ANALYTICAL REPORT

Job Number: 320-6575-2

Job Description: Makua, Perchlorate (Limu)

For:
ARDL, Inc
400 Aviation Drive
Mount Vernon, IL 62864

Attention: Dean Dickerson

Approved for release.
Karen M Sellers
Project Manager II
4/21/2014 3:30 PM

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04/21/2014

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The Lab Certification ID# is CA200005

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Qualifiers

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
I	Ion Ratio outside of limits, value is EMPC.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job Narrative
320-6575-2

Comments
This report contains results for Limu samples from Mokuleia Site.

Receipt
The samples were received on 3/14/2014 9:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was -4.5º C. All samples were kept frozen until extraction.

LCMS
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Due to matrix interference, all samples in this report went through an additional clean up procedure consisting of a shake out with Methylene chloride. This optional cleanup is referenced in lab SOP (WS-LC-0012) for samples with high organic content.

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: ARDL, Inc
Project/Site: Makua, Perchlorate (Limu)

TestAmerica Job ID: 320-6575-2

Client Sample ID: MAK120L — Lab Sample ID: 320-6575-9

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perchlorate	2.0	J	9.7	0.29	ug/Kg	1		6850	Total/NA

Client Sample ID: MAK121L — Lab Sample ID: 320-6575-10

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perchlorate	2.2	J	10	0.30	ug/Kg	1		6850	Total/NA

Client Sample ID: MAK122L — Lab Sample ID: 320-6575-11

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perchlorate	1.8	J	9.9	0.30	ug/Kg	1		6850	Total/NA

Client Sample ID: MAK123L — Lab Sample ID: 320-6575-12

No Detections.

Client Sample ID: MAK124L — Lab Sample ID: 320-6575-13

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perchlorate	8.7	J	9.9	0.30	ug/Kg	1		6850	Total/NA

Client Sample ID: MAK126L — Lab Sample ID: 320-6575-14

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perchlorate	12		9.7	0.29	ug/Kg	1		6850	Total/NA

Client Sample ID: MAK127L — Lab Sample ID: 320-6575-15

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perchlorate	0.65	J I	9.8	0.29	ug/Kg	1		6850	Total/NA

Client Sample ID: MAK128L — Lab Sample ID: 320-6575-16

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perchlorate	0.41	J	9.9	0.30	ug/Kg	1		6850	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MAK120L — Lab Sample ID: 320-6575-9

Date Collected: 01/31/14 10:40 — **Matrix: Solid**
Date Received: 03/14/14 09:10

Method: 6850 - Perchlorate by LC/MS or LC/MS/MS

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	2.0	J	9.7	0.29	ug/Kg		04/04/14 09:48	04/09/14 23:59	1

Client Sample ID: MAK121L — Lab Sample ID: 320-6575-10

Date Collected: 01/31/14 11:30 — **Matrix: Solid**
Date Received: 03/14/14 09:10

Method: 6850 - Perchlorate by LC/MS or LC/MS/MS

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	2.2	J	10	0.30	ug/Kg		04/04/14 09:48	04/10/14 00:16	1

Client Sample ID: MAK122L — Lab Sample ID: 320-6575-11

Date Collected: 01/31/14 14:05 — **Matrix: Solid**
Date Received: 03/14/14 09:10

Method: 6850 - Perchlorate by LC/MS or LC/MS/MS

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	1.8	J	9.9	0.30	ug/Kg		04/04/14 09:48	04/10/14 00:32	1

Client Sample ID: MAK123L — Lab Sample ID: 320-6575-12

Date Collected: 01/31/14 14:55 — **Matrix: Solid**
Date Received: 03/14/14 09:10

Method: 6850 - Perchlorate by LC/MS or LC/MS/MS

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		9.5	0.28	ug/Kg		04/04/14 09:48	04/10/14 00:49	1

Client Sample ID: MAK124L — Lab Sample ID: 320-6575-13

Date Collected: 01/31/14 15:40 — **Matrix: Solid**
Date Received: 03/14/14 09:10

Method: 6850 - Perchlorate by LC/MS or LC/MS/MS

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	8.7	J	9.9	0.30	ug/Kg		04/04/14 09:48	04/10/14 01:05	1

Client Sample ID: MAK126L — Lab Sample ID: 320-6575-14

Date Collected: 01/31/14 16:15 — **Matrix: Solid**
Date Received: 03/14/14 09:10

Method: 6850 - Perchlorate by LC/MS or LC/MS/MS

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	12		9.7	0.29	ug/Kg		04/04/14 09:48	04/10/14 01:22	1

Client Sample ID: MAK127L — Lab Sample ID: 320-6575-15

Date Collected: 02/11/14 13:04 — **Matrix: Solid**
Date Received: 03/14/14 09:10

Method: 6850 - Perchlorate by LC/MS or LC/MS/MS

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	0.65	J I	9.8	0.29	ug/Kg		04/04/14 09:48	04/10/14 01:38	1

Client Sample Results

Client: ARDL, Inc
Project/Site: Makua, Perchlorate (Limu)

TestAmerica Job ID: 320-6575-2

Client Sample ID: MAK128L

Lab Sample ID: 320-6575-16

Date Collected: 02/11/14 14:15

Matrix: Solid

Date Received: 03/14/14 09:10

Method: 6850 - Perchlorate by LC/MS or LC/MS/MS

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	0.41	J	9.9	0.30	ug/Kg		04/04/14 09:48	04/10/14 01:55	1

Default Detection Limits

Client: ARDL, Inc
Project/Site: Makua, Perchlorate (Limu)

TestAmerica Job ID: 320-6575-2

Method: 6850 - Perchlorate by LC/MS or LC/MS/MS

Analyte	LOQ	DL	Units	Method
Perchlorate	5.0	0.15	ug/Kg	6850

QC Sample Results

Client: ARDL, Inc
Project/Site: Makua, Perchlorate (Limu)

TestAmerica Job ID: 320-6575-2

Method: 6850 - Perchlorate by LC/MS or LC/MS/MS

Lab Sample ID: MB 320-39835/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40176 — **Prep Batch: 39835**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		5.0	0.15	ug/Kg		04/04/14 09:48	04/09/14 20:07	1

Lab Sample ID: LCS 320-39835/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 40176 — **Prep Batch: 39835**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	50.0	55.8		ug/Kg		112	80 - 120

Lab Sample ID: INF 320-39835/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid
Analysis Batch: 40176 — **Prep Batch: 39835**

Analyte	Spike Added	INF Result	INF Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	50.0	55.8		ng/mL		112	70 - 130

QC Association Summary

Client: ARDL, Inc
Project/Site: Makua, Perchlorate (Limu)

TestAmerica Job ID: 320-6575-2

LCMS

Prep Batch: 39835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-6575-9	MAK120L	Total/NA	Solid	SHAKE	
320-6575-10	MAK121L	Total/NA	Solid	SHAKE	
320-6575-11	MAK122L	Total/NA	Solid	SHAKE	
320-6575-12	MAK123L	Total/NA	Solid	SHAKE	
320-6575-13	MAK124L	Total/NA	Solid	SHAKE	
320-6575-14	MAK126L	Total/NA	Solid	SHAKE	
320-6575-15	MAK127L	Total/NA	Solid	SHAKE	
320-6575-16	MAK128L	Total/NA	Solid	SHAKE	
INF 320-39835/3-A	Lab Control Sample		Solid	SHAKE	
LCS 320-39835/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
MB 320-39835/1-A	Method Blank	Total/NA	Solid	SHAKE	

Analysis Batch: 40176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-6575-9	MAK120L	Total/NA	Solid	6850	39835
320-6575-10	MAK121L	Total/NA	Solid	6850	39835
320-6575-11	MAK122L	Total/NA	Solid	6850	39835
320-6575-12	MAK123L	Total/NA	Solid	6850	39835
320-6575-13	MAK124L	Total/NA	Solid	6850	39835
320-6575-14	MAK126L	Total/NA	Solid	6850	39835
320-6575-15	MAK127L	Total/NA	Solid	6850	39835
320-6575-16	MAK128L	Total/NA	Solid	6850	39835
INF 320-39835/3-A	Lab Control Sample		Solid	6850	39835
LCS 320-39835/2-A	Lab Control Sample	Total/NA	Solid	6850	39835
MB 320-39835/1-A	Method Blank	Total/NA	Solid	6850	39835

Client Sample ID: MAK120L — Lab Sample ID: 320-6575-9

Date Collected: 01/31/14 10:40 — **Matrix: Solid**
Date Received: 03/14/14 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			39835	04/04/14 09:48	HJA	TAL SAC
Total/NA	Analysis	6850		1	40176	04/09/14 23:59	JSS	TAL SAC

Client Sample ID: MAK121L — Lab Sample ID: 320-6575-10

Date Collected: 01/31/14 11:30 — **Matrix: Solid**
Date Received: 03/14/14 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			39835	04/04/14 09:48	HJA	TAL SAC
Total/NA	Analysis	6850		1	40176	04/10/14 00:16	JSS	TAL SAC

Client Sample ID: MAK122L — Lab Sample ID: 320-6575-11

Date Collected: 01/31/14 14:05 — **Matrix: Solid**
Date Received: 03/14/14 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			39835	04/04/14 09:48	HJA	TAL SAC
Total/NA	Analysis	6850		1	40176	04/10/14 00:32	JSS	TAL SAC

Client Sample ID: MAK123L — Lab Sample ID: 320-6575-12

Date Collected: 01/31/14 14:55 — **Matrix: Solid**
Date Received: 03/14/14 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			39835	04/04/14 09:48	HJA	TAL SAC
Total/NA	Analysis	6850		1	40176	04/10/14 00:49	JSS	TAL SAC

Client Sample ID: MAK124L — Lab Sample ID: 320-6575-13

Date Collected: 01/31/14 15:40 — **Matrix: Solid**
Date Received: 03/14/14 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			39835	04/04/14 09:48	HJA	TAL SAC
Total/NA	Analysis	6850		1	40176	04/10/14 01:05	JSS	TAL SAC

Client Sample ID: MAK126L — Lab Sample ID: 320-6575-14

Date Collected: 01/31/14 16:15 — **Matrix: Solid**
Date Received: 03/14/14 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			39835	04/04/14 09:48	HJA	TAL SAC
Total/NA	Analysis	6850		1	40176	04/10/14 01:22	JSS	TAL SAC

Lab Chronicle

Client: ARDL, Inc
Project/Site: Makua, Perchlorate (Limu)

TestAmerica Job ID: 320-6575-2

Client Sample ID: MAK127L

Lab Sample ID: 320-6575-15

Date Collected: 02/11/14 13:04

Matrix: Solid

Date Received: 03/14/14 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			39835	04/04/14 09:48	HJA	TAL SAC
Total/NA	Analysis	6850		1	40176	04/10/14 01:38	JSS	TAL SAC

Client Sample ID: MAK128L

Lab Sample ID: 320-6575-16

Date Collected: 02/11/14 14:15

Matrix: Solid

Date Received: 03/14/14 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			39835	04/04/14 09:48	HJA	TAL SAC
Total/NA	Analysis	6850		1	40176	04/10/14 01:55	JSS	TAL SAC

Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Certification Summary

Client: ARDL, Inc
Project/Site: Makua, Perchlorate (Limu)

TestAmerica Job ID: 320-6575-2

Laboratory: TestAmerica Sacramento

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2928-01	05-31-14 *
Alaska (UST)	State Program	10	UST-055	12-18-13 *
Arizona	State Program	9	AZ0708	08-11-14
Arkansas DEQ	State Program	6	88-0691	06-17-14
California	State Program	9	2897	01-31-15
Colorado	State Program	8	N/A	08-31-14
Connecticut	State Program	1	PH-0691	06-30-15
Florida	NELAP	4	E87570	06-30-14
Guam	State Program	9	N/A	08-31-14
Hawaii	State Program	9	N/A	01-29-15
Illinois	NELAP	5	200060	03-17-15
Kansas	NELAP	7	E-10375	10-31-14
Louisiana	NELAP	6	30612	06-30-14
Michigan	State Program	5	9947	01-31-15
Nebraska	State Program	7	NE-OS-22-13	01-29-15
Nevada	State Program	9	CA44	07-31-14
New Jersey	NELAP	2	CA005	06-30-14
New York	NELAP	2	11666	04-01-15
Oregon	NELAP	10	CA200005	01-29-15
Pennsylvania	NELAP	3	9947	03-31-15
South Carolina	State Program	4	87014	06-30-14
Texas	NELAP	6	T104704399-08-TX	05-31-14
US Fish & Wildlife	Federal		LE148388-0	12-31-14
USDA	Federal		P330-11-00436	12-30-14
USEPA UCMR	Federal	1	CA00044	11-06-14
Utah	NELAP	8	QUAN1	02-28-15
Washington	State Program	10	C581	05-05-14
West Virginia DHHR	State Program	3	9930C	12-31-14
Wyoming	State Program	8	8TMS-Q	02-28-14 *

* Expired certification is currently pending renewal and is considered valid.

Method Summary

Client: ARDL, Inc
Project/Site: Makua, Perchlorate (Limu)

TestAmerica Job ID: 320-6575-2

Method	Method Description	Protocol	Laboratory
6850	Perchlorate by LC/MS or LC/MS/MS	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: ARDL, Inc
Project/Site: Makua, Perchlorate (Limu)

TestAmerica Job ID: 320-6575-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-6575-9	MAK120L	Solid	01/31/14 10:40	03/14/14 09:10
320-6575-10	MAK121L	Solid	01/31/14 11:30	03/14/14 09:10
320-6575-11	MAK122L	Solid	01/31/14 14:05	03/14/14 09:10
320-6575-12	MAK123L	Solid	01/31/14 14:55	03/14/14 09:10
320-6575-13	MAK124L	Solid	01/31/14 15:40	03/14/14 09:10
320-6575-14	MAK126L	Solid	01/31/14 16:15	03/14/14 09:10
320-6575-15	MAK127L	Solid	02/11/14 13:04	03/14/14 09:10
320-6575-16	MAK128L	Solid	02/11/14 14:15	03/14/14 09:10

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-6575-2

SDG No.:

Instrument ID: A5 Analysis Batch Number: 40176

Lab Sample ID: STD02 320-40176/4 IC Client Sample ID:

Date Analyzed: 04/09/14 14:37 Lab File ID: 09APR14-Per-006.d GC Column: Anion HR ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perchlorate	11.69	Shouldering	barnettj	04/11/14 14:27

6850

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-6575-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
LC6850IC_00005	07/06/14	01/06/14	MIllipore Water, Lot M01062014	25 mL	LC6850IM_00005	125 uL	Perchlorate	5 ng/mL
.LC6850IM_00005	07/06/14	01/06/14	MIllipore Water, Lot M01062014	25 mL	LC6850TA_00006	25 uL	Perchlorate	1 ug/mL
..LC6850TA_00006	02/28/15	AccuStandard, Inc., Lot 213025072			(Purchased Reagent)		Perchlorate	1000 ug/mL
LC6850IS_00024	10/08/14	10/08/13	MIllipore Water, Lot M10072013	103.519 g	LC6850IS_00023	1.2547 g	18-O Perchlorate	1.00733 ug/mL
.LC6850IS_00023	12/20/22	Cambridge Isotope Laboratories, Lot SDCD-001			(Purchased Reagent)		18-O Perchlorate	83.11 ug/mL
LC6850L1_00005	07/06/14	01/06/14	MIllipore Water, Lot M01062014	25 mL	LC6850IS_00024	250 uL	18-O Perchlorate	10.0733 ng/mL
					LC6850SP_00017	37.5 uL	Perchlorate	0.15 ng/mL
.LC6850IS_00024	10/08/14	10/08/13	MIllipore Water, Lot M10072013	103.519 g	LC6850IS_00023	1.2547 g	18-O Perchlorate	1.00733 ug/mL
..LC6850IS_00023	12/20/22	Cambridge Isotope Laboratories, Lot SDCD-001			(Purchased Reagent)		18-O Perchlorate	83.11 ug/mL
.LC6850SP_00017	07/06/14	01/06/14	MIllipore Water, Lot M01062014	25 mL	LC6850SP_00016	2.5 mL	Perchlorate	0.1 ug/mL
..LC6850SP_00016	07/06/14	01/06/14	MIllipore Water, Lot M01062014	50 mL	LC6850TA_00005	50 uL	Perchlorate	1 ug/mL
...LC6850TA_00005	01/06/15	Absolute Standards, Inc., Lot 121213			(Purchased Reagent)		Perchlorate	1000 ug/mL
LC6850L2_00005	07/06/14	01/06/14	MIllipore Water, Lot M01062014	25 mL	LC6850IS_00024	250 uL	18-O Perchlorate	10.0733 ng/mL
					LC6850SP_00017	75 uL	Perchlorate	0.3 ng/mL
.LC6850IS_00024	10/08/14	10/08/13	MIllipore Water, Lot M10072013	103.519 g	LC6850IS_00023	1.2547 g	18-O Perchlorate	1.00733 ug/mL
..LC6850IS_00023	12/20/22	Cambridge Isotope Laboratories, Lot SDCD-001			(Purchased Reagent)		18-O Perchlorate	83.11 ug/mL
.LC6850SP_00017	07/06/14	01/06/14	MIllipore Water, Lot M01062014	25 mL	LC6850SP_00016	2.5 mL	Perchlorate	0.1 ug/mL
..LC6850SP_00016	07/06/14	01/06/14	MIllipore Water, Lot M01062014	50 mL	LC6850TA_00005	50 uL	Perchlorate	1 ug/mL
...LC6850TA_00005	01/06/15	Absolute Standards, Inc., Lot 121213			(Purchased Reagent)		Perchlorate	1000 ug/mL
LC6850L3_00005	07/06/14	01/06/14	MIllipore Water, Lot M01062014	50 mL	LC6850IS_00024	500 uL	18-O Perchlorate	10.0733 ng/mL
					LC6850SP_00017	250 uL	Perchlorate	0.5 ng/mL
.LC6850IS_00024	10/08/14	10/08/13	MIllipore Water, Lot M10072013	103.519 g	LC6850IS_00023	1.2547 g	18-O Perchlorate	1.00733 ug/mL
..LC6850IS_00023	12/20/22	Cambridge Isotope Laboratories, Lot SDCD-001			(Purchased Reagent)		18-O Perchlorate	83.11 ug/mL
.LC6850SP_00017	07/06/14	01/06/14	MIllipore Water, Lot M01062014	25 mL	LC6850SP_00016	2.5 mL	Perchlorate	0.1 ug/mL
..LC6850SP_00016	07/06/14	01/06/14	MIllipore Water, Lot M01062014	50 mL	LC6850TA_00005	50 uL	Perchlorate	1 ug/mL
...LC6850TA_00005	01/06/15	Absolute Standards, Inc., Lot 121213			(Purchased Reagent)		Perchlorate	1000 ug/mL
LC6850L4_00005	07/06/14	01/06/14	MIllipore Water, Lot M01062014	25 mL	LC6850IS_00024	250 uL	18-O Perchlorate	10.0733 ng/mL
					LC6850SP_00016	25 uL	Perchlorate	1 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-6575-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.LC6850IS_00024	10/08/14	10/08/13	MIllipore Water, Lot M10072013	103.519 g	LC6850IS_00023	1.2547 g	18-O Perchlorate	1.00733 ug/mL
..LC6850IS_00023	12/20/22	Cambridge Isotope Laboratories, Lot SDCD-001			(Purchased Reagent)		18-O Perchlorate	83.11 ug/mL
.LC6850SP_00016	07/06/14	01/06/14	MIllipore Water, Lot M01062014	50 mL	LC6850TA_00005	50 uL	Perchlorate	1 ug/mL
..LC6850TA_00005	01/06/15	Absolute Standards, Inc., Lot 121213			(Purchased Reagent)		Perchlorate	1000 ug/mL
LC6850L5_00005	07/06/14	01/06/14	MIllipore Water, Lot M01062014	25 mL	LC6850IS_00024	250 uL	18-O Perchlorate	10.0733 ng/mL
					LC6850SP_00016	50 uL	Perchlorate	2 ng/mL
.LC6850IS_00024	10/08/14	10/08/13	MIllipore Water, Lot M10072013	103.519 g	LC6850IS_00023	1.2547 g	18-O Perchlorate	1.00733 ug/mL
..LC6850IS_00023	12/20/22	Cambridge Isotope Laboratories, Lot SDCD-001			(Purchased Reagent)		18-O Perchlorate	83.11 ug/mL
.LC6850SP_00016	07/06/14	01/06/14	MIllipore Water, Lot M01062014	50 mL	LC6850TA_00005	50 uL	Perchlorate	1 ug/mL
..LC6850TA_00005	01/06/15	Absolute Standards, Inc., Lot 121213			(Purchased Reagent)		Perchlorate	1000 ug/mL
LC6850L6_00005	07/06/14	01/06/14	MIllipore Water, Lot M01062014	25 mL	LC6850IS_00024	250 uL	18-O Perchlorate	10.0733 ng/mL
					LC6850SP_00016	125 uL	Perchlorate	5 ng/mL
.LC6850IS_00024	10/08/14	10/08/13	MIllipore Water, Lot M10072013	103.519 g	LC6850IS_00023	1.2547 g	18-O Perchlorate	1.00733 ug/mL
..LC6850IS_00023	12/20/22	Cambridge Isotope Laboratories, Lot SDCD-001			(Purchased Reagent)		18-O Perchlorate	83.11 ug/mL
.LC6850SP_00016	07/06/14	01/06/14	MIllipore Water, Lot M01062014	50 mL	LC6850TA_00005	50 uL	Perchlorate	1 ug/mL
..LC6850TA_00005	01/06/15	Absolute Standards, Inc., Lot 121213			(Purchased Reagent)		Perchlorate	1000 ug/mL
LC6850L7_00005	07/06/14	01/06/14	MIllipore Water, Lot M01062014	25 mL	LC6850IS_00024	250 uL	18-O Perchlorate	10.0733 ng/mL
					LC6850SP_00016	250 uL	Perchlorate	10 ng/mL
.LC6850IS_00024	10/08/14	10/08/13	MIllipore Water, Lot M10072013	103.519 g	LC6850IS_00023	1.2547 g	18-O Perchlorate	1.00733 ug/mL
..LC6850IS_00023	12/20/22	Cambridge Isotope Laboratories, Lot SDCD-001			(Purchased Reagent)		18-O Perchlorate	83.11 ug/mL
.LC6850SP_00016	07/06/14	01/06/14	MIllipore Water, Lot M01062014	50 mL	LC6850TA_00005	50 uL	Perchlorate	1 ug/mL
..LC6850TA_00005	01/06/15	Absolute Standards, Inc., Lot 121213			(Purchased Reagent)		Perchlorate	1000 ug/mL
LC6850L8_00005	07/06/14	01/06/14	MIllipore Water, Lot M01062014	25 mL	LC6850IS_00024	250 uL	18-O Perchlorate	10.0733 ng/mL
					LC6850SP_00016	500 uL	Perchlorate	20 ng/mL
.LC6850IS_00024	10/08/14	10/08/13	MIllipore Water, Lot M10072013	103.519 g	LC6850IS_00023	1.2547 g	18-O Perchlorate	1.00733 ug/mL
..LC6850IS_00023	12/20/22	Cambridge Isotope Laboratories, Lot SDCD-001			(Purchased Reagent)		18-O Perchlorate	83.11 ug/mL
.LC6850SP_00016	07/06/14	01/06/14	MIllipore Water, Lot M01062014	50 mL	LC6850TA_00005	50 uL	Perchlorate	1 ug/mL
..LC6850TA_00005	01/06/15	Absolute Standards, Inc., Lot 121213			(Purchased Reagent)		Perchlorate	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-6575-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
LC6850SP_00016	07/06/14	01/06/14	MIllipore Water, Lot M01062014	50 mL	LC6850TA_00005	50 uL	Perchlorate	1 ug/mL
.LC6850TA_00005	01/06/15	Absolute Standards, Inc., Lot 121213			(Purchased Reagent)		Perchlorate	1000 ug/mL

Reagent

LC6850IS_00023

Cambridge Isotope Laboratories, Inc.

50 Frontage Road, Andover, MA 01810-5413 USA
800.322.1174 (N.AMERICA) 978.749.8000 (INTERNATIONAL)
www.isotope.com

CERTIFICATE OF ANALYSIS

Product Name: (Isotopic Label & Enrichment Specification) — PERCHLORIC ACID, SODIUM SALT (18O4, 90%+) 100 UG/ML IN WATER

Lot Number: SDCD-001

Catalog Number: OLM-7310-S

Product Information

Chemical Purity Specification:	≥98%
Labeled CAS Number:	NA
Unlabeled CAS Number:	7601-89-0
MW of fully enriched product:	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.

