1	-6.68	20.00	AVRG
2-Hexanone	0.2930000	0.2675178	0.2675178	0.1	-8.70	20.00	AVRG
4-Methyl-2-Pentanone	0.4540000	0.4101670	0.4101670	0.1	-9.65	20.00	AVRG
Acetone	97.238995	100.00000	0.1612683	0.1	-2.76	20.00	LINR
Benzene	1.3160000	1.2578760	1.2578760	0.5	-4.42	20.00	AVRG
Bromodichloromethane	0.4660000	0.4529271	0.4529271	0.2	-2.80	20.00	AVRG
Bromoform	0.2970000	0.2982920	0.2982920	0.1	0.44	20.00	AVRG
Bromomethane	53.295603	50.000000	0.3638376	0.1	6.59	20.00	LINR
Carbon Disulfide	0.9420000	0.9118577	0.9118577	0.1	-3.20	20.00	AVRG
Carbon Tetrachloride	0.4750000	0.3913184	0.3913184	0.1	-17.62	20.00	AVRG
Chlorobenzene	1.0300000	0.9385693	0.9385693	0.5	-8.88	20.00	AVRG
Chloroethane	0.4040000	0.3407576	0.3407576	0.1	-15.65	20.00	AVRG
Chloroform	0.9120000	0.8495325	0.8495325	0.2	-6.85	20.00	AVRG
Chloromethane	50.329176	50.000000	0.8416687	0.1	0.66	20.00	LINR
cis-1,2-Dichloroethene	0.5690000	0.5436586	0.5436586	0.1	-4.45	20.00	AVRG
cis-1,3-Dichloropropene	0.5350000	0.5634545	0.5634545	0.2	5.32	20.00	AVRG
Dibromochloromethane	0.4320000	0.4157659	0.4157659	0.1	-3.76	20.00	AVRG
Dichlorodifluoromethane	0.4270000	0.3972429	0.3972429	0.1	-6.97	20.00	AVRG
Ethylbenzene	0.5510000	0.4920234	0.4920234	0.1	-10.70	20.00	AVRG
Isopropylbenzene	1.7050000	1.5202518	1.5202518	0.1	-10.84	20.00	AVRG
Methylene Chloride	0.5470000	0.5074203	0.5074203	0.1	-7.24	20.00	AVRG
Tetrachloroethene	47.748987	50.000000	0.2949187	0.2	-4.50	20.00	LINR
Toluene	1.5840000	1.4334086	1.4334086	0.4	-9.51	20.00	AVRG
trans-1,2-Dichloroethene	0.4460000	0.4688724	0.4688724	0.1	5.13	20.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712083

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

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

Init. Calib. Times: 1010 1327

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
trans-1,3-Dichloropropene	0.4550000	0.4891321	0.4891321	0.1	7.50	20.00	AVRG
Trichloroethene	0.3700000	0.3554321	0.3554321	0.2	-3.94	20.00	AVRG
Trichlorofluoromethane	0.6160000	0.5856349	0.5856349	0.1	-4.93	20.00	AVRG
Vinyl Chloride	0.6130000	0.5976105	0.5976105	0.1	-2.51	20.00	AVRG
m,p-Xylenes	0.6740000	0.5996055	0.5996055	0.1	-11.04	20.00	AVRG
o-Xylene	0.7050000	0.6415731	0.6415731	0.3	-9.00	20.00	AVRG
Xylenes (total)	0.6190000	0.5671435	0.5671435	0.1	-8.38	20.00	AVRG
1,2,3-Trichloropropane	1.1910000	1.0442645	1.0442645	0.1	-12.32	20.00	AVRG
1,2,3-Trichlorobenzene	0.8490000	0.8482830	0.8482830	0.1	-0.08	20.00	AVRG
1,2,4-Trimethylbenzene	3.3300000	2.6851254	2.6851254	0.1	-19.36	20.00	AVRG
1,3,5-Trimethylbenzene	3.2430000	2.6160984	2.6160984	0.1	-19.33	20.00	AVRG
2,2-Dichloropropane	0.7280000	0.7097858	0.7097858	0.1	-2.50	20.00	AVRG
1,3-Dichloropropane	0.6170000	0.5583476	0.5583476	0.1	-9.51	20.00	AVRG
2-Chlorotoluene	2.8400000	2.2837616	2.2837616	0.1	-19.58	20.00	AVRG
4-Chlorotoluene	3.0920000	2.5601132	2.5601132	0.1	-17.20	20.00	AVRG
p-Isopropyltoluene	3.0780000	2.5110570	2.5110570	0.1	-18.42	20.00	AVRG
Bromochloromethane	0.2700000	0.2702070	0.2702070	0.1	0.08	20.00	AVRG
Bromobenzene	1.1090000	0.9359352	0.9359352	0.1	-15.60	20.00	AVRG
Dibromomethane	0.2040000	0.2054727	0.2054727	0.1	0.72	20.00	AVRG
Hexachlorobutadiene	43.537334	50.000000	0.3996773	0.1	-12.92	20.00	LINR
n-Propylbenzene	4.2270000	3.4236361	3.4236361	0.1	-19.00	20.00	AVRG
n-Butylbenzene	2.2870000	1.9296700	1.9296700	0.05	-15.62	20.00	AVRG
Styrene	1.1240000	1.0582154	1.0582154	0.3	-5.85	20.00	AVRG
1,2-Dichloroethane-d4	0.5560000	0.5387717	0.5387717	0.1	-3.10	20.00	AVRG
Dibromofluoromethane	0.4500000	0.4367618	0.4367618	0.1	-2.94	20.00	AVRG
Toluene-d8	1.3180000	1.2334793	1.2334793	0.1	-6.41	20.00	AVRG
4-Bromofluorobenzene	0.4810000	0.4816877	0.4816877	0.1	0.14	20.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120839

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

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

Init. Calib. Times: 1010 1327

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
1,1,1-Trichloroethane	0.7730000	0.6993629	0.6993629	0.1	-9.53	50.00	AVRG
1,1,1,2-Tetrachloroethane	0.3990000	0.3851367	0.3851367	0.1	-3.47	50.00	AVRG
tert-Butylbenzene	2.7210000	2.1326054	2.1326054	0.1	-21.62	50.00	AVRG
Naphthalene	45.361503	50.000000	2.3296753	0.2	-9.28	50.00	LINR
sec-Butylbenzene	3.5940000	2.7425345	2.7425345	0.1	-23.69	50.00	AVRG
1,1,2,2-Tetrachloroethane	1.1930000	0.9662498	0.9662498	0.3	-19.01	50.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.2860148	0.2860148	0.1	-6.53	50.00	AVRG
1,1-Dichloropropene	48.330209	50.000000	0.3768825	0.1	-3.34	50.00	LINR
1,1-Dichloroethane	1.0440000	0.9925669	0.9925669	0.2	-4.93	50.00	AVRG
1,1-Dichloroethene	0.4120000	0.3986307	0.3986307	0.1	-3.24	50.00	AVRG
1,2,4-Trichlorobenzene	0.9850000	0.9571669	0.9571669	0.2	-2.82	50.00	AVRG
1,2-Dibromo-3-Chloropropane	43.546190	50.000000	0.1789100	0.05	-12.91	50.00	LINR
1,2-Dibromoethane	0.3830000	0.3721536	0.3721536	0.1	-2.83	50.00	AVRG
1,2-Dichlorobenzene	1.7970000	1.5418253	1.5418253	0.4	-14.20	50.00	AVRG
1,2-Dichloroethane	52.145559	50.000000	0.4603794	0.1	4.29	50.00	LINR
1,2-Dichloropropane	0.3940000	0.3818093	0.3818093	0.1	-3.09	50.00	AVRG
1,3-Dichlorobenzene	1.8700000	1.6158641	1.6158641	0.6	-13.59	50.00	AVRG
1,4-Dichlorobenzene	1.7890000	1.5284683	1.5284683	0.4	-14.56	50.00	AVRG
2-Butanone	0.2700000	0.2398544	0.2398544	0.1	-11.16	50.00	AVRG
2-Hexanone	0.2930000	0.2584061	0.2584061	0.1	-11.81	50.00	AVRG
4-Methyl-2-Pentanone	0.4540000	0.4013408	0.4013408	0.1	-11.60	50.00	AVRG
Acetone	93.195876	100.00000	0.1547209	0.1	-6.80	50.00	LINR
Benzene	1.3160000	1.2651379	1.2651379	0.5	-3.86	50.00	AVRG
Bromodichloromethane	0.4660000	0.4597988	0.4597988	0.2	-1.33	50.00	AVRG
Bromoform	0.2970000	0.3003684	0.3003684	0.1	1.13	50.00	AVRG
Bromomethane	53.721536	50.000000	0.3666150	0.1	7.44	50.00	LINR
Carbon Disulfide	0.9420000	0.9023017	0.9023017	0.1	-4.21	50.00	AVRG
Carbon Tetrachloride	0.4750000	0.3680702	0.3680702	0.1	-22.51	50.00	AVRG
Chlorobenzene	1.0300000	0.9462433	0.9462433	0.5	-8.13	50.00	AVRG
Chloroethane	0.4040000	0.3510710	0.3510710	0.1	-13.10	50.00	AVRG
Chloroform	0.9120000	0.8546012	0.8546012	0.2	-6.29	50.00	AVRG
Chloromethane	47.726725	50.000000	0.7989582	0.1	-4.55	50.00	LINR
cis-1,2-Dichloroethene	0.5690000	0.5394825	0.5394825	0.1	-5.19	50.00	AVRG
cis-1,3-Dichloropropene	0.5350000	0.5589895	0.5589895	0.2	4.48	50.00	AVRG
Dibromochloromethane	0.4320000	0.4275630	0.4275630	0.1	-1.03	50.00	AVRG
Dichlorodifluoromethane	0.4270000	0.3931203	0.3931203	0.1	-7.93	50.00	AVRG
Ethylbenzene	0.5510000	0.4905929	0.4905929	0.1	-10.96	50.00	AVRG
Isopropylbenzene	1.7050000	1.4748282	1.4748282	0.1	-13.50	50.00	AVRG
Methylene Chloride	0.5470000	0.5032369	0.5032369	0.1	-8.00	50.00	AVRG
Tetrachloroethene	45.940557	50.000000	0.2841351	0.2	-8.12	50.00	LINR
Toluene	1.5840000	1.4329169	1.4329169	0.4	-9.54	50.00	AVRG
trans-1,2-Dichloroethene	0.4460000	0.4479229	0.4479229	0.1	0.43	50.00	AVRG

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712083

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

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

Init. Calib. Times: 1010 1327

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
trans-1,3-Dichloropropene	0.4550000	0.4756018	0.4756018	0.1	4.53	50.00	AVRG
Trichloroethene	0.3700000	0.3544670	0.3544670	0.2	-4.20	50.00	AVRG
Trichlorofluoromethane	0.6160000	0.5534567	0.5534567	0.1	-10.15	50.00	AVRG
Vinyl Chloride	0.6130000	0.6123583	0.6123583	0.1	-0.10	50.00	AVRG
m,p-Xylenes	0.6740000	0.5874118	0.5874118	0.1	-12.85	50.00	AVRG
o-Xylene	0.7050000	0.6378209	0.6378209	0.3	-9.53	50.00	AVRG
Xylenes (total)	0.6190000	0.5530117	0.5530117	0.1	-10.66	50.00	AVRG
1,2,3-Trichloropropane	1.1910000	1.0262287	1.0262287	0.1	-13.83	50.00	AVRG
1,2,3-Trichlorobenzene	0.8490000	0.8119261	0.8119261	0.1	-4.37	50.00	AVRG
1,2,4-Trimethylbenzene	3.3300000	2.6680229	2.6680229	0.1	-19.88	50.00	AVRG
1,3,5-Trimethylbenzene	3.2430000	2.5700635	2.5700635	0.1	-20.75	50.00	AVRG
2,2-Dichloropropane	0.7280000	0.6525048	0.6525048	0.1	-10.37	50.00	AVRG
1,3-Dichloropropane	0.6170000	0.5728036	0.5728036	0.1	-7.16	50.00	AVRG
2-Chlorotoluene	2.8400000	2.3052383	2.3052383	0.1	-18.83	50.00	AVRG
4-Chlorotoluene	3.0920000	2.5363382	2.5363382	0.1	-17.97	50.00	AVRG
p-Isopropyltoluene	3.0780000	2.4014807	2.4014807	0.1	-21.98	50.00	AVRG
Bromochloromethane	0.2700000	0.2667621	0.2667621	0.1	-1.20	50.00	AVRG
Bromobenzene	1.1090000	0.9473809	0.9473809	0.1	-14.57	50.00	AVRG
Dibromomethane	0.2040000	0.2073747	0.2073747	0.1	1.65	50.00	AVRG
Hexachlorobutadiene	37.113159	50.000000	0.3412903	0.1	-25.77	50.00	LINR
n-Propylbenzene	4.2270000	3.3413898	3.3413898	0.1	-20.95	50.00	AVRG
n-Butylbenzene	2.2870000	1.7951599	1.7951599	0.05	-21.50	50.00	AVRG
Styrene	1.1240000	1.0588923	1.0588923	0.3	-5.79	50.00	AVRG
1,2-Dichloroethane-d4	0.5560000	0.5269870	0.5269870	0.1	-5.22	50.00	AVRG
Dibromofluoromethane	0.4500000	0.4234195	0.4234195	0.1	-5.91	50.00	AVRG
Toluene-d8	1.3180000	1.2392297	1.2392297	0.1	-5.98	50.00	AVRG
4-Bromofluorobenzene	0.4810000	0.4879073	0.4879073	0.1	1.44	50.00	AVRG

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120839

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

Instrument ID: VOA2 Time Analyzed: 1222

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

		IS1 AREA #	IS1 RT #	IS2(DFB) AREA #	IS2(DFB) RT #	IS3(CBZ) AREA #	IS3(CBZ) RT #
	12 HOUR STD	250260	5.78	376522	6.57	348018	9.53
	UPPER LIMIT	500520	6.28	753044	7.07	696036	10.03
	LOWER LIMIT	125130	5.28	188261	6.07	174009	9.03
	CLIENT SAMPLE NO.						
01	VLCSW-171222	246613	5.78	373780	6.57	342436	9.53
02	VBLKW-171222	271927	5.78	385980	6.57	349470	9.52
03	HS17120851-01	252821	5.78	378998	6.58	345611	9.53
04	HS17120851-01	250239	5.78	379574	6.57	342572	9.53
05	HS17120839-02	265532	5.78	378754	6.57	342525	9.52
06	HS17120839-01	264634	5.78	380978	6.57	348701	9.52
07							
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18							
19							
20							

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

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

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

FORM VIII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120839

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

Instrument ID: VOA2 Time Analyzed: 1222

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

		IS4(DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	164240	11.83				
	UPPER LIMIT	328480	12.33				
	LOWER LIMIT	82120	11.33				
	CLIENT SAMPLE NO.						
01	VLCSW-171222	161067	11.83				
02	VBLKW-171222	153118	11.83				
03	HS17120851-01	162127	11.84				
04	HS17120851-01	161279	11.84				
05	HS17120839-02	153934	11.83				
06	HS17120839-01	164422	11.84				
07							
08							
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14							
15							
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17							
18							
19							
20							

IS4 (DCB) = 1,4-Dichlorobenzene-d4

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

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

FORM VIII VOA

MSVOA02 -Logbook

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

Analyst: Anjana Poluri
Reviewer:
Laboratory: Houston

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

MSVOA02 -Logbook

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

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

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122201.D

Date : 22-DEC-2017 11:33

Client ID: BFB

Instrument: VOA2.i

Sample Info: BFB;BFB;3;;BFB

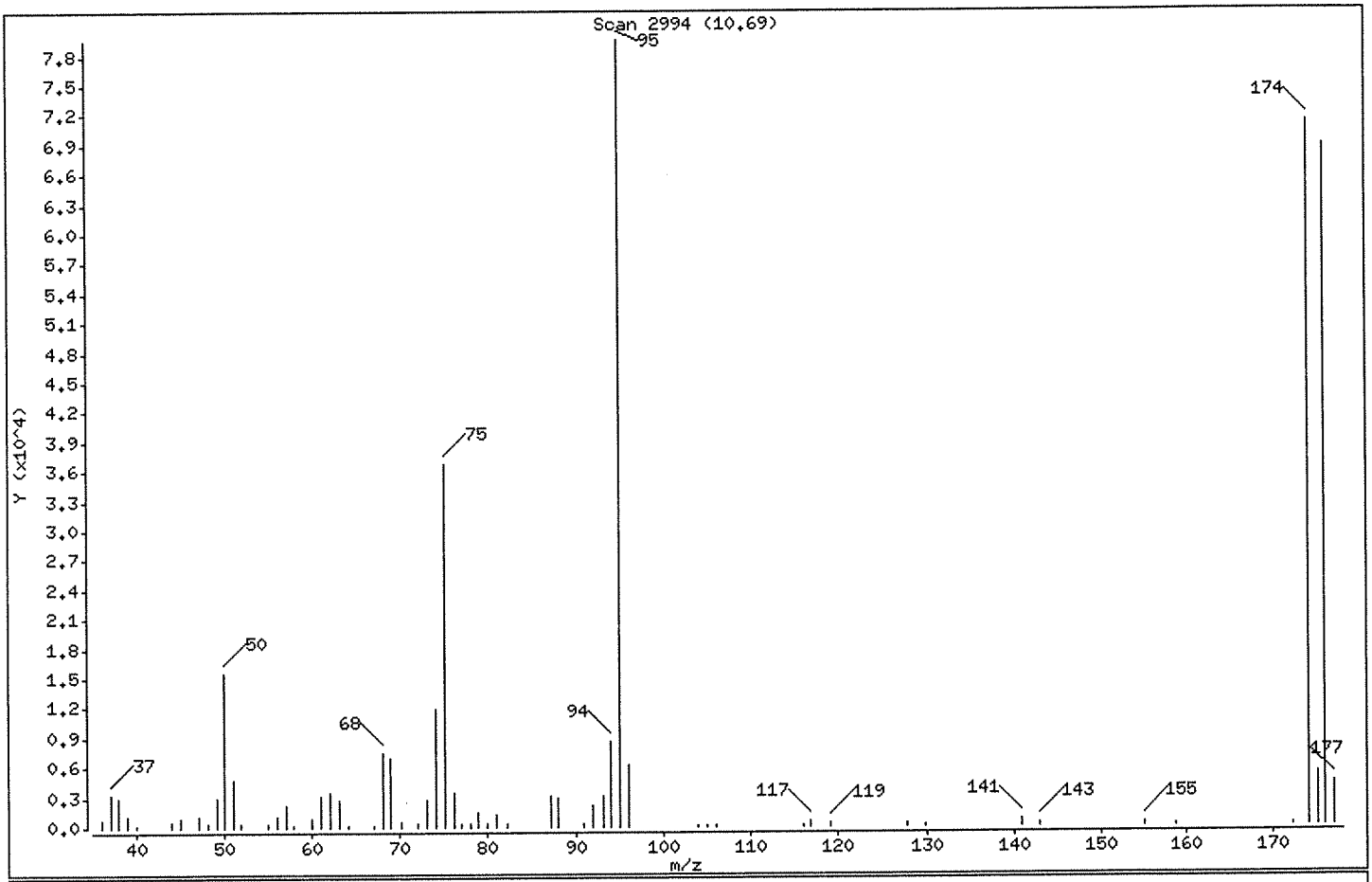
Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.57
75	30.00 - 60.00% of mass 95	46.10
96	5.00 - 9.00% of mass 95	7.93
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	89.51
175	5.00 - 9.00% of mass 174	6.77 (7.56)
176	95.00 - 101.00% of mass 174	86.48 (96.62)
177	5.00 - 9.00% of mass 176	5.61 (6.49)

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122201.D

Date : 22-DEC-2017 11:33

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: D122201.D
Spectrum: Scan 2994 (10.69)
Location of Maximum: 95.10
Number of points: 62

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	701	58.00	181	78.00	375	115.90	218
37.10	3310	60.00	894	78.90	1455	116.90	482
38.10	2931	61.00	3164	80.00	324	119.00	364
39.00	1032	62.10	3552	80.90	1218	127.90	282
40.00	178	63.10	2753	82.10	313	129.80	222
44.10	471	64.10	167	87.10	3031	140.90	712
45.10	879	67.10	230	88.00	2875	143.00	452
47.10	1027	68.10	7536	90.90	294	155.00	321
48.10	367	69.00	6985	92.00	2273	158.70	154
49.10	2908	70.10	487	93.10	3022	172.10	163
50.10	15575	72.10	337	94.00	8530	174.00	71232
51.10	4830	73.00	2770	95.10	79584	175.00	5388
52.00	343	74.10	11885	96.10	6310	176.00	68824
55.10	311	75.10	36688	103.90	258	177.00	4464
56.10	1154	76.10	3446	104.90	198		
57.10	2255	77.00	427	106.00	266		

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122201.D

Date : 22-DEC-2017 11:33

Client ID: BFB

Instrument: VOA2.i

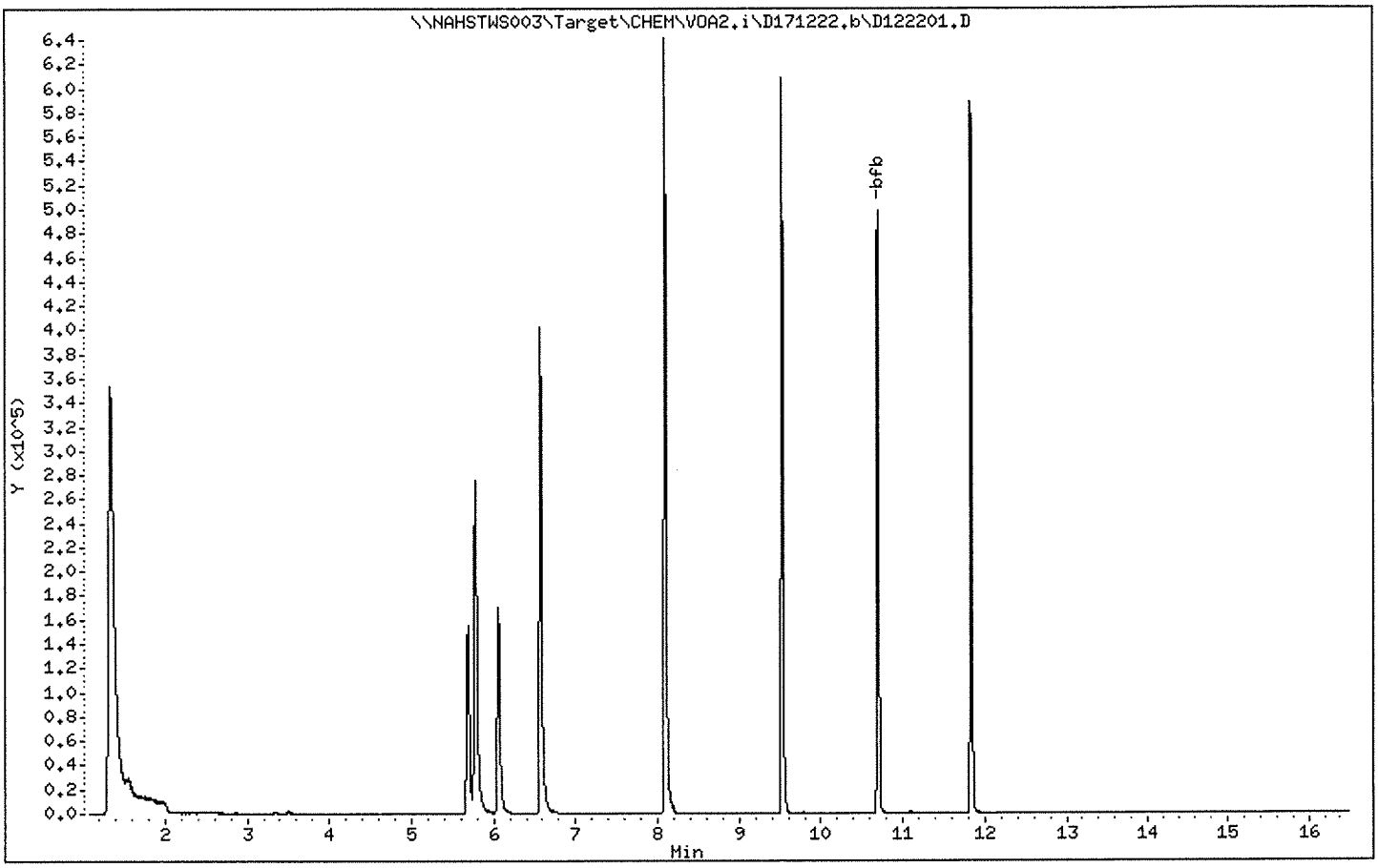
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122203.D
Report Date: 08-Feb-2018 16:27

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122203.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 22-DEC-2017 12:22
Operator : AP Inst ID: VOA2.i
Smp Info : CCV;CCV;2;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171222.b\8260LL.m
Meth Date : 08-Feb-2018 16:27 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

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

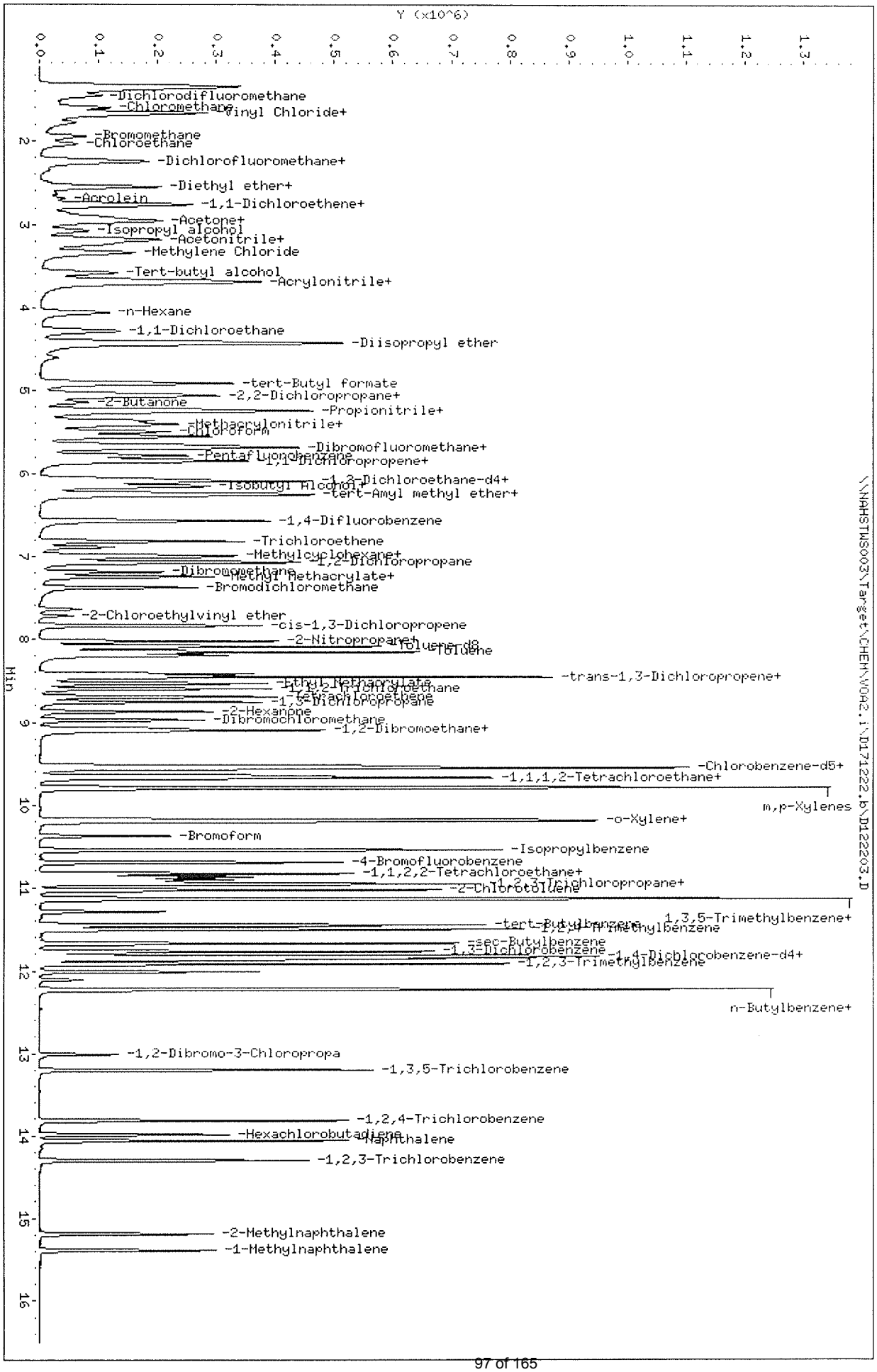
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122203.D
Report Date: 08-Feb-2018 16:27

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	
84	1,4-Dichlorobenzene	146	11.860	11.860	(1.002)	252192	50.0000	42.91	
24	2-Butanone	43	5.144	5.144	(0.890)	126119	100.000	95.39	
52	2-Hexanone	43	8.869	8.869	(0.931)	186202	100.000	91.31	
45	4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	285491	100.000	90.42	
10	Acetone	43	2.859	2.859	(0.494)	80718	100.000	97.23	
37	Benzene	78	6.094	6.094	(0.927)	473618	50.0000	47.80	
39	Bromodichloromethane	83	7.377	7.377	(1.123)	170537	50.0000	48.63	
66	Bromoform	173	10.378	10.378	(1.089)	103811	50.0000	50.28	
6	Bromomethane	94	1.948	1.948	(0.337)	91054	50.0000	53.29	
19	Carbon Disulfide	76	2.959	2.959	(0.512)	456403	100.000	96.75	
34	Carbon Tetrachloride	117	5.837	5.837	(0.888)	147340	50.0000	41.19	
59	Chlorobenzene	112	9.553	9.553	(1.003)	326639	50.0000	45.57	
7	Chloroethane	64	2.041	2.041	(0.353)	85278	50.0000	42.11	
28	Chloroform	83	5.497	5.497	(0.951)	212604	50.0000	46.59	
3	Chloromethane	50	1.601	1.601	(0.277)	210636	50.0000	50.32	
27	cis-1,2-Dichloroethene	96	5.073	5.073	(0.877)	136056	50.0000	47.78	
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	212153	50.0000	52.68	
55	Dibromochloromethane	129	8.972	8.972	(0.942)	144694	50.0000	48.15	
2	Dichlorodifluoromethane	85	1.454	1.454	(0.251)	99414	50.0000	46.46	
61	Ethylbenzene	106	9.672	9.672	(1.015)	171233	50.0000	44.63	
67	Isopropylbenzene	105	10.548	10.548	(1.107)	529075	50.0000	44.58	
17	Methylene Chloride	84	3.331	3.331	(0.576)	126987	50.0000	46.35	
56	Tetrachloroethene	164	8.690	8.690	(0.912)	102637	50.0000	47.74	
50	Toluene	91	8.157	8.157	(0.856)	498852	50.0000	45.23	
20	trans-1,2-Dichloroethene	96	3.671	3.671	(0.635)	117340	50.0000	52.52	
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	184169	50.0000	53.74	
38	Trichloroethene	130	6.819	6.819	(1.038)	133828	50.0000	47.98	
8	Trichlorofluoromethane	101	2.259	2.259	(0.391)	146561	50.0000	47.49	
5	Vinyl Chloride	62	1.685	1.685	(0.291)	149558	50.0000	48.75	
62	m,p-Xylenes	106	9.790	9.790	(1.028)	417347	100.000	88.96	
63	o-Xylene	106	10.179	10.179	(1.068)	223279	50.0000	45.49	
M 95	Xylenes (total)	106				640626	150.000		(a)
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	171510	50.0000	43.83	
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	139322	50.0000	49.97	
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	441005	50.0000	40.31	
75	1,3,5-Trimethylbenzene	105	11.135	11.135	(0.941)	429668	50.0000	40.33	
26	2,2-Dichloropropane	77	5.041	5.041	(0.872)	177631	50.0000	48.72	
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	194315	50.0000	45.25	
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	375085	50.0000	40.20	
77	4-Chlorotoluene	91	11.141	11.141	(0.941)	420473	50.0000	41.39	
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	412416	50.0000	40.79	
29	Bromochloromethane	128	5.368	5.368	(0.928)	67622	50.0000	49.90	
74	Bromobenzene	156	10.833	10.833	(0.915)	153718	50.0000	42.19	
44	Dibromomethane	93	7.191	7.191	(1.094)	77365	50.0000	50.33	
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	65643	50.0000	43.53	
73	n-Propylbenzene	91	10.955	10.955	(0.926)	562298	50.0000	40.49	
87	n-Butylbenzene	91	12.223	12.223	(1.033)	316929	50.0000	42.18	
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	476694	50.0000	40.37	
92	Naphthalene	128	14.061	14.061	(1.188)	403388	50.0000	47.85	
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	358644	50.0000	40.13	
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	131796	50.0000	47.45	
64	Styrene	104	10.198	10.198	(1.070)	368278	50.0000	47.04	

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122203.D
Report Date: 08-Feb-2018 16:27

QC Flag Legend

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


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

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122205.D
Report Date: 08-Feb-2018 16:27

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Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122205.D
Lab Smp Id: VLCSW-171222 Client Smp ID: VLCSW-171222
Inj Date : 22-DEC-2017 13:11
Operator : AP Inst ID: VOA2.i
Smp Info : VLCSW-171222;VLCSW-171222;3;;LCS
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171222.b\8260LL.m
Meth Date : 08-Feb-2018 16:27 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

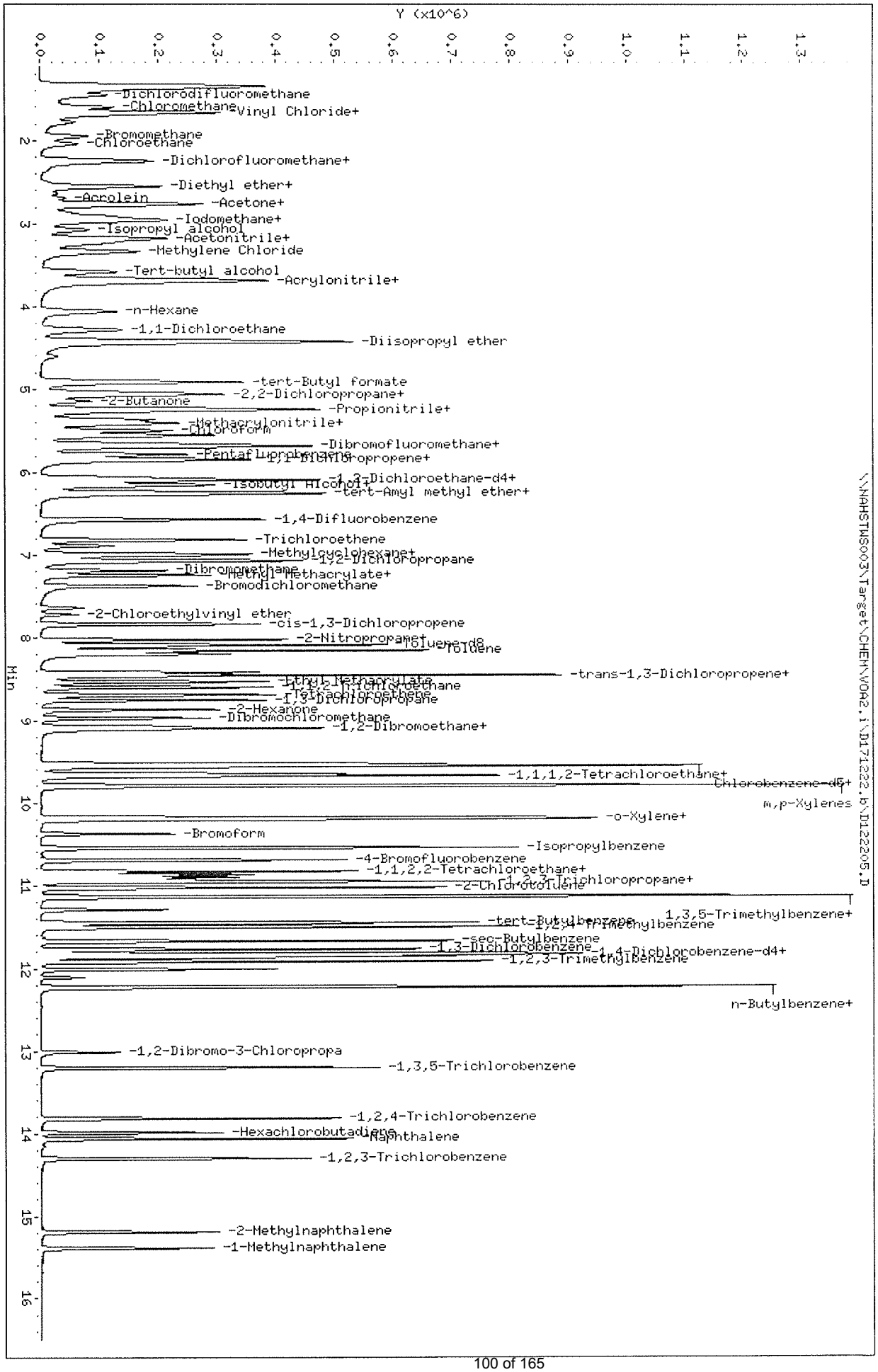
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.651	5.651	(0.978)	184359	48.3692	48.37
*	1 Pentafluorobenzene	168	5.779	5.782	(1.000)	246613	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.984)	106668	48.0072	48.00
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	373780	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.062	(1.048)	131117	47.7796	47.77
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	342436	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.849)	424210	46.9849	46.98
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	164223	49.8102	49.81
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	161067	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	163894	42.6555	42.65
	53 1,1,2-Trichloroethane	83	8.593	8.597	(0.902)	99430	47.4655	47.46
	32 1,1-Dichloropropene	75	5.853	5.856	(0.891)	137461	47.1377	47.13
	22 1,1-Dichloroethane	63	4.281	4.277	(0.741)	254765	49.4817	49.48
	11 1,1-Dichloroethene	96	2.756	2.753	(0.477)	103450	50.8255	50.82
	90 1,2,4-Trichlorobenzene	180	13.818	13.817	(1.168)	164202	51.7487	51.74
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	30180	45.5812	45.56
	57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	132463	50.4881	50.48
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	257116	44.4118	44.41
	33 1,2-Dichloroethane	62	6.145	6.148	(0.935)	168411	51.0314	51.03
	42 1,2-Dichloropropane	63	7.066	7.066	(1.075)	142567	48.4257	48.42
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	266891	44.2988	44.29

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122205.D
Report Date: 08-Feb-2018 16:27

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


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+
-1,2-Dichloroethane-d4+
-Isobutyl Alcohol+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-Methylcyclohexane+
-1,2-Dichloropropane
-Dibromomethane
-Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+
-Toluene-d8
-Toluene
-trans-1,3-Dichloropropene+
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-1,1,1,2-Tetrachloroethane+
-Chlorobenzene-d5+
-Chlorobenzene+
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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Sample Info: WLCSW-171222;WLCSW-171222;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\D171222.b\D122207.D
Report Date: 08-Feb-2018 16:27

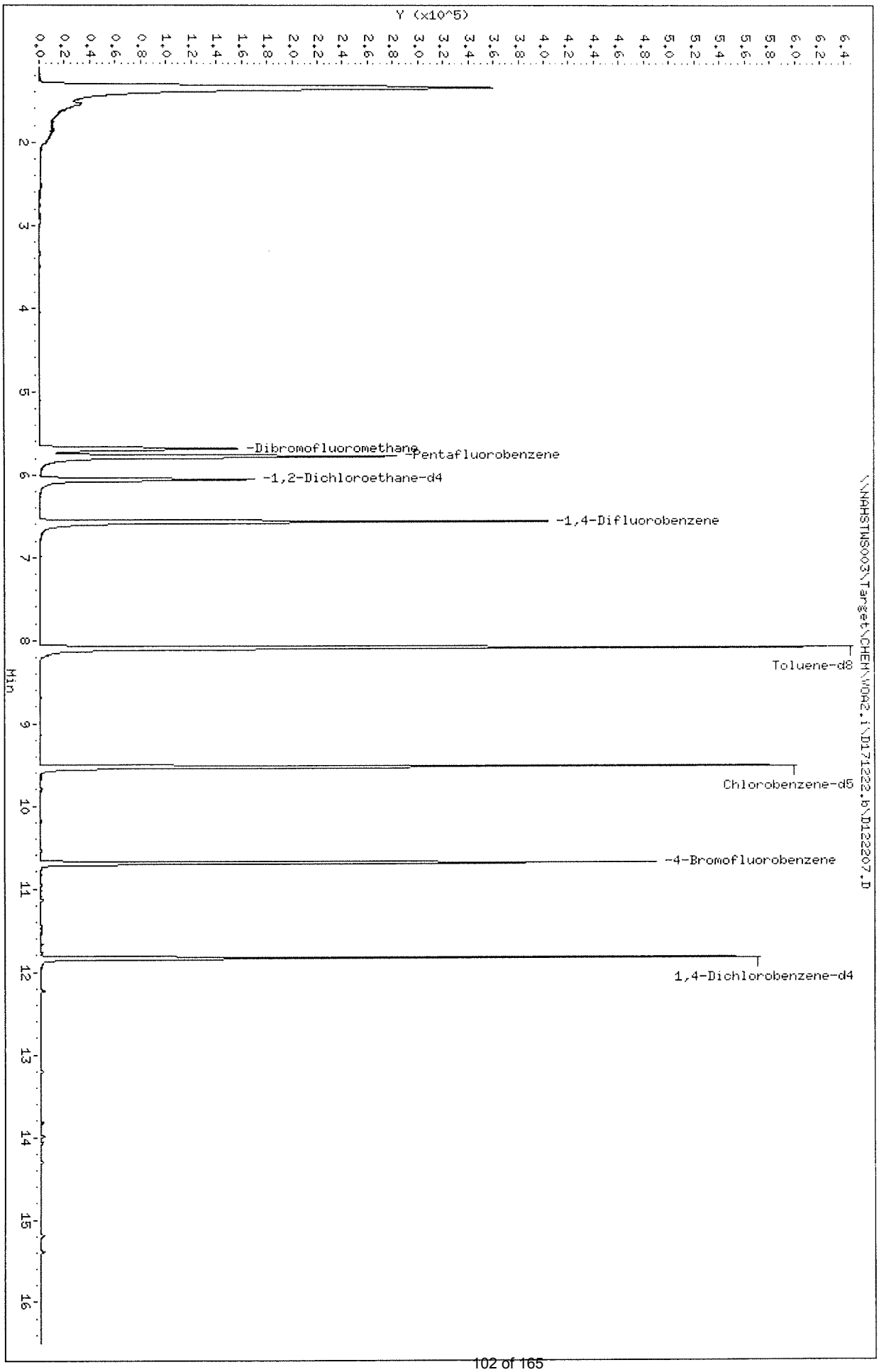
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Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122207.D
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Inj Date : 22-DEC-2017 14:00
Operator : AP Inst ID: VOA2.i
Smp Info : VBLKW-171222;VBLKW-171222;3;;BLANK
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171222.b\8260LL.m
Meth Date : 08-Feb-2018 16:27 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	5.779	5.782	(1.000)	271927	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.686	(0.984)	121981	49.7884	49.78
* 36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	385980	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.058	6.062	(1.048)	140687	46.4944	46.49
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	349470	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	446382	48.4456	48.44
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	161167	47.8994	47.89
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	153118	50.0000	


Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122207.D
Date : 22-DEC-2017 14:00
Client ID: VBLKW-171222
Sample Info: VBLKW-171222;VBLKW-171222;3;;BLANK
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
Y (x10^5)
Min
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
Toluene-d8
Chlorobenzene-d5
-4-Bromofluorobenzene
1,4-Dichlorobenzene-d4
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Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122214.D
Report Date: 08-Feb-2018 16:27

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Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122214.D
Lab Smp Id: HS17120851-01MS Client Smp ID: HS17120851-01MS
Inj Date : 22-DEC-2017 17:03
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120851-01MS;HS17120851-01MS;3;;MS
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171222.b\8260LL.m
Meth Date : 08-Feb-2018 16:27 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 12 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

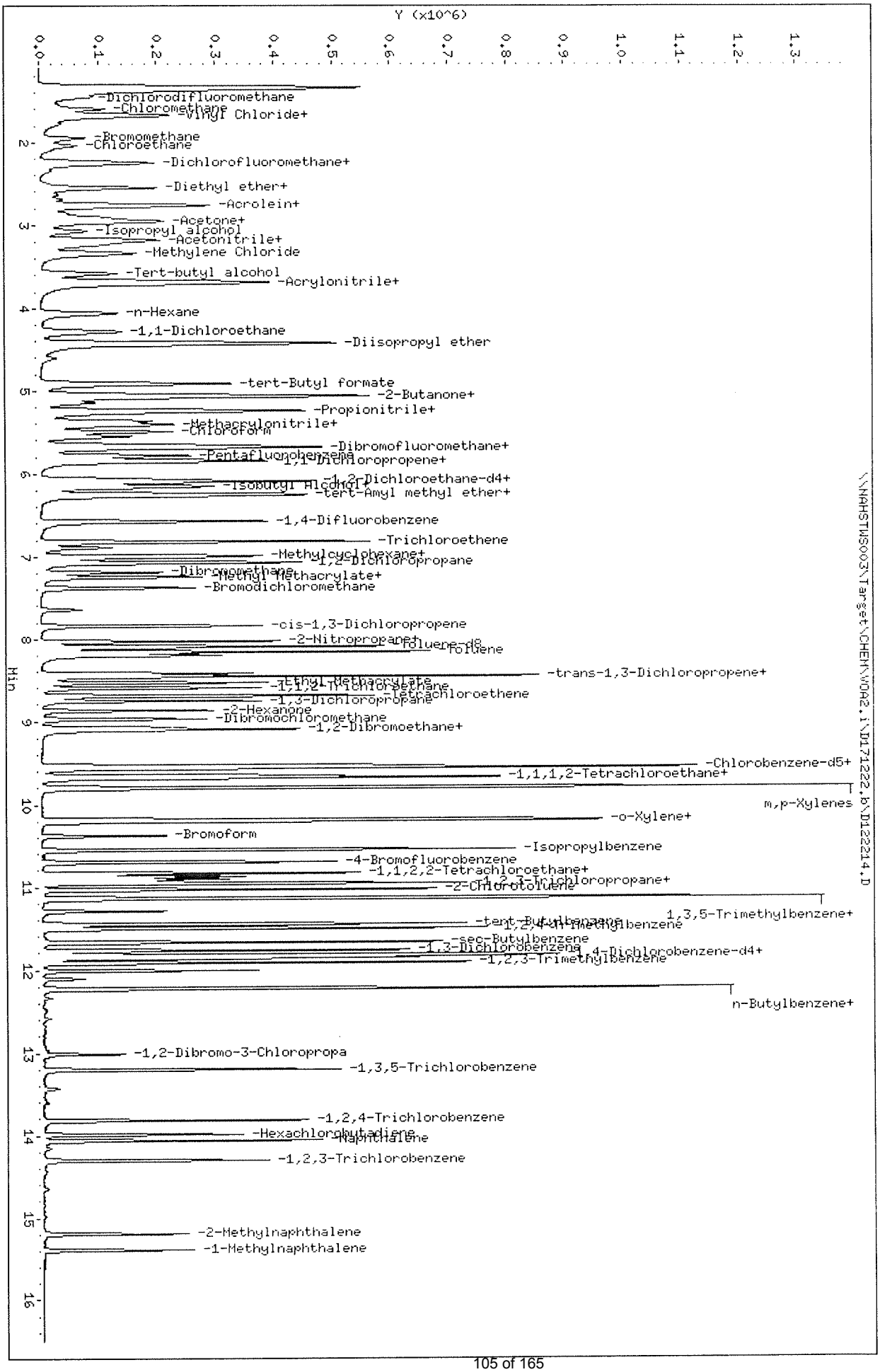
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

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

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122214.D
Report Date: 08-Feb-2018 16:27

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



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122214.D
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Client ID: HS17120851-01MS
Sample Info: HS17120851-01MS;HS17120851-01MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122215.D
Report Date: 08-Feb-2018 16:27

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122215.D
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Inj Date : 22-DEC-2017 17:27
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120851-01MSD;HS17120851-01MSD;3;;MSD
Misc Info : HS15080001;WATER;0;1;
Comment :
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Meth Date : 08-Feb-2018 16:27 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 12 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

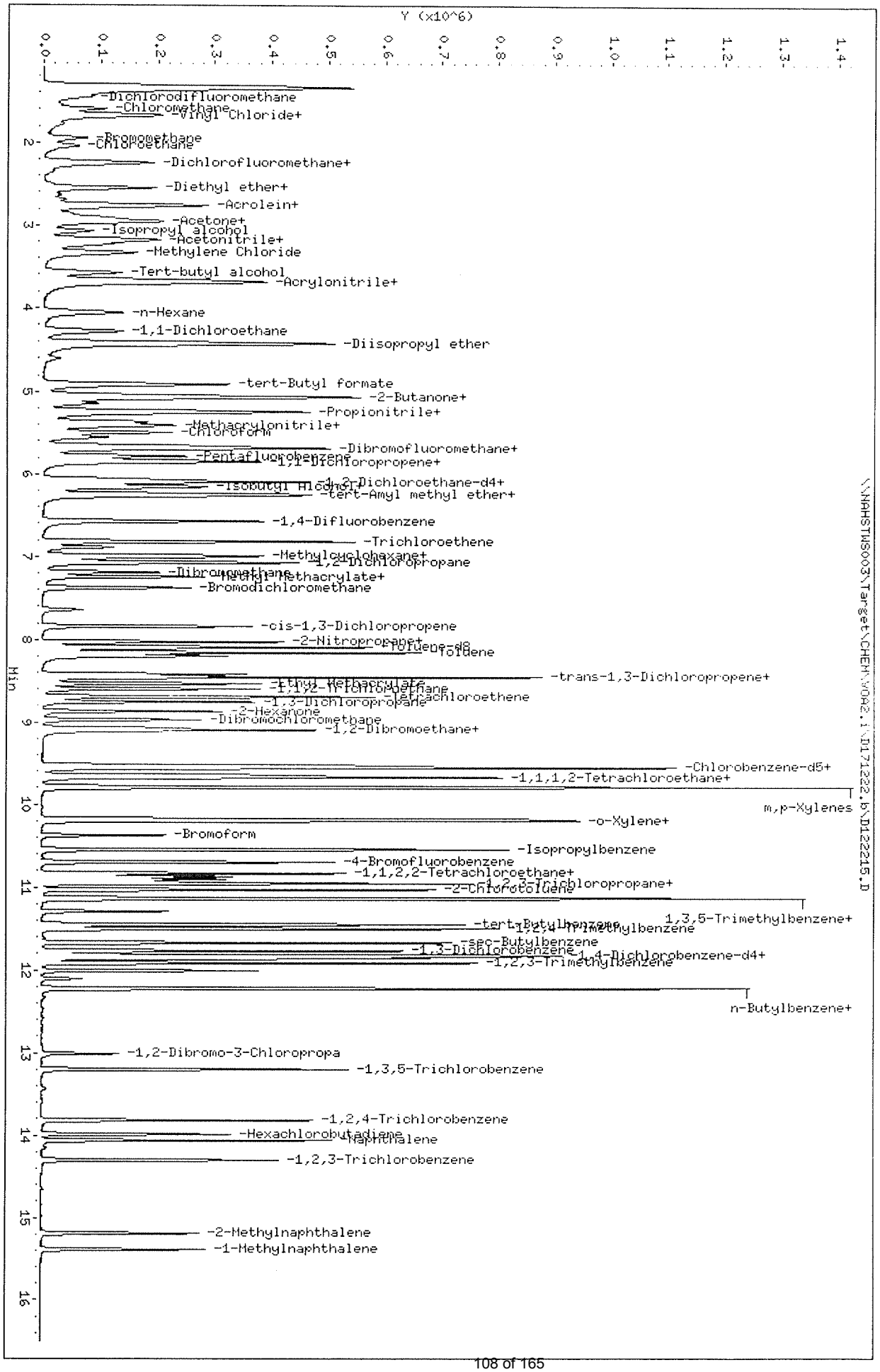
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

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

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122215.D
Report Date: 08-Feb-2018 16:27

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


Data File: \\NAHSTWS003\Target\CHEM\WOA2.i\D171222.b\D122215.D
Date : 22-DEC-2017 17:27
Client ID: HS171208S1-01MSD
Sample Info: HS171208S1-01MSD:HS171208S1-01MSD:3::MSD
Purge Volume: 5.0
Column phase: DB624
Instrument: WOA2.i
Operator: AP
Column diameter: 0.18
Y (x10^6)
Min
\\NAHSTWS003\Target\CHEM\WOA2.i\D171222.b\D122215.D
-Dichlorodifluoromethane
-Chloromethane
-Vinyl Chloride+
-Bromomethane
-Chloroethane
-Dichlorofluoromethane+
-Diethyl ether+
-Acrolein+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-tert-Butyl formate
-2-Butanone+
-Propionitrile+
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
-1,1-Dichloropropene+
-1,2-Dichloroethane-d4+
-Isobutyl Alcohol+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-Methylcyclohexane+
-1,2-Dichloropropane
-Dibromomethane
-Methyl Methacrylate+
-Bromodichloromethane
-cis-1,3-Dichloropropene
-2-Nitropropane+
-Toluene-d8
-Toluene
-trans-1,3-Dichloropropene+
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-Chlorobenzene-d5+
-1,1,1,2-Tetrachloroethane+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-1,2,3-Trichloropropane+
-2-Chlorotoluene
1,3,5-Trimethylbenzene+
-tert-Butylbenzene
1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-d4+
-1,2,3-Trimethylbenzene
n-Butylbenzene+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
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Report Date: 08-Feb-2018 16:27

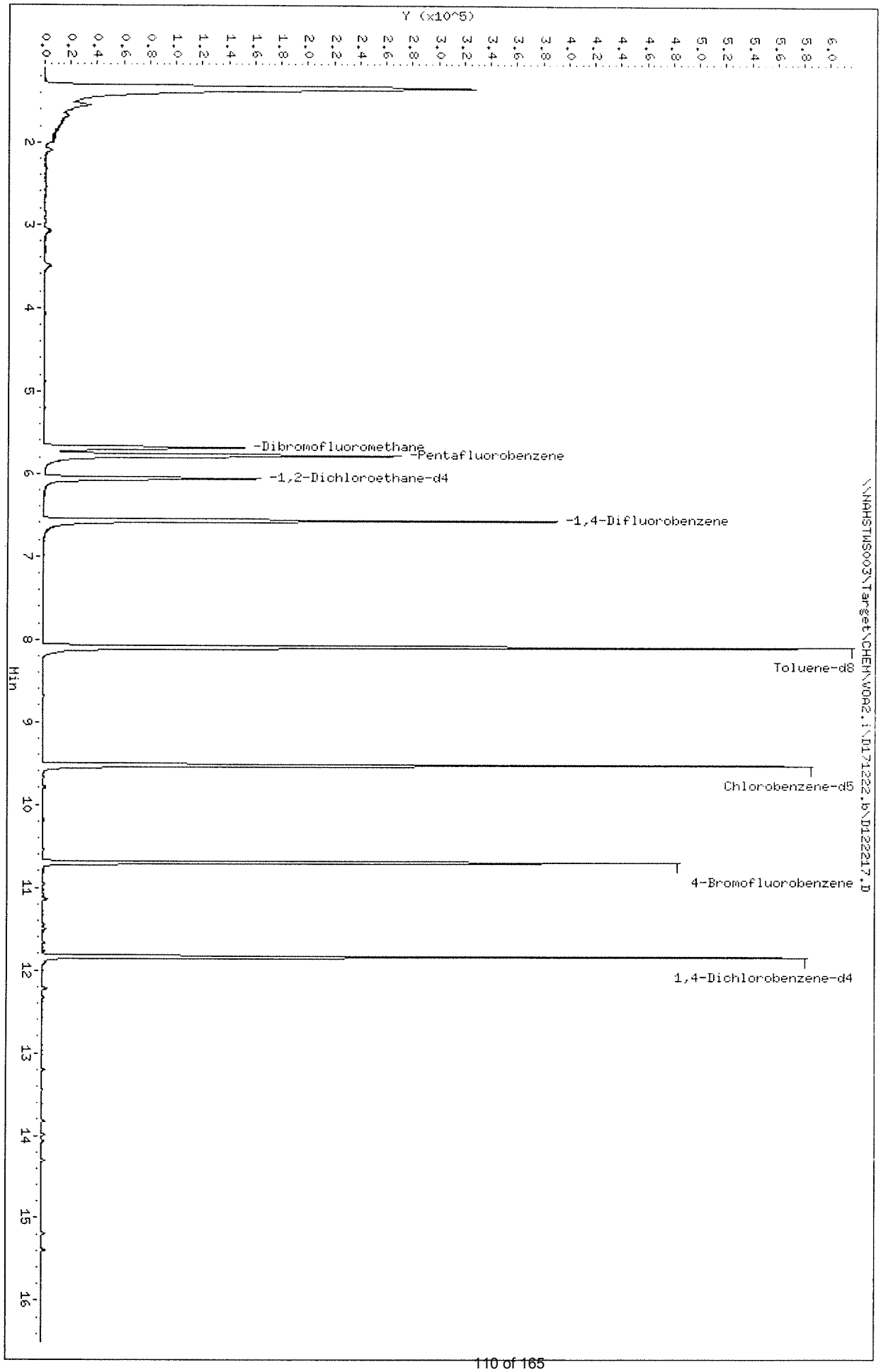
ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122217.D
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Inj Date : 22-DEC-2017 18:16
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120839-02;HS17120839-02;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
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Meth Date : 08-Feb-2018 16:27 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
*	1 Pentafluorobenzene	168	5.779	5.782	(1.000)	265532	50.0000	
$	30 Dibromofluoromethane	113	5.683	5.686	(0.983)	117988	49.3184	49.31
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	378754	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.062	(1.048)	138570	46.8977	46.89
*	47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	342525	50.0000	
$	48 Toluene-d8	98	8.090	8.093	(0.849)	437716	48.4683	48.46
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	159698	48.4251	48.42
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	153934	50.0000	


Data File: \\NAHSTWS003\Target\CHEM\WOA2.i\D171222.b\D122217.D
Date : 22-DEC-2017 18:16
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Sample Info: HS17120839-02;HS17120839-02;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: WOA2.i
Operator: AP
Column diameter: 0.18
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-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
Toluene-d8
Chlorobenzene-d5
4-Bromofluorobenzene
1,4-Dichlorobenzene-d4
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Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122218.D
Report Date: 08-Feb-2018 16:27

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122218.D
Lab Smp Id: HS17120839-01 Client Smp ID: HS17120839-01
Inj Date : 22-DEC-2017 18:41
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120839-01;HS17120839-01;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171222.b\8260LL.m
Meth Date : 08-Feb-2018 16:27 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

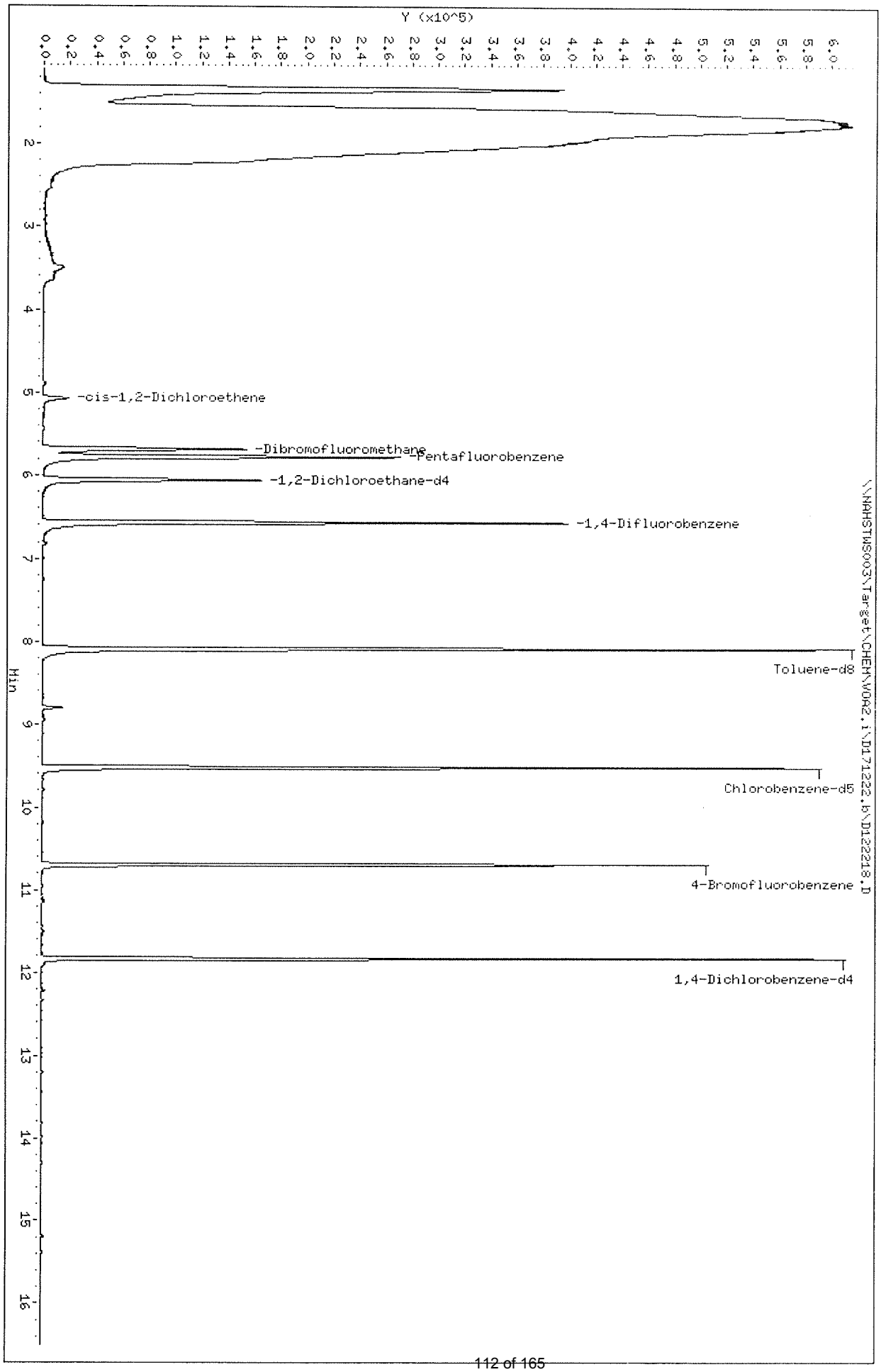
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	5.779	5.782	(1.000)	264634	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.686	(0.984)	118444	49.6770	49.67
* 36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	380978	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.059	6.062	(1.048)	138456	47.0181	47.01
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	348701	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	441832	48.0575	48.05
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	167138	49.7835	49.78
* 70 1,4-Dichlorobenzene-d4	152	11.835	11.834	(1.000)	164422	50.0000	
27 cis-1,2-Dichloroethene	96	5.073	5.073	(0.878)	13452	4.46808	4.46(a)

QC Flag Legend

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


Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122218.D
Date : 22-DEC-2017 18:41
Client ID: HS17120839-01
Sample Info: HS17120839-01;HS17120839-01;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
Y (x10^5)
Min
-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\VOA2.i\D171222.b\D122218.D

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122218.D

Date : 22-DEC-2017 18:41

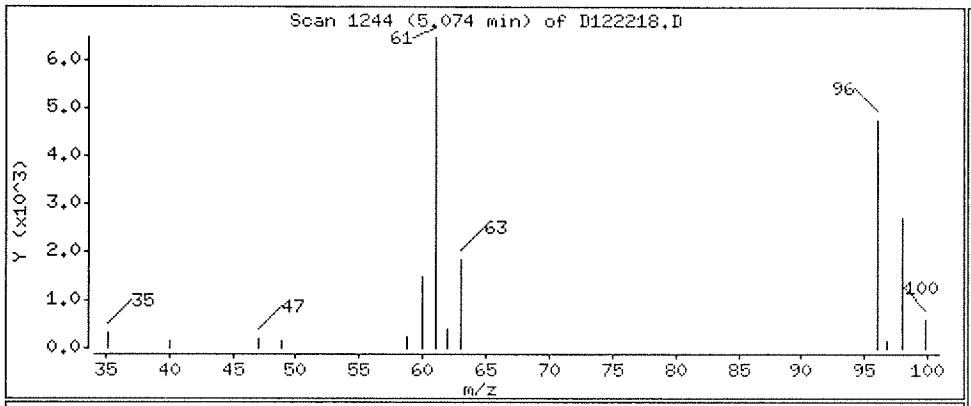
Client ID: HS17120839-01 Instrument: VOA2.i

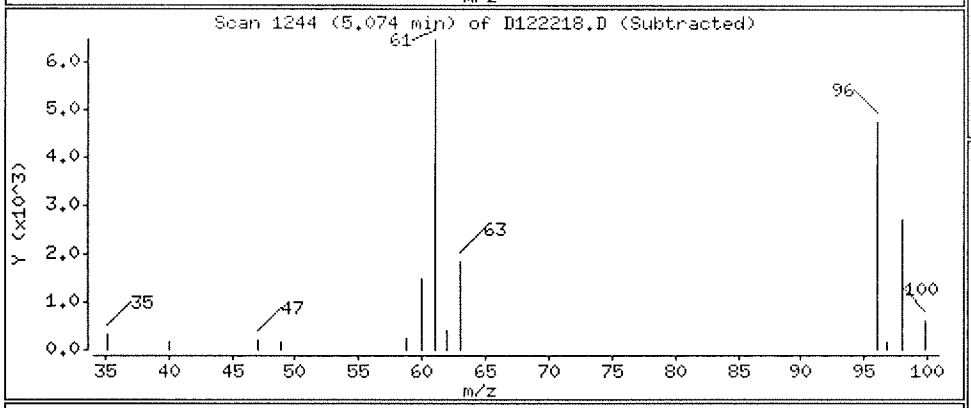
Sample Info: HS17120839-01;HS17120839-01;;;