Approved by: T. J. Eckersley

Timothy J. Eckersley, Ph.D., Quality Assurance

Quality Control Tests and Results

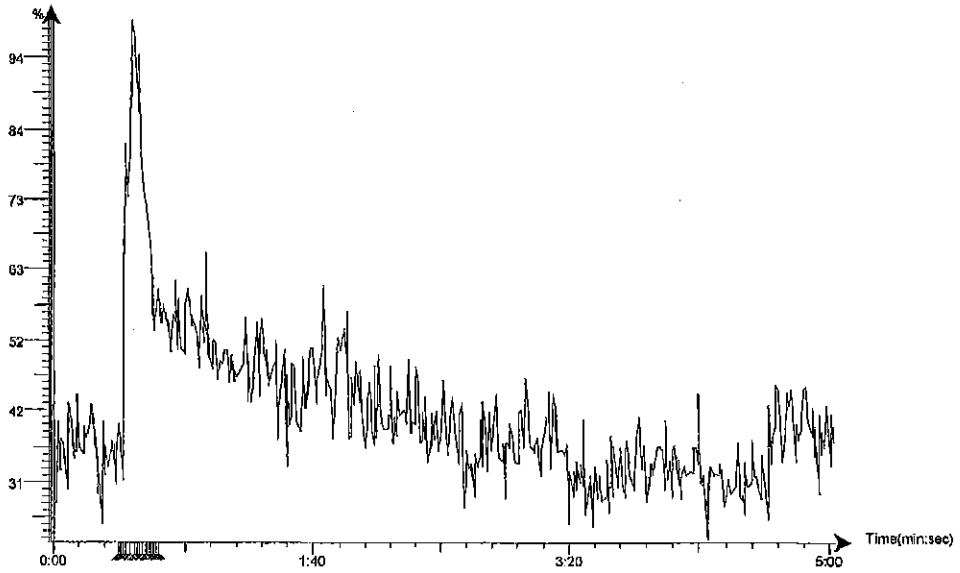
QC Release Date	12/20/2012
Expiration Date	12/20/2022
Concentration Based on Gravimetry	102 µg/mL
Chemical Purity of Neat Material(s)	98%
LC/MS for Concentration	90.9 ± 1.4 µg/mL (k=2)

130.4
− 22.99 Na
+ 1.01 H
108.42/130.4 = 0.8314

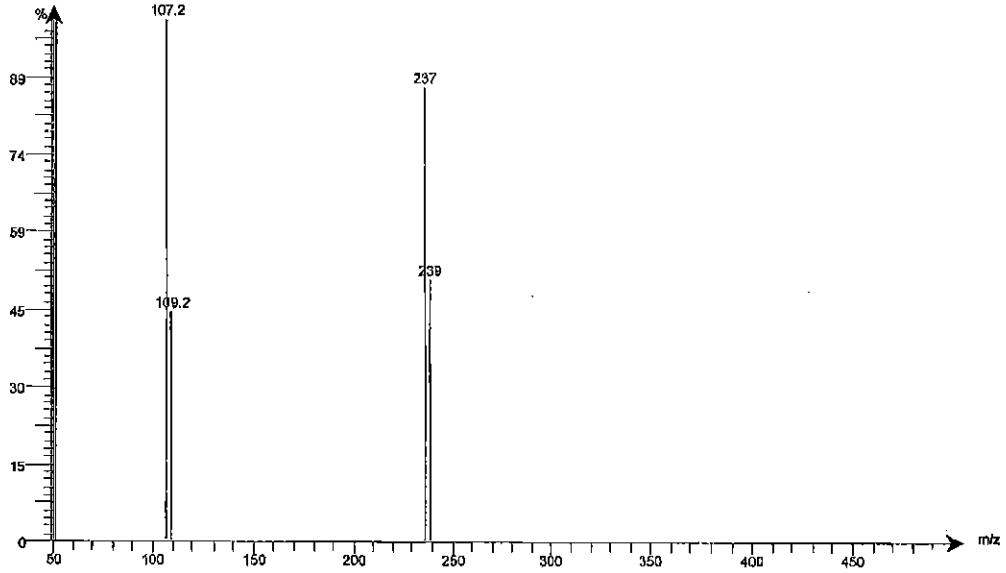
102 µg/mL NaPerc × 0.98 purity × 108.42 Perc-H / 130.4 NaPerc = 83.11 µg/mL Perchlorate-H.

DEL 1-4-12 04/21/2014

TIC
perchloric acid olm7310s sdcd001.datx;
Intensity Max: 9.5E8



Spectrum 0:25, 0:26, 0:27, .. 0:40, 0:41, 0:41 (30 indices)
perchloric acid olm7310s sdcd001.datx;
Intensity ESI - Max: 6.7E8



Reagent

LC6850TA_00005

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Analytical Reference Material ARM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57001
Lot Number: 121213
Description: Perchlorate (ClO_4^-)

Expiration Date: 121216
Storage: 4 °C
Nominal Concentration (µg/mL): 1000

Weight shown below was diluted to (mL): 499.66

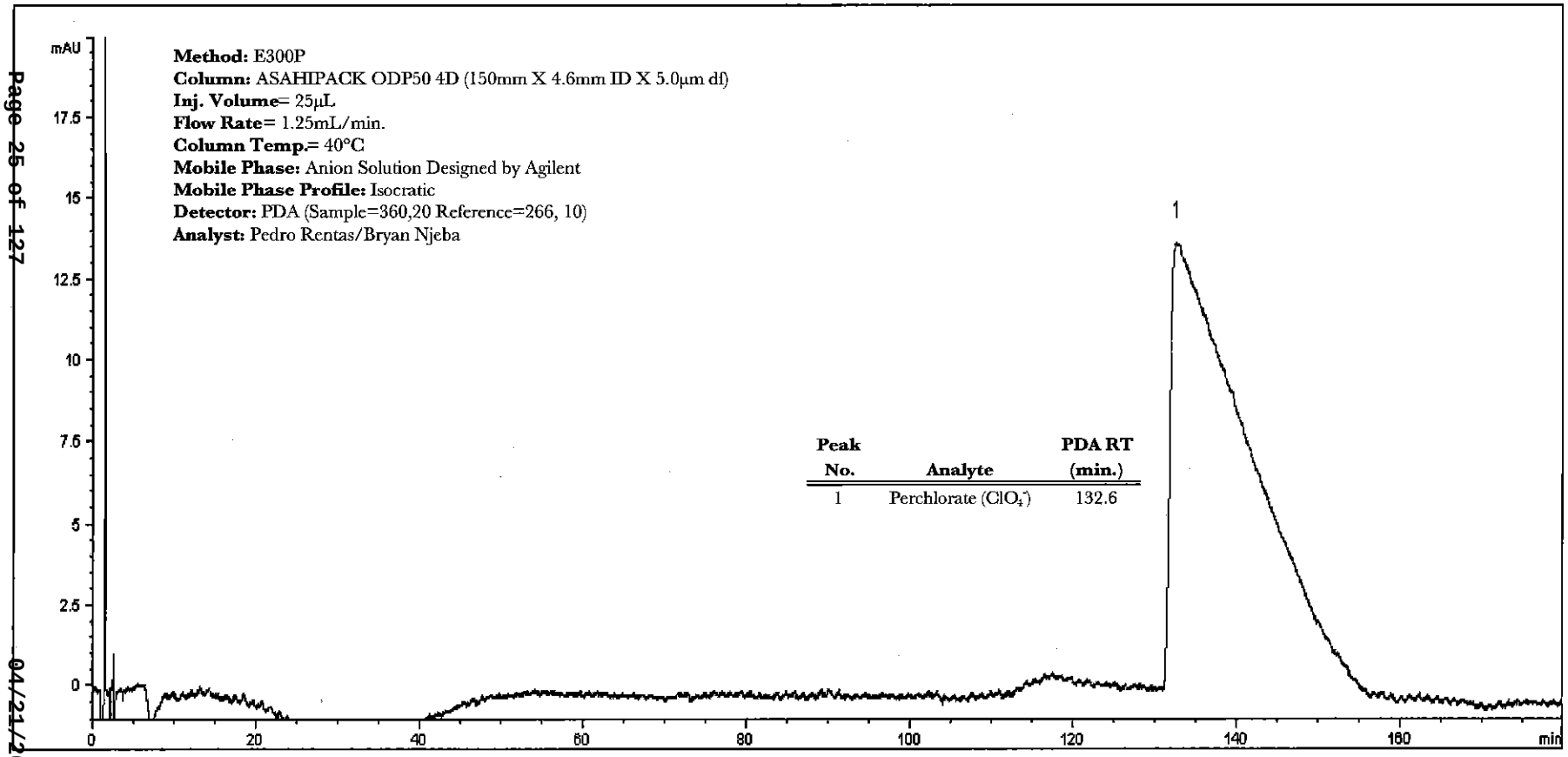
Solvent: Lot # 121213 ASTM Type 1 Water

5E-05 Balance Uncertainty
0.035 Flask Uncertainty

Formulated By:	Lawrence Barry	121213
Reviewed By:	Pedro L. Rentas	121213

MSDS Information
(Solvent Safety Info. On Attached pg.)

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity	Uncertainty Purity	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty (+/-)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Sodium Perchlorate (ClO4)	IN119	MKBN1540V	1000.0	98.0	0.10	81.2	0.62772	0.62773	**1000.0**	0.00205	07601-89-0	N/A	N/A	3152a



Peak No.	Analyte	PDA RT (min.)
1	Perchlorate (ClO_4^-)	132.6

Page 25 of 127
04/21/2014

Reagent

LC6850TA_00006

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

AccuIon™ Reference Standard

Item Number: IC-PER-10X-1

Element: Perchlorate
Storage Condition: Ambient
Hazards: IRRITANT
Matrix: Water

Lot: 213025072
Date Certified: 2/22/2013
Expiration: Feb / 2015
Sample Size: 100 mL

[X] Included on ISO/IEC 17025 Scope of Accreditation
[X] Included on ISO Guide 34 Scope of Accreditation

Concentration confirmed by phone call - Nathan to Accustandard on 1-6-2014. Salt correction performed, concentration is perchlorate ion. DEL 1-6-14

Actual Lot Analysis

Perchlorate 1000 µg/mL

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±5%. See reverse side for details.

In order to verify the concentrations, the final solution was checked against material traceable to the following NIST SRMs: Ind. Std.

RESULTS: This solution standard was certified for accuracy of the listed components via methodology traceable to primary or well characterized secondary standards.

This standard was prepared gravimetrically to contain the concentrations shown above. Balances, used in the preparation, are calibrated regularly using NIST-traceable weights. All glassware used in preparation is Class A.

We use the highest purity raw materials available, ASTM type I 18 megohm deionized water, and typically 99.999%+ starting materials to minimize impurity levels in the final solution. All solutions are filtered through a 0.2 µm filter prior to being bottled. All bottles are triple rinsed with deionized water prior to use.

Use good laboratory procedure when diluting this product. 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 the expiration date listed above, provided it is kept tightly capped and stored under normal laboratory conditions.

L. Snyder
Lydia Snyder
Inorganic QC Supervisor

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. 7/11

CERTIFICATION REPORT

1. **Quality Documentation:** This certificate is designed in accordance with ISO Guide 31 (Reference Materials - Contents of Certificates and Labels) and ISO Guide 35 (Reference Materials – General and Statistical Principles for Certification).

2. **Quality Standards:**

   ISO Guide 34 - General Requirements for the Competence of Reference Material Producers ACLASS Certificate Number AR-1463

   AR-1463

   ISO/IEC 17025:2005 - General Requirements for the Competence of Testing and Calibration Laboratories ACLASS Certificate Number AT-1339

   AT-1339

   ISO 9001:2008 Quality Management System - Requirements Eagle Registrations Certificate Number 3774

3. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 11. If dilution is required, use only Class A glassware and diluent compatible with all certified analytes in this preparation. All solutions should be thoroughly mixed prior to use.

4. **Raw Materials:** Reference standards are prepared from the highest quality starting materials with defined purities. All analytes and solvents are obtained from pre-qualified vendors and then analyzed or evaluated prior to use.

5. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards and calibrated using an in-house procedure. Good Laboratory Practices have been used throughout the preparation of this CRM.

6. **Homogeneity Assessment:** Homogeneity of the finished product is assessed by analyzing sample batches or by other methods consistent with the intended use of the product and by procedures that comply with the appropriate Quality System requirements, and ISO Guide 35.

7. **Stability Assessment:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label. To ensure a uniform solution, mix the contents of the sealed container thoroughly prior to use. Care should be taken not to contaminate the contents of the original container.

8. **Analytical Quality Control:** Products are tested by validated analytical methods specified in the manufacturer's quality system.

9. **Uncertainty Statistics and Confidence Limits:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide (Quantifying Uncertainty in Analytical Measurement). We have evaluated both Type A (based on a series of observations) and Type B (manufacturers specifications and calibration data) factors and report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_{\mathrm{m}} = \sqrt{(u(\mathrm{P}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{V}))^2}$. The expanded uncertainty, U, assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level. Laboratories accredited to ISO/IEC 17025 and ISO Guide 34 are required to estimate uncertainty budgets associated with the measurements they make. However, for analysis, the certified value should be used as the actual value.

10. **Warranties:** The manufacturer warrants that its products shall conform to the description of such products as provided in its catalog or on the specific product label. This warranty is exclusive, and the manufacturer makes no other warranty, express or implied, including any implied warranty of merchantability or fitness for any particular purpose.

11. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. Due to the hazardous nature, only trained personnel should handle this product. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

6850

Perchlorate by LC/MS or LC/MS/MS

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-6575-2

SDG No.:

Matrix: Solid Level: Low Lab File ID: 09APR14-Per-027.d

Lab ID: LCS 320-39835/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
Perchlorate	50.0	55.8	112	80-120	

Column to be used to flag recovery and RPD values

FORM III 6850

FORM III
LCMS LC INTERFERENCE CHECK STANDARD RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-6575-2

SDG No.:

Matrix: Solid Level: Low Lab File ID: 09APR14-Per-028.d

Lab ID: INF 320-39835/3-A Client ID:

COMPOUND	SPIKE ADDED (ng/mL)	INF CONCENTRATION (ng/mL)	INF % REC	QC LIMITS REC	#
Perchlorate	50.0	55.8	112	70-130	

Column to be used to flag recovery and RPD values

FORM III 6850

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-6575-2

SDG No.:

Lab File ID: 09APR14-Per-026.d Lab Sample ID: MB 320-39835/1-A

Matrix: Solid Date Extracted: 04/04/2014 09:48

Instrument ID: A5 Date Analyzed: 04/09/2014 20:07

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 320-39835/2-A	09APR14-Per -027.d	04/09/2014 20:24
MAK120L	320-6575-9	09APR14-Per -040.d	04/09/2014 23:59
MAK121L	320-6575-10	09APR14-Per -041.d	04/10/2014 00:16
MAK122L	320-6575-11	09APR14-Per -042.d	04/10/2014 00:32
MAK123L	320-6575-12	09APR14-Per -043.d	04/10/2014 00:49
MAK124L	320-6575-13	09APR14-Per -044.d	04/10/2014 01:05
MAK126L	320-6575-14	09APR14-Per -045.d	04/10/2014 01:22
MAK127L	320-6575-15	09APR14-Per -046.d	04/10/2014 01:38
MAK128L	320-6575-16	09APR14-Per -047.d	04/10/2014 01:55

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-6575-2

SDG No.:

Instrument ID: A5 Calibration Start Date: 04/09/2014 14:20

GC Column: Anion HR ID: 4.6(mm) Calibration End Date: 04/09/2014 16:16

Calibration ID: 6960

		18OP					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MEAN AREA AND MEAN RT		501688176	11.66				
UPPER LIMIT		752532264	12.66				
LOWER LIMIT		250844088	10.66				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 320-40176/12		518843797	11.63				
CCVL 320-40176/14		542881362	11.61				
CCV 320-40176/22		555739620	11.61				
CCB 320-40176/23		551381478	11.61				
MB 320-39835/1-A		518271440	11.61				
LCS 320-39835/2-A		448057069	11.58				
INF 320-39835/3-A		345073124	11.54				
CCV 320-40176/37		534989893	11.57				
320-6575-9	MAK120L	276751206	11.45				
320-6575-10	MAK121L	250877259*	11.41				
320-6575-11	MAK122L	251816764*	11.38				
320-6575-12	MAK123L	178072775*	11.34				
320-6575-13	MAK124L	291013618	11.41				
320-6575-14	MAK126L	304503104	11.41				
320-6575-15	MAK127L	266855640	11.38				
320-6575-16	MAK128L	262506285	11.40				
CCV 320-40176/46		530569899	11.45				
CCVL 320-40176/52		548630590	11.46				
CCB 320-40176/53		566595483	11.46				

18OP = 18-O Perchlorate

Area Limit = 50%-150% of internal standard area
RT Limit = ± 1 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 6850

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 320-6575-2
SDG No.:
Client Sample ID: MAK120L
Lab Sample ID: 320-6575-9
Matrix: Solid
Lab File ID: 09APR14-Per-040.d
Analysis Method: 6850
Date Collected: 01/31/2014 10:40
Extraction Method: SHAKE
Date Extracted: 04/04/2014 09:48
Sample wt/vol: 1.55(g)
Date Analyzed: 04/09/2014 23:59
Con. Extract Vol.: 10.00(mL)
Dilution Factor: 1
Injection Volume: 80(uL)
GC Column: Anion HR ID: 4.6(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 40176
Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
14797-73-0	Perchlorate	2.0	J	9.7	0.77	0.29

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-040.d
Lims ID: 320-6575-A-9-A Lab Sample ID: 320-6575-9
Client ID: MAK120L
Sample Type: Client
Inject. Date: 09-Apr-2014 23:59:31 ALS Bottle#: 0 Worklist Smp#: 38
Injection Vol: 80.0 ul Dil. Factor: 1.0000
Sample Info:
Operator ID: Instrument ID: A5

Method: \\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m
Limit Group: LC 6850 ICAL
Last Update: 11-Apr-2014 09:29:43 Calib Date: 09-Apr-2014 16:16:26
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d

Column 1 : Det: MS QQQ
Process Host: XAWRK048

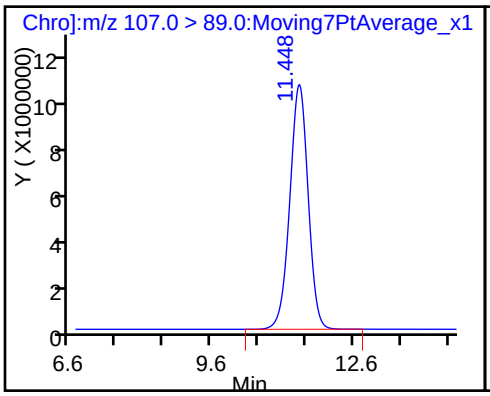
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									
107.0 > 89.0	11.448	11.660	-0.212		276751206	10.1		6331	
109.0 > 91.0	11.459	11.660	-0.201		87912283		3.15(2.30-3.80)	5947	
2 Perchlorate									
99.0 > 83.0	11.455	11.670	-0.215	1.001	7213652	0.3136		178	
101.0 > 85.0	11.438	11.670	-0.232	0.999	2577165		2.80(2.30-3.80)	169	

Report Date: 11-Apr-2014 09:29:44 Chrom Revision: 2.2 10-Apr-2014 15:11:30

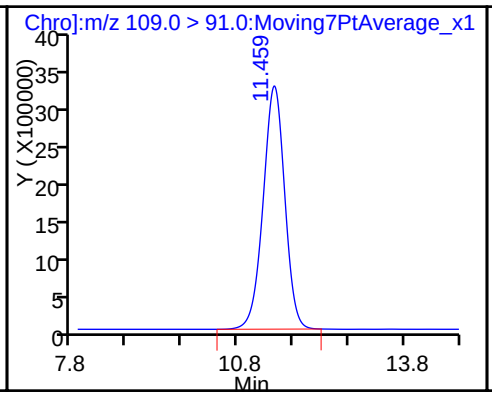
TestAmerica Sacramento

Data File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-040.d				
Injection Date:	09-Apr-2014 23:59:31	Instrument ID:	A5		
Lims ID:	320-6575-A-9-A	Lab Sample ID:	320-6575-9		
Client ID:	MAK120L				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	38
Injection Vol:	80.0 ul	Dil. Factor:	1.0000		
Method:	6850_A5	Limit Group:	LC 6850 ICAL		

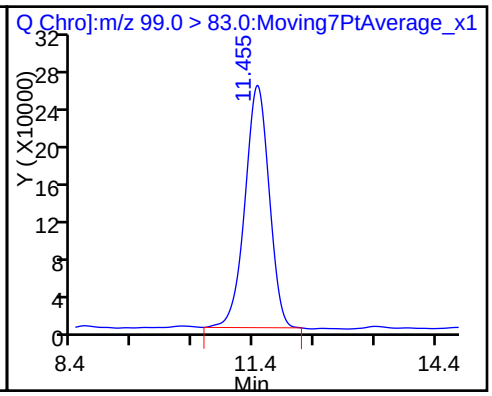
* 1 18-O Perchlorate



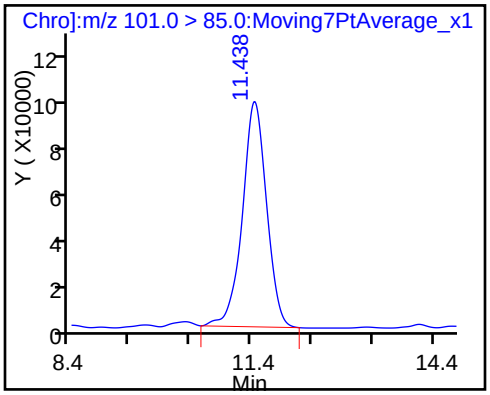
* 1 18-O Perchlorate



2 Perchlorate



2 Perchlorate



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 320-6575-2
SDG No.:
Client Sample ID: MAK121L
Lab Sample ID: 320-6575-10
Matrix: Solid
Lab File ID: 09APR14-Per-041.d
Analysis Method: 6850
Date Collected: 01/31/2014 11:30
Extraction Method: SHAKE
Date Extracted: 04/04/2014 09:48
Sample wt/vol: 1.50(g)
Date Analyzed: 04/10/2014 00:16
Con. Extract Vol.: 10.00(mL)
Dilution Factor: 1
Injection Volume: 80(uL)
GC Column: Anion HR ID: 4.6(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 40176
Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
14797-73-0	Perchlorate	2.2	J	10	0.80	0.30

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-041.d
Lims ID: 320-6575-A-10-A Lab Sample ID: 320-6575-10
Client ID: MAK121L
Sample Type: Client
Inject. Date: 10-Apr-2014 00:16:03 ALS Bottle#: 0 Worklist Smp#: 39
Injection Vol: 80.0 ul Dil. Factor: 1.0000
Sample Info:
Operator ID: Instrument ID: A5

Method: \\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m
Limit Group: LC 6850 ICAL
Last Update: 11-Apr-2014 09:29:43 Calib Date: 09-Apr-2014 16:16:26
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d

Column 1 : Det: MS QQQ
Process Host: XAWRK048

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									s
107.0 > 89.0	11.408	11.660	-0.252		250877259	10.1		8652	
109.0 > 91.0	11.404	11.660	-0.256		80138818		3.13(2.30-3.80)	5327	
2 Perchlorate									
99.0 > 83.0	11.401	11.670	-0.269	0.999	6852349	0.3286		176	
101.0 > 85.0	11.425	11.670	-0.245	1.001	2513075		2.73(2.30-3.80)	148	

QC Flag Legend

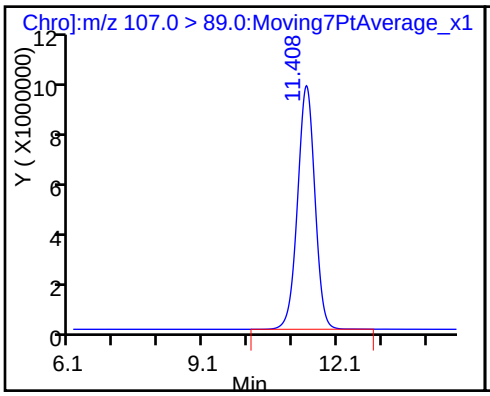
Processing Flags
s - Failed ISTD Recovery Test

Report Date: 11-Apr-2014 09:29:45 Chrom Revision: 2.2 10-Apr-2014 15:11:30

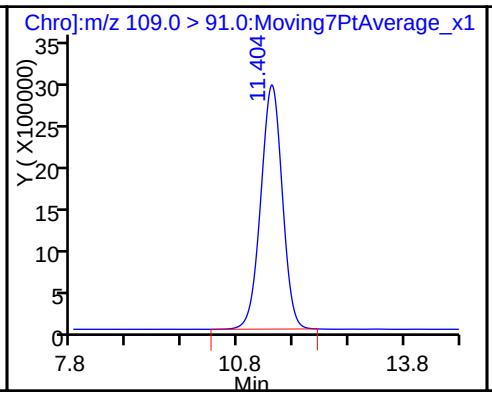
TestAmerica Sacramento

Data File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-041.d				
Injection Date:	10-Apr-2014 00:16:03	Instrument ID:	A5		
Lims ID:	320-6575-A-10-A	Lab Sample ID:	320-6575-10		
Client ID:	MAK121L				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	39
Injection Vol:	80.0 ul	Dil. Factor:	1.0000		
Method:	6850_A5	Limit Group:	LC 6850 ICAL		