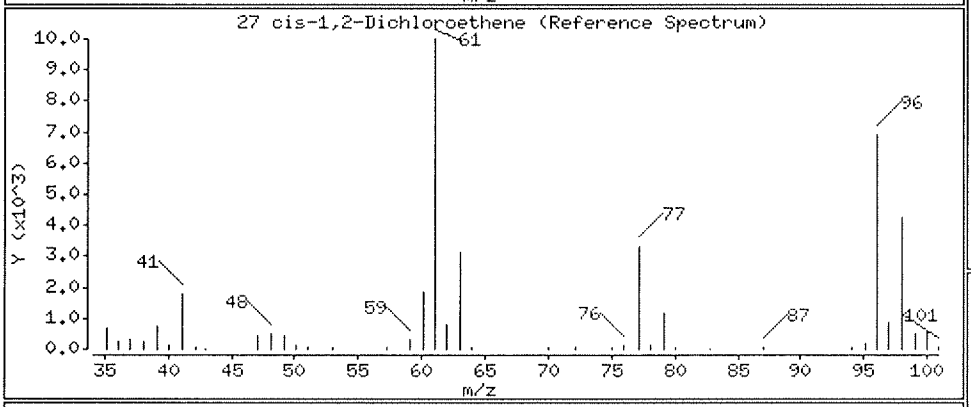
Purge Volume: 5.0 Operator: AP

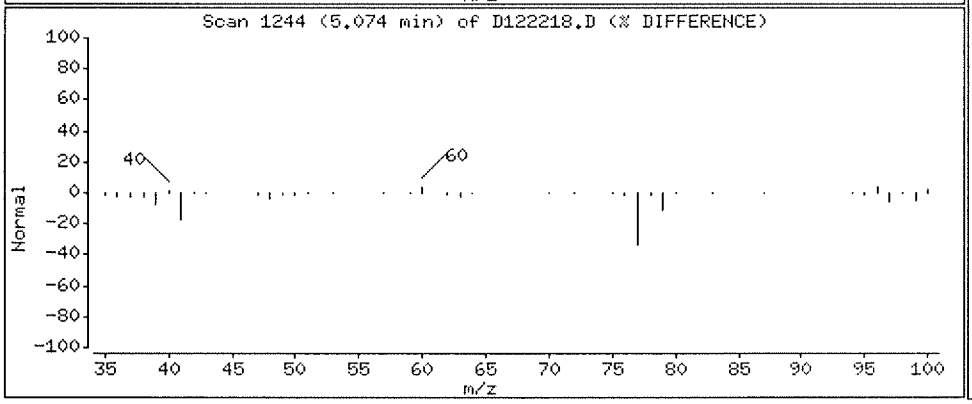
Column phase: DB624 Column diameter: 0.18

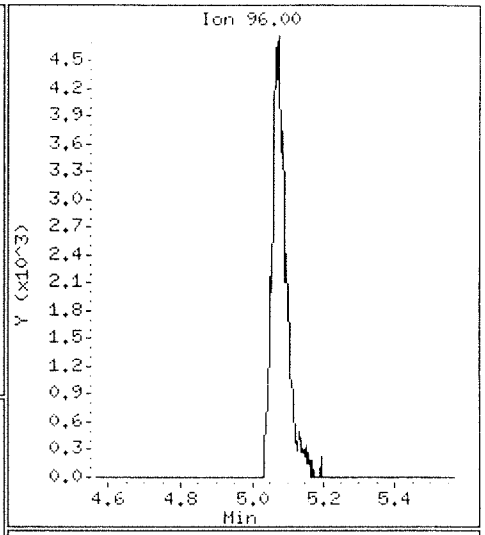
27 cis-1,2-Dichloroethene Concentration: 4.46 ug/l Review Code:

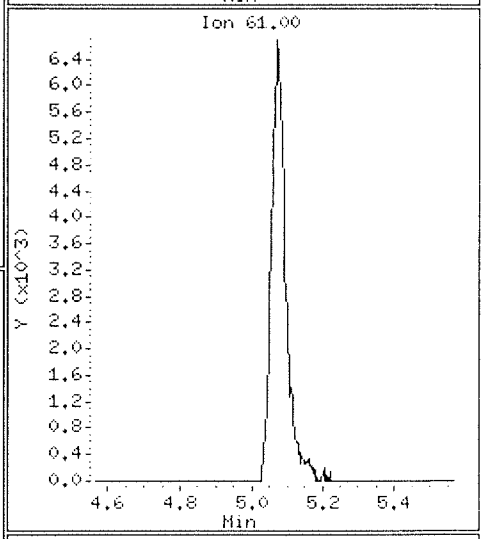


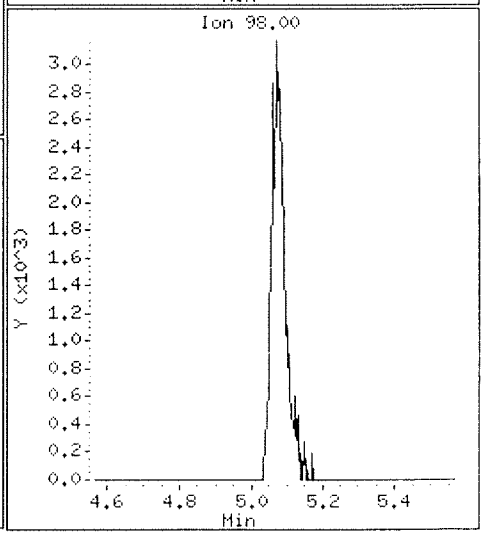












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122230.D
Report Date: 08-Feb-2018 16:27

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122230.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 22-DEC-2017 23:34
Operator : AP Inst ID: VOA2.i
Smp Info : CCV-END;CCV-END;2;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171222.b\8260LL.m
Meth Date : 08-Feb-2018 16:27 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 27 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

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

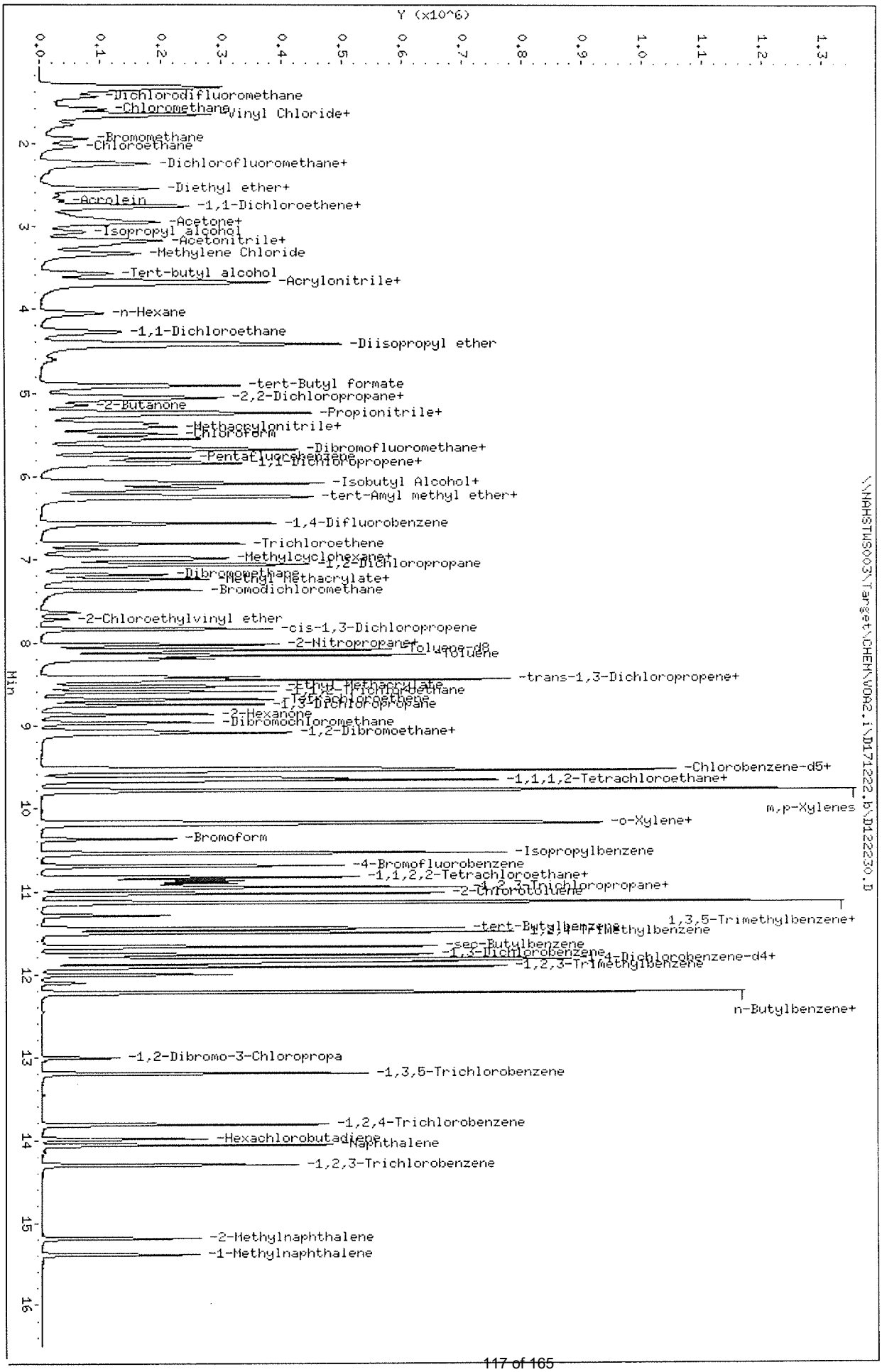
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122230.D
Report Date: 08-Feb-2018 16:27

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	
84	1,4-Dichlorobenzene	146	11.857	11.857	(1.002)	245686	50.0000	42.72	
24	2-Butanone	43	5.144	5.144	(0.890)	121007	100.000	88.90	
52	2-Hexanone	43	8.866	8.866	(0.931)	177617	100.000	88.20	
45	4-Methyl-2-Pentanone	43	8.025	8.025	(0.842)	275864	100.000	88.47	
10	Acetone	43	2.862	2.862	(0.495)	78057	100.000	93.19	
37	Benzene	78	6.090	6.090	(0.927)	475058	50.0000	48.08	
39	Bromodichloromethane	83	7.377	7.377	(1.123)	172654	50.0000	49.37	
66	Bromoform	173	10.374	10.374	(1.089)	103230	50.0000	50.63	
6	Bromomethane	94	1.941	1.941	(0.336)	92479	50.0000	53.72	
19	Carbon Disulfide	76	2.952	2.952	(0.511)	455213	100.000	95.74	
34	Carbon Tetrachloride	117	5.834	5.834	(0.888)	138210	50.0000	38.74	
59	Chlorobenzene	112	9.553	9.553	(1.003)	325203	50.0000	45.94	
7	Chloroethane	64	2.041	2.041	(0.353)	88558	50.0000	43.39	
28	Chloroform	83	5.493	5.493	(0.951)	215574	50.0000	46.87	
3	Chloromethane	50	1.591	1.591	(0.275)	201538	50.0000	47.72	
27	cis-1,2-Dichloroethene	96	5.067	5.067	(0.877)	136085	50.0000	47.41	
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	209900	50.0000	52.26	
55	Dibromochloromethane	129	8.969	8.969	(0.941)	146944	50.0000	49.52	
2	Dichlorodifluoromethane	85	1.450	1.450	(0.251)	99165	50.0000	45.98	
61	Ethylbenzene	106	9.672	9.672	(1.015)	168606	50.0000	44.50	
67	Isopropylbenzene	105	10.544	10.544	(1.107)	506866	50.0000	43.25	
17	Methylene Chloride	84	3.331	3.331	(0.576)	126942	50.0000	45.97	
56	Tetrachloroethene	164	8.690	8.690	(0.912)	97651	50.0000	45.94	
50	Toluene	91	8.157	8.157	(0.856)	492462	50.0000	45.21	
20	trans-1,2-Dichloroethene	96	3.664	3.664	(0.634)	112989	50.0000	50.17	
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	178588	50.0000	52.26	
38	Trichloroethene	130	6.816	6.816	(1.037)	133102	50.0000	47.85	
8	Trichlorofluoromethane	101	2.259	2.259	(0.391)	139610	50.0000	44.88	
5	Vinyl Chloride	62	1.685	1.685	(0.292)	154468	50.0000	49.96	
62	m,p-Xylenes	106	9.793	9.793	(1.028)	403761	100.000	87.15	
63	o-Xylene	106	10.179	10.179	(1.068)	219205	50.0000	45.22	
M 95	Xylenes (total)	106				622966	150.000		(a)
71	1,2,3-Trichloropropane	75	10.901	10.901	(0.921)	164956	50.0000	43.07	
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	130509	50.0000	47.83	
79	1,2,4-Trimethylbenzene	105	11.497	11.497	(0.972)	428858	50.0000	40.05	
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	413112	50.0000	39.62	
26	2,2-Dichloropropane	77	5.038	5.038	(0.872)	164595	50.0000	44.78	
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	196860	50.0000	46.42	
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	370544	50.0000	40.58	
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	407691	50.0000	41.00	
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	386014	50.0000	39.01	
29	Bromochloromethane	128	5.365	5.365	(0.928)	67291	50.0000	49.27	
74	Bromobenzene	156	10.833	10.833	(0.915)	152282	50.0000	42.70	
44	Dibromomethane	93	7.191	7.191	(1.094)	77869	50.0000	50.80	
91	Hexachlorobutadiene	225	13.987	13.987	(1.182)	54859	50.0000	37.11	
73	n-Propylbenzene	91	10.952	10.952	(0.925)	537095	50.0000	39.52	
87	n-Butylbenzene	91	12.219	12.219	(1.033)	288554	50.0000	39.24	
81	sec-Butylbenzene	105	11.667	11.667	(0.986)	440835	50.0000	38.15	
92	Naphthalene	128	14.061	14.061	(1.188)	374472	50.0000	45.36	
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	342795	50.0000	39.19	
60	1,1,1,2-Tetrachloroethane	131	9.643	9.643	(1.012)	132363	50.0000	48.26	
64	Styrene	104	10.198	10.198	(1.070)	363918	50.0000	47.07	

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122230.D
Report Date: 08-Feb-2018 16:27

QC Flag Legend

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



Data File: \\HHSTWS003\Target\CHEM\WOA2.i\D171222.b\D122230.D

Date : 22-DEC-2017 23:34

Client ID: CCV-END

Sample Info: CCV-END:CCV-END:2::

Purge Volume: 5.0

Column phase: DB624

Instrument: WOA2.i

Operator: AP

Column diameter: 0.18

\\HHSTWS003\Target\CHEM\WOA2.i\D171222.b\D122230.D

Wet Chemistry Raw Data

Bhate Environmental Associates, Inc.
Project: GROUNDWATER TREATMENT PLANT
BI-WEEKLY SAMPLES
ALS WO# HS17120839

Sequence: 122717
Operator: alshs.nouser

HS17120839

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\09-2017
Timebase: ICS2100
#Samples: 204

Created: 12/27/2017 1:38:23 PM by alshs nouser
Last Update: 1/2/2018 11:09:17 AM 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	HS17120743-20	RR 300_W	Unknown	8	1.0000	10.0	1.00	1.00
12	HS17120745-07DF5	RR 300_W NO3	Unknown	12	5.0000	10.0	1.00	1.00
13	DI H2O		Unknown	13	1.0000	10.0	1.00	1.00
14	DI H2O		Unknown	13	1.0000	10.0	1.00	1.00
15	CCV1		Unknown	3	1.0000	10.0	1.00	1.00
16	CCB		Unknown	4	1.0000	10.0	1.00	1.00
17	WBLKW1-122717	300_W	Unknown	5	1.0000	10.0	1.00	1.00
18	HS17121292-01	NO2/3	Unknown	9	1.0000	10.0	1.00	1.00
19	HS17121292-01MS		Unknown	10	1.0000	10.0	1.00	1.00
20	HS17121292-01MSD		Unknown	11	1.0000	10.0	1.00	1.00
21	CCV		Unknown	1	1.0000	10.0	1.00	1.00
22	CCB	CL0.28 SO40.34	Unknown	2	1.0000	10.0	1.00	1.00
23	WLCSW1-122717	RR	Unknown	6	1.0000	10.0	1.00	1.00
24	WLCSDW1-122717	RR	Unknown	7	1.0000	10.0	1.00	1.00
25	HS17120806-01	300 SO4 OFF	Unknown	14	1.0000	10.0	1.00	1.00
26	HS17120806-02	OFF	Unknown	15	1.0000	10.0	1.00	1.00
27	HS17120806-02MS	OFF	Unknown	16	1.0000	10.0	1.00	1.00
28	HS17120806-02MSD	OFF	Unknown	17	1.0000	10.0	1.00	1.00
29	HS17120806-03	OFF	Unknown	18	1.0000	10.0	1.00	1.00
30	HS17120806-05	OFF	Unknown	19	1.0000	10.0	1.00	1.00
31	HS17120806-06	OFF	Unknown	20	1.0000	10.0	1.00	1.00
32	HS17120806-10	OFF	Unknown	21	1.0000	10.0	1.00	1.00
33	CCV1	OFF EXCPT F	Unknown	3	1.0000	10.0	1.00	1.00
34	CCB		Unknown	4	1.0000	10.0	1.00	1.00
35	HS17120806-13	OFF	Unknown	22	1.0000	10.0	1.00	1.00
36	HS17120806-14	OFF	Unknown	23	1.0000	10.0	1.00	1.00
37	HS17120806-16	OFF	Unknown	24	1.0000	10.0	1.00	1.00
38	HS17120806-20	OFF	Unknown	25	1.0000	10.0	1.00	1.00
39	HS17120806-27	OFF	Unknown	26	1.0000	10.0	1.00	1.00
40	HS17120806-28	OFF	Unknown	27	1.0000	10.0	1.00	1.00
41	HS17120806-29	OFF	Unknown	28	1.0000	10.0	1.00	1.00
42	HS17120998-04	OFF CL ONLY	Unknown	29	1.0000	10.0	1.00	1.00

Sequence: 122717
Operator: alshs.nouser

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\09-2017
Timebase: ICS2100
#Samples: 204

Created: 12/27/2017 1:38:23 PM by alshs.nouser
Last Update: 1/2/2018 11:09:17 AM 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	12/27/2017 2:03:25 PM	Anions Gradient Program
10	CCB	091117	Finished	12/27/2017 2:17:57 PM	Anions Gradient Program
11	HS17120743-20	091117	Finished	12/27/2017 2:32:30 PM	Anions Gradient Program
12	HS17120745-07DF5	091117	Finished	12/27/2017 3:11:43 PM	Anions Gradient Program
13	DI H2O	091117	Finished	12/27/2017 3:26:16 PM	Anions Gradient Program
14	DI H2O	091117	Finished	12/27/2017 3:40:49 PM	Anions Gradient Program
15	CCV1	091117	Finished	12/27/2017 3:55:22 PM	Anions Gradient Program
16	CCB	091117	Finished	12/27/2017 4:09:54 PM	Anions Gradient Program
17	WBLKW1-122717	091117	Finished	12/27/2017 4:24:26 PM	Anions Gradient Program
18	HS17121292-01	091117	Finished	12/27/2017 5:08:04 PM	Anions Gradient Program
19	HS17121292-01MS	091117	Finished	12/27/2017 5:22:37 PM	Anions Gradient Program
20	HS17121292-01MSD	091117	Finished	12/27/2017 5:37:10 PM	Anions Gradient Program
21	CCV	091117	Finished	12/27/2017 5:51:43 PM	Anions Gradient Program
22	CCB	091117	Finished	12/27/2017 6:06:16 PM	Anions Gradient Program
23	WLCSW1-122717	091117	Finished	12/27/2017 6:24:19 PM	Anions Gradient Program
24	WLCSDW1-122717	091117	Finished	12/27/2017 6:38:52 PM	Anions Gradient Program
25	HS17120806-01	091117	Finished	12/27/2017 6:56:55 PM	Anions Gradient Program
26	HS17120806-02	091117	Finished	12/27/2017 7:11:27 PM	Anions Gradient Program
27	HS17120806-02MS	091117	Finished	12/27/2017 7:26:00 PM	Anions Gradient Program
28	HS17120806-02MSD	091117	Finished	12/27/2017 7:40:32 PM	Anions Gradient Program
29	HS17120806-03	091117	Finished	12/27/2017 7:55:05 PM	Anions Gradient Program
30	HS17120806-05	091117	Finished	12/27/2017 8:09:38 PM	Anions Gradient Program
31	HS17120806-06	091117	Finished	12/27/2017 8:24:10 PM	Anions Gradient Program
32	HS17120806-10	091117	Finished	12/27/2017 8:38:43 PM	Anions Gradient Program
33	CCV1	091117	Finished	12/27/2017 9:12:25 PM	Anions Gradient Program
34	CCB	091117	Finished	12/27/2017 9:26:58 PM	Anions Gradient Program
35	HS17120806-13	091117	Finished	12/27/2017 9:41:31 PM	Anions Gradient Program
36	HS17120806-14	091117	Finished	12/27/2017 9:56:04 PM	Anions Gradient Program
37	HS17120806-16	091117	Finished	12/27/2017 10:10:36 PM	Anions Gradient Program
38	HS17120806-20	091117	Finished	12/27/2017 10:25:09 PM	Anions Gradient Program
39	HS17120806-27	091117	Finished	12/27/2017 10:39:41 PM	Anions Gradient Program
40	HS17120806-28	091117	Finished	12/27/2017 10:54:14 PM	Anions Gradient Program
41	HS17120806-29	091117	Finished	12/27/2017 11:08:47 PM	Anions Gradient Program
42	HS17120998-04	091117	Finished	12/27/2017 11:23:20 PM	Anions Gradient Program

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Sequence:	122717		Page 3 of 15
Operator:	alshs.nouser		Printed: 1/10/2018 3:08:44 PM
Title:			
Datasource:	DB7CGHK1_local		
Location:	ICS2100\Sequences and Data\09-2017		
Timebase:	ICS2100	Created:	12/27/2017 1:38:23 PM by alshs.nouser
#Samples:	204	Last Update:	1/2/2018 11:09:17 AM 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	dda2f281-eb40-11e7-b6d8-a1ac6b506e3a
10	CCB	e5edb28e-eb42-11e7-b6d8-a1ac6b506e3a
11	HS17120743-20	eda23f32-eb44-11e7-b6d8-a1ac6b506e3a
12	HS17120745-07DF5	ebdbd917-eb49-11e7-b6d8-a1ac6b506e3a
13	DI H2O	70a5c82c-eb4c-11e7-b6d8-a1ac6b506e3a
14	DI H2O	78e96134-eb4e-11e7-b6d8-a1ac6b506e3a
15	CCV1	8144d1a2-eb50-11e7-b6d8-a1ac6b506e3a
16	CCB	893c1fca-eb52-11e7-b6d8-a1ac6b506e3a
17	WBLKW1-122717	913f59a5-eb54-11e7-b6d8-a1ac6b506e3a
18	HS17121292-01	a9845416-eb5a-11e7-b6d8-a1ac6b506e3a
19	HS17121292-01MS	b1e6eb89-eb5c-11e7-b6d8-a1ac6b506e3a
20	HS17121292-01MSD	ba31ab96-eb5e-11e7-b6d8-a1ac6b506e3a
21	CCV	c27c6ba3-eb60-11e7-b6d8-a1ac6b506e3a
22	CCB	cac26702-eb62-11e7-b6d8-a1ac6b506e3a
23	WLCSW1-122717	d31dd770-eb64-11e7-b6d8-a1ac6b506e3a
24	WLCSDW1-122717	58720e3b-eb67-11e7-b6d8-a1ac6b506e3a
25	HS17120806-01	60d24357-eb69-11e7-b6d8-a1ac6b506e3a
26	HS17120806-02	e647dae4-eb6b-11e7-b6d8-a1ac6b506e3a
27	HS17120806-02MS	ee7ac38b-eb6d-11e7-b6d8-a1ac6b506e3a
28	HS17120806-02MSD	f65a3a4d-eb6f-11e7-b6d8-a1ac6b506e3a
29	HS17120806-03	fe6bc232-eb71-11e7-b6d8-a1ac6b506e3a
30	HS17120806-05	06acf8e3-eb74-11e7-b6d8-a1ac6b506e3a
31	HS17120806-06	0e9d2006-eb76-11e7-b6d8-a1ac6b506e3a
32	HS17120806-10	16faf2cb-eb78-11e7-b6d8-a1ac6b506e3a
33	CCV1	4eb75f99-eb7c-11e7-b6d8-a1ac6b506e3a
34	CCB	d45ca5f2-eb7e-11e7-b6d8-a1ac6b506e3a
35	HS17120806-13	dcc8c6c1-eb80-11e7-b6d8-a1ac6b506e3a
36	HS17120806-14	e502d66d-eb82-11e7-b6d8-a1ac6b506e3a
37	HS17120806-16	ecfa2495-eb84-11e7-b6d8-a1ac6b506e3a
38	HS17120806-20	f502231e-eb86-11e7-b6d8-a1ac6b506e3a
39	HS17120806-27	fd4ce32b-eb88-11e7-b6d8-a1ac6b506e3a
40	HS17120806-28	0586f2d7-eb8b-11e7-b6d8-a1ac6b506e3a
41	HS17120806-29	0de26345-eb8d-11e7-b6d8-a1ac6b506e3a
42	HS17120998-04	163dd3b3-eb8f-11e7-b6d8-a1ac6b506e3a

Sequence: 122717
Operator: alshs.nouser

Title
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\09-2017
Timebase: ICS2100
#Samples: 204

Created: 12/27/2017 1:38:23 PM by alshs.nouser
Last Update: 1/2/2018 11:09:17 AM by alshs.nouser

No.	Name	Comment	Type	Pos.	Dil. Factor	Inj. Vol.	*Initial_Vol_Wt	*Final_Volume
43	HS17120998-01DF20	OFF CL ONLY	Unknown	30	20.0000	10.0	1.00	1.00
44	HS17120998-02DF200	OFF CL ONLY	Unknown	31	200.0000	10.0	1.00	1.00
45	CCV		Unknown	1	1.0000	10.0	1.00	1.00
46	CCB		Unknown	2	1.0000	10.0	1.00	1.00
47	HS17120998-03DF200		Unknown	32	200.0000	10.0	1.00	1.00
48	HS17120998-05DF200		Unknown	33	200.0000	10.0	1.00	1.00
49	HS17121301-05	F RUSH HI CL	Unknown	34	1.0000	10.0	1.00	1.00
50	DI H2O		Unknown	35	1.0000	10.0	1.00	1.00
51	DI H2O		Unknown	35	1.0000	10.0	1.00	1.00
52	MBLK-123794		Unknown	36	1.0000	10.0	1.00	1.00
53	LCS-123794		Unknown	37	1.0000	10.0	1.00	1.00
54	LCSD-123794		Unknown	38	1.0000	10.0	1.00	1.00
55	HS17120867-02	DUE 28TH CL	Unknown	39	1.0000	10.0	1.00	1.00
56	HS17120867-03	RR CL OFF	Unknown	40	1.0000	10.0	1.00	1.00
57	CCV1		Unknown	3	1.0000	10.0	1.00	1.00
58	CCB		Unknown	4	1.0000	10.0	1.00	1.00
59	HS17120862-01	300_S RR	Unknown	41	1.0000	10.0	1.00	1.00
60	HS17120862-01MS	RR	Unknown	42	1.0000	10.0	1.00	1.00
61	HS17120862-01MSD	RR	Unknown	43	1.0000	10.0	1.00	1.00
62	HS17120862-02	RR	Unknown	44	1.0000	10.0	1.00	1.00
63	MBLK-123816	9056_S NO3	Unknown	45	1.0000	10.0	1.00	1.00
64	LCS-123816		Unknown	46	1.0000	10.0	1.00	1.00
65	LCSD-123816		Unknown	47	1.0000	10.0	1.00	1.00
66	HS17120496-32DF10	9056_S NO3	Unknown	48	10.0000	10.0	1.00	1.00
67	HS17120496-36DF10		Unknown	49	10.0000	10.0	1.00	1.00
68	DI H2O		Unknown	35	1.0000	10.0	1.00	1.00
69	CCV		Unknown	1	1.0000	10.0	1.00	1.00
70	CCB		Unknown	2	1.0000	10.0	1.00	1.00
71	HS17120496-31DF10		Unknown	50	10.0000	10.0	1.00	1.00
72	HS17120496-31DF10MS		Unknown	51	10.0000	10.0	1.00	1.00
73	HS17120496-31DF10MSD		Unknown	52	10.0000	10.0	1.00	1.00
74	HS17120496-37DF10	RR NO3	Unknown	53	10.0000	10.0	1.00	1.00
75	HS17120496-41DF10		Unknown	54	10.0000	10.0	1.00	1.00
76	HS17120496-42DF10		Unknown	55	10.0000	10.0	1.00	1.00
77	HS17120496-46DF10		Unknown	56	10.0000	10.0	1.00	1.00
78	HS17120496-47DF10		Unknown	57	10.0000	10.0	1.00	1.00
79	DI H2O		Unknown	35	1.0000	10.0	1.00	1.00
80	HS17120496-51DF10		Unknown	58	10.0000	10.0	1.00	1.00
81	CCV1		Unknown	3	1.0000	10.0	1.00	1.00
82	CCB	NO3 0.11*	Unknown	4	1.0000	10.0	1.00	1.00
83	HS17120496-52DF10	RR NO3	Unknown	59	10.0000	10.0	1.00	1.00
84	HS17120496-56DF10		Unknown	60	10.0000	10.0	1.00	1.00

Sequence: 122717
Operator: alshs.nouser

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\09-2017
Timebase: ICS2100
#Samples: 204

Created: 12/27/2017 1:38:23 PM by alshs.nouser
Last Update: 1/2/2018 11:09:17 AM by alshs.nouser

No.	Name	Method	Status	Inj. Date/Time	Program
43	HS17120998-01DF20	091117	Finished	12/27/2017 11:37:53 PM	Anions Gradient Program
44	HS17120998-02DF200	091117	Finished	12/27/2017 11:52:26 PM	Anions Gradient Program
45	CCV	091117	Finished	12/28/2017 12:06:59 AM	Anions Gradient Program
46	CCB	091117	Finished	12/28/2017 12:21:32 AM	Anions Gradient Program
47	HS17120998-03DF200	091117	Finished	12/28/2017 12:36:04 AM	Anions Gradient Program
48	HS17120998-05DF200	091117	Finished	12/28/2017 12:50:37 AM	Anions Gradient Program
49	HS17121301-05	091117	Finished	12/28/2017 1:05:10 AM	Anions Gradient Program
50	DI H2O	091117	Finished	12/28/2017 1:19:42 AM	Anions Gradient Program
51	DI H2O	091117	Finished	12/28/2017 1:34:15 AM	Anions Gradient Program
52	MBLK-123794	091117	Finished	12/28/2017 1:48:48 AM	Anions Gradient Program
53	LCS-123794	091117	Finished	12/28/2017 2:03:20 AM	Anions Gradient Program
54	LCSD-123794	091117	Finished	12/28/2017 2:17:53 AM	Anions Gradient Program
55	HS17120867-02	091117	Finished	12/28/2017 2:32:26 AM	Anions Gradient Program
56	HS17120867-03	091117	Finished	12/28/2017 2:46:59 AM	Anions Gradient Program
57	CCV1	091117	Finished	12/28/2017 3:01:32 AM	Anions Gradient Program
58	CCB	091117	Finished	12/28/2017 3:16:05 AM	Anions Gradient Program
59	HS17120862-01	091117	Finished	12/28/2017 3:30:38 AM	Anions Gradient Program
60	HS17120862-01MS	091117	Finished	12/28/2017 3:45:11 AM	Anions Gradient Program
61	HS17120862-01MSD	091117	Finished	12/28/2017 3:59:44 AM	Anions Gradient Program
62	HS17120862-02	091117	Finished	12/28/2017 4:14:17 AM	Anions Gradient Program
63	MBLK-123816	091117	Finished	12/28/2017 4:28:49 AM	Anions Gradient Program
64	LCS-123816	091117	Finished	12/28/2017 4:43:22 AM	Anions Gradient Program
65	LCSD-123816	091117	Finished	12/28/2017 4:57:55 AM	Anions Gradient Program
66	HS17120496-32DF10	091117	Finished	12/28/2017 5:12:27 AM	Anions Gradient Program
67	HS17120496-36DF10	091117	Finished	12/28/2017 5:27:00 AM	Anions Gradient Program
68	DI H2O	091117	Finished	12/28/2017 5:41:33 AM	Anions Gradient Program
69	CCV	091117	Finished	12/28/2017 5:56:06 AM	Anions Gradient Program
70	CCB	091117	Finished	12/28/2017 6:10:39 AM	Anions Gradient Program
71	HS17120496-31DF10	091117	Finished	12/28/2017 6:25:11 AM	Anions Gradient Program
72	HS17120496-31DF10MS	091117	Finished	12/28/2017 6:39:44 AM	Anions Gradient Program
73	HS17120496-31DF10MSD	091117	Finished	12/28/2017 6:54:17 AM	Anions Gradient Program
74	HS17120496-37DF10	091117	Finished	12/28/2017 7:08:50 AM	Anions Gradient Program
75	HS17120496-41DF10	091117	Finished	12/28/2017 7:23:23 AM	Anions Gradient Program
76	HS17120496-42DF10	091117	Finished	12/28/2017 7:37:55 AM	Anions Gradient Program
77	HS17120496-46DF10	091117	Finished	12/28/2017 7:52:28 AM	Anions Gradient Program
78	HS17120496-47DF10	091117	Finished	12/28/2017 8:07:01 AM	Anions Gradient Program
79	DI H2O	091117	Finished	12/28/2017 8:21:34 AM	Anions Gradient Program
80	HS17120496-51DF10	091117	Finished	12/28/2017 8:36:07 AM	Anions Gradient Program
81	CCV1	091117	Finished	12/28/2017 8:50:40 AM	Anions Gradient Program
82	CCB	091117	Finished	12/28/2017 9:05:13 AM	Anions Gradient Program
83	HS17120496-52DF10	091117	Finished	12/28/2017 9:19:45 AM	Anions Gradient Program
84	HS17120496-56DF10	091117	Finished	12/28/2017 9:34:18 AM	Anions Gradient Program

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\09-2017
Timebase: ICS2100
#Samples: 204
Created: 12/27/2017 1:38:23 PM by alshs.nouser
Last Update: 1/2/2018 11:09:17 AM by alshs.nouser

No.	Name	GUID
43	HS17120998-01DF20	1e863169-eb91-11e7-b6d8-a1ac6b506e3a
44	HS17120998-02DF200	26d353cd-eb93-11e7-b6d8-a1ac6b506e3a
45	CCV	2f1e13da-eb95-11e7-b6d8-a1ac6b506e3a
46	CCB	3768d3e7-eb97-11e7-b6d8-a1ac6b506e3a
47	HS17120998-03DF200	3f60220f-eb99-11e7-b6d8-a1ac6b506e3a
48	HS17120998-05DF200	47bb927d-eb9b-11e7-b6d8-a1ac6b506e3a
49	HS17121301-05	4fb2e0a5-eb9d-11e7-b6d8-a1ac6b506e3a
50	DI H2O	57866bb4-eb9f-11e7-b6d8-a1ac6b506e3a
51	DI H2O	5ff4eeda-eba1-11e7-b6d8-a1ac6b506e3a
52	MBLK-123794	6828885e-eba3-11e7-b6d8-a1ac6b506e3a
53	LCS-123794	706fced3-eba5-11e7-b6d8-a1ac6b506e3a
54	LCSD-123794	78a775e8-eba7-11e7-b6d8-a1ac6b506e3a
55	HS17120867-02	80f4984c-eba9-11e7-b6d8-a1ac6b506e3a
56	HS17120867-03	895008ba-ebab-11e7-b6d8-a1ac6b506e3a
57	CCV1	91ab7928-ebad-11e7-b6d8-a1ac6b506e3a
58	CCB	99f63935-ebaf-11e7-b6d8-a1ac6b506e3a
59	HS17120862-01	a240f942-ebb1-11e7-b6d8-a1ac6b506e3a
60	HS17120862-01MS	aa8bb94f-ebb3-11e7-b6d8-a1ac6b506e3a
61	HS17120862-01MSD	b2e729bd-ebb5-11e7-b6d8-a1ac6b506e3a
62	HS17120862-02	bb429a2b-ebb7-11e7-b6d8-a1ac6b506e3a
63	MBLK-123816	c3188791-ebb9-11e7-b6d8-a1ac6b506e3a
64	LCS-123816	cb73f7ff-ebbb-11e7-b6d8-a1ac6b506e3a
65	LCSD-123816	d36b4627-ebbd-11e7-b6d8-a1ac6b506e3a
66	HS17120496-32DF10	dbb60634-ebbf-11e7-b6d8-a1ac6b506e3a
67	HS17120496-36DF10	e3fe63ea-ebc1-11e7-b6d8-a1ac6b506e3a
68	DI H2O	ec41fcf2-ebc3-11e7-b6d8-a1ac6b506e3a
69	CCV	f496465b-ebc5-11e7-b6d8-a1ac6b506e3a
70	CCB	fc8b322c-ebc7-11e7-b6d8-a1ac6b506e3a
71	HS17120496-31DF10	04d5f239-ebca-11e7-b6d8-a1ac6b506e3a
72	HS17120496-31DF10MS	0cddf0c2-ebcc-11e7-b6d8-a1ac6b506e3a
73	HS17120496-31DF10MSD	152b1326-ebce-11e7-b6d8-a1ac6b506e3a
74	HS17120496-37DF10	1d7370dc-ebd0-11e7-b6d8-a1ac6b506e3a
75	HS17120496-41DF10	25be30e9-ebd2-11e7-b6d8-a1ac6b506e3a
76	HS17120496-42DF10	2e08f0f6-ebd4-11e7-b6d8-a1ac6b506e3a
77	HS17120496-46DF10	364c89fe-ebd6-11e7-b6d8-a1ac6b506e3a
78	HS17120496-47DF10	3e902306-ebd8-11e7-b6d8-a1ac6b506e3a
79	DI H2O	46c7d05b-ebda-11e7-b6d8-a1ac6b506e3a
80	HS17120496-51DF10	4f129068-ebdc-11e7-b6d8-a1ac6b506e3a
81	CCV1	575fb2cc-ebde-11e7-b6d8-a1ac6b506e3a
82	CCB	5fa81082-ebe0-11e7-b6d8-a1ac6b506e3a
83	HS17120496-52DF10	679110a0-ebe2-11e7-b6d8-a1ac6b506e3a
84	HS17120496-56DF10	6fd96e56-ebe4-11e7-b6d8-a1ac6b506e3a

Sequence: 122717
Operator: alshs.nouser

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\09-2017
Timebase: ICS2100
#Samples: 204

Created: 12/27/2017 1:38:23 PM by alshs.nouser
Last Update: 1/2/2018 11:09:17 AM by alshs.nouser

No.	Name	Comment	Type	Pos.	Dil. Factor	Inj. Vol.	*Initial_Vol_Wt	*Final_Volume
85	HS17120496-57DF10	RR NO3	Unknown	61	10.0000	10.0	1.00	1.00
86	HS17120496-67DF10		Unknown	62	10.0000	10.0	1.00	1.00
87	HS17120496-68DF10	RR NO3	Unknown	63	10.0000	10.0	1.00	1.00
88	HS17120496-72DF10		Unknown	64	10.0000	10.0	1.00	1.00
89	HS17120496-73DF10		Unknown	65	10.0000	10.0	1.00	1.00
90	DI H2O		Unknown	35	1.0000	10.0	1.00	1.00
91	DI H2O		Unknown	35	1.0000	10.0	1.00	1.00
92	CCV		Unknown	1	1.0000	10.0	1.00	1.00
93	CCB		Unknown	2	1.0000	10.0	1.00	1.00
94	MBLK-123794	RR 300_S CL	Unknown	36	1.0000	10.0	1.00	1.00
95	LCS-123794	RR	Unknown	37	1.0000	10.0	1.00	1.00
96	LCSD-123794	RR	Unknown	38	1.0000	10.0	1.00	1.00
97	WLCSW1-122717	RR 300_W	Unknown	6	1.0000	10.0	1.00	1.00
98	WLCSDW1-122717	RR	Unknown	7	1.0000	10.0	1.00	1.00
99	HS17120998-04DF10	RR CL W	Unknown	29	10.0000	10.0	1.00	1.00
100	HS17120998-01DF20	RR CL W	Unknown	30	20.0000	10.0	1.00	1.00
101	HS17120998-02DF200	RR CL W	Unknown	29	200.0000	10.0	1.00	1.00
102	HS17120867-02	RR CL S	Unknown	39	1.0000	10.0	1.00	1.00
103	HS17120867-03	RR CL S	Unknown	40	1.0000	10.0	1.00	1.00
104	CCV1		Unknown	3	1.0000	10.0	1.00	1.00
105	CCB		Unknown	4	1.0000	10.0	1.00	1.00
106	HS17120496-37	RR NO3 S	Unknown	87	1.0000	10.0	1.00	1.00
107	HS17120496-52	RR NO3 S	Unknown	88	1.0000	10.0	1.00	1.00
108	HS17120496-68	RR NO3 S	Unknown	89	1.0000	10.0	1.00	1.00
109	HS17120496-57	RR NO3 S	Unknown	90	1.0000	10.0	1.00	1.00
110	HS17120862-01	300_S RR CL	Unknown	41	1.0000	10.0	1.00	1.00
111	HS17120862-01MS	300_S RR CL	Unknown	42	1.0000	10.0	1.00	1.00
112	HS17120862-01MSD	300_S RR CL	Unknown	43	1.0000	10.0	1.00	1.00
113	CCV		Unknown	1	1.0000	10.0	1.00	1.00
114	CCB		Unknown	2	1.0000	10.0	1.00	1.00
115	HS17120806-02	300_W SO4 RR	Unknown	15	1.0000	10.0	1.00	1.00
116	HS17120806-02MS	300_W SO4 RR	Unknown	16	1.0000	10.0	1.00	1.00
117	HS17120806-02MSD	300_W SO4 RR	Unknown	17	1.0000	10.0	1.00	1.00
118	HS17120806-01	300_W SO4 RR	Unknown	14	1.0000	10.0	1.00	1.00
119	HS17120806-03	300_W SO4 RR	Unknown	18	1.0000	10.0	1.00	1.00
120	HS17120806-05	300_W SO4 RR	Unknown	19	1.0000	10.0	1.00	1.00
121	HS17120806-06	300_W SO4 RR	Unknown	20	1.0000	10.0	1.00	1.00
122	HS17120806-10	300_W SO4 RR	Unknown	21	1.0000	10.0	1.00	1.00
123	HS17120806-13	300_W SO4 RR	Unknown	22	1.0000	10.0	1.00	1.00
124	HS17120806-14	300_W SO4 RR	Unknown	23	1.0000	10.0	1.00	1.00
125	CCV		Unknown	1	1.0000	10.0	1.00	1.00
126	CCB		Unknown	2	1.0000	10.0	1.00	1.00

Sequence: 122717
Operator: alshs.nouser

Printed: 1/10/2018 3:08:44 PM

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\09-2017
Timebase: ICS2100
#Samples: 204

Created: 12/27/2017 1:38:23 PM by alshs.nouser
Last Update: 1/2/2018 11:09:17 AM by alshs.nouser

No.	Name	Method	Status	Inj. Date/Time	Program
85	HS17120496-57DF10	091117	Finished	12/28/2017 9:48:51 AM	Anions Gradient Program
86	HS17120496-67DF10	091117	Finished	12/28/2017 10:03:24 AM	Anions Gradient Program
87	HS17120496-68DF10	091117	Finished	12/28/2017 10:17:57 AM	Anions Gradient Program
88	HS17120496-72DF10	091117	Finished	12/28/2017 10:32:30 AM	Anions Gradient Program
89	HS17120496-73DF10	091117	Finished	12/28/2017 10:47:02 AM	Anions Gradient Program
90	DI H2O	091117	Finished	12/28/2017 11:01:35 AM	Anions Gradient Program
91	DI H2O	091117	Finished	12/28/2017 12:14:36 PM	Anions Gradient Program
92	CCV	091117	Finished	12/28/2017 12:29:09 PM	Anions Gradient Program
93	CCB	091117	Finished	12/28/2017 12:43:41 PM	Anions Gradient Program
94	MBLK-123794	091117	Finished	12/28/2017 12:58:14 PM	Anions Gradient Program
95	LCS-123794	091117	Finished	12/28/2017 1:12:47 PM	Anions Gradient Program
96	LCSD-123794	091117	Finished	12/28/2017 1:40:35 PM	Anions Gradient Program
97	WLCSW1-122717	091117	Finished	12/28/2017 1:55:08 PM	Anions Gradient Program
98	WLCSDW1-122717	091117	Finished	12/28/2017 2:09:41 PM	Anions Gradient Program
99	HS17120998-04DF10	091117	Finished	12/28/2017 2:24:14 PM	Anions Gradient Program
100	HS17120998-01DF20	091117	Finished	12/28/2017 2:38:47 PM	Anions Gradient Program
101	HS17120998-02DF200	091117	Finished	12/28/2017 2:53:19 PM	Anions Gradient Program
102	HS17120867-02	091117	Finished	12/28/2017 3:07:52 PM	Anions Gradient Program
103	HS17120867-03	091117	Finished	12/28/2017 3:22:25 PM	Anions Gradient Program
104	CCV1	091117	Finished	12/28/2017 3:36:58 PM	Anions Gradient Program
105	CCB	091117	Finished	12/28/2017 3:51:31 PM	Anions Gradient Program
106	HS17120496-37	091117	Finished	12/28/2017 4:06:04 PM	Anions Gradient Program
107	HS17120496-52	091117	Finished	12/28/2017 4:20:37 PM	Anions Gradient Program
108	HS17120496-68	091117	Finished	12/28/2017 4:35:10 PM	Anions Gradient Program
109	HS17120496-57	091117	Finished	12/28/2017 4:49:43 PM	Anions Gradient Program
110	HS17120862-01	091117	Finished	12/28/2017 5:04:15 PM	Anions Gradient Program
111	HS17120862-01MS	091117	Finished	12/28/2017 5:18:48 PM	Anions Gradient Program
112	HS17120862-01MSD	091117	Finished	12/28/2017 5:33:21 PM	Anions Gradient Program
113	CCV	091117	Finished	12/28/2017 5:47:54 PM	Anions Gradient Program
114	CCB	091117	Finished	12/28/2017 6:02:27 PM	Anions Gradient Program
115	HS17120806-02	091117	Finished	12/28/2017 6:17:00 PM	Anions Gradient Program
116	HS17120806-02MS	091117	Finished	12/28/2017 6:31:33 PM	Anions Gradient Program
117	HS17120806-02MSD	091117	Finished	12/28/2017 6:46:05 PM	Anions Gradient Program
118	HS17120806-01	091117	Finished	12/28/2017 7:00:37 PM	Anions Gradient Program
119	HS17120806-03	091117	Finished	12/28/2017 7:15:10 PM	Anions Gradient Program
120	HS17120806-05	091117	Finished	12/28/2017 7:29:43 PM	Anions Gradient Program
121	HS17120806-06	091117	Finished	12/28/2017 7:44:17 PM	Anions Gradient Program
122	HS17120806-10	091117	Finished	12/28/2017 7:58:50 PM	Anions Gradient Program
123	HS17120806-13	091117	Finished	12/28/2017 8:13:22 PM	Anions Gradient Program
124	HS17120806-14	091117	Finished	12/28/2017 8:27:55 PM	Anions Gradient Program
125	CCV	091117	Finished	12/28/2017 8:42:28 PM	Anions Gradient Program
126	CCB	091117	Finished	12/28/2017 8:57:01 PM	Anions Gradient Program

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Sequence: 122717
Operator: alshs.nouser

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\09-2017
Timebase: ICS2100
#Samples: 204

Created: 12/27/2017 1:38:23 PM by alshs.nouser
Last Update: 1/2/2018 11:09:17 AM by alshs.nouser

No.	Name	GUID
85	HS17120496-57DF10	78242e63-ebe6-11e7-b6d8-a1ac6b506e3a
86	HS17120496-67DF10	80656514-ebe8-11e7-b6d8-a1ac6b506e3a
87	HS17120496-68DF10	88c59a30-ebea-11e7-b6d8-a1ac6b506e3a
88	HS17120496-72DF10	90ffa9dc-ebec-11e7-b6d8-a1ac6b506e3a
89	HS17120496-73DF10	98f6f804-ebee-11e7-b6d8-a1ac6b506e3a
90	DI H2O	a13f605c-ebf0-11e7-b6d8-a1ac6b506e3a
91	DI H2O	57fe1e2a-ebfa-11e7-b6d8-a1ac6b506e3a
92	CCV	dcc80d3f-ebfc-11e7-b6d8-a1ac6b506e3a
93	CCB	e50943f0-ebfe-11e7-b6d8-a1ac6b506e3a
94	MBLK-123794	ed5403fd-ec00-11e7-b6d8-a1ac6b506e3a
95	LCS-123794	f55e64dd-ec02-11e7-b6d8-a1ac6b506e3a
96	LCSD-123794	5ac2a1f5-ec06-11e7-b6d8-a1ac6b506e3a
97	WLCSW1-122717	dff7da55-ec08-11e7-b6d8-a1ac6b506e3a
98	WLCSDW1-122717	e840380b-ec0a-11e7-b6d8-a1ac6b506e3a
99	HS17120998-04DF10	f08d5a6f-ec0c-11e7-b6d8-a1ac6b506e3a
100	HS17120998-01DF20	f8d81a7c-ec0e-11e7-b6d8-a1ac6b506e3a
101	HS17120998-02DF200	01207832-ec11-11e7-b6d8-a1ac6b506e3a
102	HS17120867-02	09667391-ec13-11e7-b6d8-a1ac6b506e3a
103	HS17120867-03	11ac6ef0-ec15-11e7-b6d8-a1ac6b506e3a
104	CCV1	19f007f8-ec17-11e7-b6d8-a1ac6b506e3a
105	CCB	2246b3b8-ec19-11e7-b6d8-a1ac6b506e3a
106	HS17120496-37	2a8f116e-ec1b-11e7-b6d8-a1ac6b506e3a
107	HS17120496-52	32e0f880-ec1d-11e7-b6d8-a1ac6b506e3a
108	HS17120496-68	3b1d6a83-ec1f-11e7-b6d8-a1ac6b506e3a
109	HS17120496-57	43682a90-ec21-11e7-b6d8-a1ac6b506e3a
110	HS17120862-01	4b702919-ec23-11e7-b6d8-a1ac6b506e3a
111	HS17120862-01MS	53a7d66e-ec25-11e7-b6d8-a1ac6b506e3a
112	HS17120862-01MSD	5bf9bd80-ec27-11e7-b6d8-a1ac6b506e3a
113	CCV	64579045-ec29-11e7-b6d8-a1ac6b506e3a
114	CCB	6c9b294d-ec2b-11e7-b6d8-a1ac6b506e3a
115	HS17120806-02	74ef72b6-ec2d-11e7-b6d8-a1ac6b506e3a
116	HS17120806-02MS	7d356e15-ec2f-11e7-b6d8-a1ac6b506e3a
117	HS17120806-02MSD	85802e22-ec31-11e7-b6d8-a1ac6b506e3a
118	HS17120806-01	8d456b27-ec33-11e7-b6d8-a1ac6b506e3a
119	HS17120806-03	958dc8dd-ec35-11e7-b6d8-a1ac6b506e3a
120	HS17120806-05	9dd62693-ec37-11e7-b6d8-a1ac6b506e3a
121	HS17120806-06	a62348f7-ec39-11e7-b6d8-a1ac6b506e3a
122	HS17120806-10	aecd7ce5-ec3b-11e7-b6d8-a1ac6b506e3a
123	HS17120806-13	b6b01ca8-ec3d-11e7-b6d8-a1ac6b506e3a
124	HS17120806-14	bf128c2d-ec3f-11e7-b6d8-a1ac6b506e3a
125	CCV	c75d4c3a-ec41-11e7-b6d8-a1ac6b506e3a
126	CCB	cfb195a3-ec43-11e7-b6d8-a1ac6b506e3a

Sequence: 122717
Operator: alshs.nouser

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\09-2017
Timebase: ICS2100
#Samples: 204

Created: 12/27/2017 1:38:23 PM by alshs.nouser
Last Update: 1/2/2018 11:09:17 AM by alshs.nouser

No.	Name	Comment	Type	Pos.	Dil. Factor	Inj. Vol.	*Initial_Vol_Wt	*Final_Volume
127	HS17120806-16	300_W SO4 RR	Unknown	24	1.0000	10.0	1.00	1.00
128	HS17120806-20	300_W SO4 RR	Unknown	25	1.0000	10.0	1.00	1.00
129	HS17120806-27	300_W SO4 RR	Unknown	26	1.0000	10.0	1.00	1.00
130	HS17120806-28	300_W SO4 RR	Unknown	27	1.0000	10.0	1.00	1.00
131	HS17120806-29	300_W SO4 RR	Unknown	28	1.0000	10.0	1.00	1.00
132	HS17120857-01	300_S CONT'D	Unknown	71	1.0000	10.0	1.00	1.00
133	HS17120857-01MS		Unknown	72	1.0000	10.0	1.00	1.00
134	HS17120857-01MSD		Unknown	73	1.0000	10.0	1.00	1.00
135	HS17120857-02		Unknown	74	1.0000	10.0	1.00	1.00
136	HS17120862-02		Unknown	70	1.0000	10.0	1.00	1.00
137	CCV1		Unknown	3	1.0000	10.0	1.00	1.00
138	CCB		Unknown	4	1.0000	10.0	1.00	1.00
139	HS17120857-03		Unknown	75	1.0000	10.0	1.00	1.00
140	HS17120857-04		Unknown	76	1.0000	10.0	1.00	1.00
141	HS17120857-05		Unknown	77	1.0000	10.0	1.00	1.00
142	HS17120857-06		Unknown	78	1.0000	10.0	1.00	1.00
143	DI H2O		Unknown	35	1.0000	10.0	1.00	1.00
144	HS17120860-01		Unknown	79	1.0000	10.0	1.00	1.00
145	HS17120860-02		Unknown	80	1.0000	10.0	1.00	1.00
146	HS17120860-03		Unknown	81	1.0000	10.0	1.00	1.00
147	HS17120860-04		Unknown	82	1.0000	10.0	1.00	1.00
148	DI H2O		Unknown	35	1.0000	10.0	1.00	1.00
149	CCV		Unknown	1	1.0000	10.0	1.00	1.00
150	CCB		Unknown	2	1.0000	10.0	1.00	1.00
151	HS17121254-01	300_S	Unknown	83	1.0000	10.0	1.00	1.00
152	HS17121254-02		Unknown	84	1.0000	10.0	1.00	1.00
153	HS17121254-03		Unknown	85	1.0000	10.0	1.00	1.00
154	HS17121254-04		Unknown	86	1.0000	10.0	1.00	1.00
155	HS17121254-05		Unknown	87	1.0000	10.0	1.00	1.00
156	HS17121254-06		Unknown	88	1.0000	10.0	1.00	1.00
157	DI H2O		Unknown	35	1.0000	10.0	1.00	1.00
158	DI H2O		Unknown	35	1.0000	10.0	1.00	1.00
159	HS17120932-19DF20	9056_W CL	Unknown	89	20.0000	10.0	1.00	1.00
160	DI H2O		Unknown	35	1.0000	10.0	1.00	1.00
161	CCV1		Unknown	3	1.0000	10.0	1.00	1.00
162	CCB		Unknown	4	1.0000	10.0	1.00	1.00
163	WBLKW1-122817	9056 NO3X KEEP SO4	Unknown	90	1.0000	10.0	1.00	1.00
164	WLCSW1-122817	KEEP SO4 CL* OFF	Unknown	91	1.0000	10.0	1.00	1.00
165	WLCSDW1-122817	KEEP SO4 CL* OFF	Unknown	92	1.0000	10.0	1.00	1.00
166	HS17120839-01	KEEP SO4 CL* OFF	Unknown	93	1.0000	10.0	1.00	1.00
167	HS17120839-01MS	KEEP SO4 CL* OFF	Unknown	94	1.0000	10.0	1.00	1.00
168	HS17120839-01MSD	KEEP SO4 CL* OFF	Unknown	95	1.0000	10.0	1.00	1.00

Sequence: 122717
Operator: alshs.nouser

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\09-2017
Timebase: ICS2100
#Samples: 204

Created: 12/27/2017 1:38:23 PM by alshs.nouser
Last Update: 1/2/2018 11:09:17 AM by alshs.nouser

No.	Name	Method	Status	Inj. Date/Time	Program
127	HS17120806-16	091117	Finished	12/28/2017 9:11:34 PM	Anions Gradient Program
128	HS17120806-20	091117	Finished	12/28/2017 9:26:07 PM	Anions Gradient Program
129	HS17120806-27	091117	Finished	12/28/2017 9:40:40 PM	Anions Gradient Program
130	HS17120806-28	091117	Finished	12/28/2017 9:55:13 PM	Anions Gradient Program
131	HS17120806-29	091117	Finished	12/28/2017 10:09:46 PM	Anions Gradient Program
132	HS17120857-01	091117	Finished	12/28/2017 10:24:19 PM	Anions Gradient Program
133	HS17120857-01MS	091117	Finished	12/28/2017 10:38:51 PM	Anions Gradient Program
134	HS17120857-01MSD	091117	Finished	12/28/2017 10:53:24 PM	Anions Gradient Program
135	HS17120857-02	091117	Finished	12/28/2017 11:07:57 PM	Anions Gradient Program
136	HS17120862-02	091117	Finished	12/28/2017 11:22:30 PM	Anions Gradient Program
137	CCV1	091117	Finished	12/28/2017 11:37:03 PM	Anions Gradient Program
138	CCB	091117	Finished	12/28/2017 11:51:35 PM	Anions Gradient Program
139	HS17120857-03	091117	Finished	12/29/2017 12:06:08 AM	Anions Gradient Program
140	HS17120857-04	091117	Finished	12/29/2017 12:20:41 AM	Anions Gradient Program
141	HS17120857-05	091117	Finished	12/29/2017 12:35:13 AM	Anions Gradient Program
142	HS17120857-06	091117	Finished	12/29/2017 12:49:46 AM	Anions Gradient Program
143	DI H2O	091117	Finished	12/29/2017 1:04:19 AM	Anions Gradient Program
144	HS17120860-01	091117	Finished	12/29/2017 1:18:52 AM	Anions Gradient Program
145	HS17120860-02	091117	Finished	12/29/2017 1:33:24 AM	Anions Gradient Program
146	HS17120860-03	091117	Finished	12/29/2017 1:47:57 AM	Anions Gradient Program
147	HS17120860-04	091117	Finished	12/29/2017 2:02:29 AM	Anions Gradient Program
148	DI H2O	091117	Finished	12/29/2017 2:17:02 AM	Anions Gradient Program
149	CCV	091117	Finished	12/29/2017 2:31:35 AM	Anions Gradient Program
150	CCB	091117	Finished	12/29/2017 2:46:08 AM	Anions Gradient Program
151	HS17121254-01	091117	Finished	12/29/2017 3:00:40 AM	Anions Gradient Program
152	HS17121254-02	091117	Finished	12/29/2017 3:15:13 AM	Anions Gradient Program
153	HS17121254-03	091117	Finished	12/29/2017 3:29:46 AM	Anions Gradient Program
154	HS17121254-04	091117	Finished	12/29/2017 3:44:18 AM	Anions Gradient Program
155	HS17121254-05	091117	Finished	12/29/2017 3:58:51 AM	Anions Gradient Program
156	HS17121254-06	091117	Finished	12/29/2017 4:13:24 AM	Anions Gradient Program
157	DI H2O	091117	Finished	12/29/2017 4:27:56 AM	Anions Gradient Program
158	DI H2O	091117	Finished	12/29/2017 4:42:29 AM	Anions Gradient Program
159	HS17120932-19DF20	091117	Finished	12/29/2017 4:57:02 AM	Anions Gradient Program
160	DI H2O	091117	Finished	12/29/2017 5:11:35 AM	Anions Gradient Program
161	CCV1	091117	Finished	12/29/2017 5:26:08 AM	Anions Gradient Program
162	CCB	091117	Finished	12/29/2017 5:40:41 AM	Anions Gradient Program
163	WBLKW1-122817	091117	Finished	12/29/2017 5:55:14 AM	Anions Gradient Program
164	WLCSW1-122817	091117	Finished	12/29/2017 6:09:47 AM	Anions Gradient Program
165	WLCSDW1-122817	091117	Finished	12/29/2017 6:24:20 AM	Anions Gradient Program
166	HS17120839-01	091117	Finished	12/29/2017 6:38:52 AM	Anions Gradient Program
167	HS17120839-01MS	091117	Finished	12/29/2017 6:53:24 AM	Anions Gradient Program
168	HS17120839-01MSD	091117	Finished	12/29/2017 7:07:57 AM	Anions Gradient Program

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Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\09-2017
Timebase: ICS2100
#Samples: 204
Created: 12/27/2017 1:38:23 PM by alshs.nouser
Last Update: 1/2/2018 11:09:17 AM by alshs.nouser

No.	Name	GUID
127	HS17120806-16	d7fc55b0-ec45-11e7-b6d8-a1ac6b506e3a
128	HS17120806-20	e057c61e-ec47-11e7-b6d8-a1ac6b506e3a
129	HS17120806-27	e8a2862b-ec49-11e7-b6d8-a1ac6b506e3a
130	HS17120806-28	f0fb9442-ec4b-11e7-b6d8-a1ac6b506e3a
131	HS17120806-29	f935a3ee-ec4d-11e7-b6d8-a1ac6b506e3a
132	HS17120857-01	0191145c-ec50-11e7-b6d8-a1ac6b506e3a
133	HS17120857-01MS	09dbd469-ec52-11e7-b6d8-a1ac6b506e3a
134	HS17120857-01MSD	1228f6cd-ec54-11e7-b6d8-a1ac6b506e3a
135	HS17120857-02	1a84673b-ec56-11e7-b6d8-a1ac6b506e3a
136	HS17120862-02	2279530c-ec58-11e7-b6d8-a1ac6b506e3a
137	CCV1	2ac41319-ec5a-11e7-b6d8-a1ac6b506e3a
138	CCB	330ed326-ec5c-11e7-b6d8-a1ac6b506e3a
139	HS17120857-03	3ae722e3-ec5e-11e7-b6d8-a1ac6b506e3a
140	HS17120857-04	43429351-ec60-11e7-b6d8-a1ac6b506e3a
141	HS17120857-05	4b293118-ec62-11e7-b6d8-a1ac6b506e3a
142	HS17120857-06	5384a186-ec64-11e7-b6d8-a1ac6b506e3a
143	DI H2O	5bcf6193-ec66-11e7-b6d8-a1ac6b506e3a
144	HS17120860-01	642ad201-ec68-11e7-b6d8-a1ac6b506e3a
145	HS17120860-02	6c116fc8-ec6a-11e7-b6d8-a1ac6b506e3a
146	HS17120860-03	7408bdf0-ec6c-11e7-b6d8-a1ac6b506e3a
147	HS17120860-04	7c74debf-ec6e-11e7-b6d8-a1ac6b506e3a
148	DI H2O	84aeee6b-ec70-11e7-b6d8-a1ac6b506e3a
149	CCV	8cf9ae78-ec72-11e7-b6d8-a1ac6b506e3a
150	CCB	94f35ef7-ec74-11e7-b6d8-a1ac6b506e3a
151	HS17121254-01	9ce84ac8-ec76-11e7-b6d8-a1ac6b506e3a
152	HS17121254-02	a5461d8d-ec78-11e7-b6d8-a1ac6b506e3a
153	HS17121254-03	ad8e7b43-ec7a-11e7-b6d8-a1ac6b506e3a
154	HS17121254-04	b585c96b-ec7c-11e7-b6d8-a1ac6b506e3a
155	HS17121254-05	bdd08978-ec7e-11e7-b6d8-a1ac6b506e3a
156	HS17121254-06	c60a9924-ec80-11e7-b6d8-a1ac6b506e3a
157	DI H2O	ce01e74c-ec82-11e7-b6d8-a1ac6b506e3a
158	DI H2O	d64ca759-ec84-11e7-b6d8-a1ac6b506e3a
159	HS17120932-19DF20	dea817c7-ec86-11e7-b6d8-a1ac6b506e3a
160	DI H2O	e6d683e2-ec88-11e7-b6d8-a1ac6b506e3a
161	CCV1	ef2fd2e1-ec8a-11e7-b6d8-a1ac6b506e3a
162	CCB	f78b434f-ec8c-11e7-b6d8-a1ac6b506e3a
163	WBLKW1-122817	ffc552fb-ec8e-11e7-b6d8-a1ac6b506e3a
164	WLCSW1-122817	08101308-ec91-11e7-b6d8-a1ac6b506e3a
165	WLCSDW1-122817	105ad315-ec93-11e7-b6d8-a1ac6b506e3a
166	HS17120839-01	18a59322-ec95-11e7-b6d8-a1ac6b506e3a
167	HS17120839-01MS	207b8088-ec97-11e7-b6d8-a1ac6b506e3a
168	HS17120839-01MSD	28942f72-ec99-11e7-b6d8-a1ac6b506e3a

Sequence: 122717
Operator: alshs.nouser

Printed: 1/10/2018 3:08:44 PM

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\09-2017
Timebase: ICS2100
#Samples: 204

Created: 12/27/2017 1:38:23 PM by alshs.nouser
Last Update: 1/2/2018 11:09:17 AM by alshs.nouser

No.	Name	Comment	Type	Pos.	Dil. Factor	Inj. Vol.	*Initial_Vol_Wt	*Final_Volume
169	DI H2O		Unknown	35	1.0000	10.0	1.00	1.00
170	CCV	KEEP SO4 CL* OFF	Unknown	1	1.0000	10.0	1.00	1.00
171	CCB	KEEP SO4 CL*0.9 OFF	Unknown	2	1.0000	10.0	1.00	1.00
172	HS17121314-01	CG NO3 12.28.17 7PM	Unknown	10	1.0000	10.0	1.00	1.00
173	HS17120921-01DF200	CL X	Unknown	96	200.0000	10.0	1.00	1.00
174	HS17120921-02DF200	CL X	Unknown	97	200.0000	10.0	1.00	1.00
175	HS17120921-03DF200	CL X	Unknown	98	200.0000	10.0	1.00	1.00
176	HS17120921-04DF200	CL X	Unknown	99	200.0000	10.0	1.00	1.00
177	HS17120921-05DF200	CL X	Unknown	100	200.0000	10.0	1.00	1.00
178	DI H2O		Unknown	35	1.0000	10.0	1.00	1.00
179	DI H2O		Unknown	35	1.0000	10.0	1.00	1.00
180	CCV1		Unknown	3	1.0000	10.0	1.00	1.00
181	CCB		Unknown	4	1.0000	10.0	1.00	1.00
182	WBLKW1-122817	RR for CL	Unknown	90	1.0000	10.0	1.00	1.00
183	WLCSW1-122817	RR for CL	Unknown	91	1.0000	10.0	1.00	1.00
184	WLCSDW1-122817	RR for CL	Unknown	92	1.0000	10.0	1.00	1.00
185	HS17120839-01DF20	RR for CL	Unknown	5	20.0000	10.0	1.00	1.00
186	HS17120839-01DF20MS	RR for CL	Unknown	6	20.0000	10.0	1.00	1.00
187	HS17120839-01DF20MSD	RR for CL	Unknown	7	20.0000	10.0	1.00	1.00
188	HS17120921-06DF200	CL	Unknown	8	200.0000	10.0	1.00	1.00
189	HS17120921-07DF200	CL	Unknown	9	200.0000	10.0	1.00	1.00
190	HS17120921-01DF200	CL RR	Unknown	96	200.0000	10.0	1.00	1.00
191	DI H2O		Unknown	35	1.0000	10.0	1.00	1.00
192	CCV		Unknown	1	1.0000	10.0	1.00	1.00
193	CCB		Unknown	2	1.0000	10.0	1.00	1.00
194	HS17120921-02DF200	CL RR	Unknown	97	200.0000	10.0	1.00	1.00
195	HS17120921-03DF200	CL RR	Unknown	98	200.0000	10.0	1.00	1.00
196	HS17120921-04DF200	CL RR	Unknown	99	200.0000	10.0	1.00	1.00
197	HS17120921-05DF200	CL RR	Unknown	100	200.0000	10.0	1.00	1.00
198	HS17120916-03	F	Unknown	44	1.0000	10.0	1.00	1.00
199	HS17120916-01DF2	F	Unknown	45	2.0000	10.0	1.00	1.00
200	HS17120916-02DF2	F	Unknown	46	2.0000	10.0	1.00	1.00
201	DI H2O		Unknown	35	1.0000	10.0	1.00	1.00
202	DI H2O		Unknown	35	1.0000	10.0	1.00	1.00
203	CCV		Unknown	1	1.0000	10.0	1.00	1.00
204	CCB		Unknown	2	1.0000	10.0	1.00	1.00