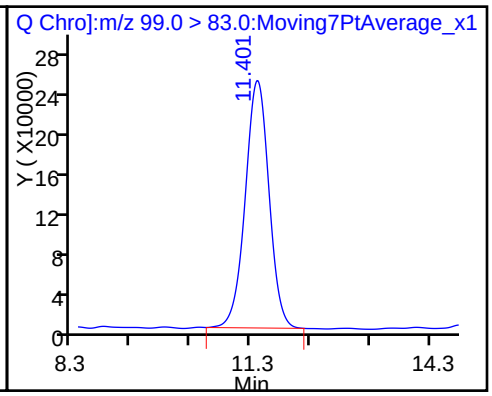
* 1 18-O Perchlorate



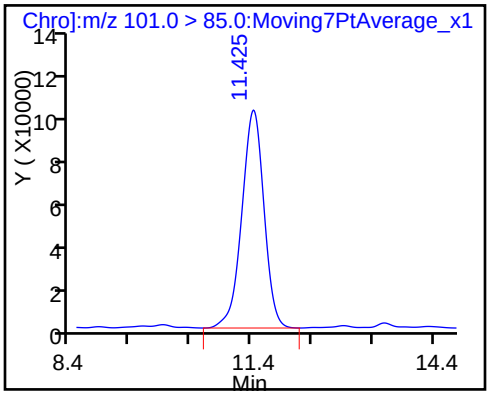
* 1 18-O Perchlorate



2 Perchlorate



2 Perchlorate



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 320-6575-2
SDG No.:
Client Sample ID: MAK122L
Lab Sample ID: 320-6575-11
Matrix: Solid
Lab File ID: 09APR14-Per-042.d
Analysis Method: 6850
Date Collected: 01/31/2014 14:05
Extraction Method: SHAKE
Date Extracted: 04/04/2014 09:48
Sample wt/vol: 1.52(g)
Date Analyzed: 04/10/2014 00:32
Con. Extract Vol.: 10.00(mL)
Dilution Factor: 1
Injection Volume: 80(uL)
GC Column: Anion HR ID: 4.6(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 40176
Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
14797-73-0	Perchlorate	1.8	J	9.9	0.79	0.30

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-042.d
Lims ID: 320-6575-A-11-A Lab Sample ID: 320-6575-11
Client ID: MAK122L
Sample Type: Client
Inject. Date: 10-Apr-2014 00:32:36 ALS Bottle#: 0 Worklist Smp#: 40
Injection Vol: 80.0 ul Dil. Factor: 1.0000
Sample Info:
Operator ID: Instrument ID: A5

Method: \\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m
Limit Group: LC 6850 ICAL
Last Update: 11-Apr-2014 09:29:43 Calib Date: 09-Apr-2014 16:16:26
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d

Column 1 : Det: MS QQQ
Process Host: XAWRK048

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									s
107.0 > 89.0	11.381	11.660	-0.279		251816764	10.1		6183	
109.0 > 91.0	11.377	11.660	-0.283		80534983		3.13(2.30-3.80)	4522	
2 Perchlorate									
99.0 > 83.0	11.387	11.670	-0.283	1.001	5869205	0.2804		130	
101.0 > 85.0	11.370	11.670	-0.300	0.999	1764943		3.33(2.30-3.80)	95.6	

QC Flag Legend

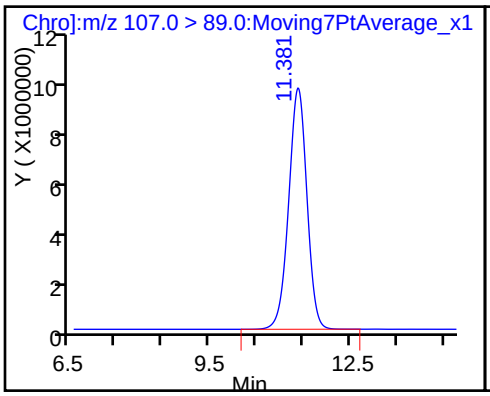
Processing Flags
s - Failed ISTD Recovery Test

Report Date: 11-Apr-2014 09:29:46 Chrom Revision: 2.2 10-Apr-2014 15:11:30

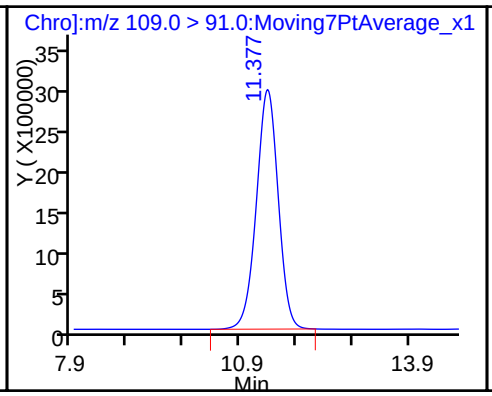
TestAmerica Sacramento

Data File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-042.d				
Injection Date:	10-Apr-2014 00:32:36	Instrument ID:	A5		
Lims ID:	320-6575-A-11-A	Lab Sample ID:	320-6575-11		
Client ID:	MAK122L				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	40
Injection Vol:	80.0 ul	Dil. Factor:	1.0000		
Method:	6850_A5	Limit Group:	LC 6850 ICAL		

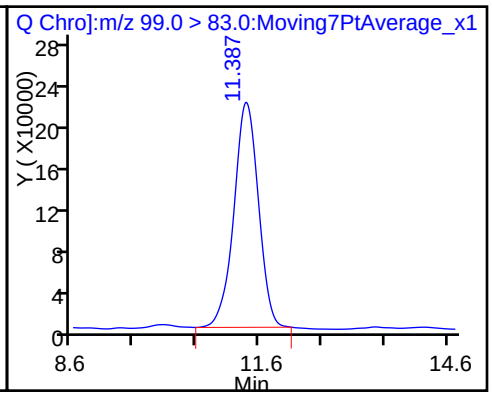
* 1 18-O Perchlorate



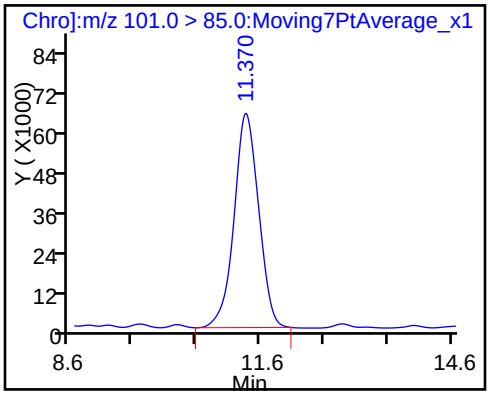
* 1 18-O Perchlorate



2 Perchlorate



2 Perchlorate



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 320-6575-2
SDG No.:
Client Sample ID: MAK123L
Lab Sample ID: 320-6575-12
Matrix: Solid
Lab File ID: 09APR14-Per-043.d
Analysis Method: 6850
Date Collected: 01/31/2014 14:55
Extraction Method: SHAKE
Date Extracted: 04/04/2014 09:48
Sample wt/vol: 1.58(g)
Date Analyzed: 04/10/2014 00:49
Con. Extract Vol.: 10.00(mL)
Dilution Factor: 1
Injection Volume: 80(uL)
GC Column: Anion HR ID: 4.6(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 40176
Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
14797-73-0	Perchlorate	ND		9.5	0.76	0.28

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-043.d
Lims ID: 320-6575-A-12-A Lab Sample ID: 320-6575-12
Client ID: MAK123L
Sample Type: Client
Inject. Date: 10-Apr-2014 00:49:08 ALS Bottle#: 0 Worklist Smp#: 41
Injection Vol: 80.0 ul Dil. Factor: 1.0000
Sample Info:
Operator ID: Instrument ID: A5

Method: \\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m
Limit Group: LC 6850 ICAL
Last Update: 11-Apr-2014 09:29:43 Calib Date: 09-Apr-2014 16:16:26
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d

Column 1 : Det: MS QQQ
Process Host: XAWRK048

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									s
107.0 > 89.0	11.340	11.660	-0.320		178072775	10.1		19828	
109.0 > 91.0	11.336	11.660	-0.324		57218250		3.11(2.30-3.80)	2306	

QC Flag Legend

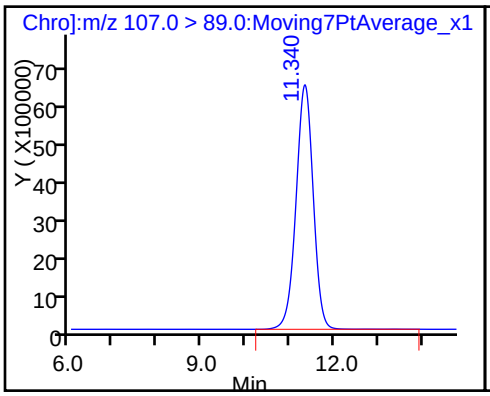
Processing Flags
s - Failed ISTD Recovery Test

Report Date: 11-Apr-2014 09:29:46 Chrom Revision: 2.2 10-Apr-2014 15:11:30

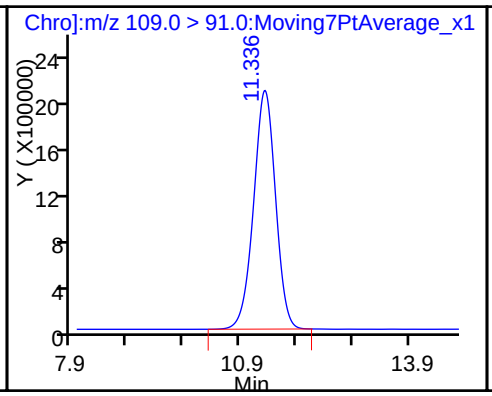
TestAmerica Sacramento

Data File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-043.d				
Injection Date:	10-Apr-2014 00:49:08	Instrument ID:	A5		
Lims ID:	320-6575-A-12-A	Lab Sample ID:	320-6575-12		
Client ID:	MAK123L				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	41
Injection Vol:	80.0 ul	Dil. Factor:	1.0000		
Method:	6850_A5	Limit Group:	LC 6850 ICAL		

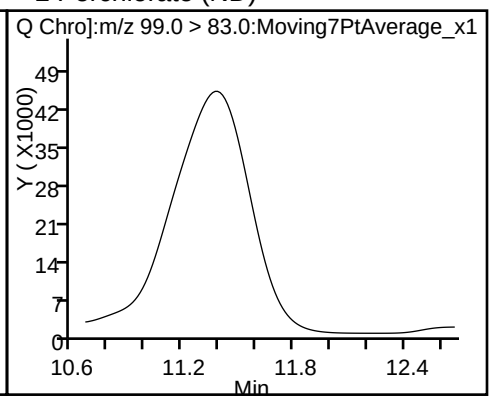
* 1 18-O Perchlorate



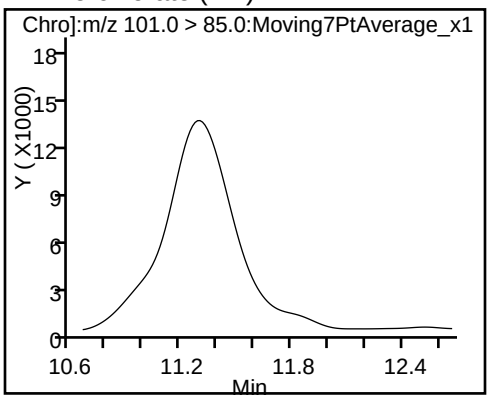
* 1 18-O Perchlorate



2 Perchlorate (ND)



2 Perchlorate (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 320-6575-2
SDG No.:
Client Sample ID: MAK124L
Lab Sample ID: 320-6575-13
Matrix: Solid
Lab File ID: 09APR14-Per-044.d
Analysis Method: 6850
Date Collected: 01/31/2014 15:40
Extraction Method: SHAKE
Date Extracted: 04/04/2014 09:48
Sample wt/vol: 1.51(g)
Date Analyzed: 04/10/2014 01:05
Con. Extract Vol.: 10.00(mL)
Dilution Factor: 1
Injection Volume: 80(uL)
GC Column: Anion HR ID: 4.6(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 40176
Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
14797-73-0	Perchlorate	8.7	J	9.9	0.79	0.30

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-044.d
Lims ID: 320-6575-A-13-A Lab Sample ID: 320-6575-13
Client ID: MAK124L
Sample Type: Client
Inject. Date: 10-Apr-2014 01:05:41 ALS Bottle#: 0 Worklist Smp#: 42
Injection Vol: 80.0 ul Dil. Factor: 1.0000
Sample Info:
Operator ID: Instrument ID: A5

Method: \\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m
Limit Group: LC 6850 ICAL
Last Update: 11-Apr-2014 09:29:43 Calib Date: 09-Apr-2014 16:16:26
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d

Column 1 : Det: MS QQQ
Process Host: XAWRK048

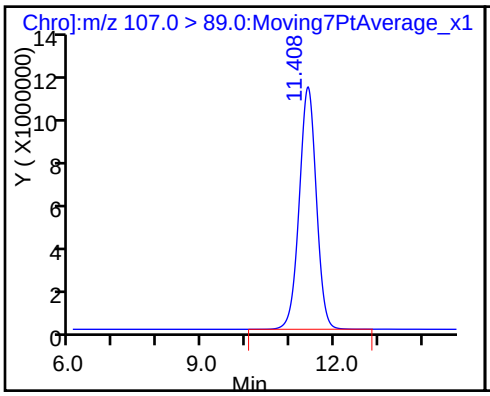
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									
107.0 > 89.0	11.408	11.660	-0.252		291013618	10.1		6178	
109.0 > 91.0	11.404	11.660	-0.256		91773746		3.17(2.30-3.80)	4039	
2 Perchlorate									
99.0 > 83.0	11.414	11.670	-0.256	1.001	31866508	1.32		814	
101.0 > 85.0	11.397	11.670	-0.273	0.999	10913423		2.92(2.30-3.80)	701	

Report Date: 11-Apr-2014 09:29:47 Chrom Revision: 2.2 10-Apr-2014 15:11:30

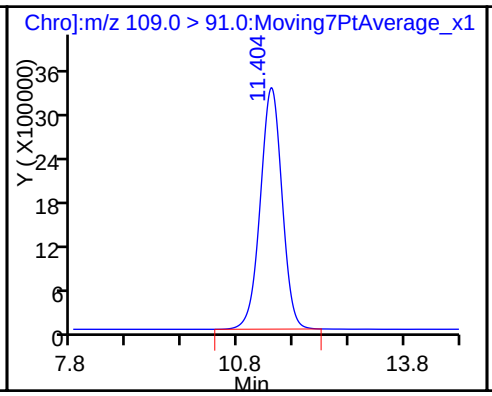
TestAmerica Sacramento

Data File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-044.d				
Injection Date:	10-Apr-2014 01:05:41	Instrument ID:	A5		
Lims ID:	320-6575-A-13-A	Lab Sample ID:	320-6575-13		
Client ID:	MAK124L				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	42
Injection Vol:	80.0 ul	Dil. Factor:	1.0000		
Method:	6850_A5	Limit Group:	LC 6850 ICAL		

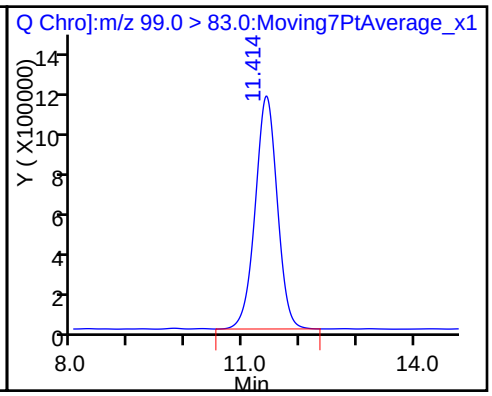
* 1 18-O Perchlorate



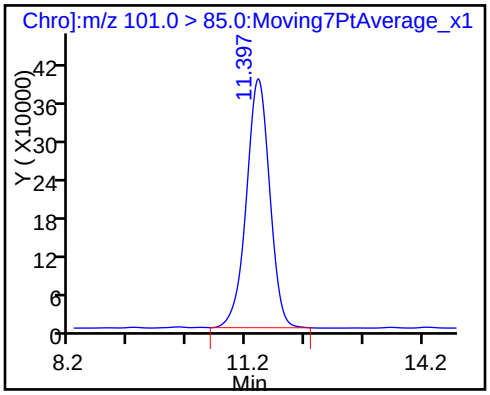
* 1 18-O Perchlorate



2 Perchlorate



2 Perchlorate



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 320-6575-2
SDG No.:
Client Sample ID: MAK126L
Lab Sample ID: 320-6575-14
Matrix: Solid
Lab File ID: 09APR14-Per-045.d
Analysis Method: 6850
Date Collected: 01/31/2014 16:15
Extraction Method: SHAKE
Date Extracted: 04/04/2014 09:48
Sample wt/vol: 1.55(g)
Date Analyzed: 04/10/2014 01:22
Con. Extract Vol.: 10.00(mL)
Dilution Factor: 1
Injection Volume: 80(uL)
GC Column: Anion HR ID: 4.6(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 40176
Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
14797-73-0	Perchlorate	12		9.7	0.77	0.29

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-045.d				
Lims ID:	320-6575-A-14-A	Lab Sample ID:	320-6575-14		
Client ID:	MAK126L				
Sample Type:	Client				
Inject. Date:	10-Apr-2014 01:22:13	ALS Bottle#:	0	Worklist Smp#:	43
Injection Vol:	80.0 ul	Dil. Factor:	1.0000		
Sample Info:					
Operator ID:		Instrument ID:	A5		

Method:	\\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m		
Limit Group:	LC 6850 ICAL		
Last Update:	11-Apr-2014 09:29:43	Calib Date:	09-Apr-2014 16:16:26
Integrator:	Picker		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d		

Column 1 : Det: MS QQQ
Process Host: XAWRK048

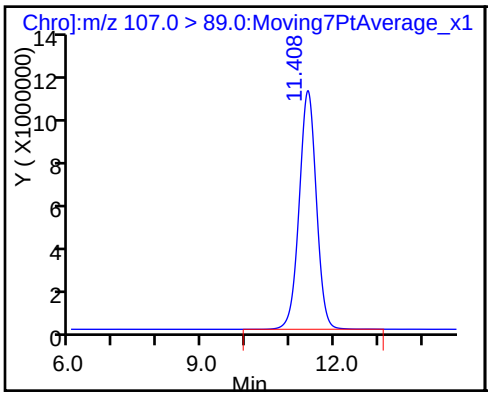
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									
107.0 > 89.0	11.408	11.660	-0.252		304503104	10.1		10139	
109.0 > 91.0	11.404	11.660	-0.256		95534707		3.19(2.30-3.80)	4067	
2 Perchlorate									
99.0 > 83.0	11.414	11.670	-0.256	1.001	47891322	1.89		1145	
101.0 > 85.0	11.411	11.670	-0.259	1.000	16724272		2.86(2.30-3.80)	795	

Report Date: 11-Apr-2014 09:29:47 Chrom Revision: 2.2 10-Apr-2014 15:11:30

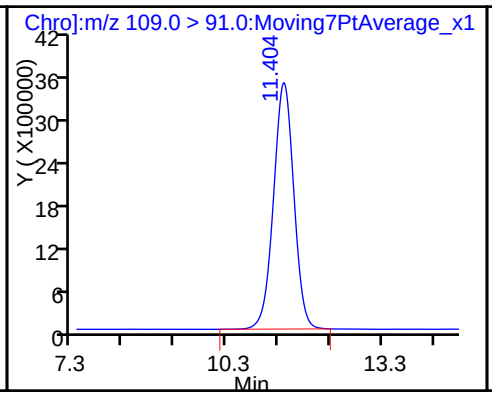
TestAmerica Sacramento

Data File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-045.d				
Injection Date:	10-Apr-2014 01:22:13	Instrument ID:	A5		
Lims ID:	320-6575-A-14-A	Lab Sample ID:	320-6575-14		
Client ID:	MAK126L				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	43
Injection Vol:	80.0 ul	Dil. Factor:	1.0000		
Method:	6850_A5	Limit Group:	LC 6850 ICAL		

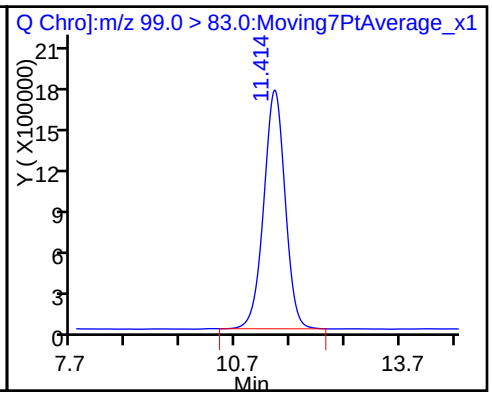
* 1 18-O Perchlorate



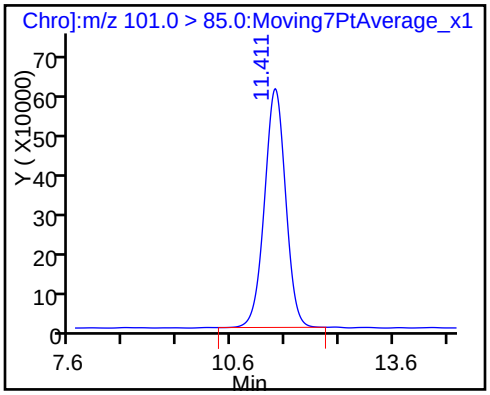
* 1 18-O Perchlorate



2 Perchlorate



2 Perchlorate



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 320-6575-2
SDG No.:
Client Sample ID: MAK127L
Lab Sample ID: 320-6575-15
Matrix: Solid
Lab File ID: 09APR14-Per-046.d
Analysis Method: 6850
Date Collected: 02/11/2014 13:04
Extraction Method: SHAKE
Date Extracted: 04/04/2014 09:48
Sample wt/vol: 1.53(g)
Date Analyzed: 04/10/2014 01:38
Con. Extract Vol.: 10.00(mL)
Dilution Factor: 1
Injection Volume: 80(uL)
GC Column: Anion HR ID: 4.6(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 40176
Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
14797-73-0	Perchlorate	0.65	J I	9.8	0.78	0.29

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-046.d
Lims ID: 320-6575-A-15-A Lab Sample ID: 320-6575-15
Client ID: MAK127L
Sample Type: Client
Inject. Date: 10-Apr-2014 01:38:44 ALS Bottle#: 0 Worklist Smp#: 44
Injection Vol: 80.0 ul Dil. Factor: 1.0000
Sample Info:
Operator ID: Instrument ID: A5

Method: \\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m
Limit Group: LC 6850 ICAL
Last Update: 11-Apr-2014 09:29:43 Calib Date: 09-Apr-2014 16:16:26
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d

Column 1 : Det: MS QQQ
Process Host: XAWRK048

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									
107.0 > 89.0	11.381	11.660	-0.279		266855640	10.1		7083	
109.0 > 91.0	11.377	11.660	-0.283		86062907		3.10(2.30-3.80)	3352	
2 Perchlorate									R
99.0 > 83.0	11.387	11.670	-0.283	1.001	2201656	0.0993		49.9	R
101.0 > 85.0	11.438	11.670	-0.232	1.005	962932		2.29(2.30-3.80)	67.5	

QC Flag Legend

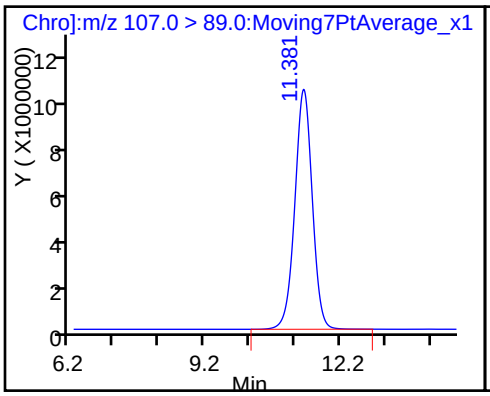
Processing Flags
R - Failed Signal Ratio Test

Report Date: 11-Apr-2014 09:29:48 Chrom Revision: 2.2 10-Apr-2014 15:11:30

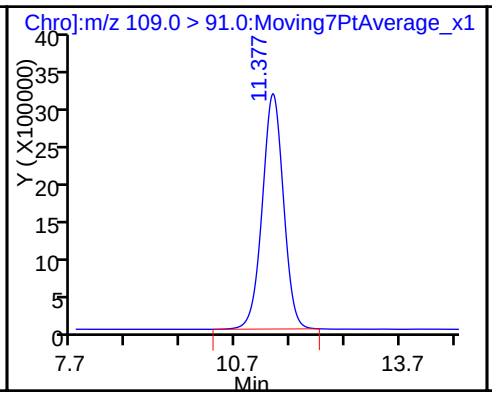
TestAmerica Sacramento

Data File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-046.d				
Injection Date:	10-Apr-2014 01:38:44	Instrument ID:	A5		
Lims ID:	320-6575-A-15-A	Lab Sample ID:	320-6575-15		
Client ID:	MAK127L				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	44
Injection Vol:	80.0 ul	Dil. Factor:	1.0000		
Method:	6850_A5	Limit Group:	LC 6850 ICAL		