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Sequence: 122717
Operator: alshs.nouser

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\09-2017
Timebase: ICS2100
#Samples: 204

Created: 12/27/2017 1:38:23 PM by alshs.nouser
Last Update: 1/2/2018 11:09:17 AM by alshs.nouser

No.	Name	Method	Status	Inj. Date/Time	Program
169	DI H2O	091117	Finished	12/29/2017 7:22:30 AM	Anions Gradient Program
170	CCV	091117	Finished	12/29/2017 7:37:03 AM	Anions Gradient Program
171	CCB	091117	Finished	12/29/2017 7:51:36 AM	Anions Gradient Program
172	HS17121314-01	091117	Finished	12/29/2017 8:06:09 AM	Anions Gradient Program
173	HS17120921-01DF200	091117	Finished	12/29/2017 8:20:42 AM	Anions Gradient Program
174	HS17120921-02DF200	091117	Finished	12/29/2017 8:35:15 AM	Anions Gradient Program
175	HS17120921-03DF200	091117	Finished	12/29/2017 8:49:48 AM	Anions Gradient Program
176	HS17120921-04DF200	091117	Finished	12/29/2017 9:04:20 AM	Anions Gradient Program
177	HS17120921-05DF200	091117	Finished	12/29/2017 9:18:53 AM	Anions Gradient Program
178	DI H2O	091117	Finished	12/29/2017 10:12:02 AM	Anions Gradient Program
179	DI H2O	091117	Finished	12/29/2017 10:26:35 AM	Anions Gradient Program
180	CCV1	091117	Finished	12/29/2017 10:41:07 AM	Anions Gradient Program
181	CCB	091117	Finished	12/29/2017 10:55:40 AM	Anions Gradient Program
182	WBLKW1-122817	091117	Finished	12/29/2017 11:10:13 AM	Anions Gradient Program
183	WLCSW1-122817	091117	Finished	12/29/2017 11:24:46 AM	Anions Gradient Program
184	WLCSDW1-122817	091117	Finished	12/29/2017 11:39:19 AM	Anions Gradient Program
185	HS17120839-01DF20	091117	Finished	12/29/2017 11:53:52 AM	Anions Gradient Program
186	HS17120839-01DF20MS	091117	Finished	12/29/2017 12:08:25 PM	Anions Gradient Program
187	HS17120839-01DF20MSD	091117	Finished	12/29/2017 12:22:57 PM	Anions Gradient Program
188	HS17120921-06DF200	091117	Finished	12/29/2017 12:37:30 PM	Anions Gradient Program
189	HS17120921-07DF200	091117	Finished	12/29/2017 12:52:03 PM	Anions Gradient Program
190	HS17120921-01DF200	091117	Finished	12/29/2017 1:06:36 PM	Anions Gradient Program
191	DI H2O	091117	Finished	12/29/2017 1:21:09 PM	Anions Gradient Program
192	CCV	091117	Finished	12/29/2017 1:35:42 PM	Anions Gradient Program
193	CCB	091117	Finished	12/29/2017 1:50:15 PM	Anions Gradient Program
194	HS17120921-02DF200	091117	Finished	12/29/2017 2:04:48 PM	Anions Gradient Program
195	HS17120921-03DF200	091117	Finished	12/29/2017 2:19:21 PM	Anions Gradient Program
196	HS17120921-04DF200	091117	Finished	12/29/2017 2:33:54 PM	Anions Gradient Program
197	HS17120921-05DF200	091117	Finished	12/29/2017 2:48:27 PM	Anions Gradient Program
198	HS17120916-03	091117	Finished	12/29/2017 3:02:59 PM	Anions Gradient Program
199	HS17120916-01DF2	091117	Finished	12/29/2017 3:17:32 PM	Anions Gradient Program
200	HS17120916-02DF2	091117	Finished	12/29/2017 3:32:05 PM	Anions Gradient Program
201	DI H2O	091117	Finished	12/29/2017 3:46:38 PM	Anions Gradient Program
202	DI H2O	091117	Finished	12/29/2017 4:01:11 PM	Anions Gradient Program
203	CCV	091117	Finished	12/29/2017 4:15:44 PM	Anions Gradient Program
204	CCB	091117	Finished	12/29/2017 4:30:17 PM	Anions Gradient Program

Title:
Datasource: DB7CGHK1_local
Location: ICS2100\Sequences and Data\09-2017
Timebase: ICS2100
#Samples: 204
Created: 12/27/2017 1:38:23 PM by alshs.nouser
Last Update: 1/2/2018 11:09:17 AM by alshs.nouser

No.	Name	GUID
169	DI H2O	30deef7f-ec9b-11e7-b6d8-a1ac6b506e3a
170	CCV	3918ff2b-ec9d-11e7-b6d8-a1ac6b506e3a
171	CCB	4163bf38-ec9f-11e7-b6d8-a1ac6b506e3a
172	HS17121314-01	49ae7f45-eca1-11e7-b6d8-a1ac6b506e3a
173	HS17120921-01DF200	5209efb3-eca3-11e7-b6d8-a1ac6b506e3a
174	HS17120921-02DF200	5a656021-eca5-11e7-b6d8-a1ac6b506e3a
175	HS17120921-03DF200	62a8f929-eca7-11e7-b6d8-a1ac6b506e3a
176	HS17120921-04DF200	6a8f96f0-eca9-11e7-b6d8-a1ac6b506e3a
177	HS17120921-05DF200	72df1bab-ecab-11e7-b6d8-a1ac6b506e3a
178	DI H2O	63288468-ecb2-11e7-b6d8-a1ac6b506e3a
179	DI H2O	e8379758-ecb4-11e7-b6d8-a1ac6b506e3a
180	CCV1	f03f95e1-ecb6-11e7-b6d8-a1ac6b506e3a
181	CCB	f836e409-ecb8-11e7-b6d8-a1ac6b506e3a
182	WBLKW1-122817	006e915e-ecbb-11e7-b6d8-a1ac6b506e3a
183	WLCSW1-122817	08bbb3c2-ecbd-11e7-b6d8-a1ac6b506e3a
184	WLCSDW1-122817	10f5c36e-ecbf-11e7-b6d8-a1ac6b506e3a
185	HS17120839-01DF20	19a4a5c1-ecc1-11e7-b6d8-a1ac6b506e3a
186	HS17120839-01DF20MS	21ed0377-ecc3-11e7-b6d8-a1ac6b506e3a
187	HS17120839-01DF20MSD	29e4519f-ecc5-11e7-b6d8-a1ac6b506e3a
188	HS17120921-06DF200	322f11ac-ecc7-11e7-b6d8-a1ac6b506e3a
189	HS17120921-07DF200	3a692158-ecc9-11e7-b6d8-a1ac6b506e3a
190	HS17120921-01DF200	42af1cb7-eccb-11e7-b6d8-a1ac6b506e3a
191	DI H2O	4b0f51d3-eccd-11e7-b6d8-a1ac6b506e3a
192	CCV	535a11e0-eccf-11e7-b6d8-a1ac6b506e3a
193	CCB	5ba4d1ed-ecd1-11e7-b6d8-a1ac6b506e3a
194	HS17120921-02DF200	63f1f451-ecd3-11e7-b6d8-a1ac6b506e3a
195	HS17120921-03DF200	6c408cdf-ecd5-11e7-b6d8-a1ac6b506e3a
196	HS17120921-04DF200	749a7a2d-ecd7-11e7-b6d8-a1ac6b506e3a
197	HS17120921-05DF200	7ce9fee8-ecd9-11e7-b6d8-a1ac6b506e3a
198	HS17120916-03	85240e94-ecdb-11e7-b6d8-a1ac6b506e3a
199	HS17120916-01DF2	8d6c6c4a-ecdd-11e7-b6d8-a1ac6b506e3a
200	HS17120916-02DF2	95ca3f0f-ecdf-11e7-b6d8-a1ac6b506e3a
201	DI H2O	9e33fd87-ece1-11e7-b6d8-a1ac6b506e3a
202	DI H2O	a67c5b3d-ece3-11e7-b6d8-a1ac6b506e3a
203	CCV	aec97da1-ece5-11e7-b6d8-a1ac6b506e3a
204	CCB	b7012af6-ece7-11e7-b6d8-a1ac6b506e3a

00879404

STD	Vendor	ID	Lot	Exp	Analyte	Con (PPM)
Primary IC STD	Inorganic Ventures	2970204315	M2-MEB659406	07/18/18	Br, Fl, NO3, NO3, o-PO4	100
					CL, SO4	500
Secondary IC STD	Inorganic Ventures	2970202501	K2-MEB640014	~~11/01/17~~	Br, Fl, NO2, NO3, o-PO4	100
					Cl, SO4	500
Eluent	ThermoScientific	74532	1.71072E-11	10/16/19		

Analyst: JBA Prep Date: 09/11/2017 Inst: ICS-2100

ICAL

Cal Levels (PPM)	STD ID	STD Exp Date	STOCK NAME	STOCK ID	STOCK EXP DATE	Vol Add (mL)	Final Vol (mL)	Analytes	Con (PPM)	Analytes	Con (PPM)
Inst STD IC	Inst STD IC 091117	~~9/12/2017~~	Primary IC STD	2970204315	7/18/2018	20	100	Br, Fl, NO3, NO3, o-PO4	20	CL, SO4	100

Cal Level	Vol Added(mL)	Final Vol (mL)	STD ID	Exp Date	STOCK Name	Stock Exp Date	Stock ID	Br, Fl, NO3, NO3, o-PO4 conc, PPM	CL, SO4 Conc, PPM
Cal 0.1/0.5 PPM	0.5	100	ICAL 0.1- 091117	~~9/12/2017~~	Inst STD IC	07/18/18	Inst STD IC 091117	0.1	0.50
Cal 0.4/2.0 ppm	2	100	ICAL 0.4- 091117	~~9/12/2017~~	Inst STD IC	07/18/18	Inst STD IC 091117	0.4	2.00
Cal 2.0/10 PPM	10	100	ICAL 2.0- 091117	~~9/12/2017~~	Inst STD IC	07/18/18	Inst STD IC 091117	2.0	10.0
Cal 4.0/20 PPM	20	100	ICAL 4.0- 091117	~~9/12/2017~~	Inst STD IC	07/18/18	Inst STD IC 091117	4.0	20.0
Cal 10/50 PPM	50	100	ICAL 10.0- 091117	~~9/12/2017~~	Inst STD IC	07/18/18	Inst STD IC 091117	10	50.0
Cal 20/100 PPM	20	100	ICAL 20.0- 091117	~~9/12/2017~~	Primary IC STD	07/18/18	2970204315	20	100
ICV	0.4	10	ICV 091117	~~9/12/2017~~	Secondary IC STD	07/18/18	2970202501	4.0	20.0
Eluent			74532		Eluent	10/16/19	74532		

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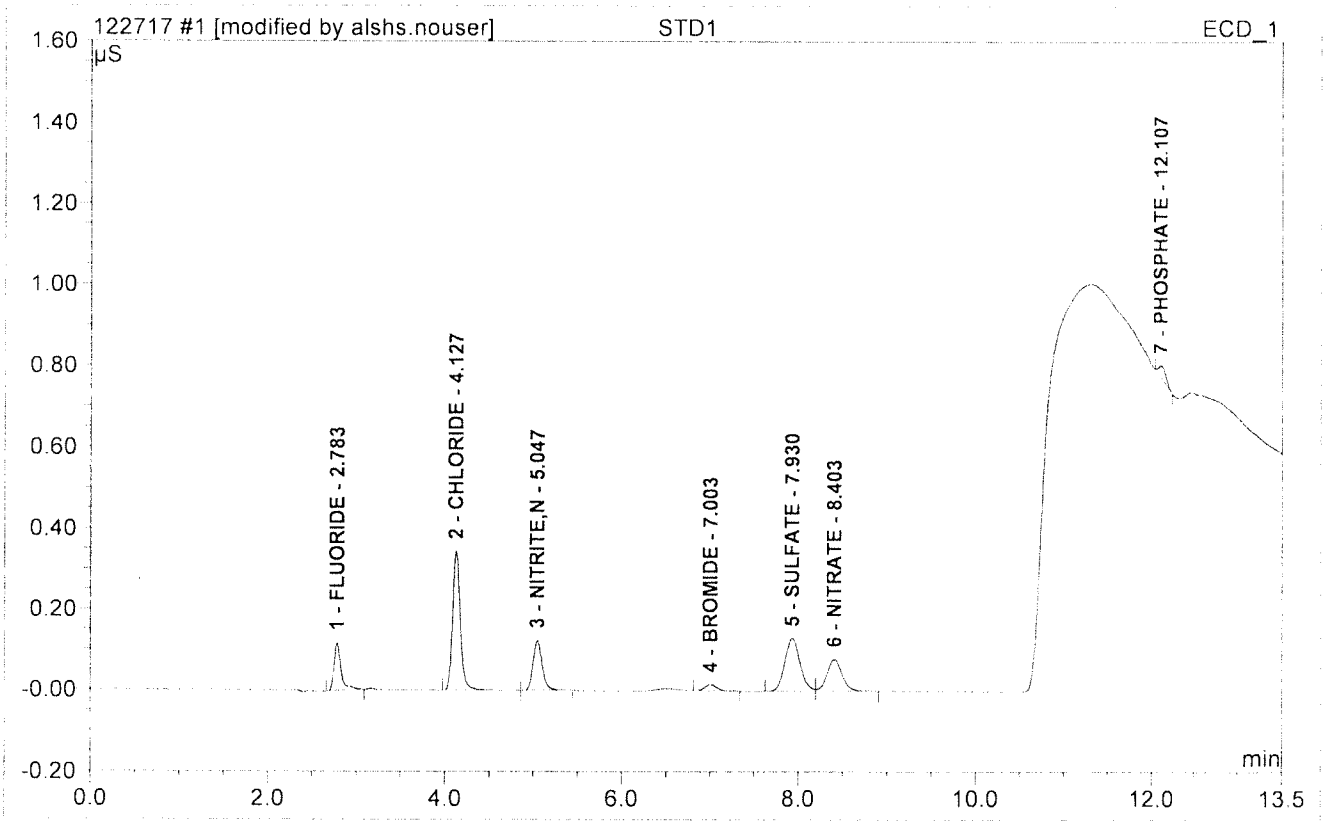
Analyst: JBA Prep Date: 12/28/2017 Inst: ICS-2100

CCV

Cal Level	Vol Added(mL)	Final Vol (mL)	STD ID	Exp Date	STOCK Name	Stock ID	Br, Fl, NO3, NO3, o-PO4 conc, PPM	CL, SO4 Conc, PPM
CCV/LCS/LCSD	0.4	10	CCV 122817	~~12/29/2017~~	Primary IC STD	2970204315	4.0	20.0
MS/MSD	0.2	10	LCS 122817	~~12/29/2017~~	Primary IC STD	2970204315	2.0	10.0

1 STD1

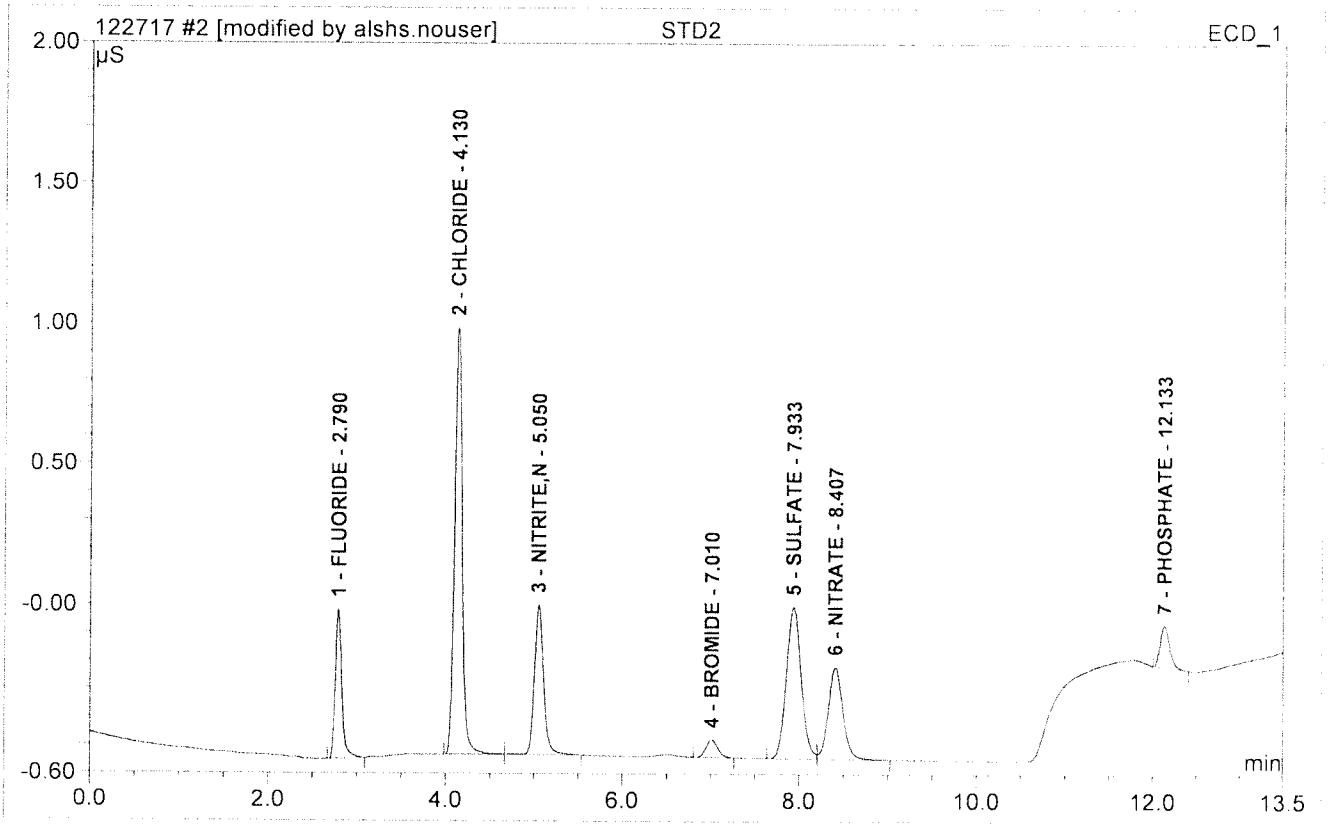
Sample Name:	**STD1**	*Injection Volume:*	**10.0**
Vial Number:	**1**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 13:39**	*Sample 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

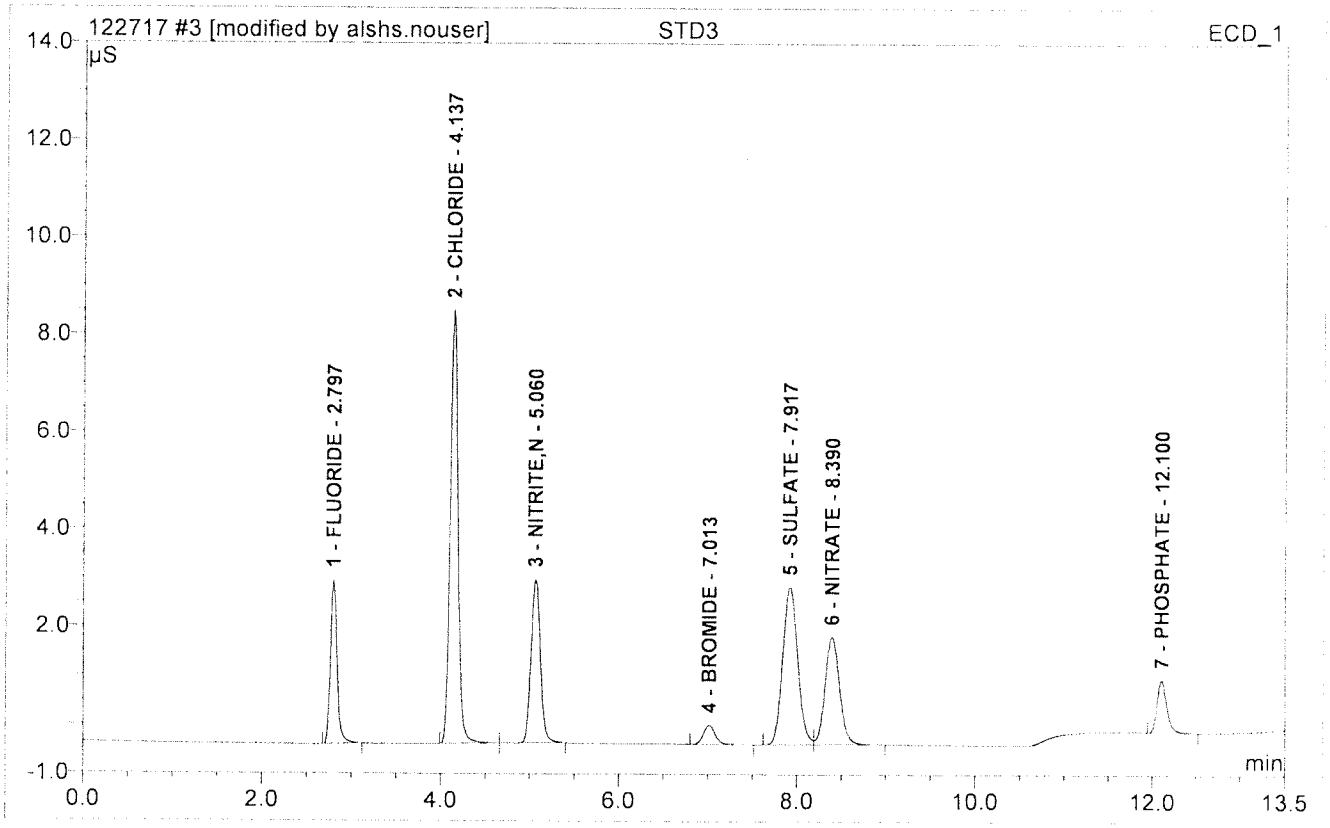
Sample Name:	**STD2**	*Injection Volume:*	**10.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 13:54**	*Sample 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

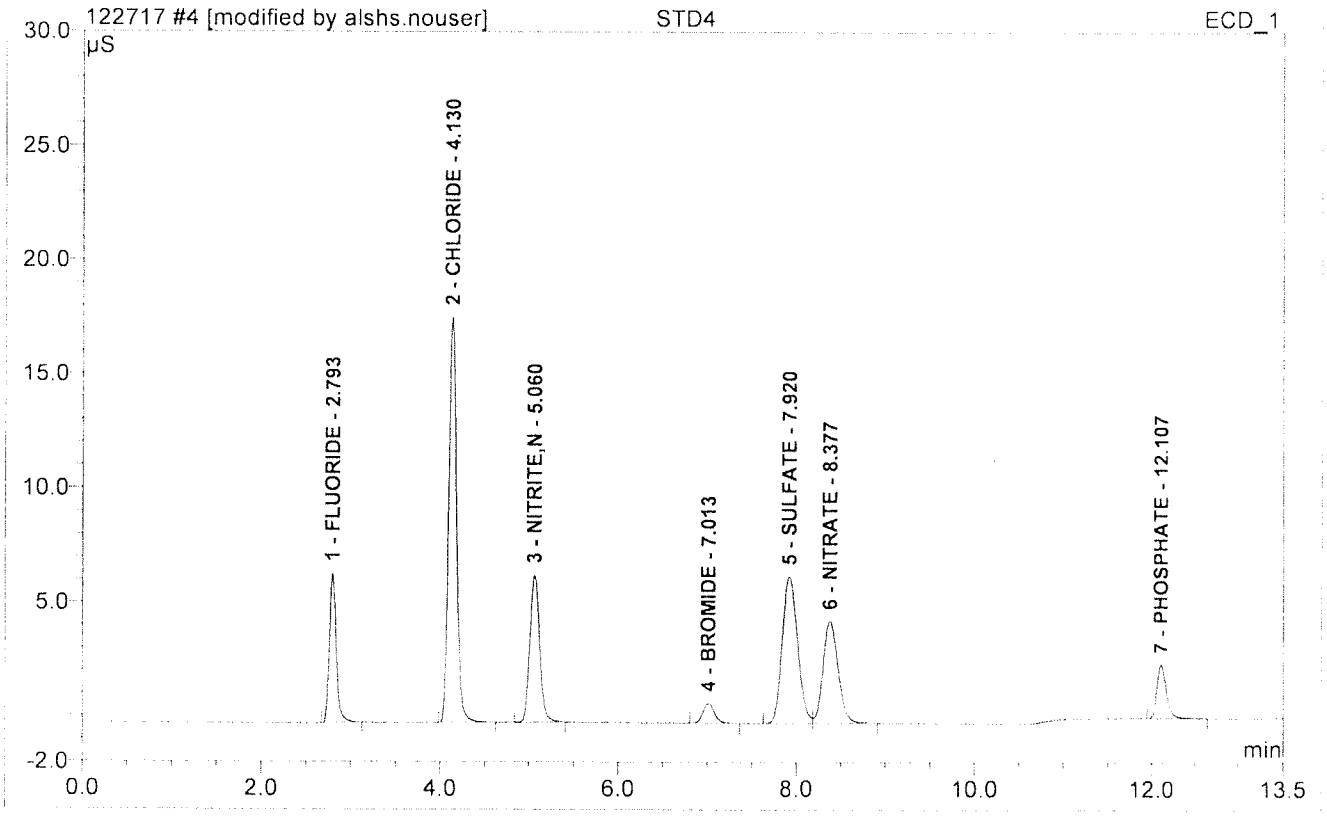
Sample Name:	**STD3**	*Injection Volume:*	**10.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 14:09**	*Sample 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

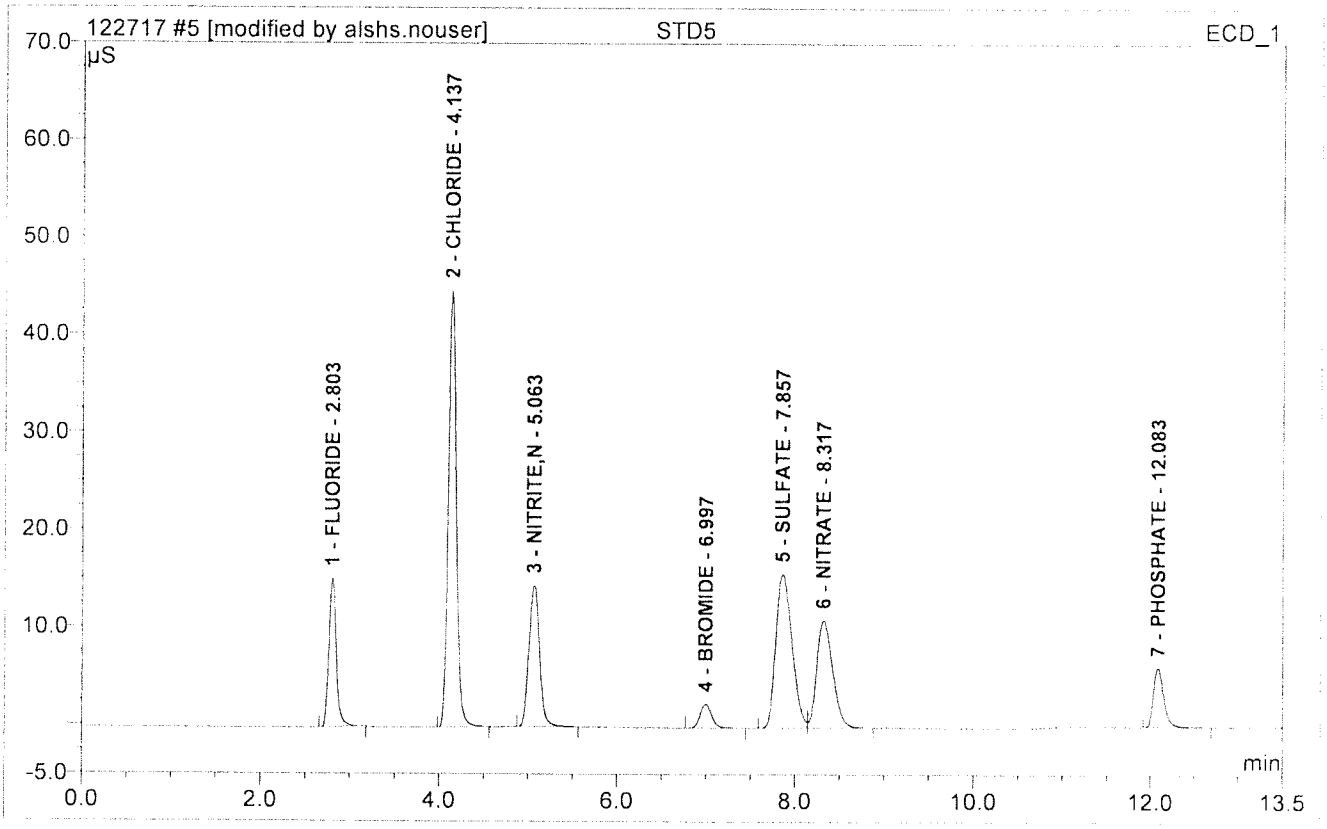
Sample Name:	**STD4**	*Injection Volume:*	**10.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 14:23**	*Sample 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

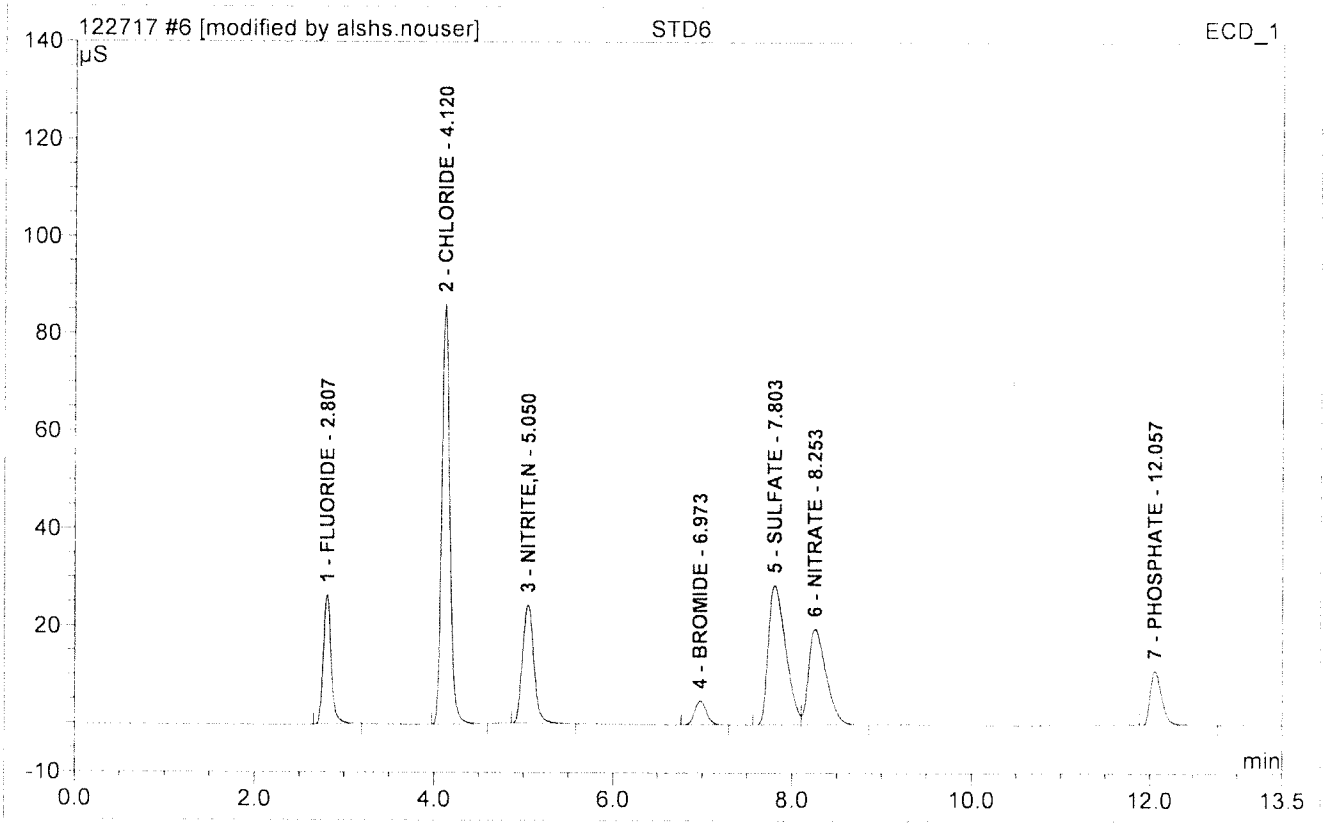
Sample Name:	**STD5**	*Injection Volume:*	**10.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 14:38**	*Sample 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

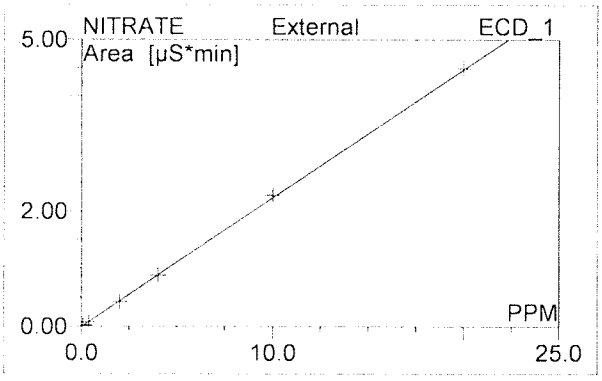
Sample Name:	**STD6**	*Injection Volume:*	**10.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 14:52**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**

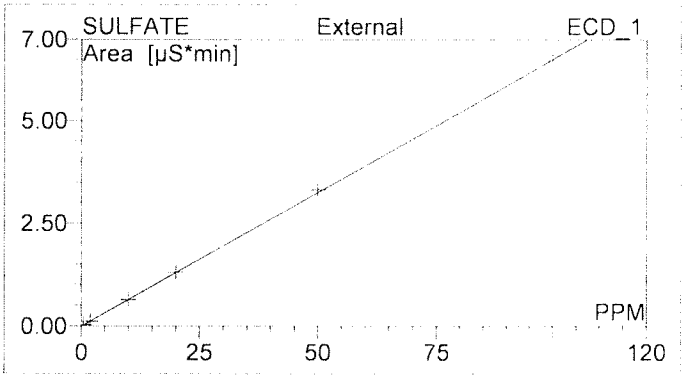


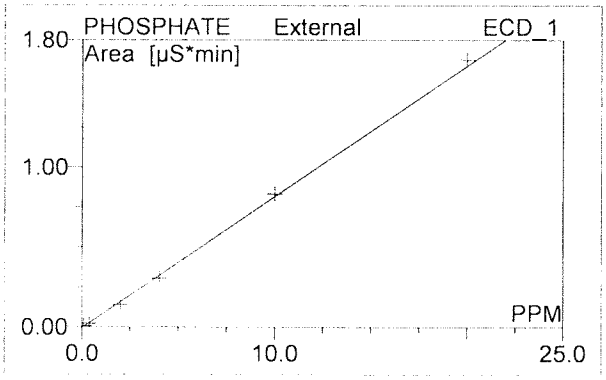
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.81	FLUORIDE	26.654	2.723	9.49	19.427	1.
2	4.12	CHLORIDE	86.222	8.991	31.33	98.877	1.
3	5.05	NITRITE,N	24.345	3.582	12.48	19.080	1.
4	6.97	BROMIDE	4.937	0.757	2.64	20.621	1.
5	7.80	SULFATE	28.773	6.482	22.59	99.422	1.
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	

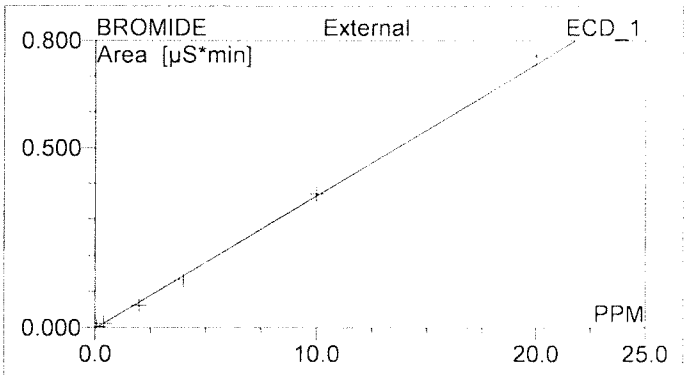
6 STD6

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**







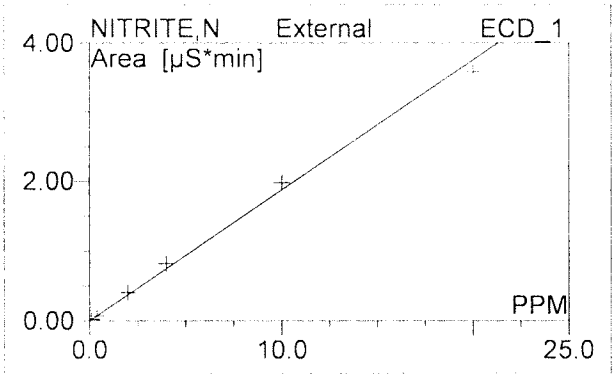


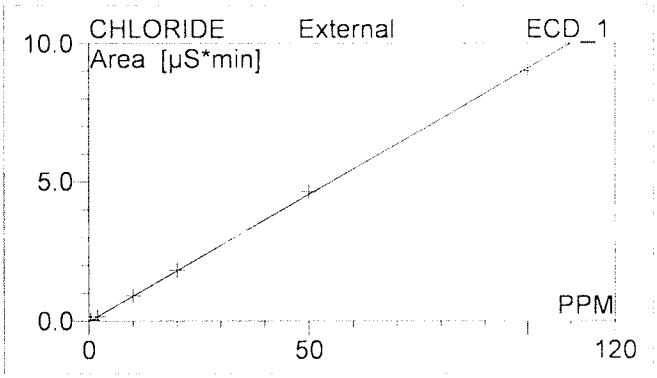
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The system cannot find the path specified.