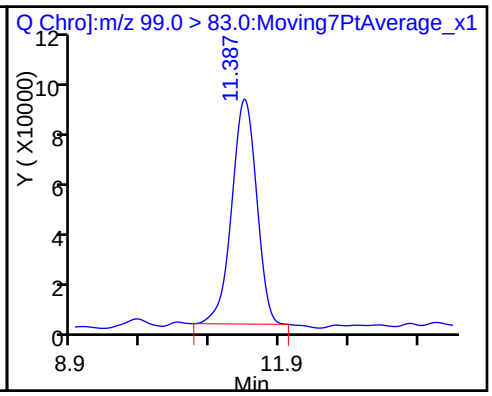
* 1 18-O Perchlorate



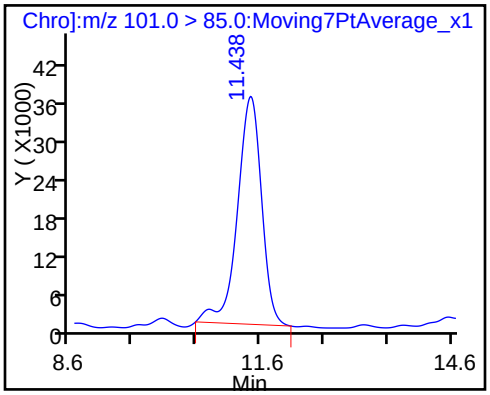
* 1 18-O Perchlorate



2 Perchlorate



2 Perchlorate



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 320-6575-2
SDG No.:
Client Sample ID: MAK128L
Lab Sample ID: 320-6575-16
Matrix: Solid
Lab File ID: 09APR14-Per-047.d
Analysis Method: 6850
Date Collected: 02/11/2014 14:15
Extraction Method: SHAKE
Date Extracted: 04/04/2014 09:48
Sample wt/vol: 1.52(g)
Date Analyzed: 04/10/2014 01:55
Con. Extract Vol.: 10.00(mL)
Dilution Factor: 1
Injection Volume: 80(uL)
GC Column: Anion HR ID: 4.6(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 40176
Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
14797-73-0	Perchlorate	0.41	J	9.9	0.79	0.30

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-047.d
Lims ID: 320-6575-A-16-A Lab Sample ID: 320-6575-16
Client ID: MAK128L
Sample Type: Client
Inject. Date: 10-Apr-2014 01:55:15 ALS Bottle#: 0 Worklist Smp#: 45
Injection Vol: 80.0 ul Dil. Factor: 1.0000
Sample Info:
Operator ID: Instrument ID: A5

Method: \\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m
Limit Group: LC 6850 ICAL
Last Update: 11-Apr-2014 09:29:43 Calib Date: 09-Apr-2014 16:16:26
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d

Column 1 : Det: MS QQQ
Process Host: XAWRK048

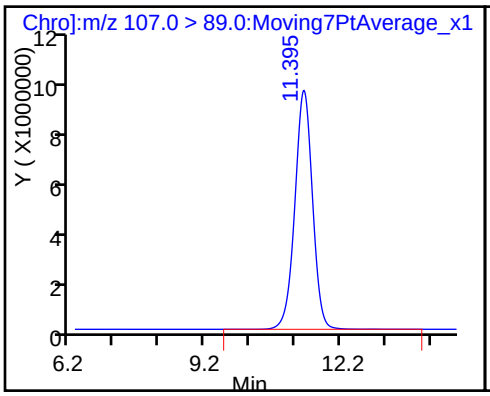
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									
107.0 > 89.0	11.395	11.660	-0.265		262506285	10.1		22415	
109.0 > 91.0	11.378	11.660	-0.282		85052820		3.09(2.30-3.80)	4273	
2 Perchlorate									
99.0 > 83.0	11.389	11.670	-0.281	0.999	1344816	0.0616		31.9	
101.0 > 85.0	11.399	11.670	-0.271	1.000	523759		2.57(2.30-3.80)	33.0	

Report Date: 11-Apr-2014 09:29:48 Chrom Revision: 2.2 10-Apr-2014 15:11:30

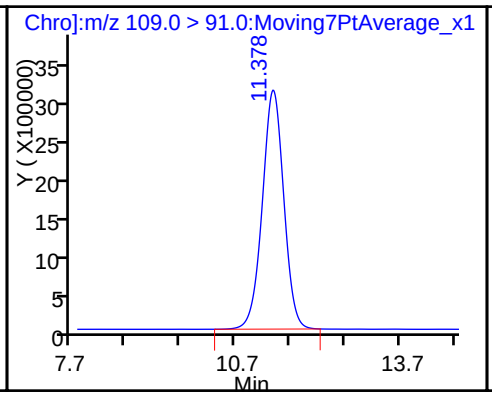
TestAmerica Sacramento

Data File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-047.d				
Injection Date:	10-Apr-2014 01:55:15	Instrument ID:	A5		
Lims ID:	320-6575-A-16-A	Lab Sample ID:	320-6575-16		
Client ID:	MAK128L				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	45
Injection Vol:	80.0 ul	Dil. Factor:	1.0000		
Method:	6850_A5	Limit Group:	LC 6850 ICAL		

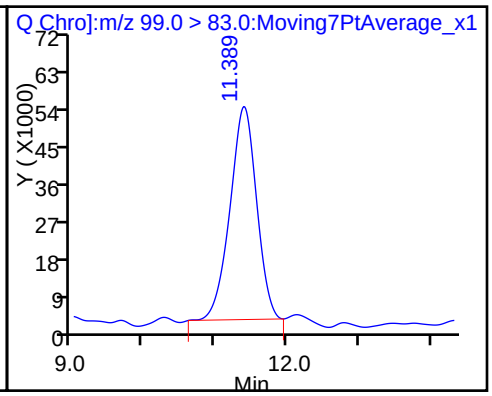
* 1 18-O Perchlorate



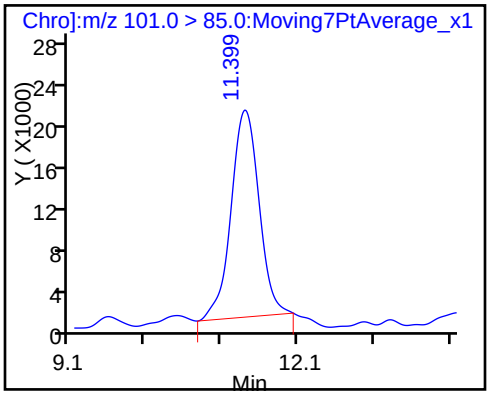
* 1 18-O Perchlorate



2 Perchlorate



2 Perchlorate



FORM VI
LCMS INITIAL CALIBRATION DATA
INTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Sacramento Job No.: 320-6575-2 Analy Batch No.: 40176

SDG No.:

Instrument ID: A5 GC Column: Anion HR ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/09/2014 14:20 Calibration End Date: 04/09/2014 16:16 Calibration ID: 6960

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD01 320-40176/3	09APR14-Per-005.d
Level 2	STD02 320-40176/4	09APR14-Per-006.d
Level 3	STD03 320-40176/5	09APR14-Per-007.d
Level 4	STD04 320-40176/6	09APR14-Per-008.d
Level 5	STD05 320-40176/7	09APR14-Per-009.d
Level 6	STD06 320-40176/8	09APR14-Per-010.d
Level 7	STD07 320-40176/9	09APR14-Per-011.d
Level 8	STD08 320-40176/10	09APR14-Per-012.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Perchlorate	0.8113 0.8657	0.7910 0.8856	0.7788 0.9490	0.8265	0.8188	Ave		0.8408				6.7		15.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
LCMS INITIAL CALIBRATION DATA
INTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento Job No.: 320-6575-2 Analy Batch No.: 40176

SDG No.:

Instrument ID: A5 GC Column: Anion HR ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/09/2014 14:20 Calibration End Date: 04/09/2014 16:16 Calibration ID: 6960

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD01 320-40176/3	09APR14-Per-005.d
Level 2	STD02 320-40176/4	09APR14-Per-006.d
Level 3	STD03 320-40176/5	09APR14-Per-007.d
Level 4	STD04 320-40176/6	09APR14-Per-008.d
Level 5	STD05 320-40176/7	09APR14-Per-009.d
Level 6	STD06 320-40176/8	09APR14-Per-010.d
Level 7	STD07 320-40176/9	09APR14-Per-011.d
Level 8	STD08 320-40176/10	09APR14-Per-012.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Perchlorate	18OP	Ave	6383848 205142105	12772504 408104332	21094694 803347620	41559251	84982776	0.150 5.00	0.300 10.0	0.500 20.0	1.00	2.00

Curve Type Legend:

Ave = Average ISTD

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-005.d				
Lims ID:	STD01				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	09-Apr-2014 14:20:43	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	80.0 ul	Dil. Factor:	1.0000		
Sample Info:					
Operator ID:		Instrument ID:	A5		
Sublist:	chrom-6850_A5*sub4				
Method:	\\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m				
Limit Group:	LC 6850 ICAL				
Last Update:	11-Apr-2014 14:24:12	Calib Date:	09-Apr-2014 16:16:26		
Integrator:	Picker				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d				
Column 1 :			Det: MS QQQ		
Process Host:	XAWRK015				

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									
107.0 > 89.0	11.693	11.693	0.0		528411806	10.1		10362	
109.0 > 91.0	11.703	11.693	0.010		164082059		3.22(2.30-3.80)	4768	
2 Perchlorate									
99.0 > 83.0	11.713	11.713	0.0	1.002	6383848	0.1447		101	
101.0 > 85.0	11.696	11.713	-0.017	1.000	2351656		2.71(2.30-3.80)	72.3	

Report Date: 11-Apr-2014 14:24:12 Chrom Revision: 2.2 10-Apr-2014 15:11:30

TestAmerica Sacramento

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-005.d

Injection Date: 09-Apr-2014 14:20:43 Instrument ID: A5

Lims ID: STD01

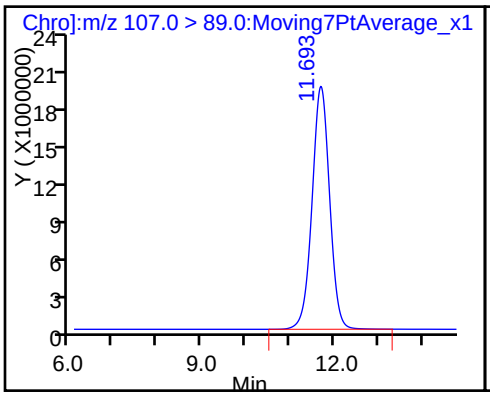
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 3

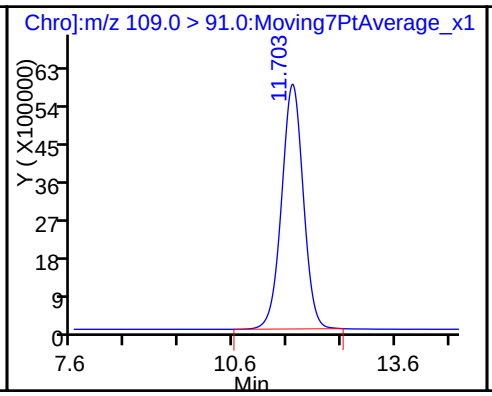
Injection Vol: 80.0 ul Dil. Factor: 1.0000

Method: 6850_A5 Limit Group: LC 6850 ICAL

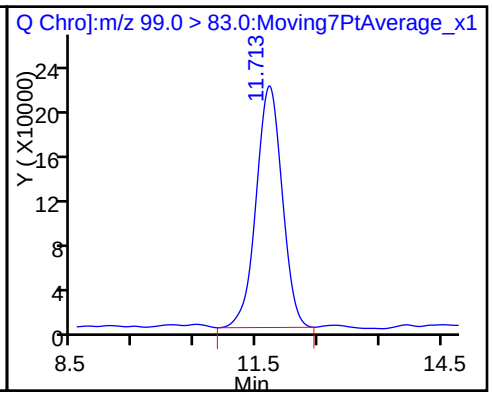
* 1 18-O Perchlorate



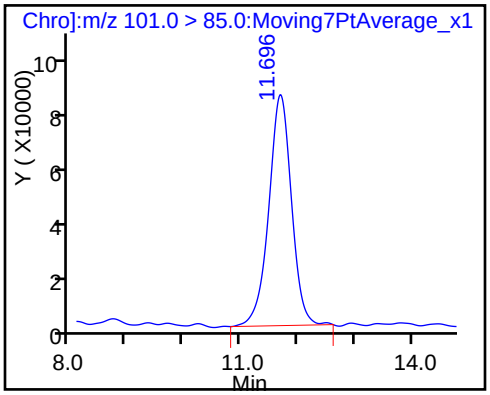
* 1 18-O Perchlorate



2 Perchlorate



2 Perchlorate



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-006.d
Lims ID: STD02
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 09-Apr-2014 14:37:15 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 80.0 ul Dil. Factor: 1.0000
Sample Info:
Operator ID: Instrument ID: A5
Sublist: chrom-6850_A5*sub4

Method: \\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m
Limit Group: LC 6850 ICAL
Last Update: 11-Apr-2014 14:27:25 Calib Date: 09-Apr-2014 16:16:26
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d

Column 1 : Det: MS QQQ
Process Host: XAWRK015

First Level Reviewer: barnettj Date: 11-Apr-2014 14:27:25

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									
107.0 > 89.0	11.679	11.669	0.010		542190937	10.1		13767	
109.0 > 91.0	11.676	11.669	0.007		169039887		3.21(2.30-3.80)	4303	
2 Perchlorate									M
99.0 > 83.0	11.686	11.686	0.0	1.001	12772504	0.2822		224	
101.0 > 85.0	11.683	11.686	-0.003	1.000	4136028		3.09(2.30-3.80)	103	M

QC Flag Legend

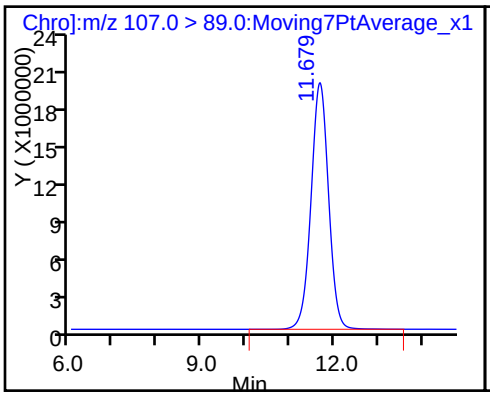
Review Flags
M - Manually Integrated

Report Date: 11-Apr-2014 14:27:25 Chrom Revision: 2.2 10-Apr-2014 15:11:30

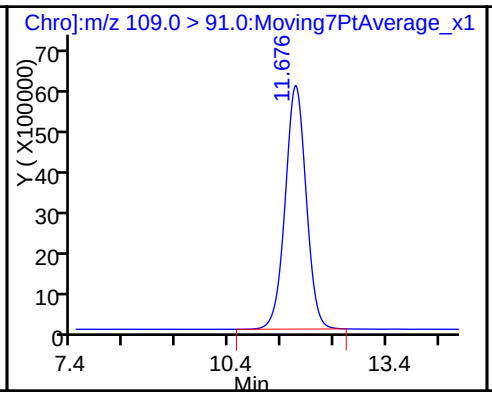
TestAmerica Sacramento

Data File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-006.d				
Injection Date:	09-Apr-2014 14:37:15	Instrument ID:	A5		
Lims ID:	STD02				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	80.0 ul	Dil. Factor:	1.0000		
Method:	6850_A5	Limit Group:	LC 6850 ICAL		

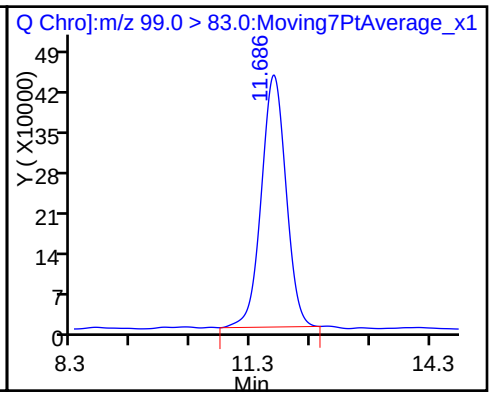
* 1 18-O Perchlorate



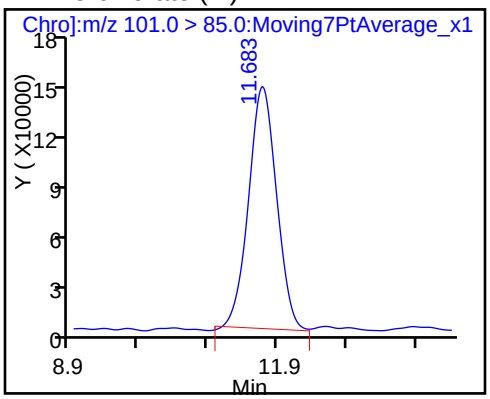
* 1 18-O Perchlorate



2 Perchlorate



2 Perchlorate (M)



Manual Integration/User Assign Peak Report

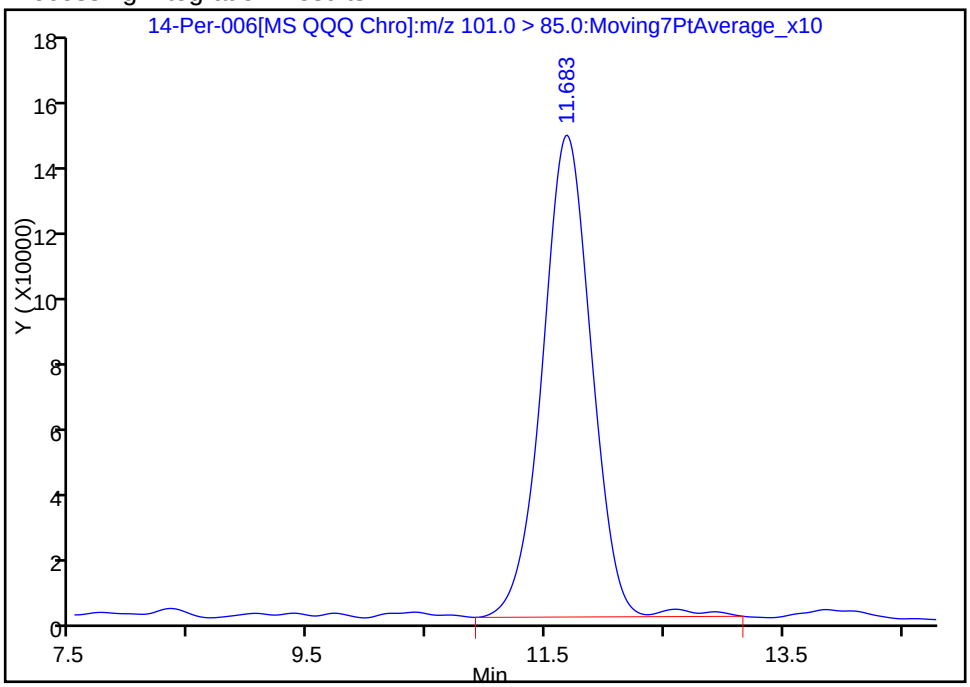
TestAmerica Sacramento

Data File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-006.d				
Injection Date:	09-Apr-2014 14:37:15	Instrument ID:	A5		
Lims ID:	STD02				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	80.0 ul	Dil. Factor:	1.0000		
Method:	6850_A5	Limit Group:	LC 6850 ICAL		
Column:		Detector	MS QQQ		

2 Perchlorate, CAS: 14797-73-0

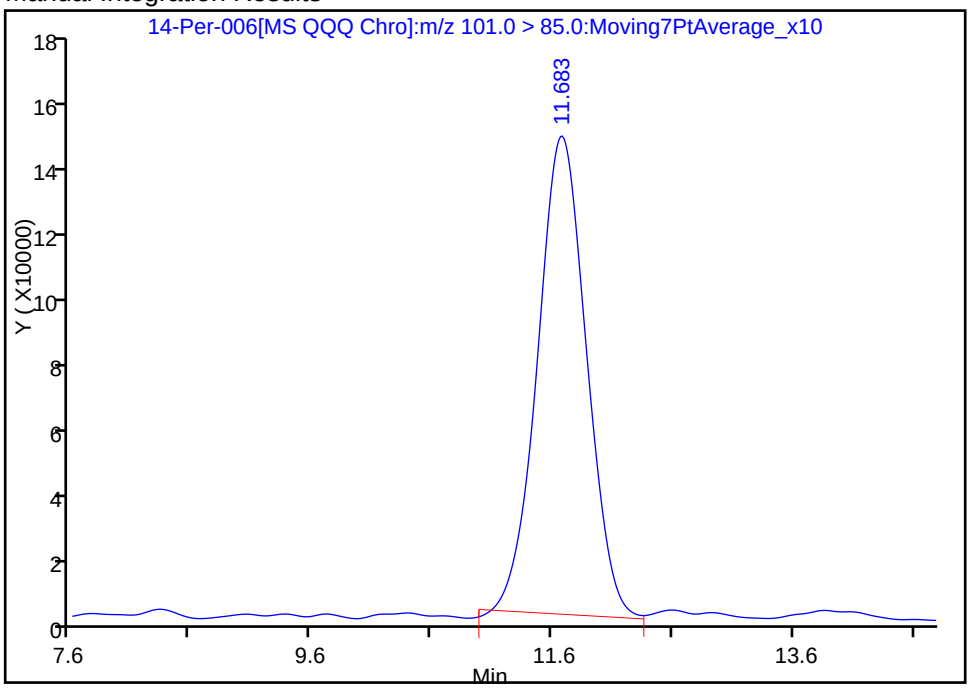
Processing Integration Results

RT: 11.68
Response: 4289385
Amount: 0.282215



Manual Integration Results

RT: 11.68
Response: 4136028
Amount: 0.282215



Reviewer: barnettj, 11-Apr-2014 14:27:25
Audit Action: Manually Integrated
Audit Reason: Shouldering

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-007.d
Lims ID: STD03
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 09-Apr-2014 14:53:46 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 80.0 ul Dil. Factor: 1.0000
Sample Info:
Operator ID: Instrument ID: A5
Sublist: chrom-6850_A5*sub4

Method: \\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m
Limit Group: LC 6850 ICAL
Last Update: 11-Apr-2014 14:24:13 Calib Date: 09-Apr-2014 16:16:26
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d

Column 1 : Det: MS QQQ
Process Host: XAWRK015

First Level Reviewer: strumj Date: 10-Apr-2014 12:29:02

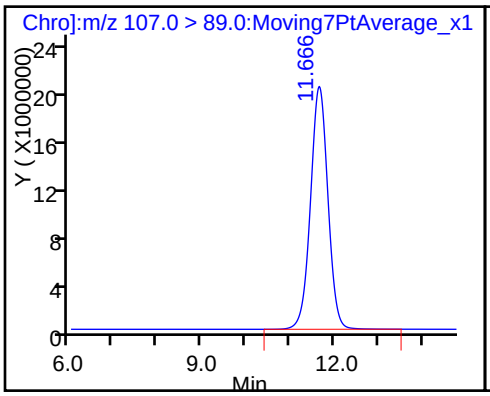
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									
107.0 > 89.0	11.666	11.679	-0.013		545689194	10.1		12494	
109.0 > 91.0	11.662	11.679	-0.017		171186994		3.19(2.30-3.80)	4411	
2 Perchlorate									
99.0 > 83.0	11.686	11.695	-0.009	1.002	21094694	0.4631		313	
101.0 > 85.0	11.669	11.695	-0.026	1.000	7225940		2.92(2.30-3.80)	229	

Report Date: 11-Apr-2014 14:24:13 Chrom Revision: 2.2 10-Apr-2014 15:11:30

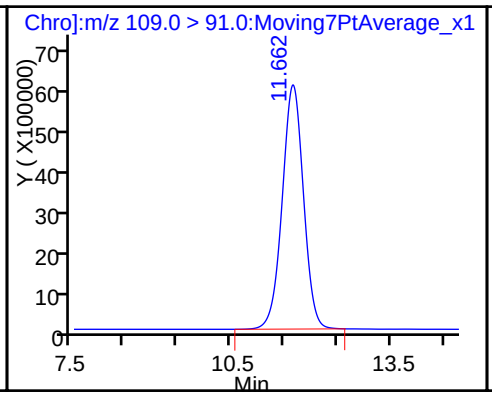
TestAmerica Sacramento

Data File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-007.d				
Injection Date:	09-Apr-2014 14:53:46	Instrument ID:	A5		
Lims ID:	STD03				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	80.0 ul	Dil. Factor:	1.0000		
Method:	6850_A5	Limit Group:	LC 6850 ICAL		

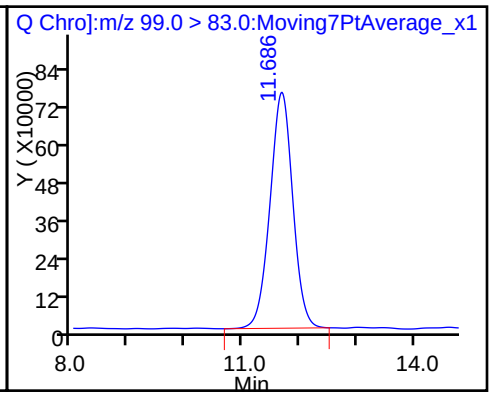
* 1 18-O Perchlorate



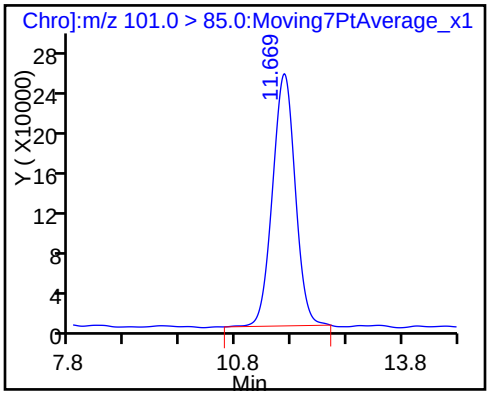
* 1 18-O Perchlorate



2 Perchlorate



2 Perchlorate



TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-008.d				
Lims ID:	STD04				
Client ID:					
Sample Type:	ICISAV	Calib Level:	4		
Inject. Date:	09-Apr-2014 15:10:18	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	80.0 ul	Dil. Factor:	1.0000		
Sample Info:					
Operator ID:		Instrument ID:	A5		
Sublist:	chrom-6850_A5*sub4				
Method:	\\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m				
Limit Group:	LC 6850 ICAL				
Last Update:	10-Apr-2014 14:31:39	Calib Date:	09-Apr-2014 16:16:26		
Integrator:	Picker				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d				
Column 1 :			Det: MS QQQ		
Process Host:	XAWRK048				