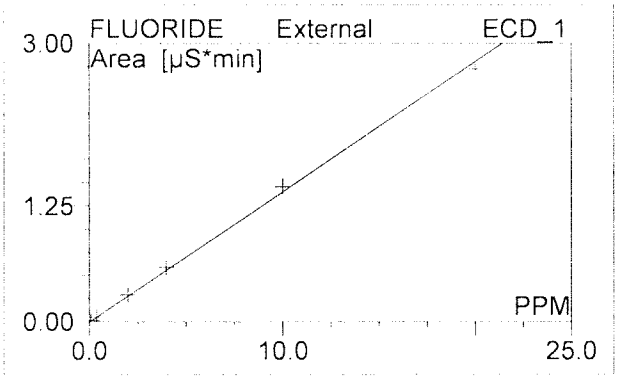
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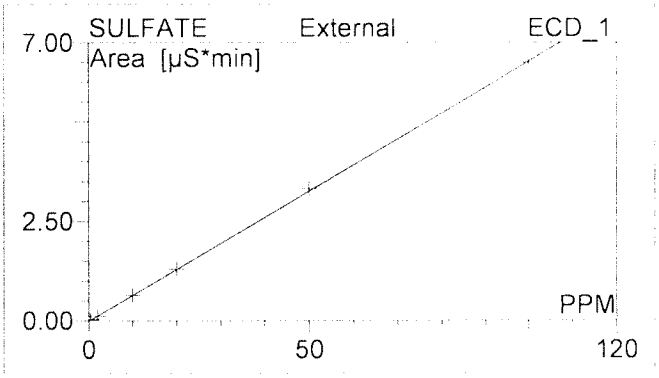
6 STD6

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:*	**1.000**
Recording Time:	**9/11/2017 14:52**	*Sample Weight/Volume:*	**1.000**
Run Time (min):	**13.50**	*Final Volume:*	**1.000**









Can't open raw data file "C:\Chromel\data\ICS2100\Sequences and Data\09-2017\122717.SEQ\CD_1.CHL\6.acd".
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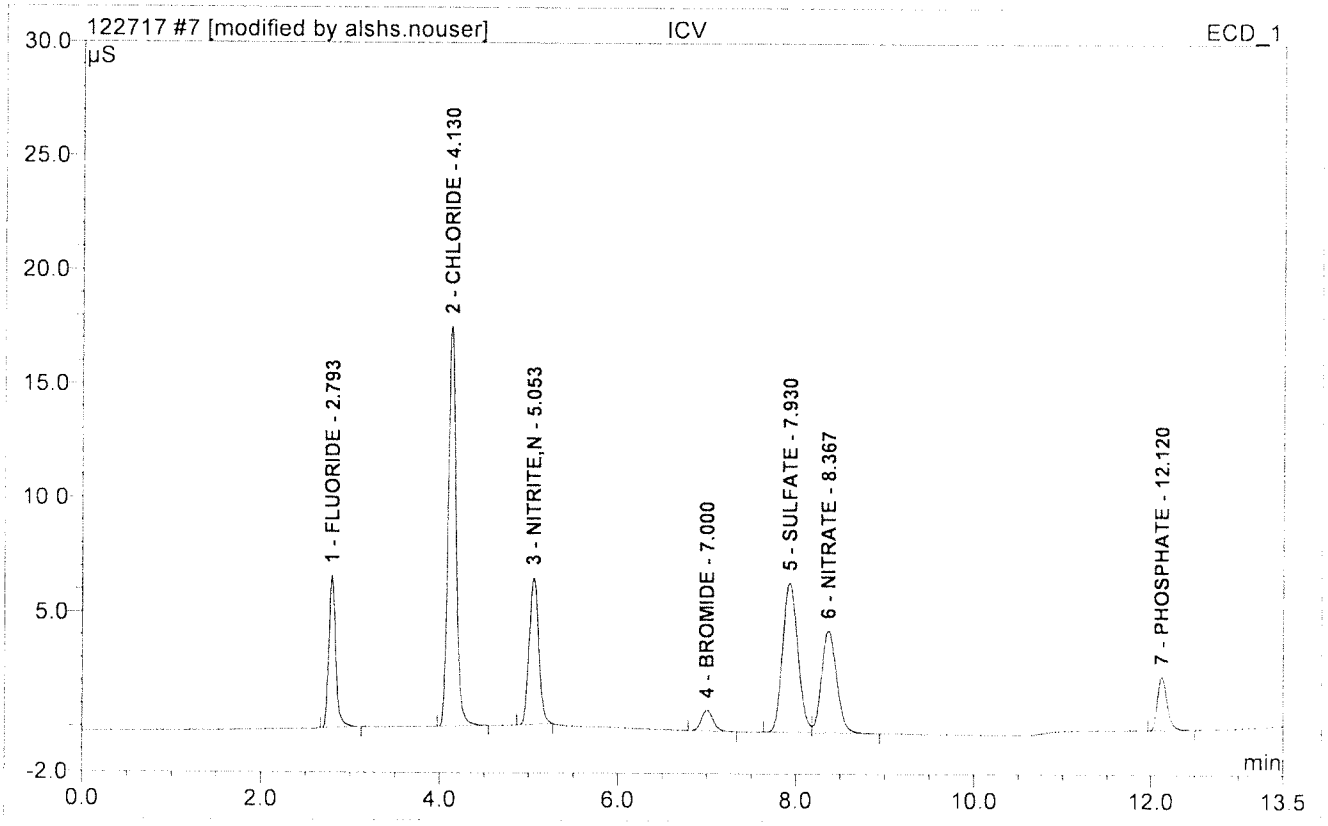
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The system cannot find the path specified.

No.	Ret.Time min	Peak Name	Cal.Type	Points	Coeff.Det. %	Offset	Slope	Curve
1	2.81	FLUORIDE	YLOff	6	99.8453	-0.0040	0.1404	0.000
2	4.12	CHLORIDE	XLOff	6	99.9646	-0.0143	0.0911	0.000
3	5.05	NITRITE,N	YLOff	6	99.6406	-0.0031	0.1879	0.000
4	6.97	BROMIDE	YLOff	6	99.6305	-0.0024	0.0368	0.000
5	7.80	SULFATE	XLOff	6	99.9670	-0.0104	0.0653	0.000
6	8.25	NITRATE	YLOff	6	99.9123	-0.0113	0.2245	0.000
7	12.06	PHOSPHATE	YLOff	6	99.6957	-0.0069	0.0822	0.000
Average:					99.8080	-0.0075	0.1183	0.000

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	11.789	0.011	21.772

7 ICV

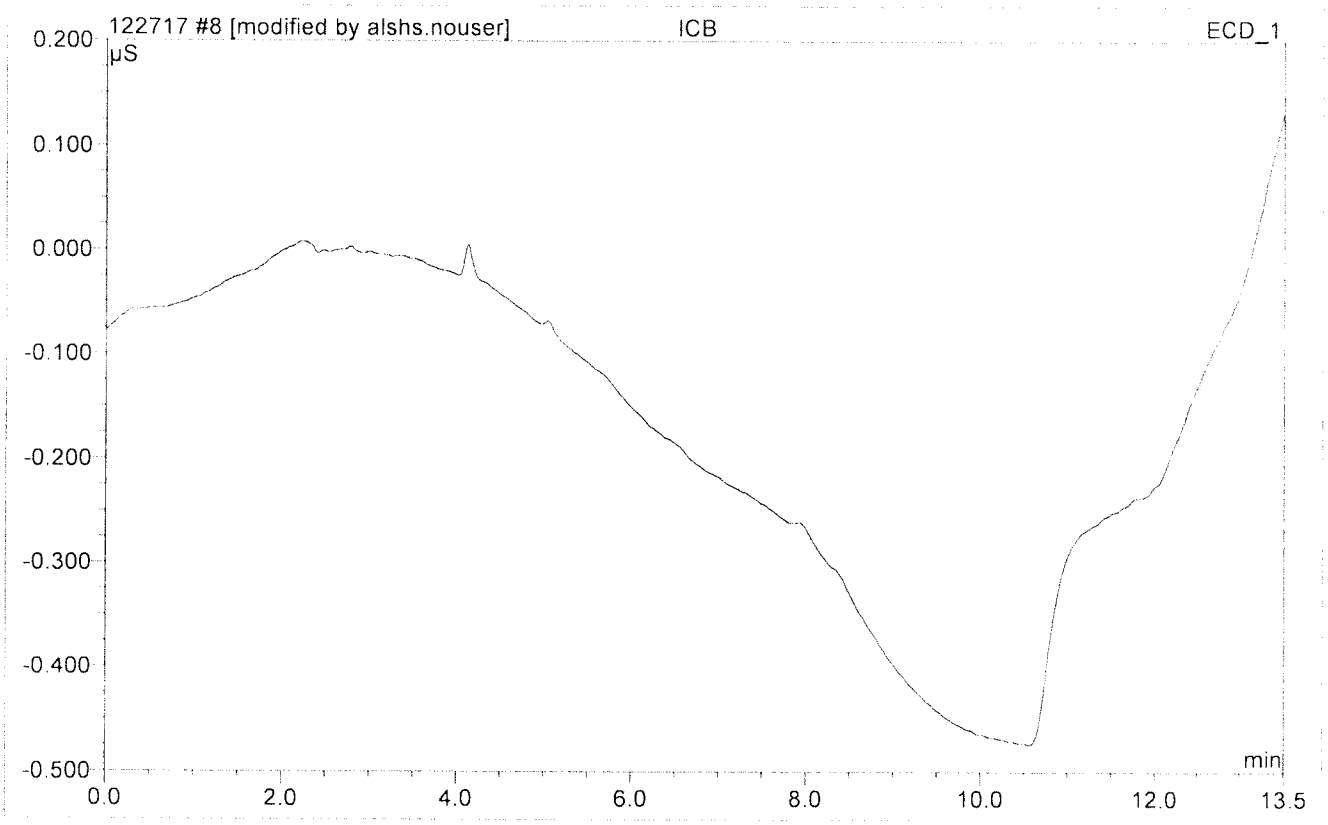
Sample Name:	**ICV**	*Injection Volume:*	**10.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 15:07**	*Sample 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

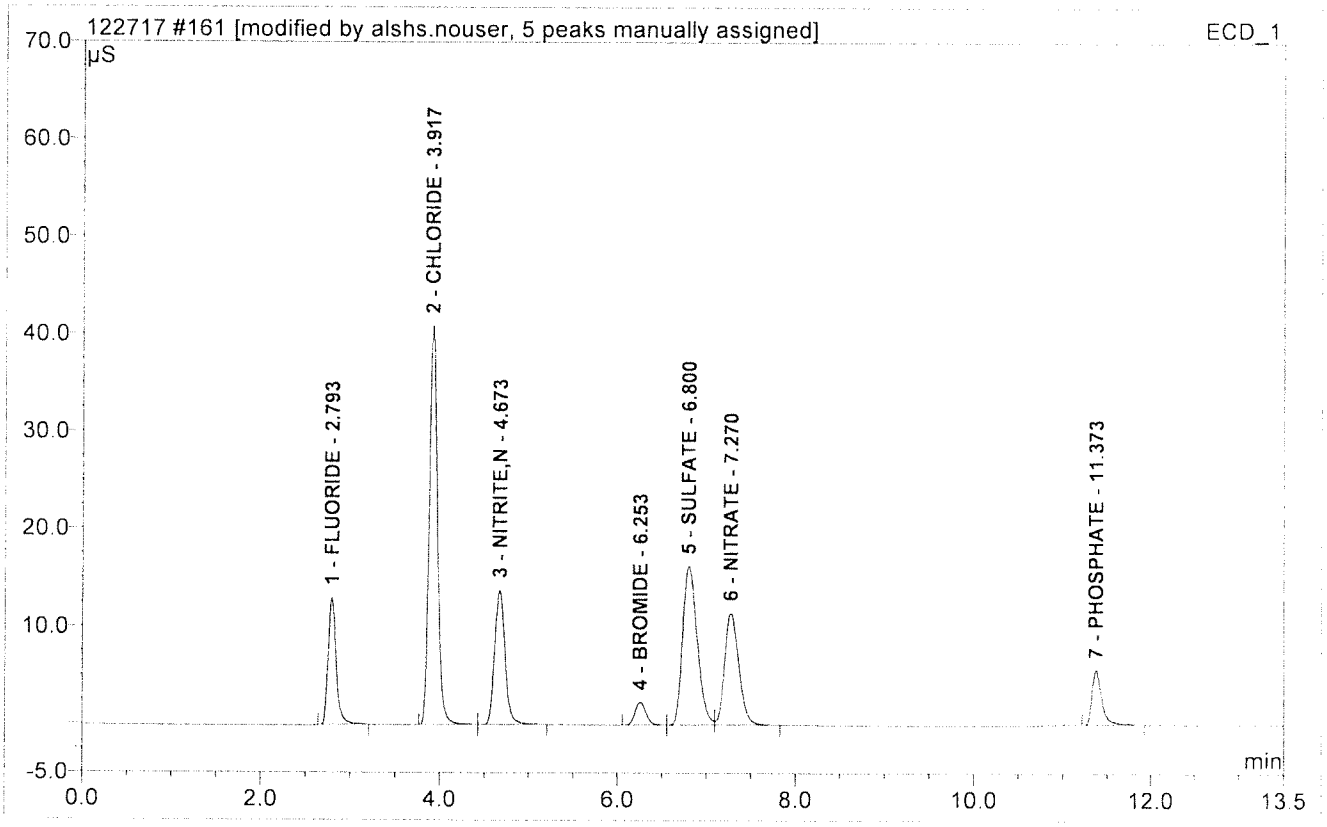
Sample Name:	**ICB**	*Injection Volume:*	**10.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**9/11/2017 15:21**	*Sample 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	

161 CCV1

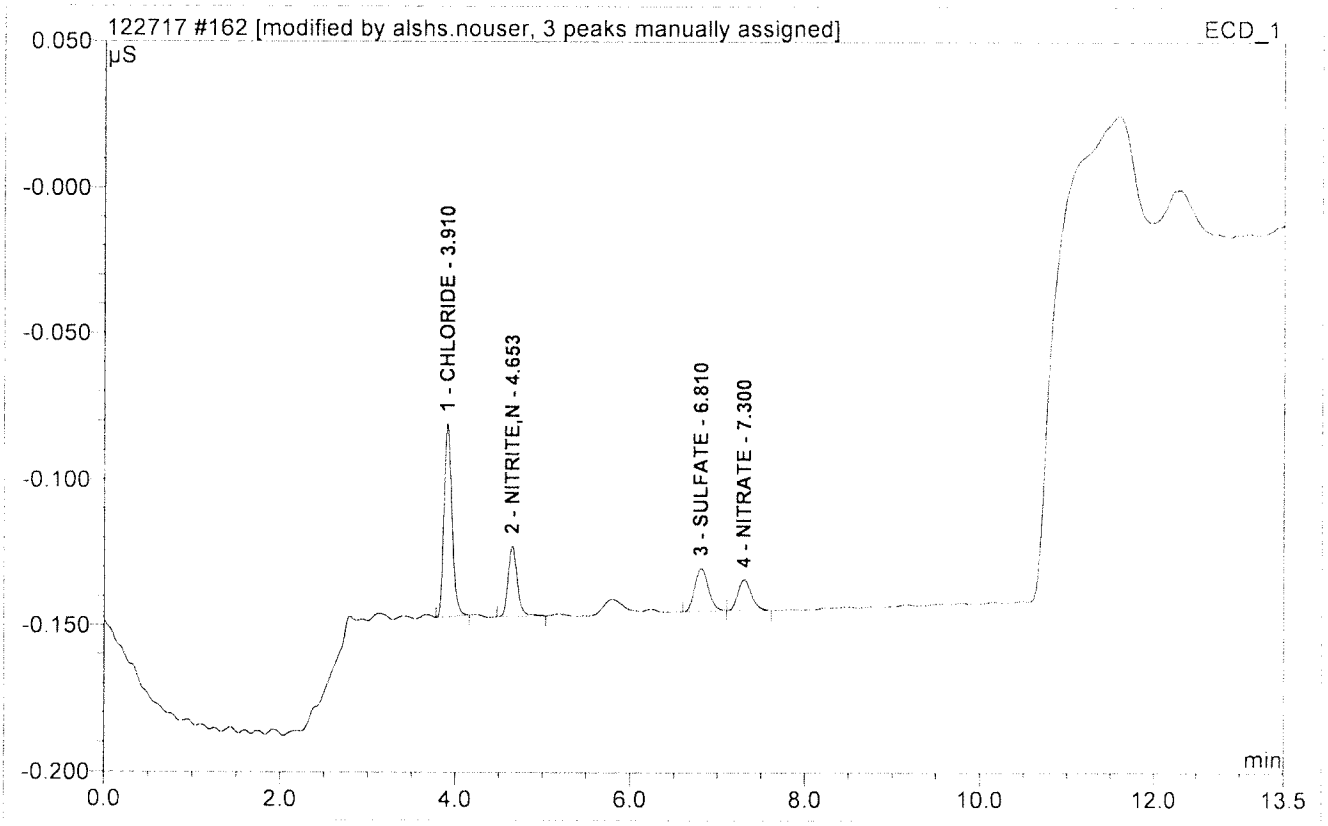
Sample Name:	**CCV1**	*Injection Volume:*	**10.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**12/29/2017 5:26**	*Sample 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	2.79	FLUORIDE	13.066	1.368	9.79	9.772	1.
2	3.92	CHLORIDE	40.976	4.366	31.24	48.095	1.
3	4.67	NITRITE,N	13.794	1.895	13.56	10.102	1.
4	6.25	BROMIDE	2.395	0.341	2.44	9.336	1.
5	6.80	SULFATE	16.305	3.127	22.38	48.047	1.
6	7.27	NITRATE	11.554	2.159	15.45	9.667	1.
7	11.37	PHOSPHATE	5.626	0.718	5.14	8.824	1.
Total:			103.716	13.974	100.00	143.842	

162 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:	**12/29/2017 5:40**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**

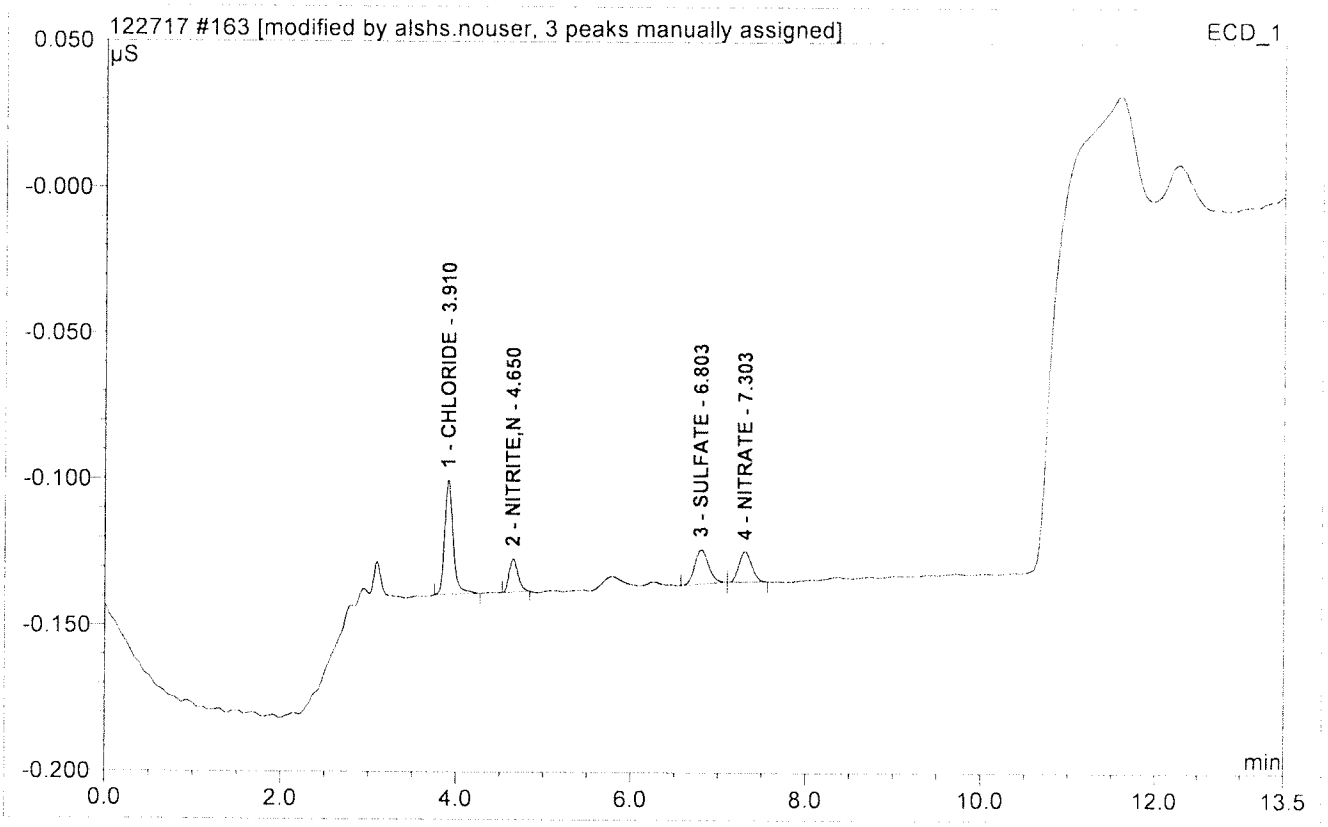


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	3.91	CHLORIDE	0.066	0.007	47.85	0.234	1.
2	4.65	NITRITE,N	0.024	0.003	20.54	0.032	1.
3	6.81	SULFATE	0.015	0.003	18.43	0.201	1.
4	7.30	NITRATE	0.011	0.002	13.18	0.059	1.
Total:			0.116	0.015	100.00	0.526	

163 WBLKW1-122817

9056 NO3X KEEP SO4

Sample Name:	**WBLKW1-122817**	*Injection Volume:*	**10.0**
Vial Number:	**90**	*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:	**12/29/2017 5:55**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**

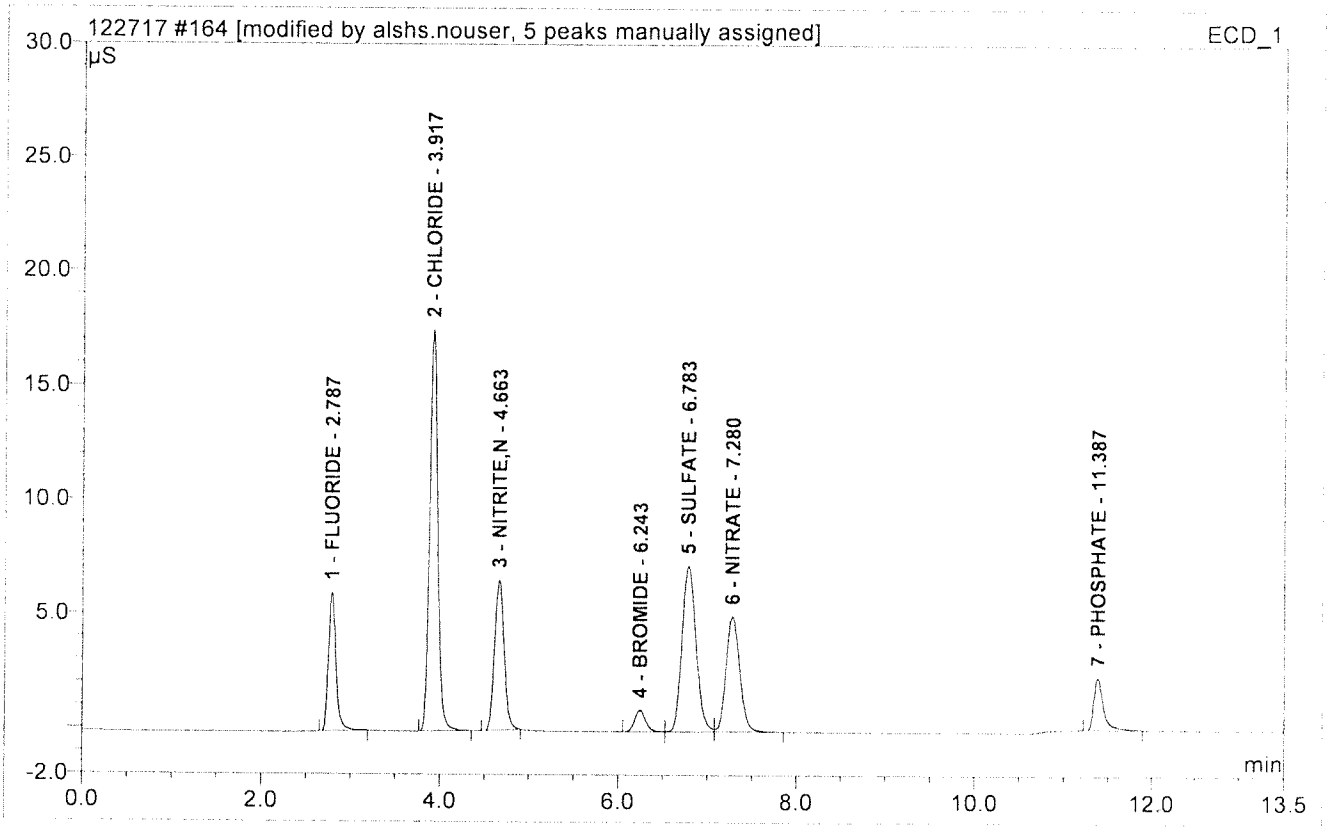


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	3.91	CHLORIDE	0.039	0.004	45.20	0.205	1.
2	4.65	NITRITE,N	0.011	0.001	13.90	0.024	1.
3	6.80	SULFATE	0.012	0.002	22.65	0.193	1.
4	7.30	NITRATE	0.010	0.002	18.24	0.058	1
Total:			0.072	0.010	100.00	0.480	

164 WLCSW1-122817

KEEP SO4 CL* OFF

Sample Name:	**WLCSW1-122817**	*Injection Volume:*	**10.0**
Vial Number:	**91**	*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:	**12/29/2017 6:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**

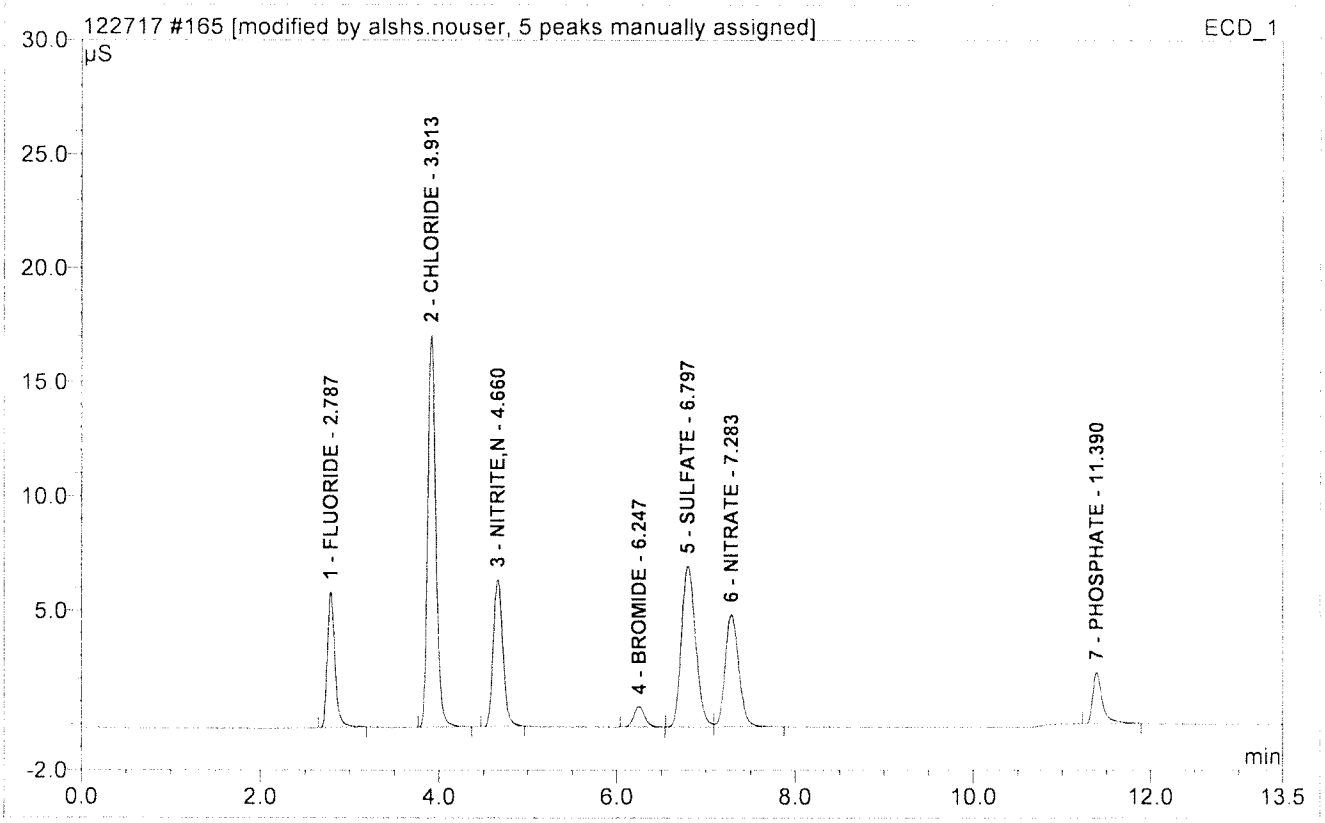


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.79	FLUORIDE	6.058	0.592	10.04	4.247	1.
2	3.92	CHLORIDE	17.551	1.848	31.33	20.444	1.
3	4.66	NITRITE,N	6.559	0.817	13.85	4.364	1.
4	6.24	BROMIDE	0.936	0.132	2.25	3.661	1.
5	6.78	SULFATE	7.246	1.327	22.50	20.478	1.
6	7.28	NITRATE	5.043	0.895	15.18	4.039	1.
7	11.39	PHOSPHATE	2.267	0.286	4.86	3.571	1.
Total:			45.660	5.898	100.00	60.805	

165 WLCSDW1-122817

KEEP SO4 CL* OFF

Sample Name:	**WLCSDW1-122817**	*Injection Volume:*	**10.0**
Vial Number:	**92**	*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:	**12/29/2017 6:24**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**

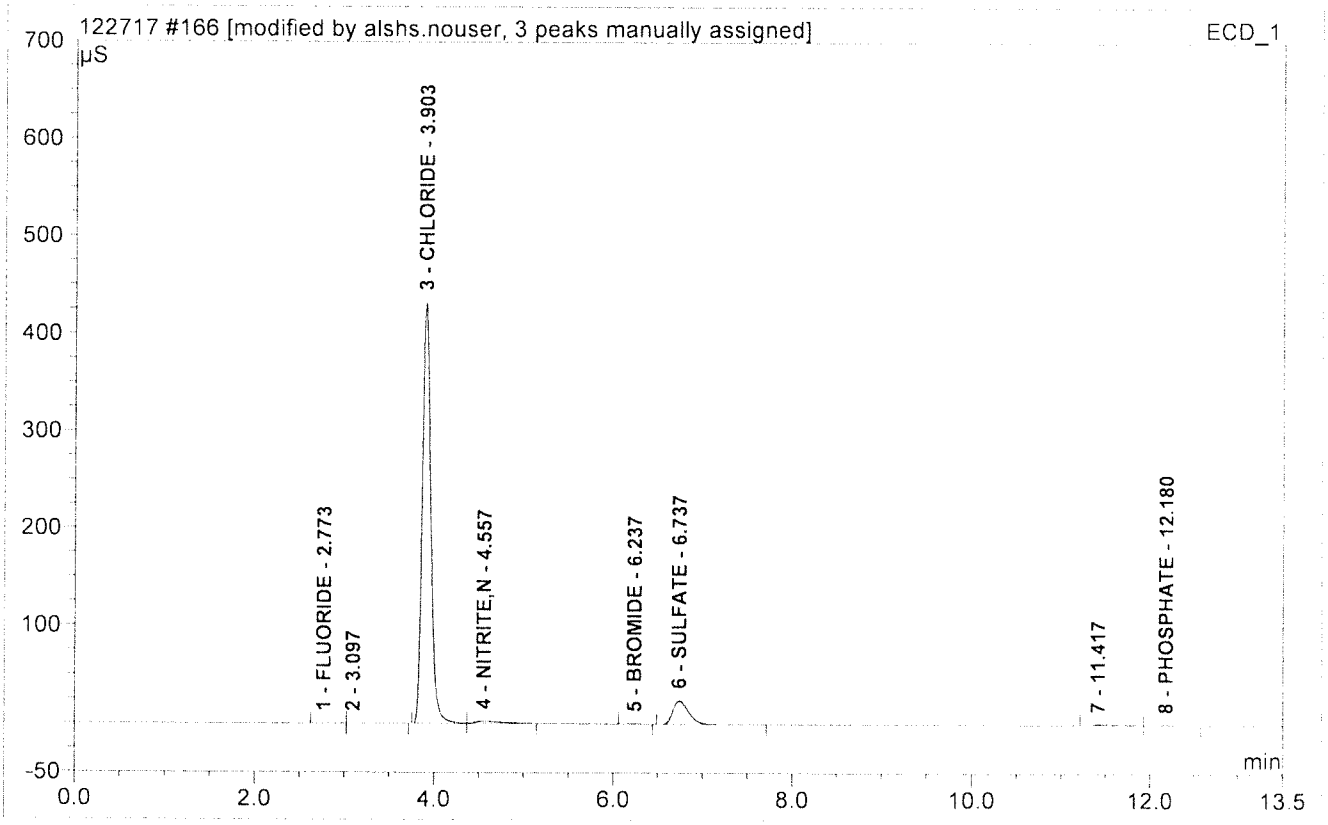


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.79	FLUORIDE	5.964	0.582	10.06	4.173	1.
2	3.91	CHLORIDE	17.197	1.809	31.27	20.021	1.
3	4.66	NITRITE,N	6.457	0.810	14.01	4.328	1.
4	6.25	BROMIDE	0.910	0.129	2.22	3.560	1.
5	6.80	SULFATE	7.075	1.296	22.40	20.008	1.
6	7.28	NITRATE	4.943	0.877	15.16	3.956	1.
7	11.39	PHOSPHATE	2.249	0.283	4.88	3.523	1.
Total:			44.795	5.785	100.00	59.570	

166 HS17120839-01

KEEP SO4 CL* OFF

Sample Name:	**HS17120839-01**	*Injection Volume:*	**10.0**
Vial Number:	**93**	*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:	**12/29/2017 6:38**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**

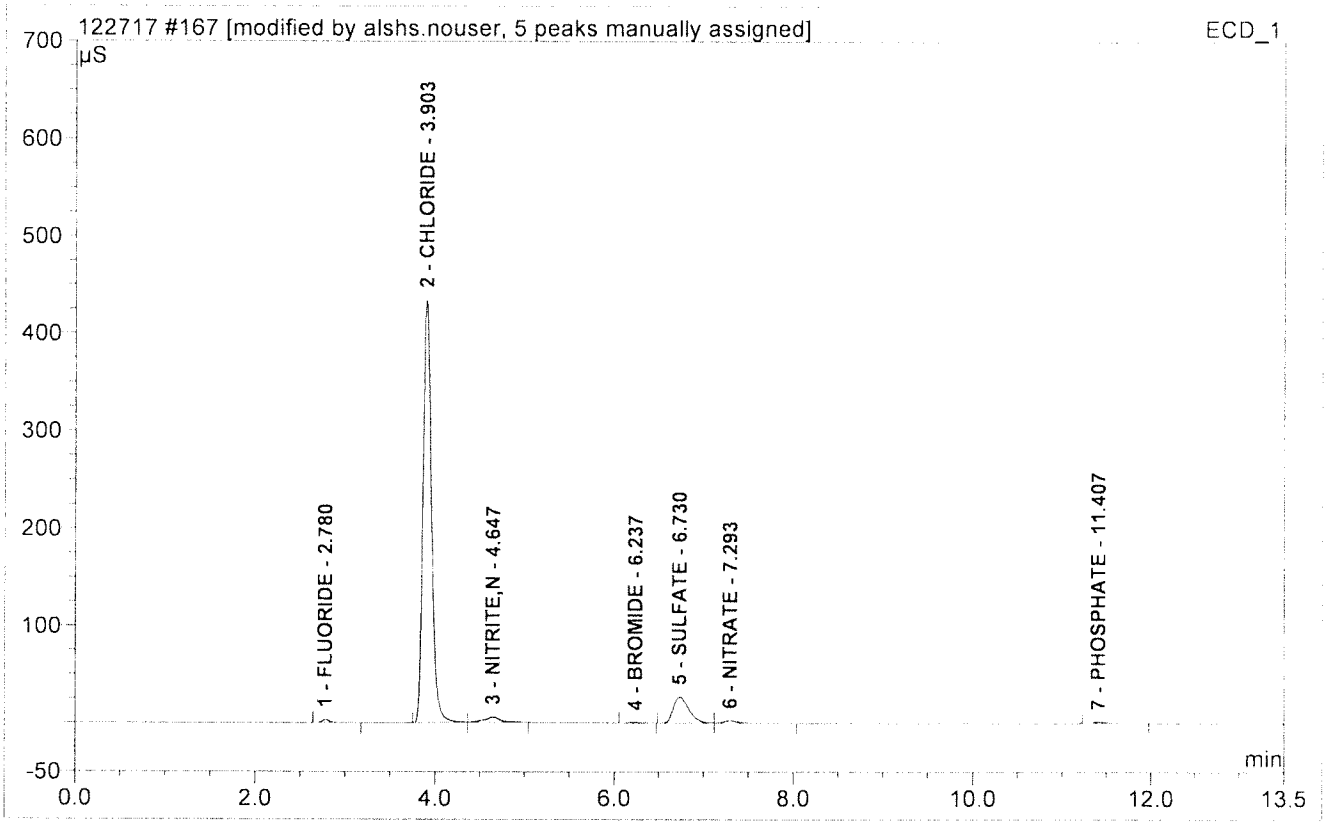


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.77	FLUORIDE	0.122	0.016	0.03	0.141	1.
3	3.90	CHLORIDE	431.843	47.487	88.89	521.582	1.
4	4.56	NITRITE,N	2.495	0.873	1.63	4.661	1.
5	6.24	BROMIDE	0.234	0.032	0.06	0.944	1.
6	6.74	SULFATE	24.071	4.868	9.11	74.699	1.
8	12.18	PHOSPHATE	0.026	0.009	0.02	0.194	1.
Total:			458.791	53.285	99.75	602.220	

167 HS17120839-01MS

KEEP SO4 CL* OFF

Sample Name:	**HS17120839-01MS**	*Injection Volume:*	**10.0**
Vial Number:	**94**	*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:	**12/29/2017 6:53**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**

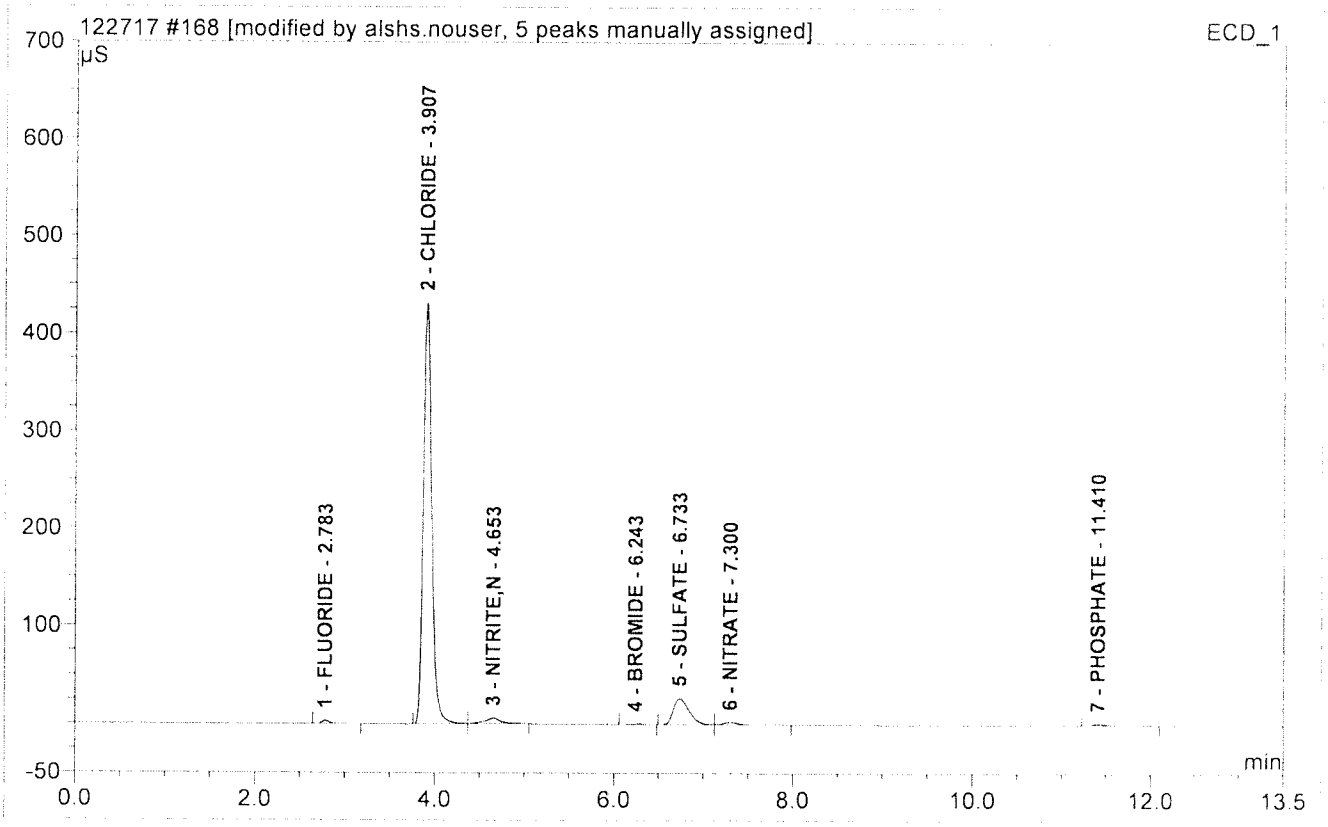


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.78	FLUORIDE	3.143	0.306	0.55	2.206	1.
2	3.90	CHLORIDE	434.305	47.810	85.87	525.124	1.
3	4.65	NITRITE,N	5.661	1.264	2.27	6.745	1
4	6.24	BROMIDE	0.711	0.099	0.18	2.741	1.
5	6.73	SULFATE	26.866	5.469	9.82	83.913	1.
6	7.29	NITRATE	2.547	0.465	0.84	2.123	1.
7	11.41	PHOSPHATE	1.680	0.265	0.48	3.313	1.
Total:			474.913	55.678	100.00	626.165	

168 HS17120839-01MSD

KEEP SO4 CL* OFF

Sample Name:	**HS17120839-01MSD**	*Injection Volume:*	**10.0**
Vial Number:	**95**	*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:	**12/29/2017 7:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**

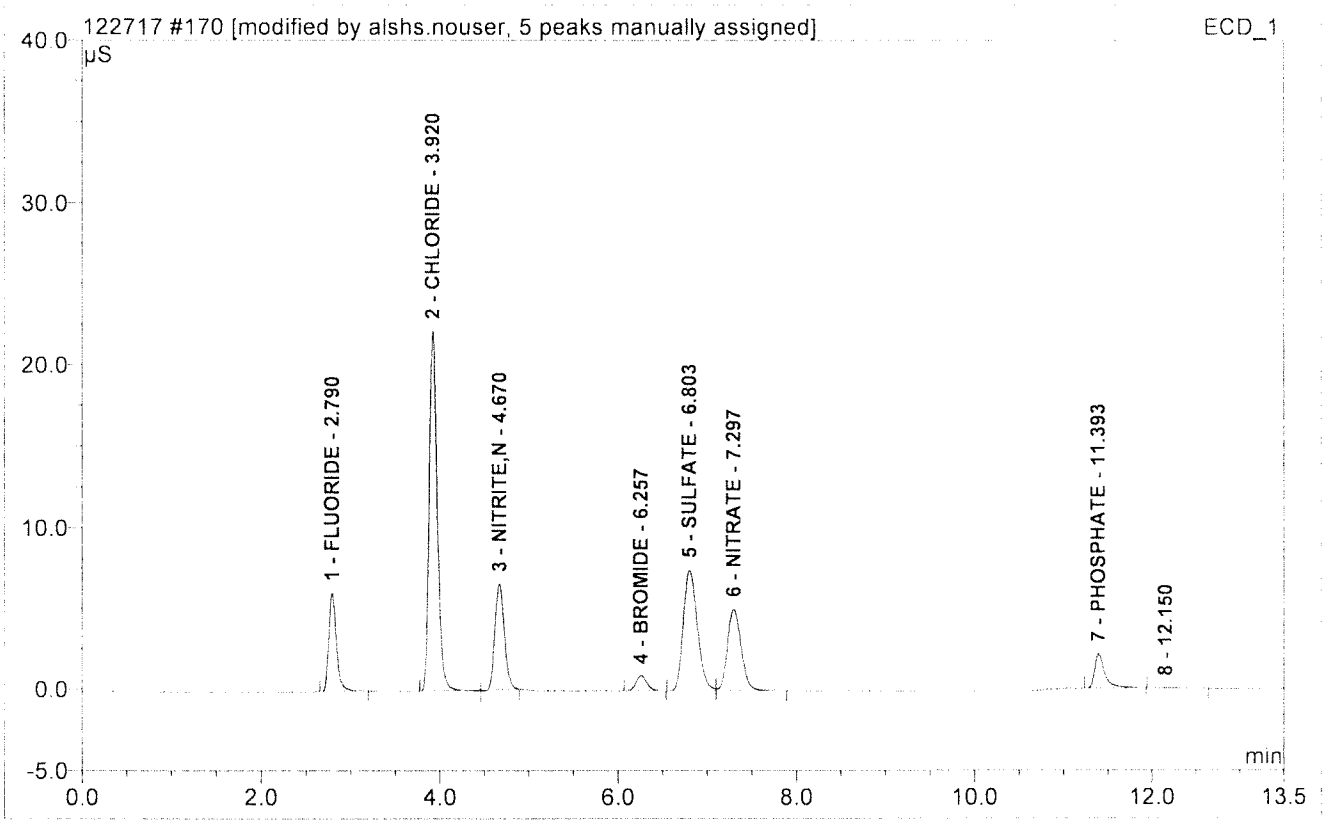


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.78	FLUORIDE	3.195	0.311	0.56	2.241	1.
2	3.91	CHLORIDE	431.236	47.471	85.84	521.409	1.
3	4.65	NITRITE,N	5.738	1.247	2.26	6.655	1.
4	6.24	BROMIDE	0.717	0.099	0.18	2.765	1.
5	6.73	SULFATE	26.637	5.443	9.84	83.504	1.
6	7.30	NITRATE	2.567	0.470	0.85	2.142	1.
7	11.41	PHOSPHATE	1.646	0.263	0.47	3.280	1.
Total:			471.735	55.304	100.00	621.996	

170 CCV

KEEP SO4 CL* OFF

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:	**12/29/2017 7:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**

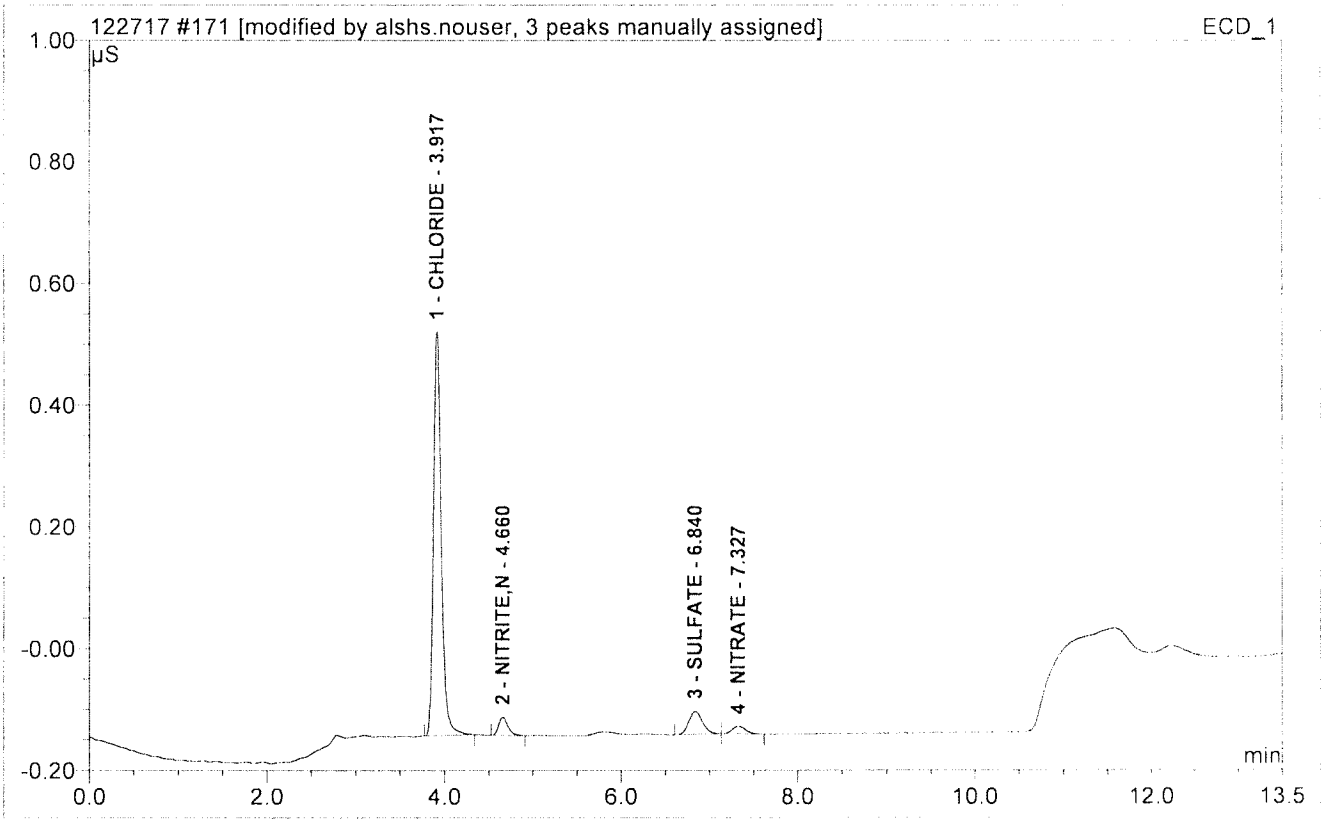


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.79	FLUORIDE	6.105	0.598	9.29	4.290	1.
2	3.92	CHLORIDE	22.171	2.337	36.31	25.821	1.
3	4.67	NITRITE,N	6.552	0.808	12.55	4.316	1.
4	6.26	BROMIDE	0.935	0.132	2.05	3.647	1.
5	6.80	SULFATE	7.473	1.375	21.36	21.215	1.
6	7.30	NITRATE	5.070	0.903	14.02	4.072	1.
7	11.39	PHOSPHATE	2.114	0.278	4.32	3.473	1.
Total:			50.419	6.431	99.91	66.833	

171 CCB

KEEP SO4 CL*0.9 OFF

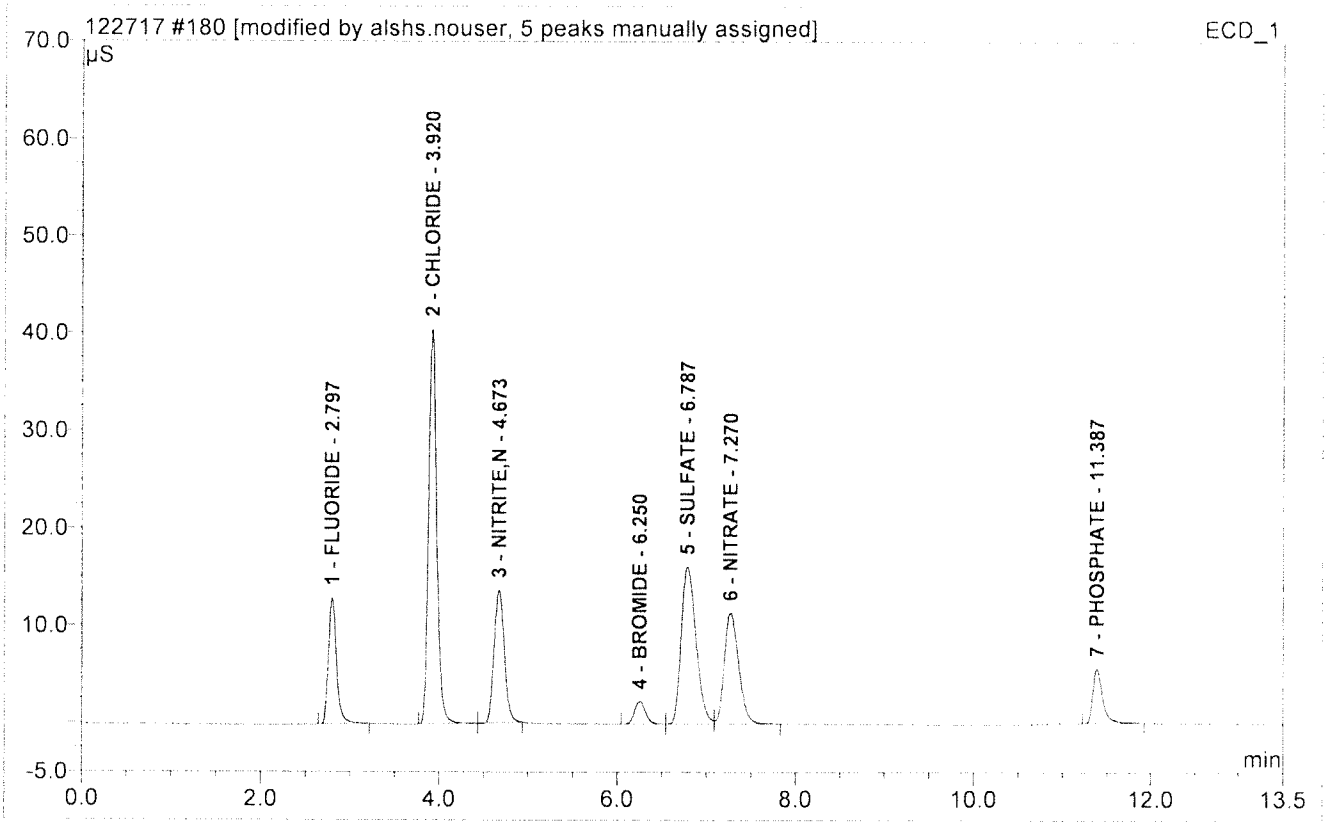
Sample Name:	**CCB**	*Injection Volume:*	**10.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**12/29/2017 7:51**	*Sample 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	0.663	0.068	84.14	0.902	1.
2	4.66	NITRITE,N	0.030	0.004	4.52	0.036	1.
3	6.84	SULFATE	0.038	0.007	8.59	0.266	1.
4	7.33	NITRATE	0.013	0.002	2.75	0.060	1.
Total:			0.744	0.081	100.00	1.264	

180 CCV1

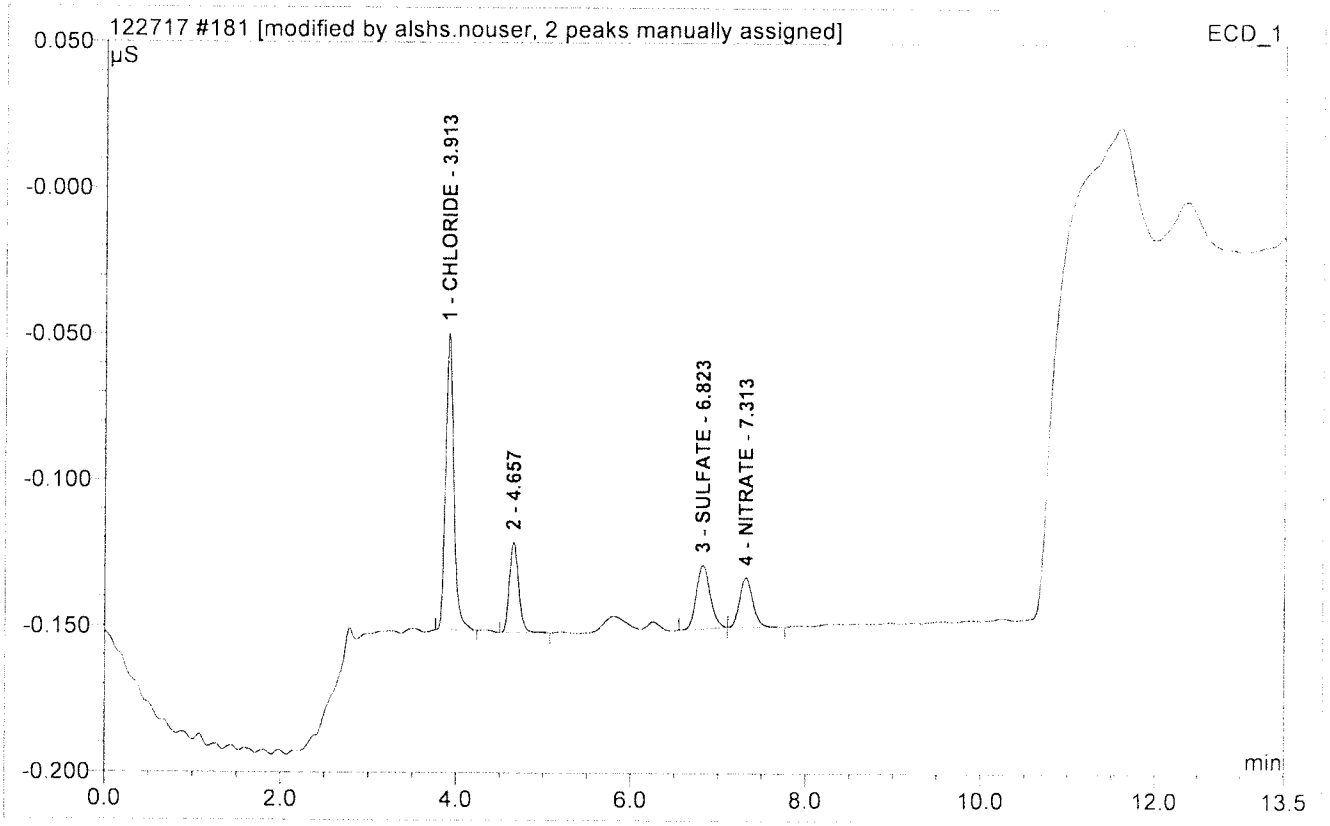
Sample Name:	**CCV1**	*Injection Volume:*	**10.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**12/29/2017 10:41**	*Sample 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	13.004	1.362	9.90	9.732	1.
2	3.92	CHLORIDE	40.549	4.301	31.24	47.383	1.
3	4.67	NITRITE,N	13.621	1.812	13.16	9.657	1.
4	6.25	BROMIDE	2.363	0.337	2.45	9.217	1.
5	6.79	SULFATE	16.202	3.107	22.57	47.734	1.
6	7.27	NITRATE	11.443	2.134	15.50	9.557	1.
7	11.39	PHOSPHATE	5.619	0.713	5.18	8.767	1.
Total:			102.801	13.766	100.00	142.048	

181 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:	**12/29/2017 10:55**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**

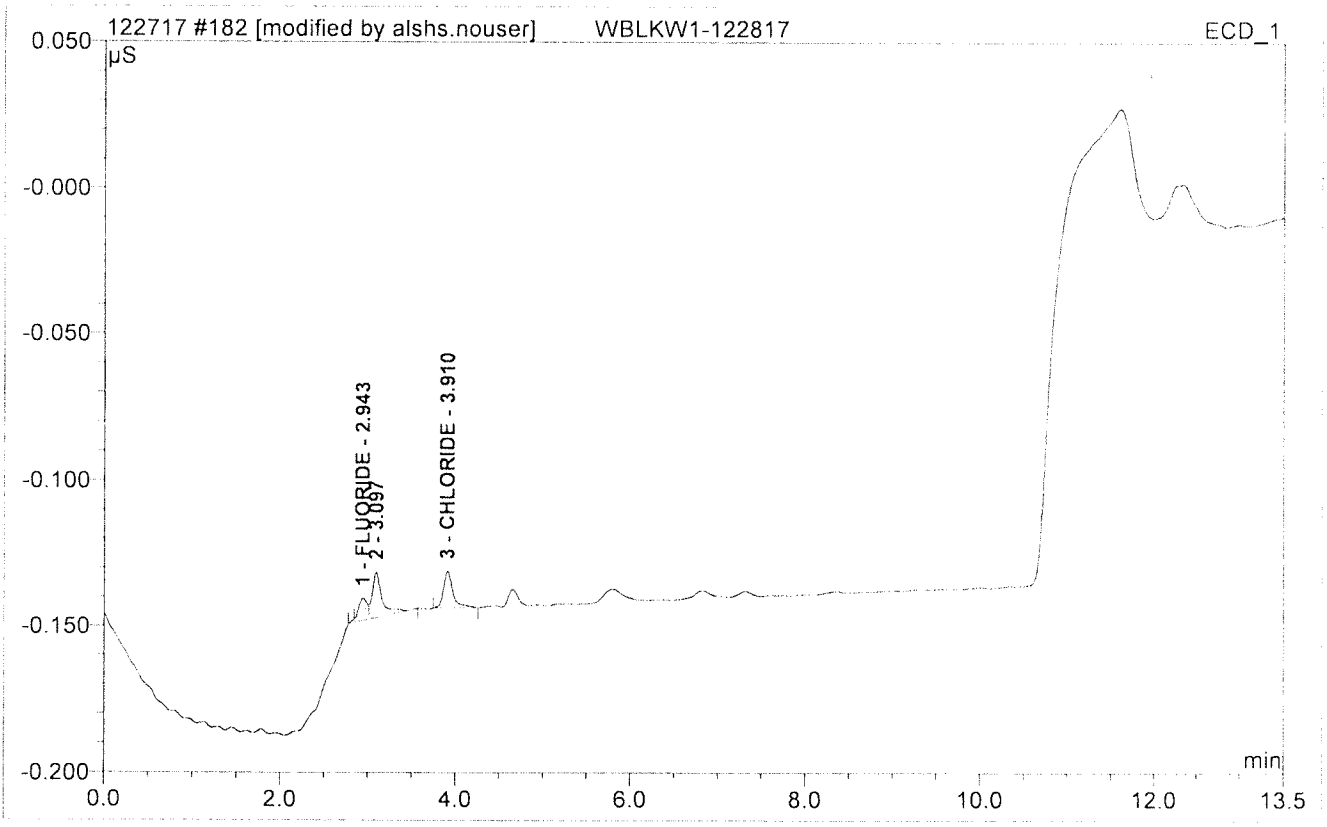


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	3.91	CHLORIDE	0.102	0.011	50.22	0.277	1.
3	6.82	SULFATE	0.022	0.004	18.33	0.221	1.
4	7.31	NITRATE	0.017	0.003	13.76	0.064	1.
Total:			0.140	0.018	82.30	0.561	