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									
107.0 > 89.0	11.652	11.660	-0.008		506491322	10.1		9420	
109.0 > 91.0	11.649	11.660	-0.011		162137174		3.12(2.30-3.80)	3128	
2 Perchlorate									
99.0 > 83.0	11.659	11.670	-0.011	1.001	41559251	0.9872		653	
101.0 > 85.0	11.669	11.670	-0.001	1.001	14105096		2.95(2.30-3.80)	233	

Report Date: 10-Apr-2014 14:31:40 Chrom Revision: 2.2 07-Apr-2014 11:51:18

TestAmerica Sacramento

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-008.d

Injection Date: 09-Apr-2014 15:10:18 Instrument ID: A5

Lims ID: STD04

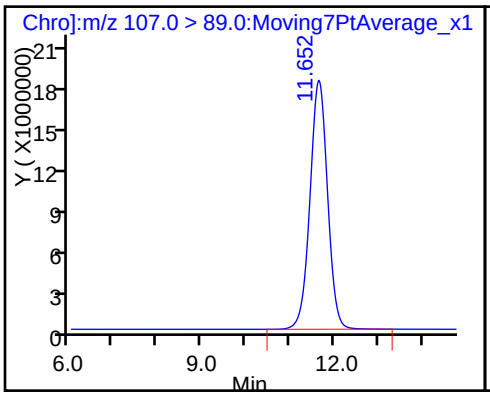
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 6

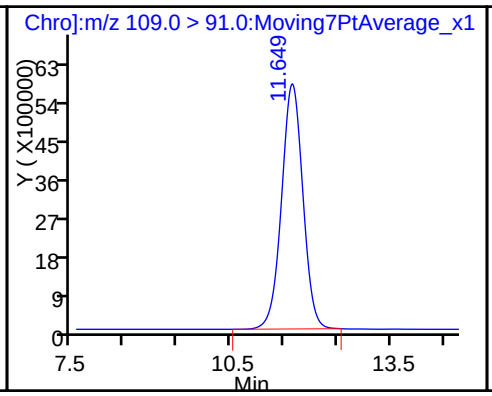
Injection Vol: 80.0 ul Dil. Factor: 1.0000

Method: 6850_A5 Limit Group: LC 6850 ICAL

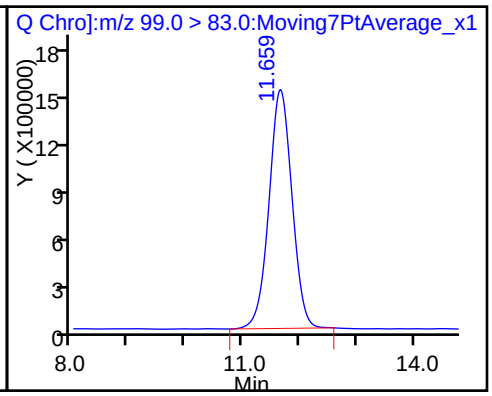
* 1 18-O Perchlorate



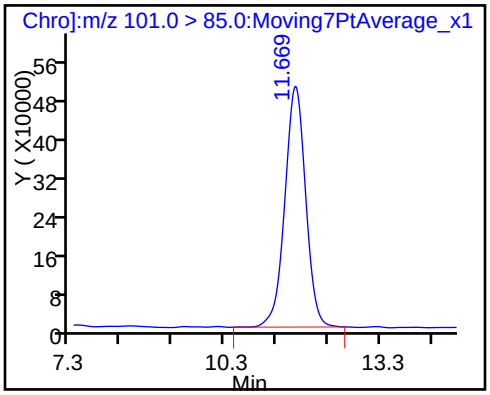
* 1 18-O Perchlorate



2 Perchlorate



2 Perchlorate



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-009.d
Lims ID: STD05
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 09-Apr-2014 15:26:48 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 80.0 ul Dil. Factor: 1.0000
Sample Info:
Operator ID: Instrument ID: A5
Sublist: chrom-6850_A5*sub4

Method: \\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m
Limit Group: LC 6850 ICAL
Last Update: 10-Apr-2014 14:31:40 Calib Date: 09-Apr-2014 16:16:26
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d

Column 1 : Det: MS QQQ
Process Host: XAWRK048

First Level Reviewer: strumj Date: 10-Apr-2014 12:43:59

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									
107.0 > 89.0	11.652	11.660	-0.008		522739125	10.1		9699	
109.0 > 91.0	11.649	11.660	-0.011		165308788		3.16(2.30-3.80)	6835	
2 Perchlorate									
99.0 > 83.0	11.659	11.670	-0.011	1.001	84982776	1.96		1362	
101.0 > 85.0	11.642	11.670	-0.028	0.999	29025839		2.93(2.30-3.80)	682	

Report Date: 10-Apr-2014 14:31:41 Chrom Revision: 2.2 07-Apr-2014 11:51:18

TestAmerica Sacramento

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-009.d

Injection Date: 09-Apr-2014 15:26:48 Instrument ID: A5

Lims ID: STD05

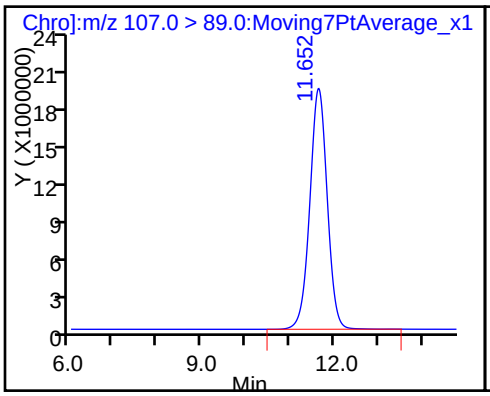
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 7

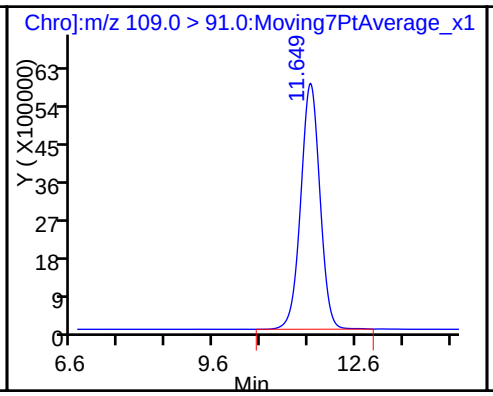
Injection Vol: 80.0 ul Dil. Factor: 1.0000

Method: 6850_A5 Limit Group: LC 6850 ICAL

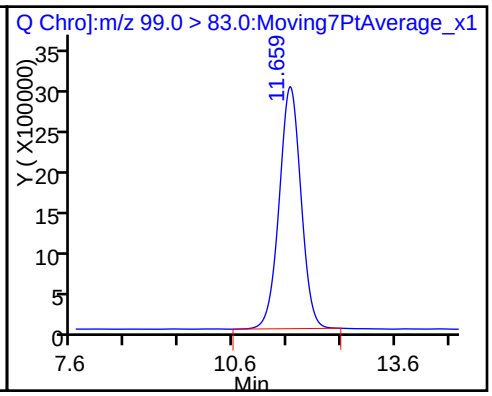
* 1 18-O Perchlorate



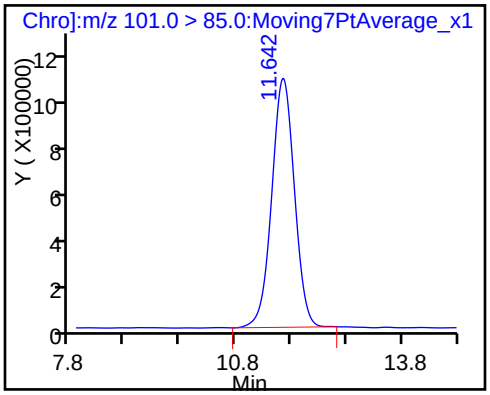
* 1 18-O Perchlorate



2 Perchlorate



2 Perchlorate



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-010.d
Lims ID: STD06
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 09-Apr-2014 15:43:22 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 80.0 ul Dil. Factor: 1.0000
Sample Info:
Operator ID: Instrument ID: A5
Sublist: chrom-6850_A5*sub4

Method: \\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m
Limit Group: LC 6850 ICAL
Last Update: 11-Apr-2014 14:23:36 Calib Date: 09-Apr-2014 16:16:26
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d

Column 1 : Det: MS QQQ
Process Host: XAWRK015

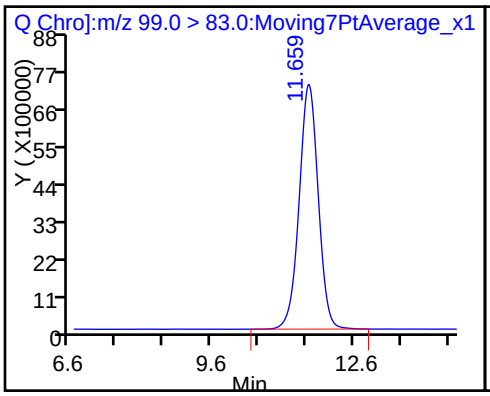
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
2 Perchlorate									
99.0 > 83.0	11.659	11.659	0.0	1.002	205142105	5.15		1940	
101.0 > 85.0	11.655	11.659	-0.004	1.001	66880103		3.07(2.30-3.80)	1536	
* 1 18-O Perchlorate									
107.0 > 89.0	11.638	11.638	0.0		477397458	10.1		10113	
109.0 > 91.0	11.649	11.638	0.011		151623215		3.15(2.30-3.80)	3594	

Report Date: 11-Apr-2014 14:23:36 Chrom Revision: 2.2 10-Apr-2014 15:11:30

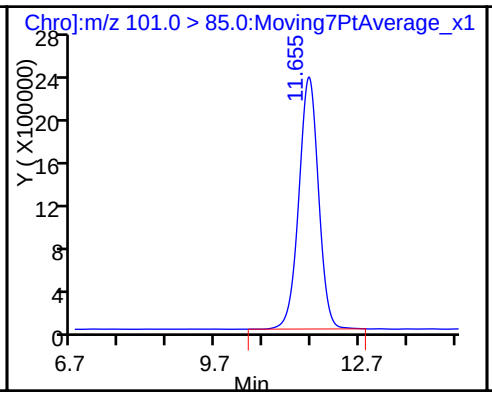
TestAmerica Sacramento

Data File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-010.d				
Injection Date:	09-Apr-2014 15:43:22	Instrument ID:	A5		
Lims ID:	STD06				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	80.0 ul	Dil. Factor:	1.0000		
Method:	6850_A5	Limit Group:	LC 6850 ICAL		

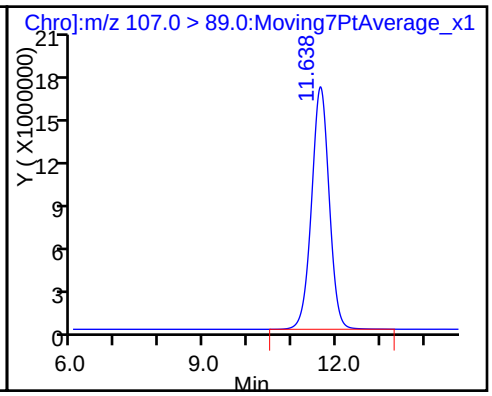
2 Perchlorate



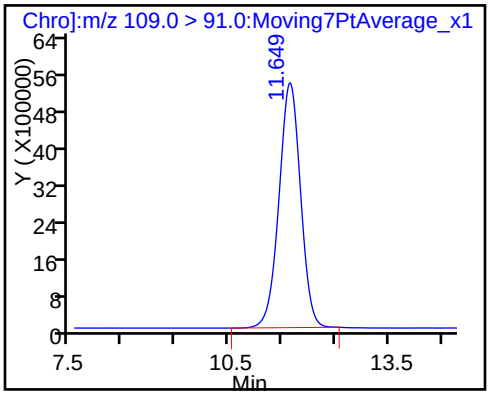
2 Perchlorate



* 1 18-O Perchlorate



* 1 18-O Perchlorate



TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-011.d				
Lims ID:	STD07				
Client ID:					
Sample Type:	IC	Calib Level:	7		
Inject. Date:	09-Apr-2014 15:59:54	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	80.0 ul	Dil. Factor:	1.0000		
Sample Info:					
Operator ID:		Instrument ID:	A5		
Sublist:	chrom-6850_A5*sub4				
Method:	\\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m				
Limit Group:	LC 6850 ICAL				
Last Update:	10-Apr-2014 14:31:42	Calib Date:	09-Apr-2014 16:16:26		
Integrator:	Picker				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d				
Column 1 :			Det: MS QQQ		
Process Host:	XAWRK048				

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									
107.0 > 89.0	11.638	11.660	-0.022		464204076	10.1		10092	
109.0 > 91.0	11.635	11.660	-0.025		145694297		3.19(2.30-3.80)	4081	
2 Perchlorate									
99.0 > 83.0	11.645	11.670	-0.025	1.001	408104332	10.6		4708	
101.0 > 85.0	11.642	11.670	-0.028	1.000	131211707		3.11(2.30-3.80)	2504	

Report Date: 10-Apr-2014 14:31:42 Chrom Revision: 2.2 07-Apr-2014 11:51:18

TestAmerica Sacramento

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-011.d

Injection Date: 09-Apr-2014 15:59:54 Instrument ID: A5

Lims ID: STD07

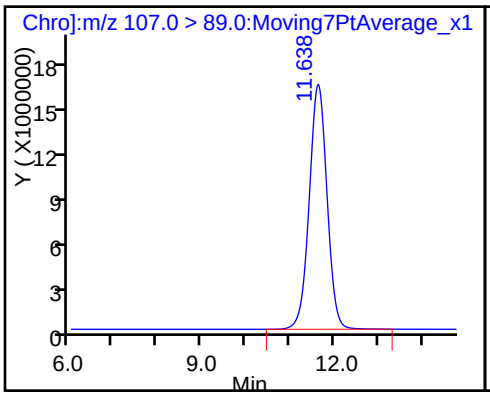
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 9

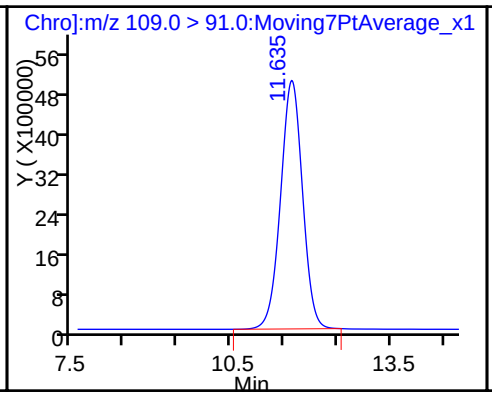
Injection Vol: 80.0 ul Dil. Factor: 1.0000

Method: 6850_A5 Limit Group: LC 6850 ICAL

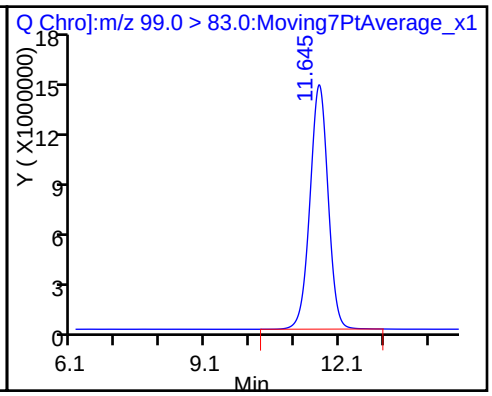
* 1 18-O Perchlorate



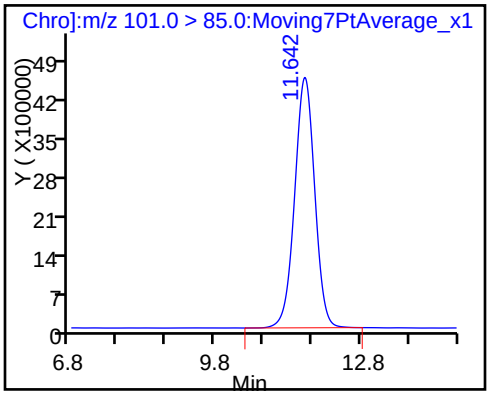
* 1 18-O Perchlorate



2 Perchlorate



2 Perchlorate



TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d				
Lims ID:	STD08				
Client ID:					
Sample Type:	IC	Calib Level:	8		
Inject. Date:	09-Apr-2014 16:16:26	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	80.0 ul	Dil. Factor:	1.0000		
Sample Info:					
Operator ID:		Instrument ID:	A5		
Sublist:	chrom-6850_A5*sub4				
Method:	\\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m				
Limit Group:	LC 6850 ICAL				
Last Update:	10-Apr-2014 14:31:43	Calib Date:	09-Apr-2014 16:16:26		
Integrator:	Picker				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d				
Column 1 :			Det: MS QQQ		
Process Host:	XAWRK048				

First Level Reviewer: strumj Date: 10-Apr-2014 12:27:37

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									
107.0 > 89.0	11.638	11.660	-0.022		426381488	10.1		7857	
109.0 > 91.0	11.635	11.660	-0.025		137288071		3.11(2.30-3.80)	3711	
2 Perchlorate									
99.0 > 83.0	11.645	11.670	-0.025	1.001	803347620	22.7		7115	
101.0 > 85.0	11.655	11.670	-0.015	1.001	250995353		3.20(2.30-3.80)	2820	

Report Date: 10-Apr-2014 14:31:43 Chrom Revision: 2.2 07-Apr-2014 11:51:18

TestAmerica Sacramento

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d

Injection Date: 09-Apr-2014 16:16:26 Instrument ID: A5

Lims ID: STD08

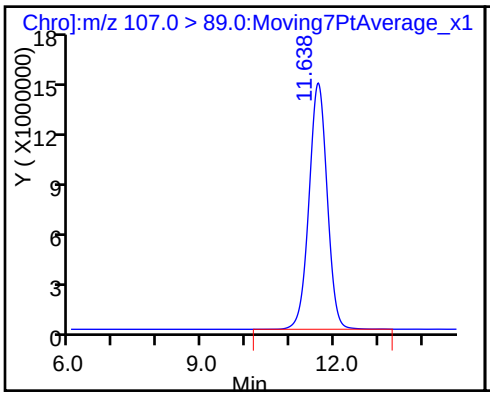
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 10

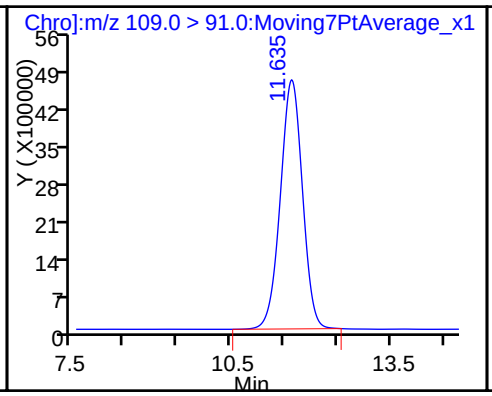
Injection Vol: 80.0 ul Dil. Factor: 1.0000

Method: 6850_A5 Limit Group: LC 6850 ICAL

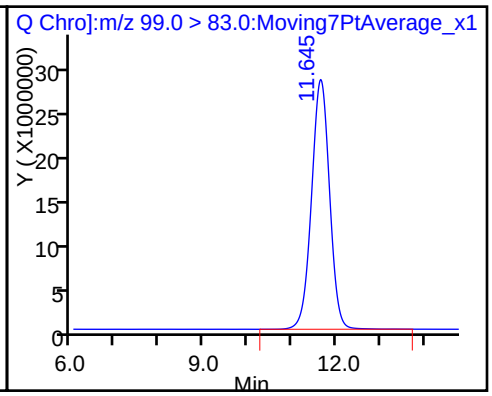
* 1 18-O Perchlorate



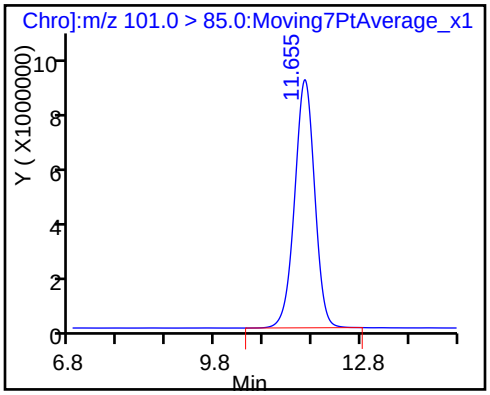
* 1 18-O Perchlorate



2 Perchlorate



2 Perchlorate



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-6575-2

SDG No.:

Lab Sample ID: ICV 320-40176/12 Calibration Date: 04/09/2014 16:49

Instrument ID: A5 Calib Start Date: 04/09/2014 14:20

GC Column: Anion HR ID: 4.60(mm) Calib End Date: 04/09/2014 16:16

Lab File ID: 09APR14-Per-014.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Ave	0.8408	0.8525		5.09	5.00	1.8	15.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-014.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 09-Apr-2014 16:49:31 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 80.0 ul Dil. Factor: 1.0000
Sample Info:
Operator ID: Instrument ID: A5
Sublist:

Method: \\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m
Limit Group: LC 6850 ICAL
Last Update: 10-Apr-2014 14:31:45 Calib Date: 09-Apr-2014 16:16:26
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d

Column 1 : Det: MS QQQ
Process Host: XAWRK048

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									
107.0 > 89.0	11.625	11.660	-0.035		518843797	10.1		9881	
109.0 > 91.0	11.621	11.660	-0.039		162942213		3.18(2.30-3.80)	3028	
2 Perchlorate									
99.0 > 83.0	11.632	11.670	-0.038	1.001	219559559	5.09		2932	
101.0 > 85.0	11.642	11.670	-0.028	1.001	72294465		3.04(2.30-3.80)	1354	

Report Date: 10-Apr-2014 14:31:45 Chrom Revision: 2.2 07-Apr-2014 11:51:18

TestAmerica Sacramento

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-014.d

Injection Date: 09-Apr-2014 16:49:31 Instrument ID: A5

Lims ID: ICV

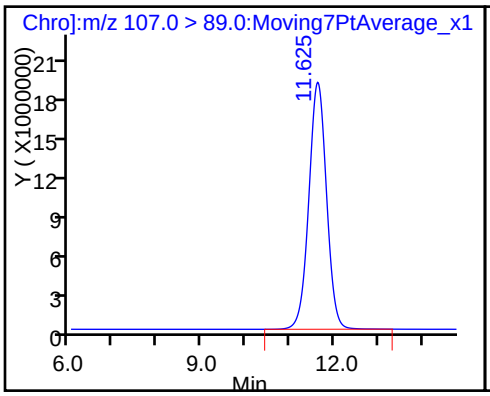
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 12

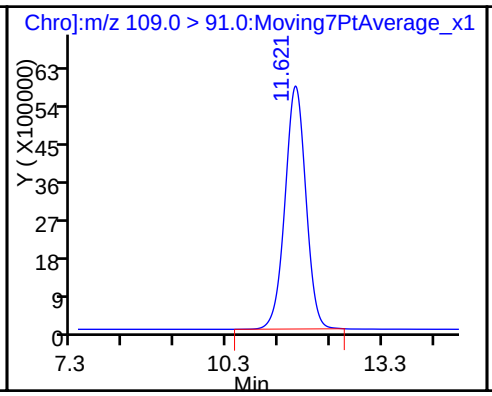
Injection Vol: 80.0 ul Dil. Factor: 1.0000

Method: 6850_A5 Limit Group: LC 6850 ICAL

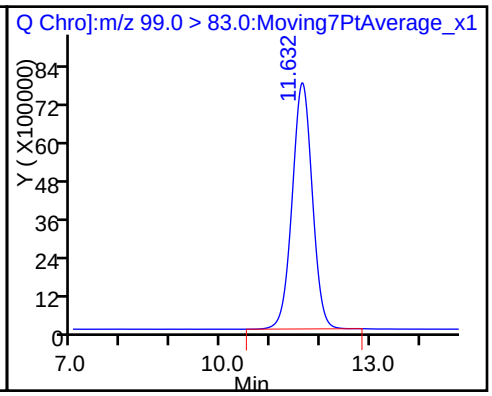
* 1 18-O Perchlorate



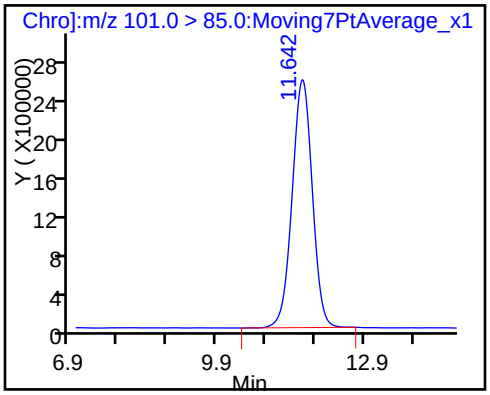
* 1 18-O Perchlorate



2 Perchlorate



2 Perchlorate



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-6575-2

SDG No.:

Lab Sample ID: CCVL 320-40176/14 Calibration Date: 04/09/2014 17:22

Instrument ID: A5 Calib Start Date: 04/09/2014 14:20

GC Column: Anion HR ID: 4.60(mm) Calib End Date: 04/09/2014 16:16

Lab File ID: 09APR14-Per-016.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Ave	0.8408	0.7884		0.471	0.500	-5.8	50.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-016.d
Lims ID: CCVL
Client ID:
Sample Type: CCVL
Inject. Date: 09-Apr-2014 17:22:34 ALS Bottle#: 0 Worklist Smp#: 14
Injection Vol: 80.0 ul Dil. Factor: 1.0000
Sample Info:
Operator ID: Instrument ID: A5
Sublist: chrom-6850_A5*sub4

Method: \\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m
Limit Group: LC 6850 ICAL
Last Update: 10-Apr-2014 14:31:47 Calib Date: 09-Apr-2014 16:16:26
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d

Column 1 : Det: MS QQQ
Process Host: XAWRK048

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									
107.0 > 89.0	11.611	11.660	-0.049		542881362	10.1		45361	
109.0 > 91.0	11.621	11.660	-0.039		169208554		3.21(2.30-3.80)	3215	
2 Perchlorate									
99.0 > 83.0	11.618	11.670	-0.052	1.001	21244508	0.4708		385	
101.0 > 85.0	11.628	11.670	-0.042	1.001	7056364		3.01(2.30-3.80)	217	

Report Date: 10-Apr-2014 14:31:47 Chrom Revision: 2.2 07-Apr-2014 11:51:18

TestAmerica Sacramento

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-016.d

Injection Date: 09-Apr-2014 17:22:34 Instrument ID: A5

Lims ID: CCVL

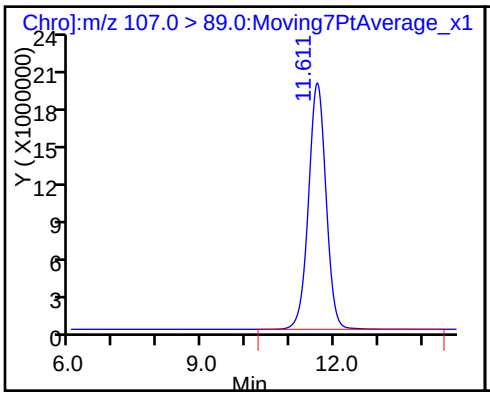
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 14

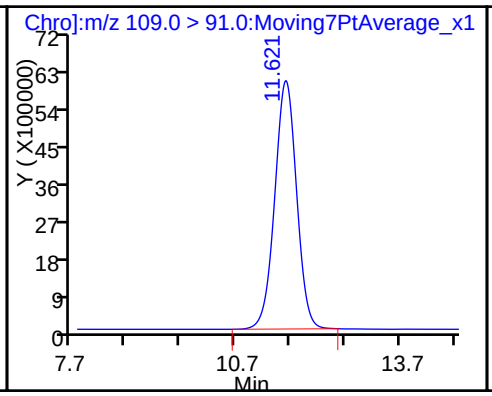
Injection Vol: 80.0 ul Dil. Factor: 1.0000

Method: 6850_A5 Limit Group: LC 6850 ICAL

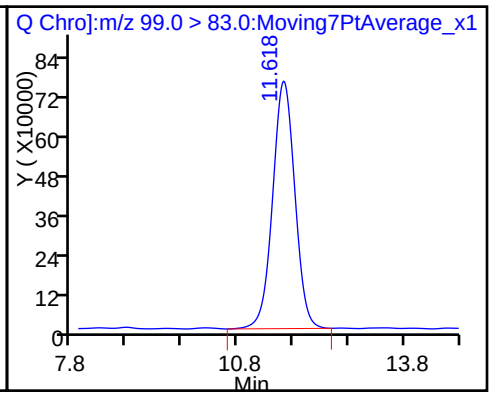
* 1 18-O Perchlorate



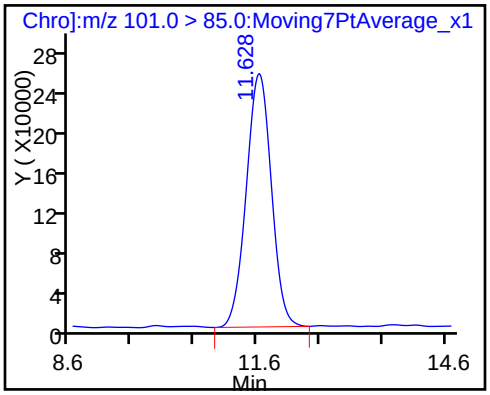
* 1 18-O Perchlorate



2 Perchlorate



2 Perchlorate



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-6575-2

SDG No.:

Lab Sample ID: CCV 320-40176/22 Calibration Date: 04/09/2014 19:34

Instrument ID: A5 Calib Start Date: 04/09/2014 14:20

GC Column: Anion HR ID: 4.60(mm) Calib End Date: 04/09/2014 16:16

Lab File ID: 09APR14-Per-024.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Ave	0.8408	0.7953		0.950	1.00	-5.0	15.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-024.d
Lims ID: CCV L4
Client ID:
Sample Type: CCV
Inject. Date: 09-Apr-2014 19:34:50 ALS Bottle#: 0 Worklist Smp#: 22
Injection Vol: 80.0 ul Dil. Factor: 1.0000
Sample Info:
Operator ID: Instrument ID: A5
Sublist: chrom-6850_A5*sub4

Method: \\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m
Limit Group: LC 6850 ICAL
Last Update: 11-Apr-2014 09:29:34 Calib Date: 09-Apr-2014 16:16:26
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d

Column 1 : Det: MS QQQ
Process Host: XAWRK048

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									
107.0 > 89.0	11.611	11.660	-0.049		555739620	10.1		13787	
109.0 > 91.0	11.608	11.660	-0.052		172334829		3.22(2.30-3.80)	2919	
2 Perchlorate									
99.0 > 83.0	11.618	11.670	-0.052	1.001	43878326	0.9499		635	
101.0 > 85.0	11.615	11.670	-0.055	1.000	14970818		2.93(2.30-3.80)	348	

Report Date: 11-Apr-2014 09:29:35 Chrom Revision: 2.2 10-Apr-2014 15:11:30

TestAmerica Sacramento

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-024.d

Injection Date: 09-Apr-2014 19:34:50 Instrument ID: A5

Lims ID: CCV L4

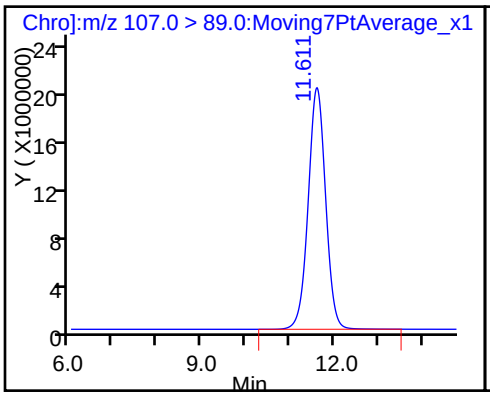
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 22

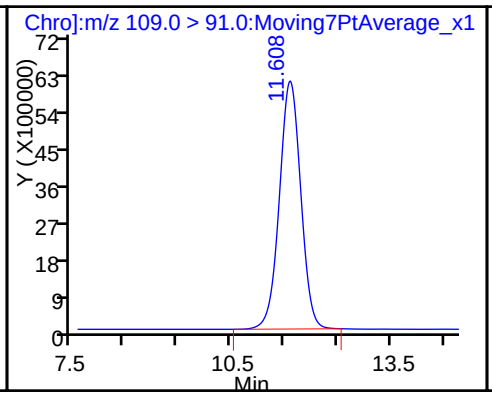
Injection Vol: 80.0 ul Dil. Factor: 1.0000

Method: 6850_A5 Limit Group: LC 6850 ICAL

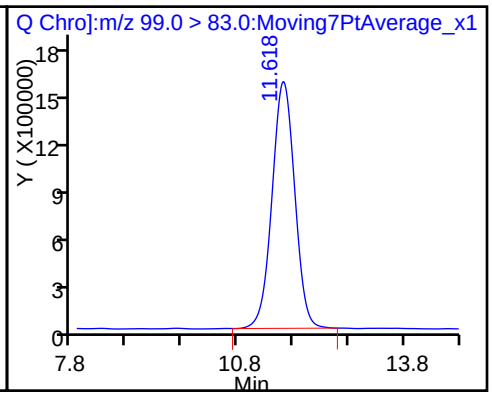
* 1 18-O Perchlorate



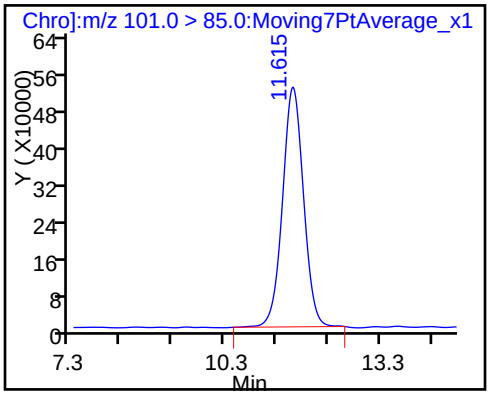
* 1 18-O Perchlorate



2 Perchlorate



2 Perchlorate



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-6575-2

SDG No.:

Lab Sample ID: CCV 320-40176/37 Calibration Date: 04/09/2014 23:42

Instrument ID: A5 Calib Start Date: 04/09/2014 14:20

GC Column: Anion HR ID: 4.60(mm) Calib End Date: 04/09/2014 16:16

Lab File ID: 09APR14-Per-039.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Ave	0.8408	0.8344		1.99	2.00	-0.3	15.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-039.d
Lims ID: CCV L5
Client ID:
Sample Type: CCV
Inject. Date: 09-Apr-2014 23:42:59 ALS Bottle#: 0 Worklist Smp#: 37
Injection Vol: 80.0 ul Dil. Factor: 1.0000
Sample Info:
Operator ID: Instrument ID: A5
Sublist: chrom-6850_A5*sub4

Method: \\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m
Limit Group: LC 6850 ICAL
Last Update: 11-Apr-2014 09:29:43 Calib Date: 09-Apr-2014 16:16:26
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d

Column 1 : Det: MS QQQ
Process Host: XAWRK048

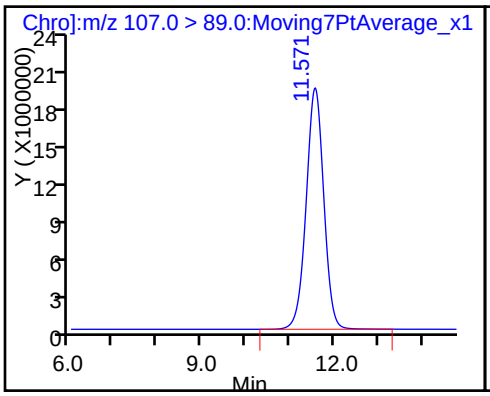
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									
107.0 > 89.0	11.571	11.660	-0.089		534989893	10.1		9931	
109.0 > 91.0	11.567	11.660	-0.093		170749692		3.13(2.30-3.80)	2474	
2 Perchlorate									
99.0 > 83.0	11.577	11.670	-0.093	1.001	88630424	1.99		1160	
101.0 > 85.0	11.560	11.670	-0.110	0.999	29169387		3.04(2.30-3.80)	831	

Report Date: 11-Apr-2014 09:29:44 Chrom Revision: 2.2 10-Apr-2014 15:11:30

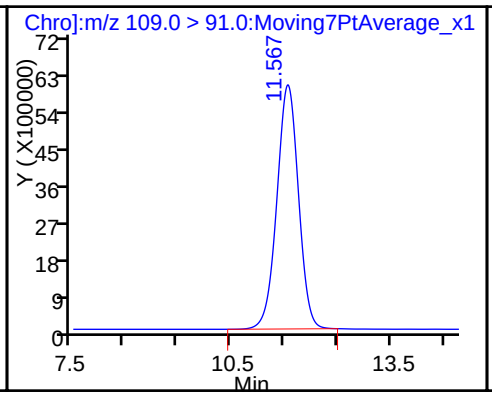
TestAmerica Sacramento

Data File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-039.d				
Injection Date:	09-Apr-2014 23:42:59	Instrument ID:	A5		
Lims ID:	CCV L5				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	37
Injection Vol:	80.0 ul	Dil. Factor:	1.0000		
Method:	6850_A5	Limit Group:	LC 6850 ICAL		

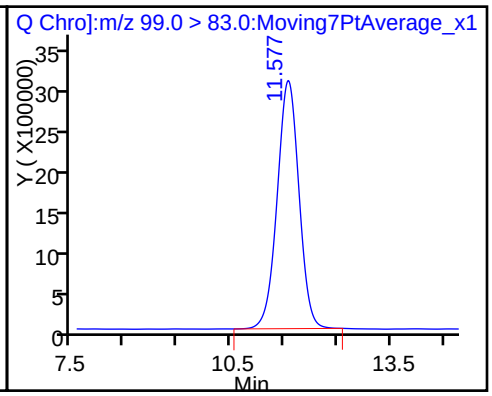
* 1 18-O Perchlorate



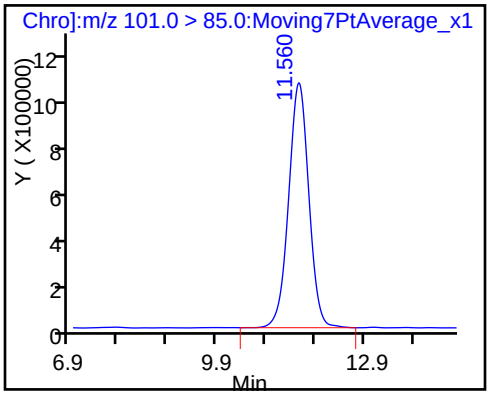
* 1 18-O Perchlorate



2 Perchlorate



2 Perchlorate



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-6575-2

SDG No.:

Lab Sample ID: CCV 320-40176/46 Calibration Date: 04/10/2014 02:11

Instrument ID: A5 Calib Start Date: 04/09/2014 14:20

GC Column: Anion HR ID: 4.60(mm) Calib End Date: 04/09/2014 16:16

Lab File ID: 09APR14-Per-048.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Ave	0.8408	0.8286		0.990	1.00	-1.0	15.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-048.d
Lims ID: CCV L4
Client ID:
Sample Type: CCV
Inject. Date: 10-Apr-2014 02:11:53 ALS Bottle#: 0 Worklist Smp#: 46
Injection Vol: 80.0 ul Dil. Factor: 1.0000
Sample Info:
Operator ID: Instrument ID: A5
Sublist: chrom-6850_A5*sub4

Method: \\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m
Limit Group: LC 6850 ICAL
Last Update: 11-Apr-2014 09:29:49 Calib Date: 09-Apr-2014 16:16:26
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d

Column 1 : Det: MS QQQ
Process Host: XAWRK048

First Level Reviewer: strumj Date: 10-Apr-2014 12:45:29

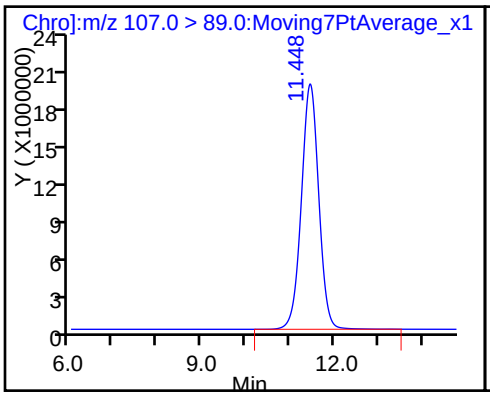
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									
107.0 > 89.0	11.448	11.660	-0.212		530569899	10.1		17669	
109.0 > 91.0	11.459	11.660	-0.201		163719374		3.24(2.30-3.80)	3786	
2 Perchlorate									
99.0 > 83.0	11.455	11.670	-0.215	1.001	43644030	0.9896		677	
101.0 > 85.0	11.465	11.670	-0.205	1.001	14481362		3.01(2.30-3.80)	492	

Report Date: 11-Apr-2014 09:29:49 Chrom Revision: 2.2 10-Apr-2014 15:11:30

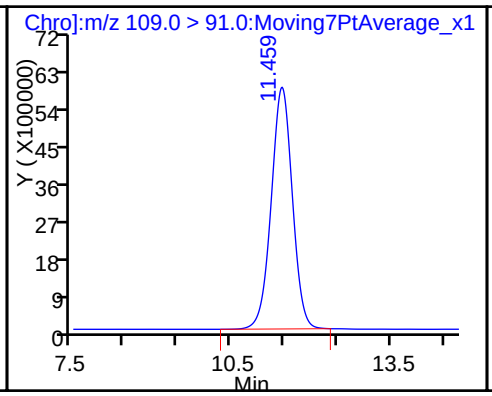
TestAmerica Sacramento

Data File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-048.d				
Injection Date:	10-Apr-2014 02:11:53	Instrument ID:	A5		
Lims ID:	CCV L4				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	46
Injection Vol:	80.0 ul	Dil. Factor:	1.0000		
Method:	6850_A5	Limit Group:	LC 6850 ICAL		

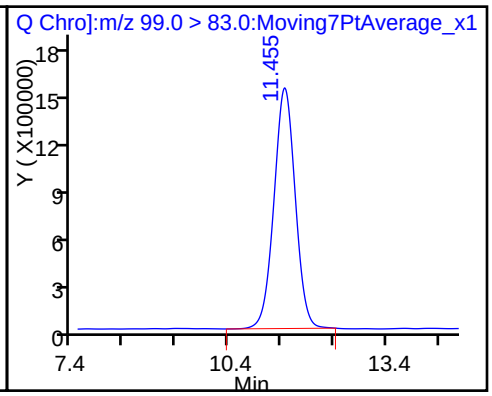
* 1 18-O Perchlorate



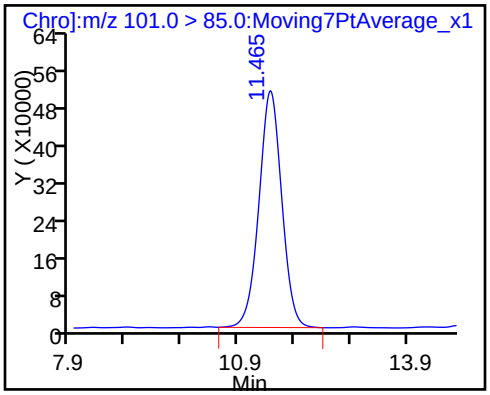
* 1 18-O Perchlorate



2 Perchlorate



2 Perchlorate



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-6575-2

SDG No.:

Lab Sample ID: CCVL 320-40176/52 Calibration Date: 04/10/2014 03:51

Instrument ID: A5 Calib Start Date: 04/09/2014 14:20

GC Column: Anion HR ID: 4.60(mm) Calib End Date: 04/09/2014 16:16

Lab File ID: 09APR14-Per-054.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perchlorate	Ave	0.8408	0.7612		0.455	0.500	-9.1	50.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-054.d
Lims ID: CCVL
Client ID:
Sample Type: CCVL
Inject. Date: 10-Apr-2014 03:51:07 ALS Bottle#: 0 Worklist Smp#: 52
Injection Vol: 80.0 ul Dil. Factor: 1.0000
Sample Info:
Operator ID: Instrument ID: A5
Sublist: chrom-6850_A5*sub4

Method: \\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m
Limit Group: LC 6850 ICAL
Last Update: 11-Apr-2014 09:29:55 Calib Date: 09-Apr-2014 16:16:26
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d

Column 1 : Det: MS QQQ
Process Host: XAWRK048

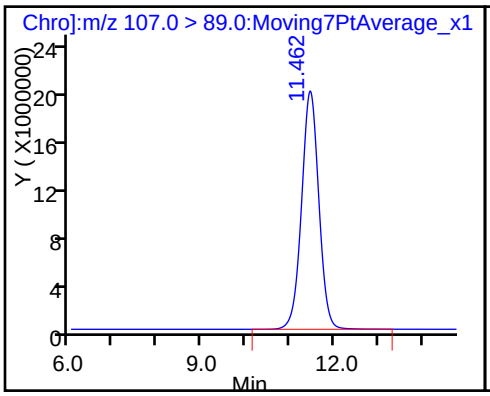
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									
107.0 > 89.0	11.462	11.660	-0.198		548630590	10.1		15333	
109.0 > 91.0	11.459	11.660	-0.201		172187214		3.19(2.30-3.80)	3869	
2 Perchlorate									
99.0 > 83.0	11.469	11.670	-0.201	1.001	20730001	0.4546		349	
101.0 > 85.0	11.465	11.670	-0.205	1.000	7546516		2.75(2.30-3.80)	237	

Report Date: 11-Apr-2014 09:29:55 Chrom Revision: 2.2 10-Apr-2014 15:11:30

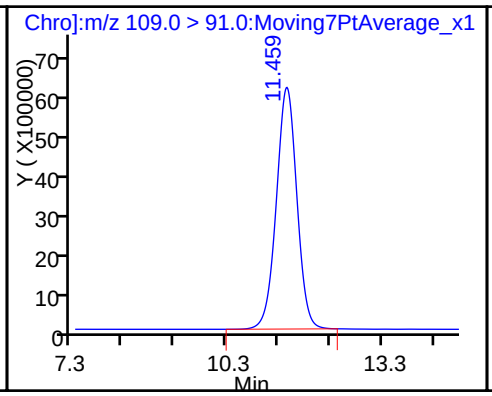
TestAmerica Sacramento

Data File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-054.d				
Injection Date:	10-Apr-2014 03:51:07	Instrument ID:	A5		
Lims ID:	CCVL				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	52
Injection Vol:	80.0 ul	Dil. Factor:	1.0000		
Method:	6850_A5	Limit Group:	LC 6850 ICAL		

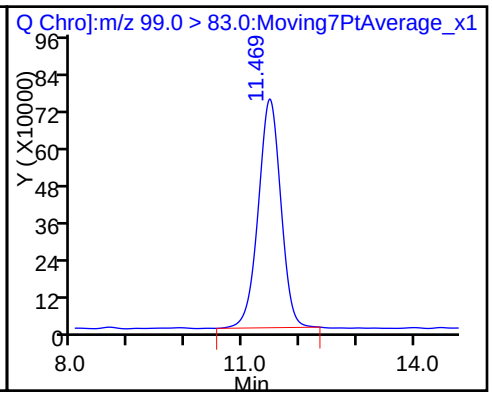
* 1 18-O Perchlorate



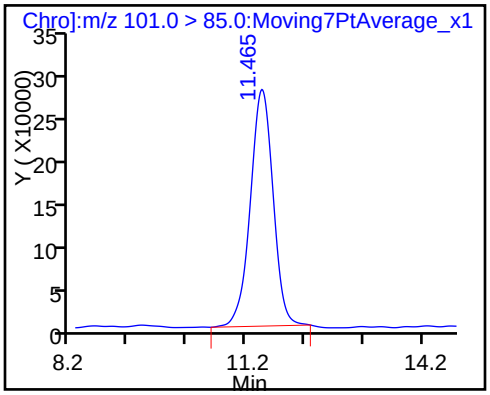
* 1 18-O Perchlorate



2 Perchlorate



2 Perchlorate



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 320-6575-2
SDG No.:
Client Sample ID:
Lab Sample ID: MB 320-39835/1-A
Matrix: Solid
Lab File ID: 09APR14-Per-026.d
Analysis Method: 6850
Date Collected:
Extraction Method: SHAKE
Date Extracted: 04/04/2014 09:48
Sample wt/vol: 3.00(g)
Date Analyzed: 04/09/2014 20:07
Con. Extract Vol.: 10.00(mL)
Dilution Factor: 1
Injection Volume: 80(uL)
GC Column: Anion HR ID: 4.6(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 40176
Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
14797-73-0	Perchlorate	ND		5.0	0.40	0.15

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-026.d
Lims ID: MB 320-39835/1-A
Client ID:
Sample Type: MB
Inject. Date: 09-Apr-2014 20:07:54 ALS Bottle#: 0 Worklist Smp#: 24
Injection Vol: 80.0 ul Dil. Factor: 1.0000
Sample Info:
Operator ID: Instrument ID: A5

Method: \\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m
Limit Group: LC 6850 ICAL
Last Update: 11-Apr-2014 09:29:34 Calib Date: 09-Apr-2014 16:16:26
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d

Column 1 : Det: MS QQQ
Process Host: XAWRK048

First Level Reviewer: strumj Date: 10-Apr-2014 17:09:08

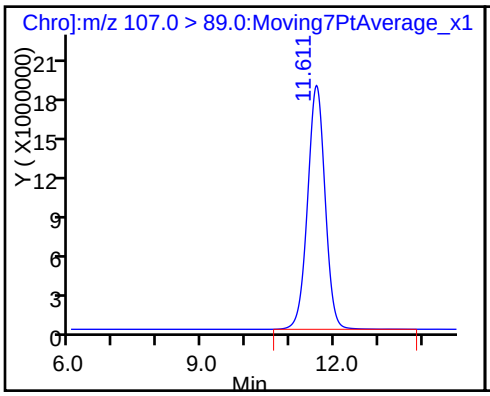
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									
107.0 > 89.0	11.611	11.660	-0.049		518271440	10.1		23359	
109.0 > 91.0	11.594	11.660	-0.066		162565508		3.19(2.30-3.80)	3503	