182 WBLKW1-122817

RR for CL

Sample Name:	**WBLKW1-122817**	*Injection Volume:*	**10.0**
Vial Number:	**90**	*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:	**12/29/2017 11:10**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**

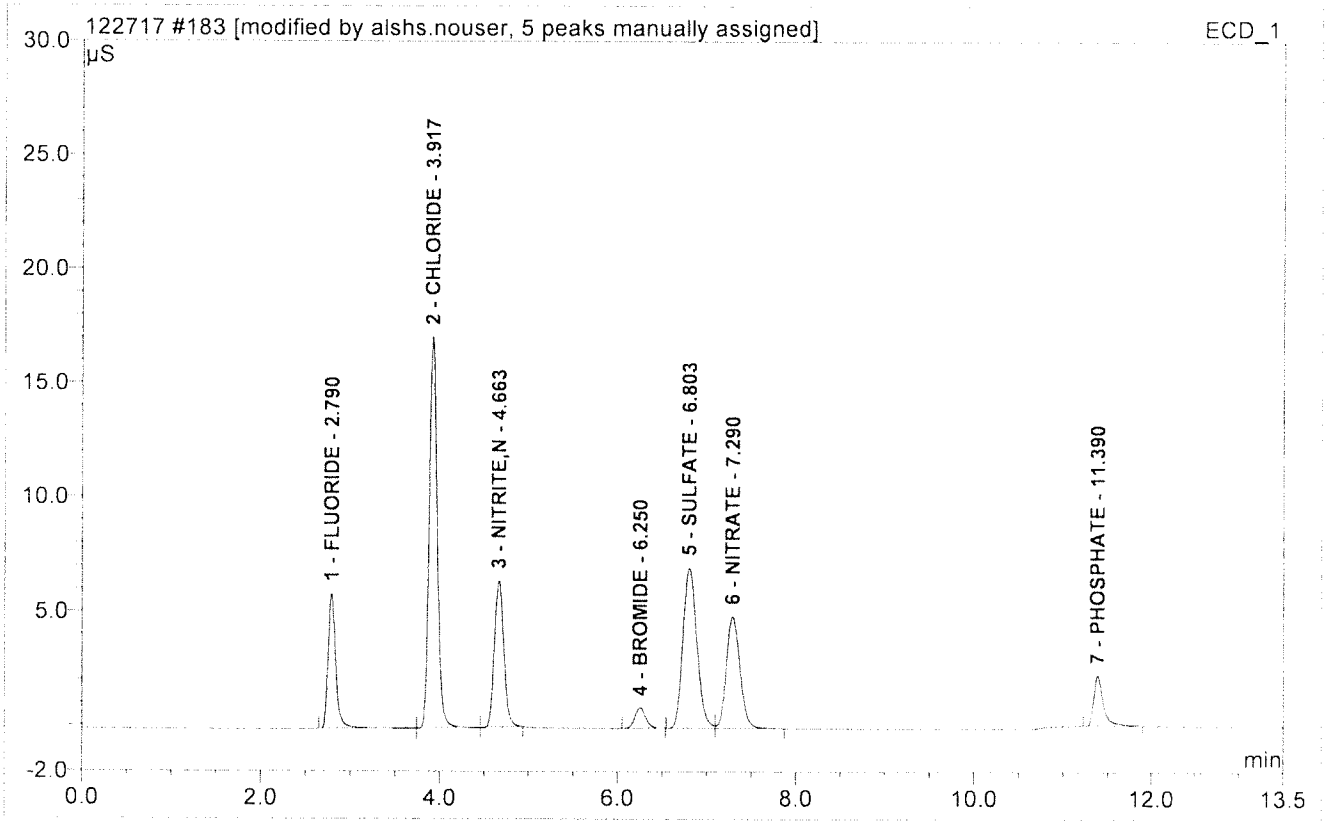


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.94	FLUORIDE	0.004	0.000	8.22	0.031	1.
3	3.91	CHLORIDE	0.013	0.002	34.77	0.175	1.
Total:			0.017	0.002	42.98	0.206	

183 WLCSW1-122817

RR for CL

Sample Name:	**WLCSW1-122817**	*Injection Volume:*	**10.0**
Vial Number:	**91**	*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:	**12/29/2017 11:24**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**

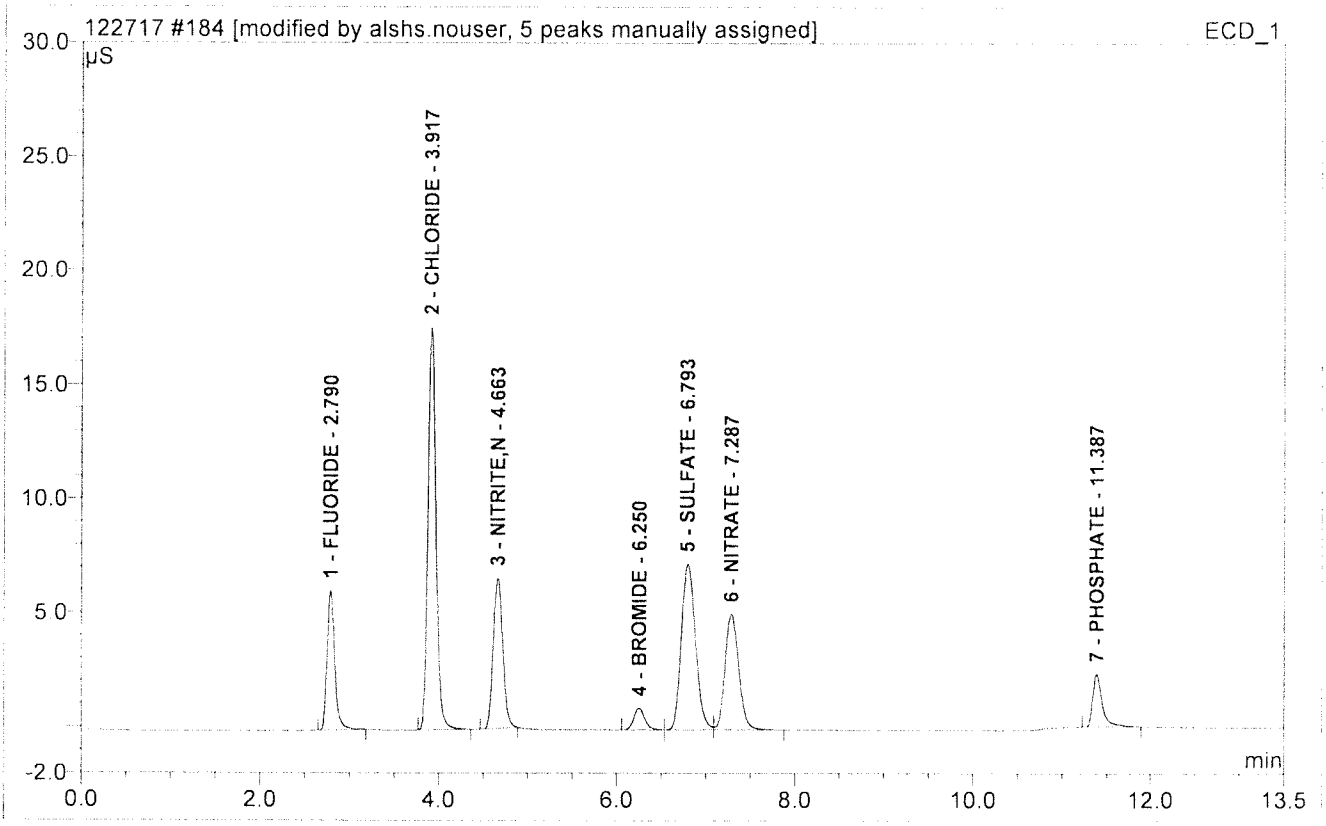


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.79	FLUORIDE	5.928	0.578	10.08	4.143	1
2	3.92	CHLORIDE	17.114	1.786	31.17	19.767	1.
3	4.66	NITRITE,N	6.405	0.795	13.87	4.245	1.
4	6.25	BROMIDE	0.904	0.128	2.24	3.548	1.
5	6.80	SULFATE	7.039	1.292	22.55	19.946	1.
6	7.29	NITRATE	4.923	0.873	15.23	3.938	1.
7	11.39	PHOSPHATE	2.214	0.279	4.87	3.479	1.
Total:			44.527	5.730	100.00	59.065	

184 WLCSDW1-122817

RR for CL

Sample Name:	**WLCSDW1-122817**	*Injection Volume:*	**10.0**
Vial Number:	**92**	*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:	**12/29/2017 11:39**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**

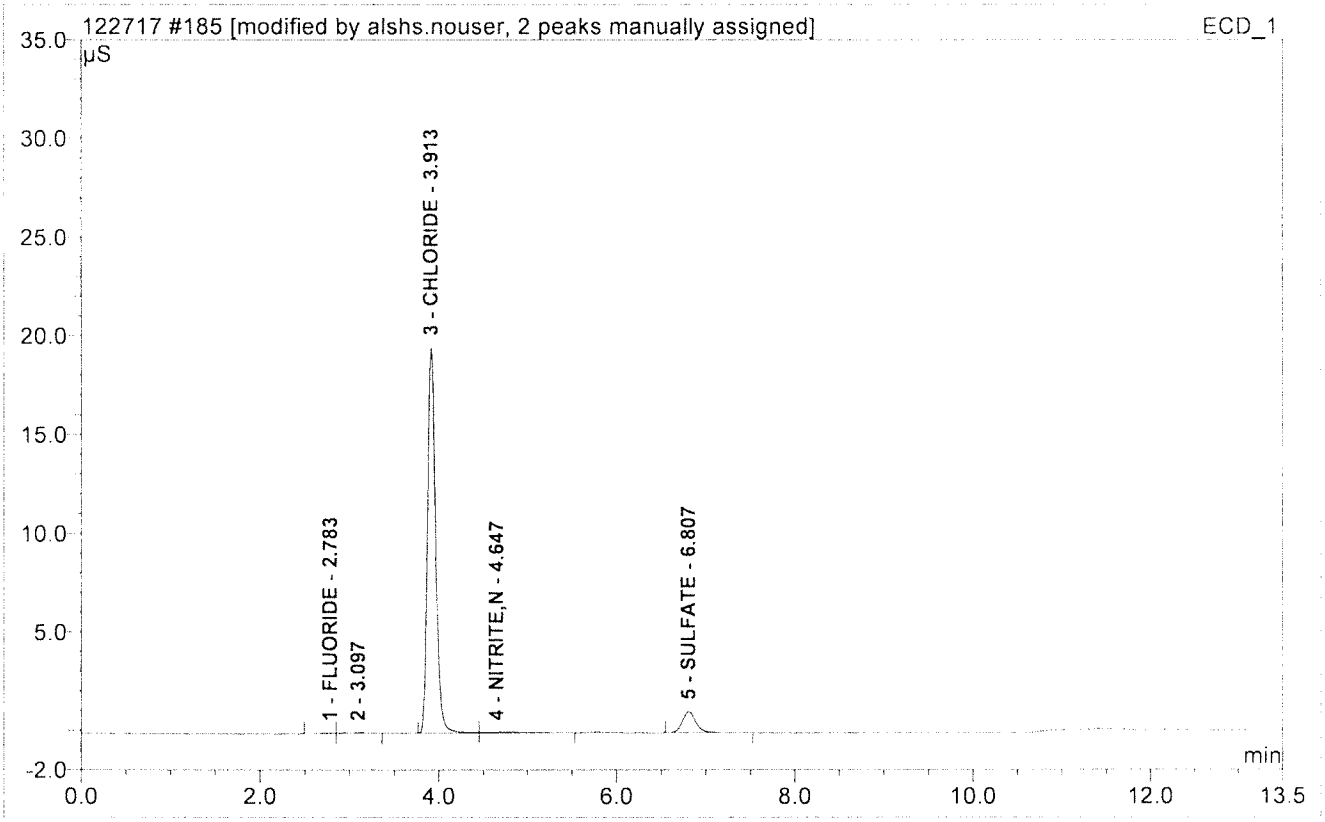


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.79	FLUORIDE	6.094	0.595	10.05	4.265	1
2	3.92	CHLORIDE	17.624	1.854	31.32	20.518	1
3	4.66	NITRITE,N	6.583	0.818	13.83	4.372	1
4	6.25	BROMIDE	0.935	0.132	2.23	3.653	1
5	6.79	SULFATE	7.250	1.331	22.49	20.545	1
6	7.29	NITRATE	5.064	0.900	15.21	4.060	1
7	11.39	PHOSPHATE	2.307	0.289	4.88	3.600	1
Total:			45.858	5.920	100.00	61.013	

185 HS17120839-01DF20

RR for CL

Sample Name:	**HS17120839-01DF20**	*Injection Volume:*	**10.0**
Vial Number:	**5**	*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:	**12/29/2017 11:53**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**

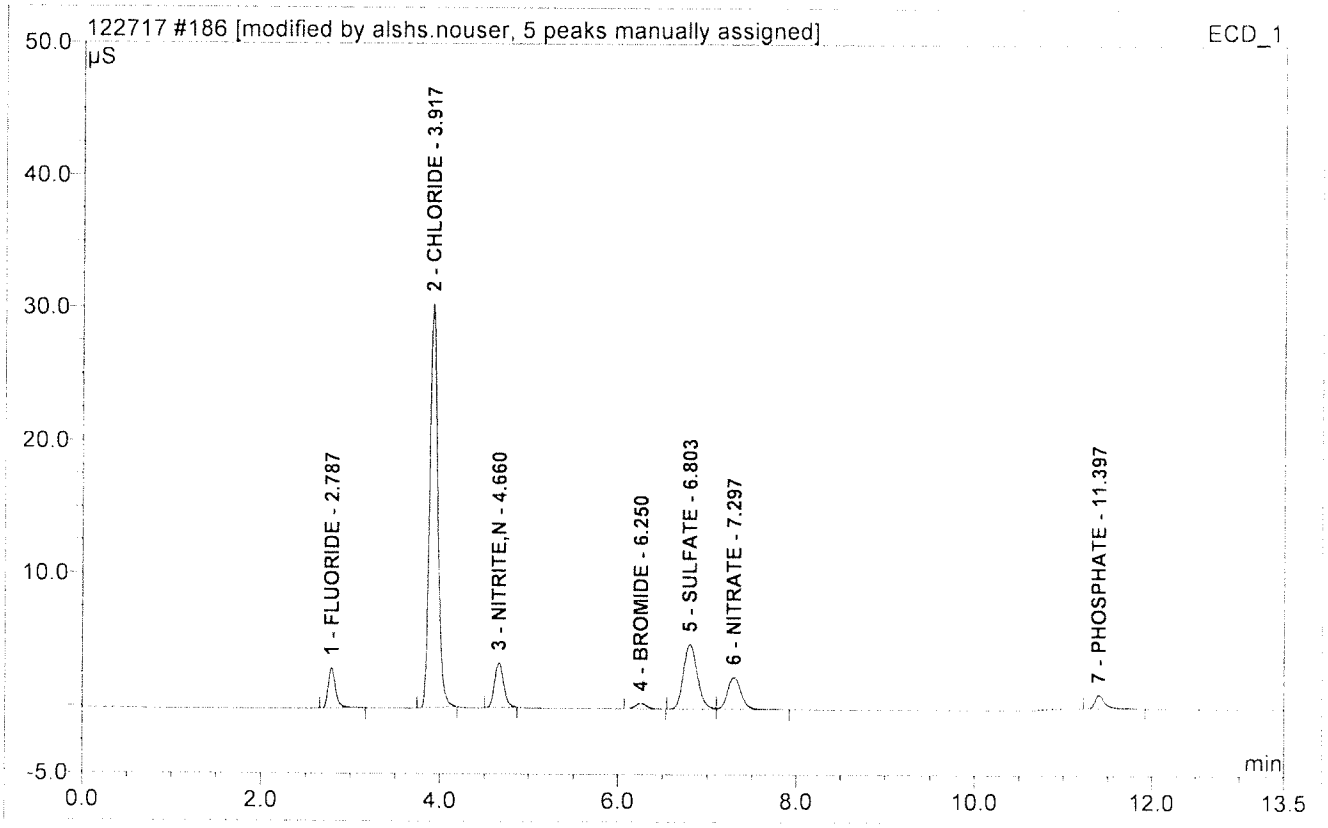


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.78	FLUORIDE	0.018	0.003	0.13	0.998	20.
3	3.91	CHLORIDE	19.530	2.065	90.51	456.569	20.
4	4.65	NITRITE,N	0.039	0.020	0.86	2.408	20.
5	6.81	SULFATE	1.068	0.189	8.29	61.129	20.
Total:			20.654	2.276	99.79	521.104	

186 HS17120839-01DF20MS

RR for CL

Sample Name:	**HS17120839-01DF20MS**	*Injection Volume:*	**10.0**
Vial Number:	**6**	*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:	**12/29/2017 12:08**	*Sample Weight:*	**1.0000**
Run Time (min):	**13.50**	*Sample Amount:*	**1.0000**

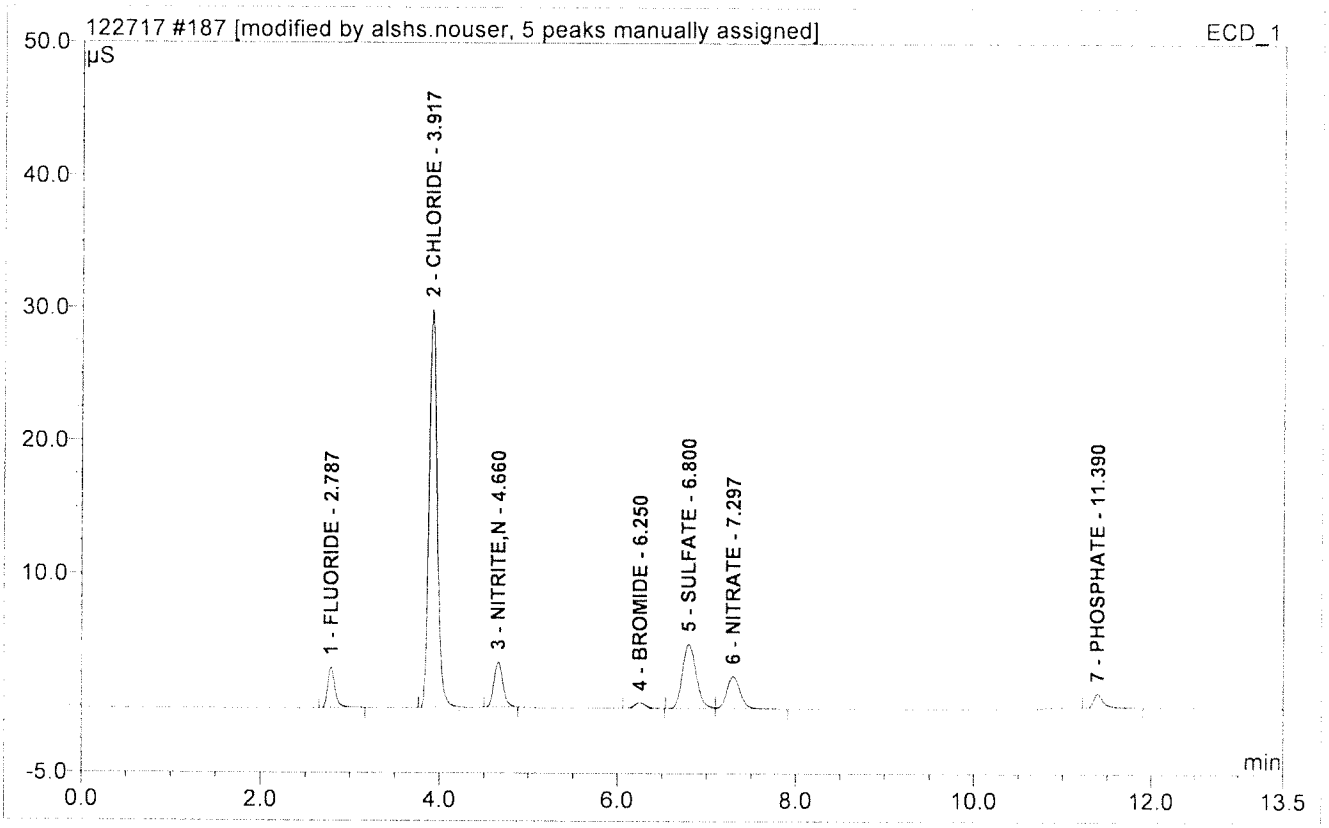


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Dil.Fac.
1	2.79	FLUORIDE	3.017	0.284	5.29	41.078	20.
2	3.92	CHLORIDE	30.381	3.196	59.43	705.078	20.
3	4.66	NITRITE,N	3.358	0.400	7.44	42.892	20.
4	6.25	BROMIDE	0.417	0.060	1.11	33.671	20.
5	6.80	SULFATE	4.855	0.880	16.36	272.617	20.
6	7.30	NITRATE	2.415	0.420	7.80	38.394	20.
7	11.40	PHOSPHATE	1.040	0.138	2.57	35.382	20.
Total:			45.484	5.378	100.00	1169.112	

187 HS17120839-01DF20MSD

RR for CL

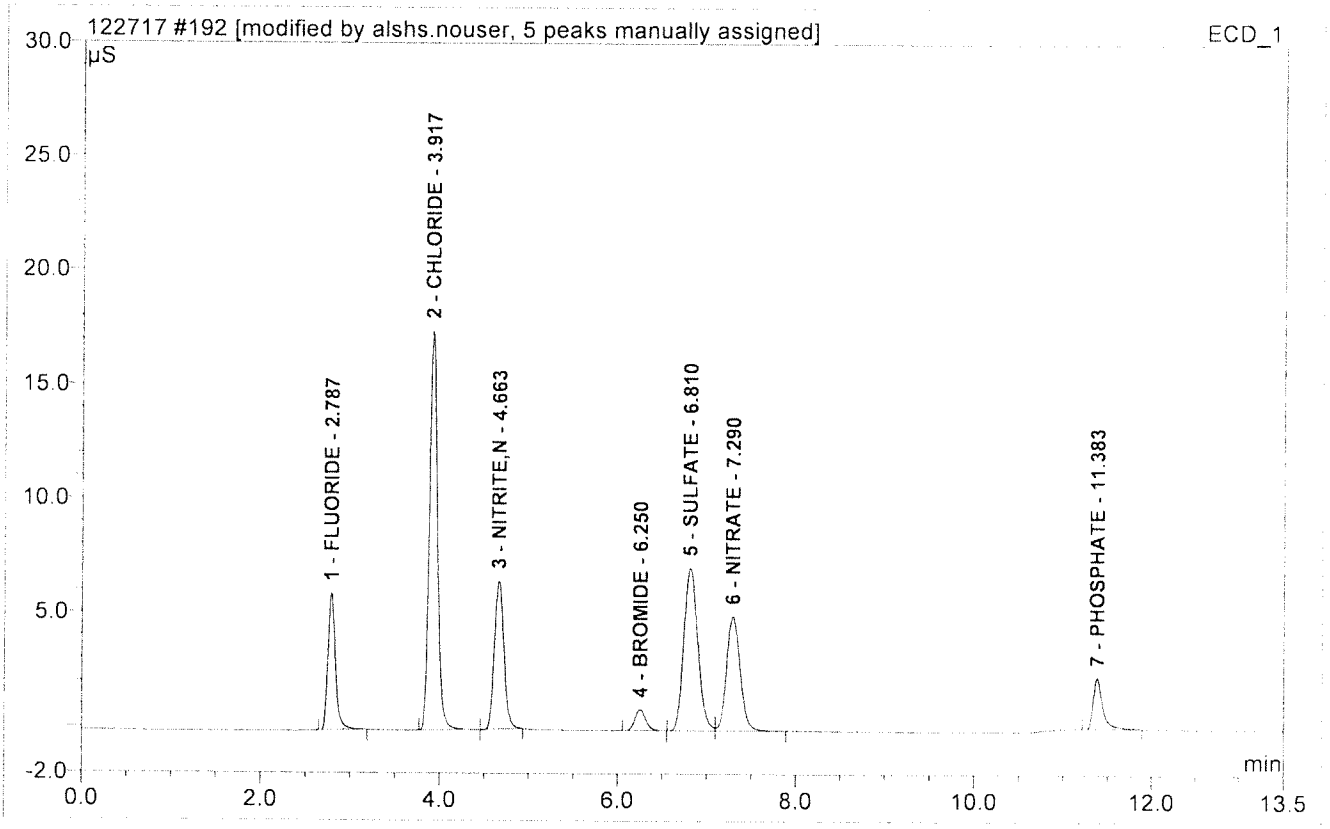
Sample Name:	**HS17120839-01DF20MSD**	*Injection Volume:*	**10.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**20.**
Recording Time:	**12/29/2017 12:22**	*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	3.047	0.287	5.36	41.489	20.
2	3.92	CHLORIDE	30.004	3.162	58.99	697.525	20.
3	4.66	NITRITE,N	3.404	0.408	7.61	43.749	20.
4	6.25	BROMIDE	0.425	0.060	1.13	34.077	20.
5	6.80	SULFATE	4.859	0.879	16.41	272.552	20.
6	7.30	NITRATE	2.441	0.423	7.90	38.728	20.
7	11.39	PHOSPHATE	1.051	0.139	2.60	35.630	20.
Total:			45.232	5.360	100.00	1163.751	

192 CCV

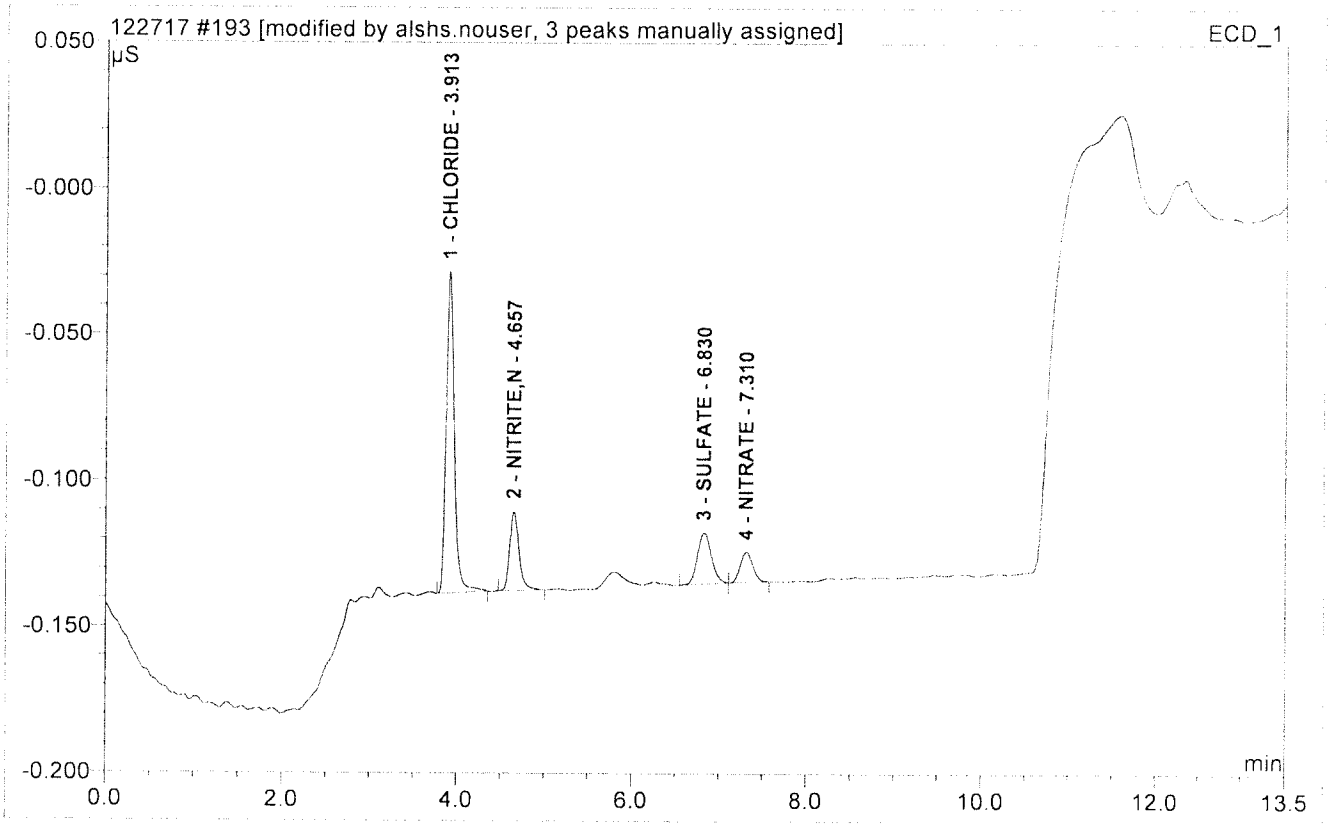
Sample Name:	**CCV**	*Injection Volume:*	**10.0**
Vial Number:	**1**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions Gradient Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**091117**	*Dilution Factor:*	**1.**
Recording Time:	**12/29/2017 13:35**	*Sample 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	2.79	FLUORIDE	5.981	0.586	10.04	4.200	1.
2	3.92	CHLORIDE	17.469	1.833	31.43	20.280	1.
3	4.66	NITRITE,N	6.472	0.805	13.80	4.300	1.
4	6.25	BROMIDE	0.920	0.130	2.24	3.605	1.
5	6.81	SULFATE	7.116	1.309	22.45	20.208	1.
6	7.29	NITRATE	4.992	0.888	15.23	4.007	1.
7	11.38	PHOSPHATE	2.231	0.280	4.80	3.493	1.
Total:			45.179	5.831	100.00	60.093	

193 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:	**12/29/2017 13:50**	*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	3.91	CHLORIDE	0.110	0.012	58.64	0.288	1
2	4.66	NITRITE,N	0.027	0.003	16.61	0.034	1
3	6.83	SULFATE	0.018	0.003	16.18	0.210	1
4	7.31	NITRATE	0.010	0.002	8.57	0.058	1
Total:			0.165	0.020	100.00	0.591	

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Houston, TX 77099
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WorkOrder: HS17121135

Longhorn GW 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
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January 22, 2018

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

Work Order: **HS17121135**

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

Dear Marcia,

ALS Environmental received 1 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: 22-Jan-18

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

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS17121135-01	LH18/24-SP650_122017	Water		20-Dec-2017 14:00	21-Dec-2017 09:40	☐

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

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS17121135

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 E365.3

Batch ID: R307901

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

WetChemistry by Method E350.3

Batch ID: R307857

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

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

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS17121135
Sample ID: LH18/24-SP650_122017
Lab ID:HS17121135-01
Collection Date: 20-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)	**12**		**0.20**	**0.20**	**0.20**	**mg/L**	1	22-Dec-2017 11:30
ORTHO PHOSPHATE (PO4) AS P BY E365.3		**Method:E365.3**						Analyst: JHD
Phosphorus, Total Orthophosphate (As P)	**2.62**		**0.100**	**0.125**	**0.250**	**mg/L**	10	22-Dec-2017 11:09
TOTAL ORGANIC CARBON BY E415.1		**Method:E415.1**						Analyst: KMU
Organic Carbon, Total	**23.2**		**0.500**	**0.500**	**1.00**	**mg/L**	1	08-Jan-2018 19:39
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: 22-Jan-18

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

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R307857	**Test Name :** AMMONIA AS N BY E350.3(ISE)			**Matrix:** Water		
HS17121135-01	LH18/24-SP650_122017	20 Dec 2017 14:00			22 Dec 2017 11:30	1
Batch ID R307901	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3			**Matrix:** Water		
HS17121135-01	LH18/24-SP650_122017	20 Dec 2017 14:00			22 Dec 2017 11:09	10
Batch ID R308631	**Test Name :** TOTAL ORGANIC CARBON BY E415.1			**Matrix:** Water		
HS17121135-01	LH18/24-SP650_122017	20 Dec 2017 14:00			08 Jan 2018 19:39	1
Batch ID R308777	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)			**Matrix:** Water		
HS17121135-01	LH18/24-SP650_122017	20 Dec 2017 14:00			11 Jan 2018 09:13	1

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: R307857 **Instrument: WetChem_HS** **Method: E350.3**

MBLK Sample ID: **MBLK-307857** Units: **mg/L** Analysis Date: **22-Dec-2017 11:30**
Client ID: Run ID: **WetChem_HS_307857** SeqNo: **4366265** 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-307857** Units: **mg/L** Analysis Date: **22-Dec-2017 11:30**
Client ID: Run ID: **WetChem_HS_307857** SeqNo: **4366266** 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)	10.1	0.20	10	0	101	80 - 120				

MS Sample ID: **HS17121009-01MS** Units: **mg/L** Analysis Date: **22-Dec-2017 11:30**
Client ID: Run ID: **WetChem_HS_307857** SeqNo: **4366268** 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)	10.59	0.20	10	0.125	105	80 - 120				

MSD Sample ID: **HS17121009-01MSD** Units: **mg/L** Analysis Date: **22-Dec-2017 11:30**
Client ID: Run ID: **WetChem_HS_307857** SeqNo: **4366269** 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)	10.4	0.20	10	0.125	103	80 - 120	10.59	1.81	20	

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

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