Report Date: 11-Apr-2014 09:29:36 Chrom Revision: 2.2 10-Apr-2014 15:11:30

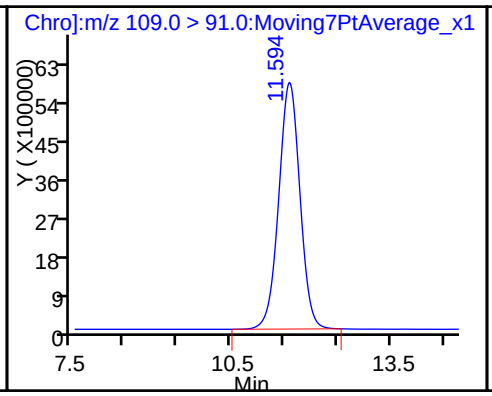
TestAmerica Sacramento

Data File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-026.d				
Injection Date:	09-Apr-2014 20:07:54	Instrument ID:	A5		
Lims ID:	MB 320-39835/1-A				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	24
Injection Vol:	80.0 ul	Dil. Factor:	1.0000		
Method:	6850_A5	Limit Group:	LC 6850 ICAL		

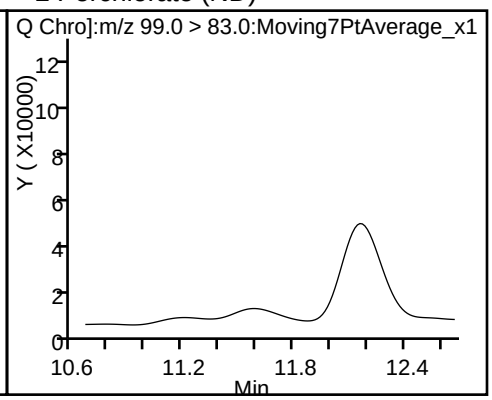
* 1 18-O Perchlorate



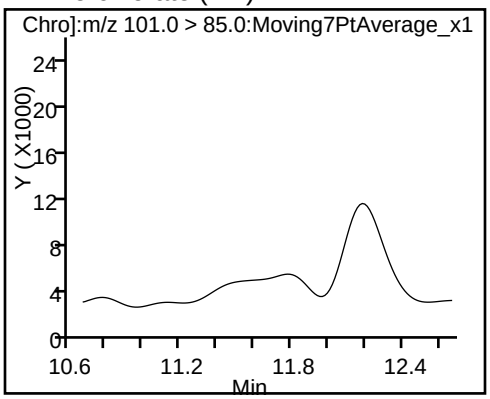
* 1 18-O Perchlorate



2 Perchlorate (ND)



2 Perchlorate (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 320-6575-2
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 320-40176/23
Matrix: Solid
Lab File ID: 09APR14-Per-025.d
Analysis Method: 6850
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/09/2014 19:51
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 80(uL)
GC Column: Anion HR ID: 4.6(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 40176
Units: ng/mL

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
14797-73-0	Perchlorate	ND		0.50		0.078

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-025.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 09-Apr-2014 19:51:23 ALS Bottle#: 0 Worklist Smp#: 23
Injection Vol: 80.0 ul Dil. Factor: 1.0000
Sample Info:
Operator ID: Instrument ID: A5

Method: \\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m
Limit Group: LC 6850 ICAL
Last Update: 11-Apr-2014 09:29:34 Calib Date: 09-Apr-2014 16:16:26
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d

Column 1 : Det: MS QQQ
Process Host: XAWRK048

First Level Reviewer: strumj Date: 10-Apr-2014 12:37:54

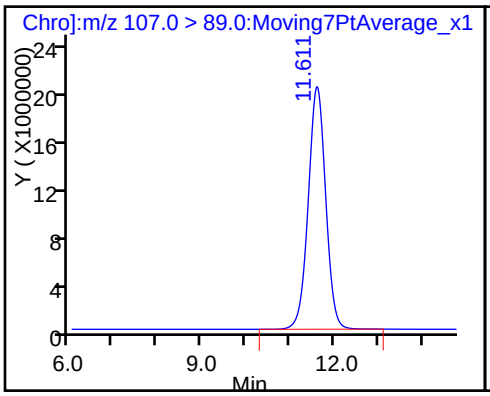
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									
107.0 > 89.0	11.611	11.660	-0.049		551381478	10.1		9490	
109.0 > 91.0	11.608	11.660	-0.052		172997823		3.19(2.30-3.80)	5027	

Report Date: 11-Apr-2014 09:29:35 Chrom Revision: 2.2 10-Apr-2014 15:11:30

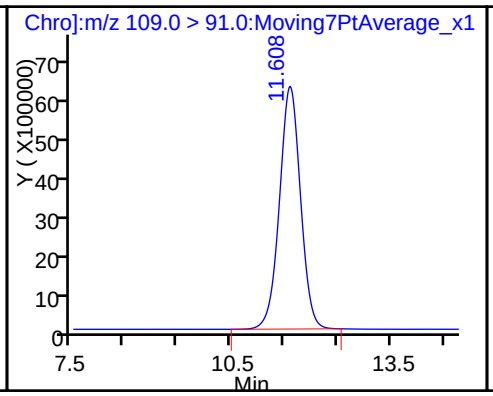
TestAmerica Sacramento

Data File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-025.d				
Injection Date:	09-Apr-2014 19:51:23	Instrument ID:	A5		
Lims ID:	CCB				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	80.0 ul	Dil. Factor:	1.0000		
Method:	6850_A5	Limit Group:	LC 6850 ICAL		

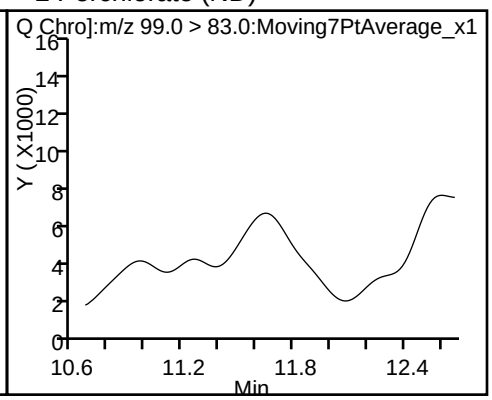
* 1 18-O Perchlorate



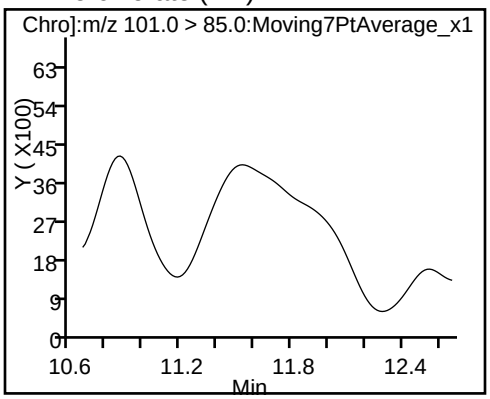
* 1 18-O Perchlorate



2 Perchlorate (ND)



2 Perchlorate (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 320-6575-2
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 320-40176/53
Matrix: Solid
Lab File ID: 09APR14-Per-055.d
Analysis Method: 6850
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 04/10/2014 04:07
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 80(uL)
GC Column: Anion HR ID: 4.6(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 40176
Units: ng/mL

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
14797-73-0	Perchlorate	ND		0.50		0.078

TestAmerica Sacramento
Target Compound Quantitation Report

Data File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-055.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	10-Apr-2014 04:07:38	ALS Bottle#:	0	Worklist Smp#:	53
Injection Vol:	80.0 ul	Dil. Factor:	1.0000		
Sample Info:					
Operator ID:		Instrument ID:	A5		

Method:	\\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m		
Limit Group:	LC 6850 ICAL		
Last Update:	11-Apr-2014 09:29:55	Calib Date:	09-Apr-2014 16:16:26
Integrator:	Picker		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d		

Column 1 : Det: MS QQQ
Process Host: XAWRK048

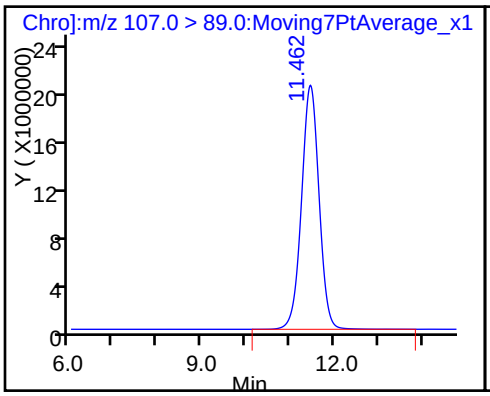
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									
107.0 > 89.0	11.462	11.660	-0.198		566595483	10.1		15452	
109.0 > 91.0	11.459	11.660	-0.201		178242949		3.18(2.30-3.80)	4738	

Report Date: 11-Apr-2014 09:29:56 Chrom Revision: 2.2 10-Apr-2014 15:11:30

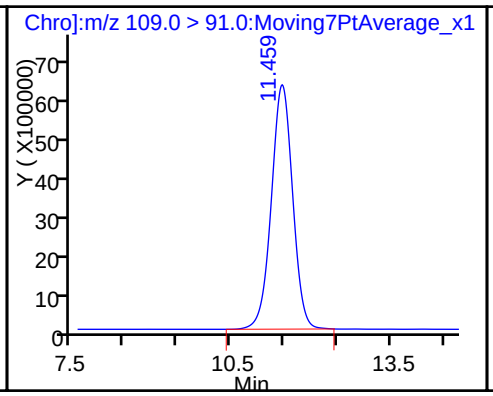
TestAmerica Sacramento

Data File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-055.d				
Injection Date:	10-Apr-2014 04:07:38	Instrument ID:	A5		
Lims ID:	CCB				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	53
Injection Vol:	80.0 ul	Dil. Factor:	1.0000		
Method:	6850_A5	Limit Group:	LC 6850 ICAL		

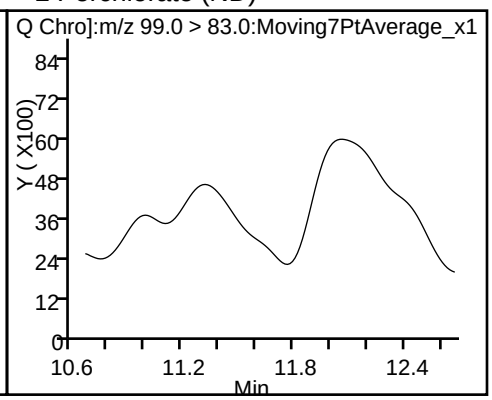
* 1 18-O Perchlorate



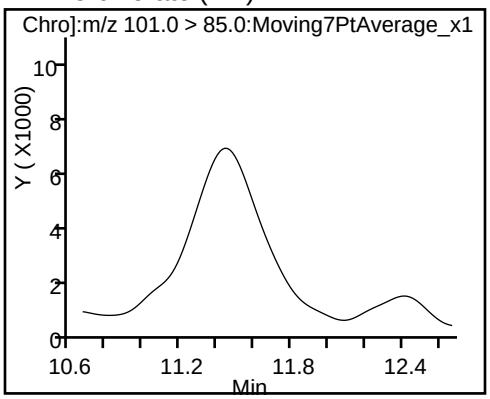
* 1 18-O Perchlorate



2 Perchlorate (ND)



2 Perchlorate (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 320-6575-2
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 320-39835/2-A
Matrix: Solid
Lab File ID: 09APR14-Per-027.d
Analysis Method: 6850
Date Collected:
Extraction Method: SHAKE
Date Extracted: 04/04/2014 09:48
Sample wt/vol: 3.00(g)
Date Analyzed: 04/09/2014 20:24
Con. Extract Vol.: 10.00(mL)
Dilution Factor: 1
Injection Volume: 80(uL)
GC Column: Anion HR ID: 4.6(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 40176
Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
14797-73-0	Perchlorate	55.8		5.0	0.40	0.15

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-027.d
Lims ID: LCS 320-39835/2-A
Client ID:
Sample Type: LCS
Inject. Date: 09-Apr-2014 20:24:33 ALS Bottle#: 0 Worklist Smp#: 25
Injection Vol: 80.0 ul Dil. Factor: 1.0000
Sample Info:
Operator ID: Instrument ID: A5

Method: \\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m
Limit Group: LC 6850 ICAL
Last Update: 11-Apr-2014 09:29:34 Calib Date: 09-Apr-2014 16:16:26
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d

Column 1 : Det: MS QQQ
Process Host: XAWRK048

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									
107.0 > 89.0	11.584	11.660	-0.076		448057069	10.1		12031	
109.0 > 91.0	11.594	11.660	-0.066		142645906		3.14(2.30-3.80)	2510	
2 Perchlorate									
99.0 > 83.0	11.591	11.670	-0.079	1.001	623914025	16.8		4380	
101.0 > 85.0	11.601	11.670	-0.069	1.001	198210566		3.15(2.30-3.80)	3751	

Report Date: 11-Apr-2014 09:29:37 Chrom Revision: 2.2 10-Apr-2014 15:11:30

TestAmerica Sacramento

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-027.d

Injection Date: 09-Apr-2014 20:24:33 Instrument ID: A5

Lims ID: LCS 320-39835/2-A

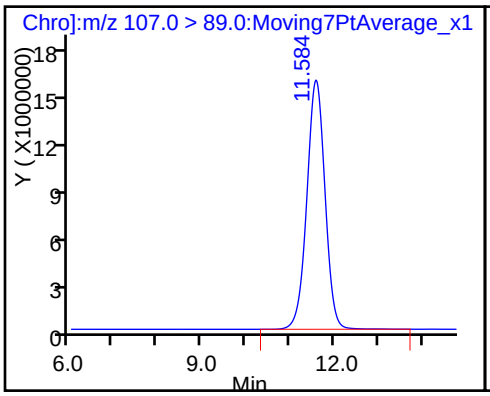
Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 25

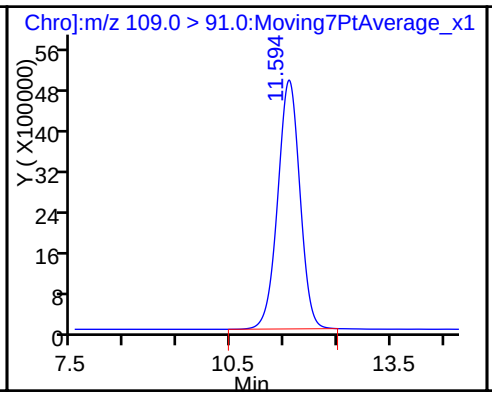
Injection Vol: 80.0 ul Dil. Factor: 1.0000

Method: 6850_A5 Limit Group: LC 6850 ICAL

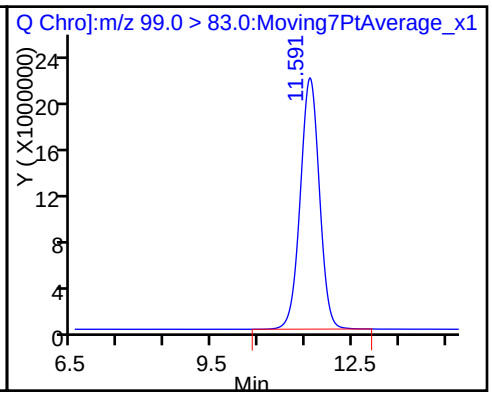
* 1 18-O Perchlorate



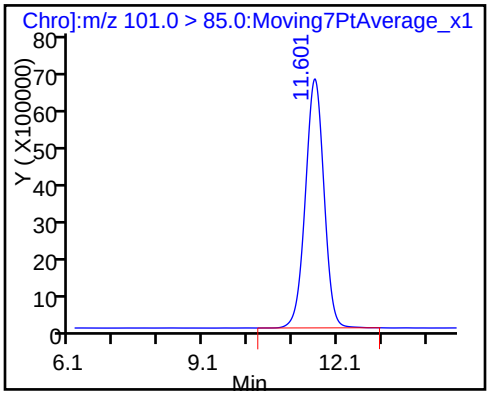
* 1 18-O Perchlorate



2 Perchlorate



2 Perchlorate



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
Job No.: 320-6575-2
SDG No.:
Client Sample ID:
Lab Sample ID: INF 320-39835/3-A
Matrix: Solid
Lab File ID: 09APR14-Per-028.d
Analysis Method: 6850
Date Collected:
Extraction Method: SHAKE
Date Extracted: 04/04/2014 09:48
Sample wt/vol: 3.00(g)
Date Analyzed: 04/09/2014 20:41
Con. Extract Vol.: 10.00(mL)
Dilution Factor: 1
Injection Volume: 80(uL)
GC Column: Anion HR ID: 4.6(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 40176
Units: ng/mL

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
14797-73-0	Perchlorate	55.8		1.7		0.26

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-028.d
Lims ID: INF 320-39835/3-A
Client ID:
Sample Type: INF
Inject. Date: 09-Apr-2014 20:41:05 ALS Bottle#: 0 Worklist Smp#: 26
Injection Vol: 80.0 ul Dil. Factor: 1.0000
Sample Info:
Operator ID: Instrument ID: A5
Sublist:

Method: \\Sacchrom\ChromData\A5\20140410-11719.b\6850_A5.m
Limit Group: LC 6850 ICAL
Last Update: 11-Apr-2014 09:29:34 Calib Date: 09-Apr-2014 16:16:26
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-012.d

Column 1 : Det: MS QQQ
Process Host: XAWRK048

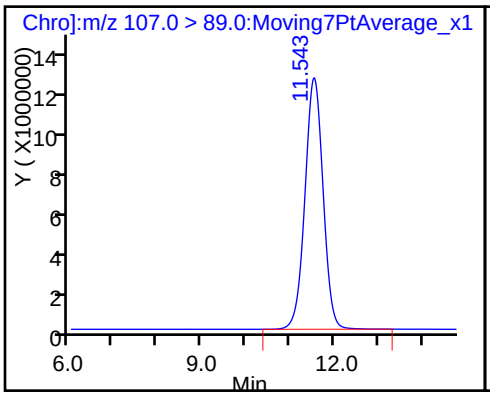
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	S/N	Flags
* 1 18-O Perchlorate									
107.0 > 89.0	11.543	11.660	-0.117		345073124	10.1		9278	
109.0 > 91.0	11.540	11.660	-0.120		109364327		3.16(2.30-3.80)	2802	
2 Perchlorate									
99.0 > 83.0	11.550	11.670	-0.120	1.001	480371777	16.7		4781	
101.0 > 85.0	11.547	11.670	-0.123	1.000	152531138		3.15(2.30-3.80)	2564	

Report Date: 11-Apr-2014 09:29:37 Chrom Revision: 2.2 10-Apr-2014 15:11:30

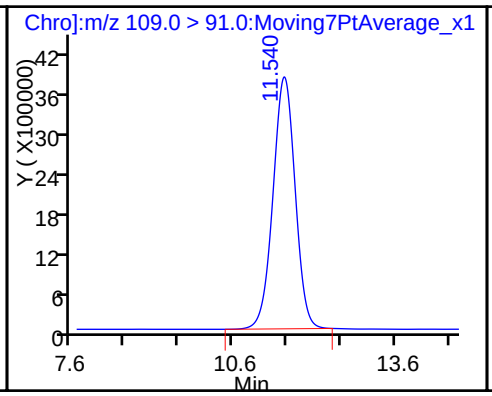
TestAmerica Sacramento

Data File:	\\Sacchrom\ChromData\A5\20140410-11719.b\09APR14-Per-028.d				
Injection Date:	09-Apr-2014 20:41:05	Instrument ID:	A5		
Lims ID:	INF 320-39835/3-A				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	26
Injection Vol:	80.0 ul	Dil. Factor:	1.0000		
Method:	6850_A5	Limit Group:	LC 6850 ICAL		

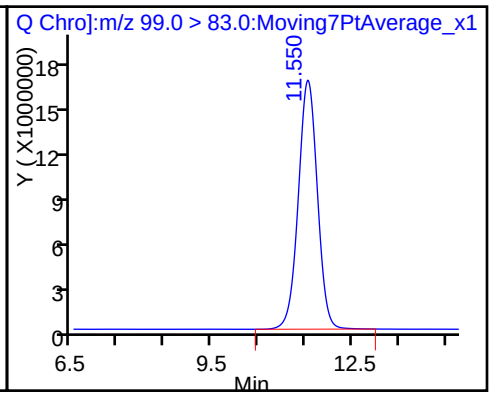
* 1 18-O Perchlorate



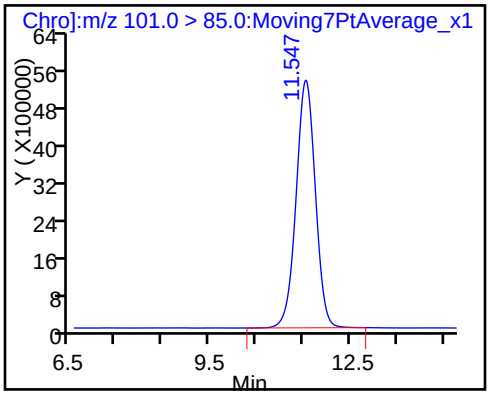
* 1 18-O Perchlorate



2 Perchlorate



2 Perchlorate



LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-6575-2

SDG No.:

Instrument ID: A5 Start Date: 04/09/2014 14:20

Analysis Batch Number: 40176 End Date: 04/10/2014 04:07

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD01 320-40176/3 IC		04/09/2014 14:20	1	09APR14-Per-005 .d	Anion HR 4.6(mm)
STD02 320-40176/4 IC		04/09/2014 14:37	1	09APR14-Per-006 .d	Anion HR 4.6(mm)
STD03 320-40176/5 IC		04/09/2014 14:53	1	09APR14-Per-007 .d	Anion HR 4.6(mm)
STD04 320-40176/6 ICISAV		04/09/2014 15:10	1	09APR14-Per-008 .d	Anion HR 4.6(mm)
STD05 320-40176/7 IC		04/09/2014 15:26	1	09APR14-Per-009 .d	Anion HR 4.6(mm)
STD06 320-40176/8 IC		04/09/2014 15:43	1	09APR14-Per-010 .d	Anion HR 4.6(mm)
STD07 320-40176/9 IC		04/09/2014 15:59	1	09APR14-Per-011 .d	Anion HR 4.6(mm)
STD08 320-40176/10 IC		04/09/2014 16:16	1	09APR14-Per-012 .d	Anion HR 4.6(mm)
CCB 320-40176/11		04/09/2014 16:32	1		Anion HR 4.6(mm)
ICV 320-40176/12		04/09/2014 16:49	1	09APR14-Per-014 .d	Anion HR 4.6(mm)
CCV 320-40176/13		04/09/2014 17:06	1		Anion HR 4.6(mm)
CCVL 320-40176/14		04/09/2014 17:22	1	09APR14-Per-016 .d	Anion HR 4.6(mm)
CCB 320-40176/16		04/09/2014 17:55	1		Anion HR 4.6(mm)
ZZZZZ		04/09/2014 18:12	1		Anion HR 4.6(mm)
ZZZZZ		04/09/2014 18:28	1		Anion HR 4.6(mm)
ZZZZZ		04/09/2014 18:45	1		Anion HR 4.6(mm)
ZZZZZ		04/09/2014 19:01	1		Anion HR 4.6(mm)
ZZZZZ		04/09/2014 19:18	1		Anion HR 4.6(mm)
CCV 320-40176/22		04/09/2014 19:34	1	09APR14-Per-024 .d	Anion HR 4.6(mm)
CCB 320-40176/23		04/09/2014 19:51	1	09APR14-Per-025 .d	Anion HR 4.6(mm)
MB 320-39835/1-A		04/09/2014 20:07	1	09APR14-Per-026 .d	Anion HR 4.6(mm)
LCS 320-39835/2-A		04/09/2014 20:24	1	09APR14-Per-027 .d	Anion HR 4.6(mm)
INF 320-39835/3-A		04/09/2014 20:41	1	09APR14-Per-028 .d	Anion HR 4.6(mm)
ZZZZZ		04/09/2014 20:57	1		Anion HR 4.6(mm)
ZZZZZ		04/09/2014 21:14	1		Anion HR 4.6(mm)
ZZZZZ		04/09/2014 21:30	1		Anion HR 4.6(mm)
ZZZZZ		04/09/2014 21:47	1		Anion HR 4.6(mm)
ZZZZZ		04/09/2014 22:03	1		Anion HR 4.6(mm)
ZZZZZ		04/09/2014 22:20	1		Anion HR 4.6(mm)
ZZZZZ		04/09/2014 22:36	1		Anion HR 4.6(mm)
ZZZZZ		04/09/2014 22:53	1		Anion HR 4.6(mm)
ZZZZZ		04/09/2014 23:09	1		Anion HR 4.6(mm)
ZZZZZ		04/09/2014 23:26	1		Anion HR 4.6(mm)
CCV 320-40176/37		04/09/2014 23:42	1	09APR14-Per-039 .d	Anion HR 4.6(mm)
320-6575-9	MAK120L	04/09/2014 23:59	1	09APR14-Per-040 .d	Anion HR 4.6(mm)
320-6575-10	MAK121L	04/10/2014 00:16	1	09APR14-Per-041 .d	Anion HR 4.6(mm)
320-6575-11	MAK122L	04/10/2014 00:32	1	09APR14-Per-042 .d	Anion HR 4.6(mm)

6850

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-6575-2

SDG No.:

Instrument ID: A5 Start Date: 04/09/2014 14:20

Analysis Batch Number: 40176 End Date: 04/10/2014 04:07

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
320-6575-12	MAK123L	04/10/2014 00:49	1	09APR14-Per-043 .d	Anion HR 4.6(mm)
320-6575-13	MAK124L	04/10/2014 01:05	1	09APR14-Per-044 .d	Anion HR 4.6(mm)
320-6575-14	MAK126L	04/10/2014 01:22	1	09APR14-Per-045 .d	Anion HR 4.6(mm)
320-6575-15	MAK127L	04/10/2014 01:38	1	09APR14-Per-046 .d	Anion HR 4.6(mm)
320-6575-16	MAK128L	04/10/2014 01:55	1	09APR14-Per-047 .d	Anion HR 4.6(mm)
CCV 320-40176/46		04/10/2014 02:11	1	09APR14-Per-048 .d	Anion HR 4.6(mm)
ZZZZZ		04/10/2014 02:28	1		Anion HR 4.6(mm)
ZZZZZ		04/10/2014 02:44	1		Anion HR 4.6(mm)
ZZZZZ		04/10/2014 03:01	1		Anion HR 4.6(mm)
CCV 320-40176/50		04/10/2014 03:18	1		Anion HR 4.6(mm)
CCVL 320-40176/52		04/10/2014 03:51	1	09APR14-Per-054 .d	Anion HR 4.6(mm)
CCB 320-40176/53		04/10/2014 04:07	1	09APR14-Per-055 .d	Anion HR 4.6(mm)

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-6575-2

SDG No.:

Batch Number: 39835 Batch Start Date: 04/04/14 09:48 Batch Analyst: Arauz, Horacio

Batch Method: SHAKE Batch End Date: 04/09/14 11:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	LC6850IS 00024	LC6850SP 00016		
MB 320-39835/1		SHAKE, 6850		3.00 g	10.00 mL	100 uL			
LCS 320-39835/2		SHAKE, 6850		3.00 g	10.00 mL	100 uL	150 uL		
INF 320-39835/3		SHAKE, 6850		3.00 g	10.00 mL	100 uL	150 uL		
320-6575-A-9	MAK120L	SHAKE, 6850	T	1.55 g	10.00 mL	100 uL			
320-6575-A-10	MAK121L	SHAKE, 6850	T	1.50 g	10.00 mL	100 uL			
320-6575-A-11	MAK122L	SHAKE, 6850	T	1.52 g	10.00 mL	100 uL			
320-6575-A-12	MAK123L	SHAKE, 6850	T	1.58 g	10.00 mL	100 uL			
320-6575-A-13	MAK124L	SHAKE, 6850	T	1.51 g	10.00 mL	100 uL			
320-6575-A-14	MAK126L	SHAKE, 6850	T	1.55 g	10.00 mL	100 uL			
320-6575-A-15	MAK127L	SHAKE, 6850	T	1.53 g	10.00 mL	100 uL			
320-6575-A-16	MAK128L	SHAKE, 6850	T	1.52 g	10.00 mL	100 uL			

Batch Notes	
Batch Comment	INF 4515-055D; DCM 0000063937
Filter Lot #	.45um Millipore R4AA24407; .20um Millex R3BA65503
Millipore Water Dispense Date	4-4-14
Person's name who witnessed reagent drop	ALH
Blank Sand Lot #	Fisher 135365
SPE Cartridge Lot #	Dionex 140108
SPE Cartridge Type	Ba/aG/H

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

West Sacramento

HPLC/LCMS Data Review Checklist

Job Number(s): 6911, 39835, 6575

Work List ID(s): 11719

Extraction Batch: 40079, 39835

Analysis Batch(es): 40174, 40176

Delivery Rank 4

Due Date: 4/15/14

A. Calibration/Instrument Run QC	1st Level	2nd Level	N/A
1. ICAL locked in Chrom ~~and TALS? ICAL Batch#~~ JSS 11 Apr 2014	✓	/	
2. ICAL, CCV Frequency & Criteria met.	✓	/	
• $RF_{average}$ criteria appropriate for the method.	✓	/	
• Linear Regression criteria appropriate if required ($r \geq 0.995$).	NA	/	
• Quadratic fit criteria appropriate if required ($r^2 \geq 0.990$).	NA	/	
• For Linear Regression and Quadratic fit – Does the y-intercept support ½ the reporting limit as described in CA-Q-S-005?	NA	/	
• All curve points show calculated concentrations.	✓	/	
3. Peaks correctly ID'd by data system.	✓	/	
5. Tune check frequency & criteria met and Tune check report attached.	✓	/	
B. QA/QC	✓		
1. Are all QC samples properly linked in TALS?	✓	/	
2. Method blank, LCS/LCSD and MS/SD frequencies met.	✓	/	
3. LCS/LCSD and MB data are within control limits. If not, NCM is present.	✓	/	
4. Are MS/MSD recoveries and RPD within control limits?	✓	/	
5. Holding Times were met for prep and analytical.	* ✓	/	
6. IS/Surrogate recoveries meet criteria or properly noted.	✓	/	
C. Sample Analysis	✓		
1. Was correct analysis performed and were project instructions followed?	✓	/	
2. If required, are compounds within RT windows?	✓	/	
3. If required, are positive hits confirmed and >40% RPD flagged?	NA	/	
4. Manual Integrations reviewed and appropriate. JSS 11 Apr 2014	NA ~~✓~~	/	
5. All analytes correctly reported. (Primary, secondary, acceptable status)	✓	/	
6. Correct reporting limits used. (based on client request, prep factors, and dilutions)	✓	/	
D. Documentation			
1. Are all non-conformances documented/attached? NCM#	NA	/	
2. Do results make sense (e.g. dilutions, etc.)?	✓	/	
3. Have all flags been reviewed for appropriateness?	✓	/	
4. For level 3 and 4 reports, have forms and raw data been reviewed?		/	
5. Was QC Checker run for this job?	No	/	

Upon completion of this checklist, the reviewer must scan and attach the checklist to the TALS job.

1st Level (Analyst): JSS

Date: 04/11/14

2nd Level Reviewer: JW

Date: 04/14/14

* some holding times seem to be missed

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

CB

Batch Number: 320-40079

Method Code: 320-Shake_Bath_14D-320

Analyst: Arauz, Horacio

Batch Open: 4/9/2014 8:26:12AM

Batch End: 4/9/2014 11:45:00AM

04/21/2014

Shake Extraction with Ultrasonic Bath Extraction

	Input Sample Lab ID (Analytical Method)	SDG	Initial Amount	Final Amount	Due Date	Analytical TAT	Dlv Rank	Comments	Output Sample Lab ID
1	320-6911-A-2 (6850)	J Strum 6850 Aq, S; 8321 CWM Aq, S	3.00 g	10.00 mL	4/23/14	12_Days	1		320-6911-A-2-A
2	LCS~320-40079/2 N/A	N/A	3.00 g	10.00 mL	N/A	N/A	N/A		LCS 320-40079/2-A
3	LCS~320-40079/3 N/A	N/A	3.00 g	10.00 mL	N/A	N/A	N/A		LCS 320-40079/3-A
4	LCS~320-40079/4 N/A	N/A	3.00 g	10.00 mL	N/A	N/A	N/A		LCS 320-40079/4-A
5	LCS~320-40079/5 N/A	N/A	3.00 g	10.00 mL	N/A	N/A	N/A		LCS 320-40079/5-A

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Batch Notes

Blank Sand Lot # Fisher 135365

Filter Lot # .45um Millipore R4AA24407; .20um Millex R3BA65503

Millipore Water Dispense Date 4-08-14

Person's name who witnessed reagent drop LRH

SPE Cartridge Lot # Dionex 140108

SPE Cartridge Type Ba/Ag/H

Batch Comment

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-40079

Analyst: Arauz, Horacio

Batch Open: 4/9/2014 8:26:12AM

Batch End: 4/9/2014 11:45:00AM

Method Code: 320-Shake_Bath_14D-320

Comments

320-6911-A-2

Method Comments: Use as MB, make 4 LCS, spk 5-20 ug/kg

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-40079

Method Code: 320-Shake_Bath_14D-320

Analyst: Arauz, Horacio

Batch Open: 4/9/2014 8:26:12AM

Batch End: 4/9/2014 11:45:00AM

04/21/2014

Reagent Additions Worksheet

Lab ID	Reagent Code	Amount Added	Final Amount	By	Witness
320-6911-A-2	LC6850IS_00024	100 uL	10.00 mL	HJA 4-9-14	LRH 4/9/14
LCS 320-40079/2	LC6850IS_00024	100 uL	10.00 mL		
LCS 320-40079/2	LC6850SP_00016	150 uL	10.00 mL		
LCS 320-40079/3	LC6850IS_00024	100 uL	10.00 mL		
LCS 320-40079/3	LC6850SP_00016	150 uL	10.00 mL		
LCS 320-40079/4	LC6850IS_00024	100 uL	10.00 mL		
LCS 320-40079/4	LC6850SP_00016	150 uL	10.00 mL		
LCS 320-40079/5	LC6850IS_00024	100 uL	10.00 mL		
LCS 320-40079/5	LC6850SP_00016	150 uL	10.00 mL		

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Other Reagents:

Reagent	Amount/Units	Lot#:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Preparation Data Review Checklist

Preparation Batch Number(s): 40079 Test: 6850-perchlorate

Earliest Holding Time:

Sample List Tab	1st Level Reviewer	2nd Level Reviewer
Samples identified to the correct method	✓	✓
All necessary NCMs filed (including holding time)	NA	✓
Method/sample/login/QAS checked and correct	✓	✓
Worksheet Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All samples properly preserved	NA	✓
Weights in anticipated range and not targeted	✓	✓
All additional test requirements performed, documented, and uploaded to TALS correctly (e.g. final amount, initial amount, turbidity, and Cl Check)	✓	✓
The pH is transcribed correctly in TALS	NA	✓
All additional information transcribed into TALS is correct and raw data is attached	✓	✓
Comments are transcribed correctly in TALS	✓	✓
Reagents Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All necessary reagents not expired and entered into TALS	✓	✓
All spike amounts correct and added to necessary samples and QC	✓	✓
Batch Information	**1st Level Reviewer**	**2nd Level Reviewer**
Date and time accurate and entered into TALS correctly	✓	✓
All necessary 'batch information' complete and entered into TALS correctly	✓	✓

1st Level Reviewer: [signature] Date: 4-9-14

2nd Level Reviewer: [signature] Date: 4/9/14

Comments:

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

CB

Batch Number: 320-39835

Method Code: 320-Shake_SonicBath-320

Analyst: Arauz, Horacio

Batch Open: 4/4/2014 9:48:13AM

Batch End: 4-9-14 11:30

Shake Extraction with Ultrasonic Bath Extraction

	Input Sample Lab ID (Analytical Method)	SDG	Initial Amount	Final Amount	Due Date	Analytical TAT	Div Rank	Comments	Output Sample Lab ID
1	MB~320-39835/1 N/A	N/A	3.00 g	10.00 mL	N/A	N/A	N/A		MB 320-39835/1-A
2	LCS~320-39835/2 N/A	N/A	3.00 g	10.00 mL	N/A	N/A	N/A		LCS 320-39835/2-A
3	INF~320-39835/3 N/A	N/A	3.00 g	10.00 mL	N/A	N/A	N/A		INF 320-39835/3-A
4	320-6575-A-1 (6850)	N/A	1.55 g	10.00 mL	4/15/14	22_Days	4		320-6575-A-1-A
5	320-6575-A-2 (6850)	N/A	1.51 g	10.00 mL	4/15/14	22_Days	4		320-6575-A-2-A
6	320-6575-A-2~MS (6850)	N/A	1.51 g	10.00 mL	4/15/14	22_Days	4		320-6575-A-2-B MS
7	320-6575-A-2~MSD (6850)	N/A	1.51 g	10.00 mL	4/15/14	22_Days	4		320-6575-A-2-C MSD
8	320-6575-A-3 (6850)	N/A	1.52 g	10.00 mL	4/15/14	22_Days	4		320-6575-A-3-A
9	320-6575-A-4 (6850)	N/A	1.56 g	10.00 mL	4/15/14	22_Days	4		320-6575-A-4-A
10	320-6575-A-5 (6850)	N/A	1.51 g	10.00 mL	4/15/14	22_Days	4		320-6575-A-5-A
11	320-6575-A-6 (6850)	N/A	1.55 g	10.00 mL	4/15/14	22_Days	4		320-6575-A-6-A
12	320-6575-A-7 (6850)	N/A	1.54 g	10.00 mL	4/15/14	22_Days	4		320-6575-A-7-A
13	320-6575-A-8 (6850)	N/A	1.50 g	10.00 mL	4/15/14	22_Days	4		320-6575-A-8-A
14	320-6575-A-9 (6850)	N/A	1.55 g	10.00 mL	4/15/14	22_Days	4		320-6575-A-9-A
15	320-6575-A-10 (6850)	N/A	1.50 g	10.00 mL	4/15/14	22_Days	4		320-6575-A-10-A

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-39835

Analyst: Arauz, Horacio

Batch Open: 4/4/2014 9:48:13AM

Method Code: 320-Shake_SonicBath-320

Batch End: 4-9-14 11:30

16	320-6575-A-11 (6850)	N/A	1.52 g	10.00 mL	4/15/14	22_Days	4	320-6575-A-11-A
17	320-6575-A-12 (6850)	N/A	1.58 g	10.00 mL	4/15/14	22_Days	4	320-6575-A-12-A
18	320-6575-A-13 (6850)	N/A	1.51 g	10.00 mL	4/15/14	22_Days	4	320-6575-A-13-A
19	320-6575-A-14 (6850)	N/A	1.55 g	10.00 mL	4/15/14	22_Days	4	320-6575-A-14-A
20	320-6575-A-15 (6850)	N/A	1.53 g	10.00 mL	4/15/14	22_Days	4	320-6575-A-15-A
21	320-6575-A-16 (6850)	N/A	1.52 g	10.00 mL	4/15/14	22_Days	4	320-6575-A-16-A
22	320-6575-A-17 (6850)	N/A	1.51 g	10.00 mL	4/15/14	22_Days	4	320-6575-A-17-A
23	320-6575-A-18 (6850)	N/A	1.49 g	10.00 mL	4/15/14	22_Days	4	320-6575-A-18-A
24	320-6575-A-19 (6850)	N/A	1.59 g	10.00 mL	4/15/14	22_Days	4	320-6575-A-19-A

Batch Notes

Millipore Water Dispense Date 4-4-14

SPE Cartridge Lot # Dionex 140108

SPE Cartridge Type Ba/aG/H

Filter Lot # .45um Millipore R4AA24407; .20um Millex R3BA65503

Blank Sand Lot # Fisher 135365

Person's name who witnessed reagent drop ALH 4/4/14

Batch Comment INF 4515-055D; DCM 0000063937

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-39835

Analyst: Arauz, Horacio

Batch Open: 4/4/2014 9:48:13AM

Batch End: 4-9-14 11:30

Method Code: 320-Shake_SonicBath-320

04/21/2014

Comments

320-6575-A-1	Method Comments: Tissue-Extract 1.5 grams. MeCl2 cleanup of extracts . MS/MSD as assigned.
320-6575-A-2	Method Comments: Tissue-Extract 1.5 grams. MeCl2 cleanup of extracts . MS/MSD as assigned.
320-6575-A-2~MS	Method Comments: Tissue-Extract 1.5 grams. MeCl2 cleanup of extracts . MS/MSD as assigned.
320-6575-A-2~MSD	Method Comments: Tissue-Extract 1.5 grams. MeCl2 cleanup of extracts . MS/MSD as assigned.
320-6575-A-3	Method Comments: Tissue-Extract 1.5 grams. MeCl2 cleanup of extracts . MS/MSD as assigned.
320-6575-A-4	Method Comments: Tissue-Extract 1.5 grams. MeCl2 cleanup of extracts . MS/MSD as assigned.
320-6575-A-5	Method Comments: Tissue-Extract 1.5 grams. MeCl2 cleanup of extracts . MS/MSD as assigned.
320-6575-A-6	Method Comments: Tissue-Extract 1.5 grams. MeCl2 cleanup of extracts . MS/MSD as assigned.
320-6575-A-7	Method Comments: Tissue-Extract 1.5 grams. MeCl2 cleanup of extracts . MS/MSD as assigned.
320-6575-A-8	Method Comments: Tissue-Extract 1.5 grams. MeCl2 cleanup of extracts . MS/MSD as assigned.
320-6575-A-9	Method Comments: Tissue-Extract 1.5 grams. MeCl2 cleanup of extracts . MS/MSD as assigned.
320-6575-A-10	Method Comments: Tissue-Extract 1.5 grams. MeCl2 cleanup of extracts . MS/MSD as assigned.
320-6575-A-11	Method Comments: Tissue-Extract 1.5 grams. MeCl2 cleanup of extracts . MS/MSD as assigned.
320-6575-A-12	Method Comments: Tissue-Extract 1.5 grams. MeCl2 cleanup of extracts . MS/MSD as assigned.
320-6575-A-13	Method Comments: Tissue-Extract 1.5 grams. MeCl2 cleanup of extracts . MS/MSD as assigned.
320-6575-A-14	Method Comments: Tissue-Extract 1.5 grams. MeCl2 cleanup of extracts . MS/MSD as assigned.
320-6575-A-15	Method Comments: Tissue-Extract 1.5 grams. MeCl2 cleanup of extracts . MS/MSD as assigned.
320-6575-A-16	Method Comments: Tissue-Extract 1.5 grams. MeCl2 cleanup of extracts . MS/MSD as assigned.

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-39835 Analyst: Arauz, Horacio Batch Open: 4/4/2014 9:48:13AM

Method Code: 320-Shake_SonicBath-320 Batch End: 4-9-14 11:30

320-6575-A-17	Method Comments: Tissue-Extract 1.5 grams. MeCl2 cleanup of extracts . MS/MSD as assigned.
320-6575-A-18	Method Comments: Tissue-Extract 1.5 grams. MeCl2 cleanup of extracts . MS/MSD as assigned.
320-6575-A-19	Method Comments: Tissue-Extract 1.5 grams. MeCl2 cleanup of extracts . MS/MSD as assigned.

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-39835

Method Code: 320-Shake_SonicBath-320

Analyst: Arauz, Horacio

Batch Open: 4/4/2014 9:48:13AM

Batch End: 4-4-14 11:30

04/21/2014

Reagent Additions Worksheet

Lab ID	Reagent Code	Amount Added	Final Amount	By	Witness
MB 320-39835/1	LC6850IS_00024	100 uL	10.00 mL	HJA 4-4-14	ALH 4/4/14
LCS 320-39835/2	LC6850IS_00024	100 uL	10.00 mL		
LCS 320-39835/2	LC6850SP_00016	150 uL	10.00 mL		
INF 320-39835/3	LC6850IS_00024	100 uL	10.00 mL		
INF 320-39835/3	LC6850SP_00016	150 uL	10.00 mL		
320-6575-A-1	LC6850IS_00024	100 uL	10.00 mL		
320-6575-A-2	LC6850IS_00024	100 uL	10.00 mL		
320-6575-A-2 MS	LC6850IS_00024	100 uL	10.00 mL		
320-6575-A-2 MS	LC6850SP_00016	150 uL	10.00 mL		
320-6575-A-2 MSD	LC6850IS_00024	100 uL	10.00 mL		
320-6575-A-2 MSD	LC6850SP_00016	150 uL	10.00 mL		
320-6575-A-3	LC6850IS_00024	100 uL	10.00 mL		
320-6575-A-4	LC6850IS_00024	100 uL	10.00 mL		
320-6575-A-5	LC6850IS_00024	100 uL	10.00 mL		
320-6575-A-6	LC6850IS_00024	100 uL	10.00 mL		
320-6575-A-7	LC6850IS_00024	100 uL	10.00 mL		
320-6575-A-8	LC6850IS_00024	100 uL	10.00 mL		
320-6575-A-9	LC6850IS_00024	100 uL	10.00 mL		

Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-39835

Analyst: Arauz, Horacio

Batch Open: 4/4/2014 9:48:13AM

Batch End: 4-9-14 11:30

Method Code: 320-Shake_SonicBath-320

320-6575-A-10	LC6850IS_00024	100 uL	10.00 mL	HJA 4-4-14	ALH 4/4/14
320-6575-A-11	LC6850IS_00024	100 uL	10.00 mL		
320-6575-A-12	LC6850IS_00024	100 uL	10.00 mL		
320-6575-A-13	LC6850IS_00024	100 uL	10.00 mL		
320-6575-A-14	LC6850IS_00024	100 uL	10.00 mL		
320-6575-A-15	LC6850IS_00024	100 uL	10.00 mL		
320-6575-A-16	LC6850IS_00024	100 uL	10.00 mL		
320-6575-A-17	LC6850IS_00024	100 uL	10.00 mL		
320-6575-A-18	LC6850IS_00024	100 uL	10.00 mL		
320-6575-A-19	LC6850IS_00024	100 uL	10.00 mL		

Other Reagents:

Reagent	Amount/Units	Lot#:

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Preparation Data Review Checklist

Preparation Batch Number(s): 320-39835 Test: 6850-Perchlorate

Earliest Holding Time: 4-15-14

Sample List Tab	1st Level Reviewer	2nd Level Reviewer
Samples identified to the correct method	✓	✓
All necessary NCMs filed (including holding time)	✓	✓
Method/sample/login/QAS checked and correct	✓	✓
Worksheet Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All samples properly preserved	NA	Na
Weights in anticipated range and not targeted	✓	✓
All additional test requirements performed, documented, and uploaded to TALS correctly (e.g. final amount, initial amount, turbidity, and Cl Check)	✓	✓ 4/9/14
The pH is transcribed correctly in TALS	NA	~~✓~~ Na
All additional information transcribed into TALS is correct and raw data is attached	✓	✓
Comments are transcribed correctly in TALS	✓	✓
Reagents Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All necessary reagents not expired and entered into TALS	✓	✓
All spike amounts correct and added to necessary samples and QC	✓	✓
Batch Information	**1st Level Reviewer**	**2nd Level Reviewer**
Date and time accurate and entered into TALS correctly	✓	✓
All necessary 'batch information' complete and entered into TALS correctly	✓	✓

1st Level Reviewer: [signature] Date: 4-9-14

2nd Level Reviewer: [signature] Date: 4/9/14

Comments:

Shipping and Receiving Documents

ARDL, Inc

P.O Box 1566, 400 Aviation Drive, Mount Vernon, Illinois 62864
Phone (618) 244-3235, Fax (618) 244-1149

CHAIN OF CUSTODY RECORD

Project
ARDL / Makau Military Reservation Oahu, Hawaii Project

SAMPLERS (Signature)

320-6575 Chain of Custody

Test America

SAMPLE NUMBER	DATE	TIME	Comp	Grab	# of Containers	Perchlorate via EPA Method 6850	Remarks or Sample Location	PRESERVATION ICED	PRESERVATION Specify Chemicals added and final pH if known
MAK111C	1/31/2014	1000		x	1	x	Mokuleia Site - Sea Cucumber	x	
MAK113C	1/31/2014	1120		x	1	x	Mokuleia Site - Sea Cucumber	x	
MAK114C	1/31/2014	1155		x	1	x	Mokuleia Site - Sea Cucumber	x	
MAK115C	1/31/2014	1300		x	1	x	Mokuleia Site - Sea Cucumber	x	
MAK116C	1/31/2014	1330		x	1	x	Mokuleia Site - Sea Cucumber	x	
MAK117C	1/31/2014	1435		x	1	x	Mokuleia Site - Sea Cucumber	x	
MAK118C	1/31/2014	1605		x	1	x	Mokuleia Site - Sea Cucumber	x	
MAK120C	2/11/2014	1030		x	1	x	Mokuleia Site - Sea Cucumber	x	
MAK120L	1/31/2014	1040		x	1	x	Mokuleia Site - Limu	x	
MAK121L	1/31/2014	1130		x	1	x	Mokuleia Site - Limu	x	
MAK122L	1/31/2014	1405		x	1	x	Mokuleia Site - Limu	x	
MAK123L	1/31/2014	1455		x	1	x	Mokuleia Site - Limu	x	
MAK124L	1/31/2014	1540		x	1	x	Mokuleia Site - Limu	x	
MAK126L	1/31/2014	1615		x	1	x	Mokuleia Site - Limu	x	
MAK127L	2/11/2014	1304		x	1	x	Mokuleia Site - Limu	x	
MAK128L	2/11/2014	1415		x	1	x	Mokuleia Site - Limu	x	
MAK116L	1/31/2014	820		x	1	x	Maena Point Site - Limu	x	
MAK117L	1/31/2014	835		x	1	x	Maena Point Site - Limu	x	
MAK118L	1/31/2014	910		x	1	x	Maena Point Site - Limu	x	

Relinquished by: (Signature)	Date	Time	Relinquished by: (Signature)
	3/13/14	1600	
Relinquished by: (Signature)	Date	Time	Relinquished by (Signature)
Received for Laboratory by. (Signature)	Date	Time	Shipping Ticket No.

REMARKS / SPECIAL INSTRUCTIONS:

Project Samples. Please treat each matrix separately.

Please send level 4 hardcopy report and excel edd to: Dean Dickerson, c/o ARDL, Inc. 400 Aviation Drive, Mount Vernon, IL 62864. Email questons to ddickerson@ardlinc.com.

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04/21/2014

*rec'd 2 jars
ar 3-14-14

Rec'd: Ken Nelson 3/14/14 910

-4.5°c

Login Sample Receipt Checklist

Client: ARDL, Inc

Job Number: 320-6575-2

Login Number: 6575

List Source: TestAmerica Sacramento

List Number: 1

Creator: Hytrek, Cheryl

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	